

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549**

**FORM S-1
REGISTRATION STATEMENT
Under
The Securities Act of 1933**

TSCAN THERAPEUTICS, INC.
(Exact name of Registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

2836
(Primary Standard Industrial
Classification Code Number)

82-5282075
(I.R.S. Employer
Identification Number)

830 Winter Street
Waltham, Massachusetts 02451
(857) 399-9500
(Address, including zip code, and telephone number, including area code, of Registrant's principal executive offices)

David Southwell
President and Chief Executive Officer
TScan Therapeutics, Inc.
830 Winter Street
Waltham, Massachusetts 02451
(857) 399-9500
(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

Timothy H. Ehrlich
Jeffrey R. Vetter
Keith J. Scherer
Gunderson Dettmer Stough Villeneuve
Franklin & Hachigian, LLP
One Marina Park Drive, Suite 900
Boston, Massachusetts 02210
(617) 648-9100

Richard D. Truesdell Jr.
Marcel R. Fausten
Davis Polk & Wardwell LLP
450 Lexington Avenue
New York, NY 10017
(212) 450-4000

Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this registration statement.

If any of the securities being registered on this form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box.

If this form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input checked="" type="checkbox"/>	Smaller reporting company	<input checked="" type="checkbox"/>
		Emerging growth company	<input checked="" type="checkbox"/>

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Proposed Maximum Aggregate Offering Price(1)(2)	Amount of Registration Fee(3)
Common Stock, \$0.0001 par value per share	\$100,000,000.00	\$10,910.00

- (1) Estimated pursuant to Rule 457(o) under the Securities Act of 1933, as amended.
 (2) Includes the aggregate offering price of additional shares that the underwriters have the option to purchase.
 (3) Calculated pursuant to Rule 457(o) based on an estimate of the proposed maximum aggregate offering price.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the Registration Statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

[Table of Contents](#)

The information in this preliminary prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell these securities, and we are not soliciting offers to buy these securities in any jurisdiction where the offer or sale is not permitted.

PROSPECTUS (Subject To Completion)
Issued April 23, 2021



TScan Therapeutics, Inc. is offering _____ shares of its common stock. This is our initial public offering and no public market currently exists for our shares of common stock. We anticipate that the initial public offering price will be between \$ _____ and \$ _____ per share. We have applied to list our common stock on the Nasdaq Global Market under the symbol "TCRX."

We are an "emerging growth company" and a "smaller reporting company" as defined under the federal securities laws.

We have two classes of common stock: the voting common stock offered hereby and which has one vote per share, and non-voting common stock. For a description of the rights of the voting common stock and non-voting common stock, please see "[Description of capital stock](#)" beginning on page 203 of this prospectus. We are offering voting common stock in this offering, and unless otherwise noted or unless the context provides otherwise, all references in this prospectus to our "common stock", "common shares" or "shares" refers to our voting common stock.

Investing in our common stock involves risks. See "[Risk Factors](#)" beginning on page 14.

	PRICE \$	A SHARE		
Initial public offering price			<u>Per Share</u>	<u>Total</u>
Underwriting discounts and commissions (1)			\$	\$
Proceeds, before expenses, to us			\$	\$

(1) See "Underwriters" for a description of the compensation payable to the underwriters.

We have granted the underwriters an option to purchase up to an additional _____ shares of common stock at the initial public offering price less underwriting discounts and commissions to cover over-allotments. If the underwriters exercise this option in full, the total underwriting discounts and commissions payable by us will be \$ _____, and the total proceeds, before expenses to us will be \$ _____.

The Securities and Exchange Commission and state securities regulators have not approved or disapproved of these securities, or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The underwriters expect to deliver the shares of common stock to purchasers on _____, 2021.

MORGAN STANLEY
, 2021

JEFFERIES

COWEN

BARCLAYS

TABLE OF CONTENTS

	<u>Page</u>		<u>Page</u>
Prospectus summary	1	Executive compensation	182
Risk factors	14	Certain relationships and related party transactions	194
Special note regarding forward-looking statements	90	Principal stockholders	199
Market, industry and other data	92	Description of capital stock	203
Use of proceeds	93	Shares eligible for future sale	208
Dividend policy	95	Material U.S. federal income tax consequences for non-U.S. holders of our common stock	211
Capitalization	96	Underwriters	215
Dilution	98	Legal matters	225
Management's discussion and analysis of financial condition and results of operations	101	Experts	225
Business	115	Where you can find additional information	225
Management	172	Index to financial statements	F-1

Through and including , 2021 (the 25th day after the date of this prospectus), all dealers effecting transactions in shares of our common stock, whether or not participating in this offering, may be required to deliver a prospectus. This is in addition to a dealer's obligation to deliver a prospectus when acting as an underwriter and with respect to an unsold allotment or subscription.

We and the underwriters have not authorized anyone to provide you with any information or to make any representations other than those contained in this prospectus or in any free writing prospectuses we have prepared. We and the underwriters take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. We are offering to sell, and seeking offers to buy, shares of our common stock only in jurisdictions where offers and sales are permitted. The information contained in this prospectus or in any applicable free writing prospectus is accurate only as of the date of this prospectus or any such free writing prospectus, as applicable, regardless of its time of delivery or of any sale of our common stock. Our business, financial condition, results of operations and future growth prospects may have changed since that date.

For investors outside the United States: Neither we nor any of the underwriters have done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside of the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the shares of our common stock and the distribution of this prospectus outside of the United States.

TScan, the TScan logo and our other registered or common law trademarks appearing in this prospectus are the property of TScan Therapeutics, Inc. This prospectus contains references to our trademarks and service marks and to those belonging to other entities. Solely for convenience, trademarks and trade names referred to in this prospectus, including logos, artwork and other visual displays, may appear without the ® or TM symbols, but such references are not intended to indicate in any way that we will not assert, to the fullest extent under applicable law, our rights or the rights of the applicable licensor to these trademarks and trade names. We do not intend our use or display of other entities' trade names, trademarks or service marks to imply a relationship with, or endorsement or sponsorship of us by, any other entity.

PROSPECTUS SUMMARY

This summary highlights selected information contained elsewhere in this prospectus and is qualified in its entirety by the more detailed information and financial statements included elsewhere in this prospectus. It does not contain all of the information that may be important to you and your investment decision. You should carefully read this entire prospectus, including the sections titled “Risk factors,” “Management’s discussion and analysis of financial condition and results of operations” and our financial statements and related notes before making an investment decision. In this prospectus, unless context requires otherwise, references to “we,” “us,” “our,” “TScan,” or “the Company” refer to TScan Therapeutics, Inc.

Overview

We are a preclinical-stage biopharmaceutical company focused on developing a robust pipeline of T cell receptor-engineered T cell, or TCR-T, therapies for the treatment of patients with cancer. Our approach is based on the central premise that we can learn from patients who are winning their fight against cancer in order to treat those who are not. Using one of our proprietary platform technologies, TargetScan, we analyze the T cells of cancer patients with exceptional responses to immunotherapy to discover how the immune system naturally recognizes and eliminates tumor cells in these patients. This allows us to precisely identify the targets of T cell receptors, or TCRs, that are driving these exceptional responses. We aim to use these anti-cancer TCRs to treat patients with cancer by genetically engineering their own T cells to recognize and eliminate their cancer. In addition to discovering TCR-T therapies against novel targets, we are using our ReceptorScan technology to further diversify our portfolio of therapeutic TCRs with TCR-T therapies against known targets. We believe this two-pronged approach will enable us to discover and develop a wide array of potential treatment options for patients with cancer.

We are advancing a robust pipeline of TCR-T therapy candidates for the treatment of patients with hematologic and solid tumor malignancies. Our lead liquid tumor product candidates, TSC-100 and TSC-101, are in development for the treatment of patients with hematologic malignancies to eliminate residual leukemia and prevent relapse after hematopoietic stem cell transplantation, or HCT. TSC-100 and TSC-101 target HA-1 and HA-2 antigens, respectively, which are well-recognized TCR targets that were identified in patients with exceptional responses to HCT-associated immunotherapy. We plan to submit Investigational New Drug, or IND, applications for each of TSC-100 and TSC-101 with the U.S. Food and Drug Administration, or FDA, in the fourth quarter of 2021. In addition, we are developing multiple TCR-T therapy candidates for the treatment of various solid tumors. One of the key goals for our solid tumor program is to develop what we refer to as multiplexed TCR-T therapy. We are designing these multiplexed therapies to be a combination of up to three highly active TCRs that are customized for each patient and selected from our bank of therapeutic TCRs, which we refer to as ImmunoBank. We are currently advancing four solid tumor programs, TSC-200, TSC-201, TSC-202, and TSC-203, through lead optimization, and expect to submit IND applications for at least three of our four solid tumor TCR-T therapy candidates in the second half of 2022, with the fourth IND expected to be submitted in 2023.

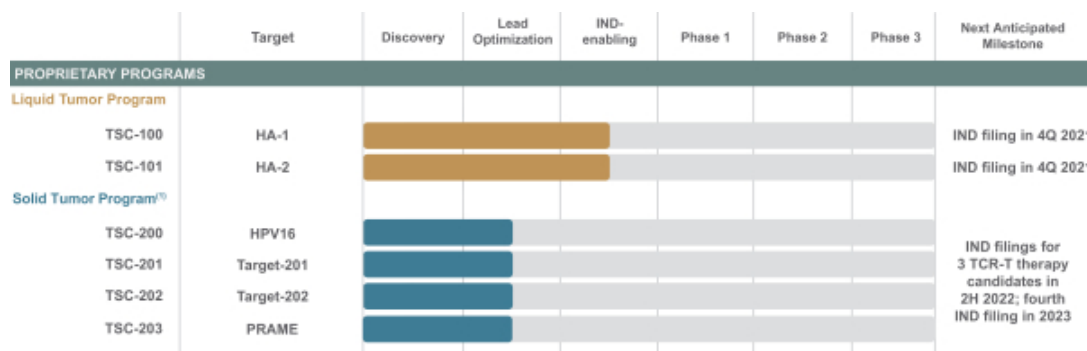
T cells are an essential component of the adaptive immune system and provide protection against cancer, infection, and autoimmune disease. Multiple approaches have been and are continuing to be explored to develop effective T cell-based therapies for the treatment of cancer, including tumor infiltrating lymphocyte, or TIL, therapy and chimeric antigen receptor T cell, or CAR-T, therapy. The success of TIL therapy depends on the specific T cells present in the patient. If their TILs do not have appropriate anti-cancer specificities, the therapy is unlikely to be effective. In addition, TIL therapy has, to date, shown limited applicability for the treatment of liquid tumors. In contrast, CAR-T therapy has proven effective in certain hematological malignancies of lymphoid origin, but has not yet shown efficacy or safety in myeloid malignancies. Additionally, this type of treatment is limited to targets on the surface of tumor cells and has not yet been shown to effectively penetrate solid tumors. Both TIL and CAR-T therapies, as well as other immunotherapies such as checkpoint inhibitors,

harness the power of cytotoxic T cells in fighting cancer. Despite demonstrating compelling efficacy, they are only effective in a subset of patients. To address a broader patient population, we believe additional T cell-based approaches are needed that more closely mimic the way the immune system recognizes and fights cancer in patients who are responding to immunotherapy.

Our decision to develop TCR-T therapies for the treatment of cancer is based on our conviction that we can learn from the natural interaction between T cells and tumor cells and harness this information to treat patients by reprogramming their immune systems. We believe that TCR-T therapy combines the benefits of TIL and CAR-T therapies while uniquely addressing their key limitations.

Our Pipeline

We are leveraging our proprietary platform technologies to develop a robust pipeline of TCR-T therapies with the goal of building our ImmunoBank of TCRs to treat a wide range of tumor types. In addition, we are applying our platform to identify targets and TCRs in therapeutic areas outside of oncology, such as autoimmune disorders and infectious disease, through strategic partnerships. Our current proprietary pipeline is summarized in the figure below.



For additional information regarding the targets for TSC-201 and TSC-202, see “Business - Solid Tumor Program - TSC-200 Series”

(1)

In addition to our proprietary pipeline programs noted above, we also are in the discovery phase for our TSC-102 program, which is targeting an additional MiHA target that is presented on HLA-B*07:02. Our overall strategy is to progressively build this program to provide a broad array of therapeutic options for the majority of patients with hematologic malignancies receiving HCT. Beyond our proprietary pipeline programs, we have also entered into collaborations with strategic partners for applications of our platform technologies. We have a collaboration and license agreement with Novartis to identify novel cancer antigens from the T cells of patients with one specific type of cancer. Novartis has the option to license and develop therapies for up to three discovered targets. In addition, we have partnered with QIAGEN Sciences, LLC to develop a highly specific diagnostic test to determine prior exposure to SARS-CoV-2 based on the presence of anti-viral T cells.

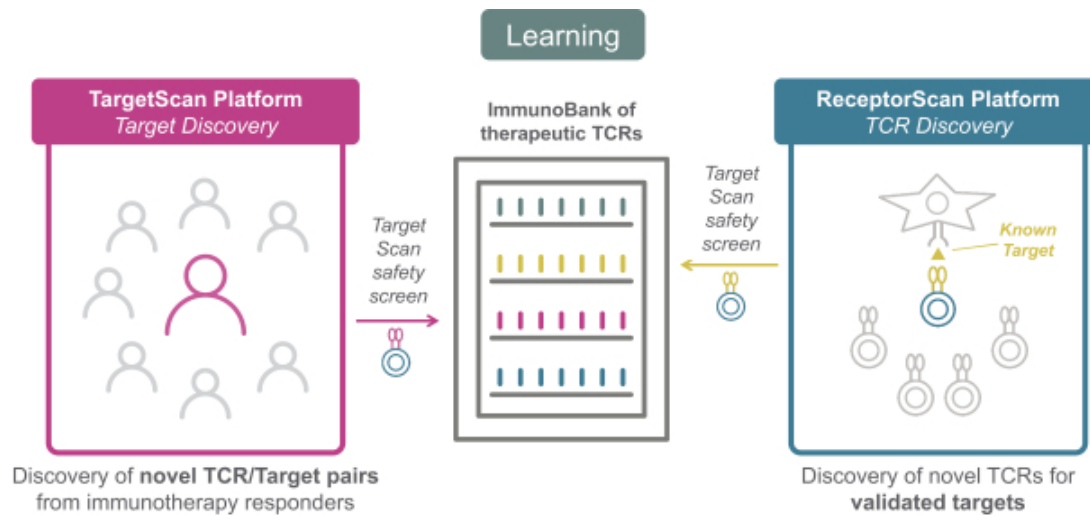
Our Approach

Our approach is based on the central premise that we can **learn** from patients who are winning their fight against cancer in order to **treat** those who are not. Using our proprietary platform technologies, we are analyzing the T cells of cancer patients with exceptional responses to immunotherapy to discover clinically relevant targets and TCRs. We are building ImmunoBank with the goal of delivering customized multiplexed TCR-T therapy to a wide range of patients with cancers.

Learning

When a patient responds to an immunotherapy drug such as an immune checkpoint inhibitor, their tumor shrinks because T cells in their tumor become activated and drive an anti-tumor cytotoxic response. The TCRs of their T cells recognize tumor-specific antigens on tumor cells and signal the T cell to kill the cancer cells. Our approach starts with isolating clinically active anti-cancer T cells from tumor samples of patients who are actively responding to immunotherapy agents. We then use our proprietary TargetScan technology to determine the precise targets being recognized by their TCRs. This provides us with a novel TCR/target pair that can be developed into a TCR-T therapy candidate. We select TCRs that are highly active with no apparent problematic off-target effects to be added to our ImmunoBank. In addition to discovering novel TCR/target pairs, we are leveraging our proprietary ReceptorScan technology to identify highly active TCRs against previously identified and clinically validated targets. The diagram below illustrates our proprietary discovery process where therapeutic TCR candidates are discovered using either TargetScan or ReceptorScan and those that we characterize as the best TCRs are added to ImmunoBank.

Our Proprietary Target and TCR Discovery Process

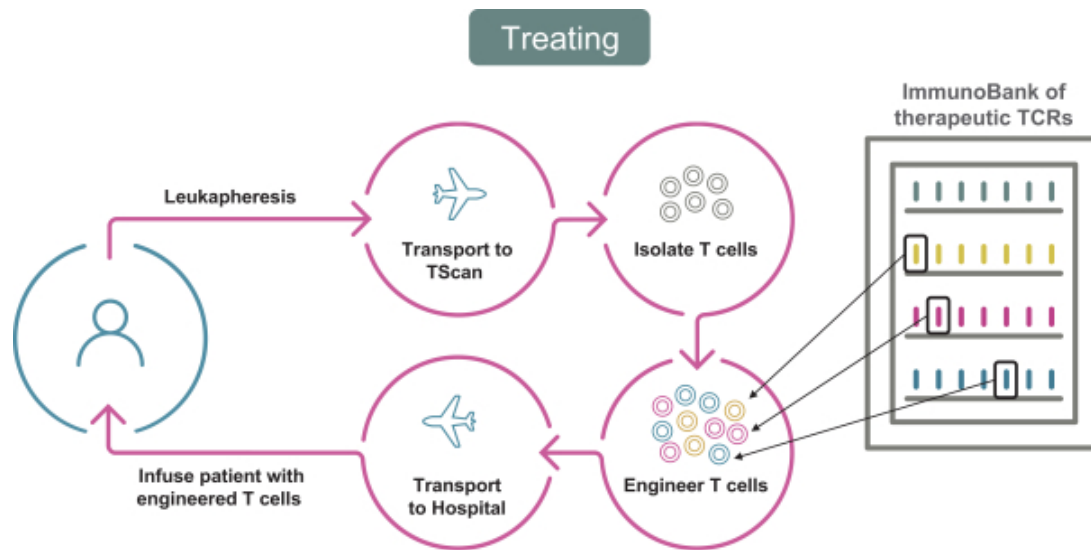


Treating

Our discovery process enables us to build and expand ImmunoBank with what we believe represents the most active TCRs isolated from a large group of diverse patients who are responding to immunotherapy. We are developing TCR-T therapies that use these clinically relevant TCRs to reprogram the T cells of patients who do not spontaneously generate effective anti-cancer T cells and thus do not respond to immunotherapy. Our manufacturing process begins with obtaining white blood cells from either the patient or a healthy donor using a procedure called leukapheresis. We will then transport these white blood cells to our in-house manufacturing facility, where we isolate the T cells and genetically engineer them using TCR sequences from ImmunoBank. We believe the continued expansion and diversification of ImmunoBank will enable us to deliver customized multiplexed TCR-T therapy to patients, where each patient's T cells are engineered with multiple TCRs that are matched to their specific tumor and HLA type. Once the T cells are engineered with a combination of the most relevant TCRs, they will be transported back to the hospital and reintroduced into the patient by intravenous

infusion. Following the infusion, the engineered T cells, which are designed to recognize multiple targets expressed by the patient's tumor, will proliferate *in vivo* and mount an anti-cancer immune response. Our patient treatment and manufacturing process is summarized in the graphic below.

Our Patient Treatment and Manufacturing Process



We believe that our approach provides us with the following key advantages:

- *Our TCR-T therapies are based on highly active TCRs that are clinically relevant.* Many other approaches to T cell therapy rely on specifically expanding T cells that are already present in the patient. Our platform analyzes anti-cancer T cells from a wide variety of patients who are responding to immunotherapy in order to find the most active and clinically relevant TCRs against each target. We believe this will allow us to develop TCR-T therapies for a wide range of patients, including those who do not have T cells that efficiently recognize their cancers.
- *Our TCR-T therapies are designed to be used in combination with each other.* We are building our diverse ImmunoBank of TCRs to allow for multiplexed TCR-T therapy, which has the potential to address the heterogeneous nature of solid tumors and to prevent resistance developing due to loss of a single target. We believe this approach may allow us to overcome the limitations and challenges of TCR-T therapy development to date.
- *Our approach is expandable.* ImmunoBank has the flexibility to be used with new and optimized methods of T cell engineering that we may develop over time. We are building ImmunoBank to be compatible with both autologous and allogeneic engineering technologies in order to potentially transition to generating off-the-shelf, allogeneic T cells that have been pre-engineered with our TCRs for direct administration to patients.

Our Platform

Our proprietary platform is designed to: (i) discover anti-cancer TCRs from patients with exceptional responses to immunotherapy; (ii) determine novel targets of clinically relevant TCRs; (iii) discover novel TCRs

that recognize clinically validated targets; (iv) identify off-targets of TCRs to eliminate candidates that could potentially pose a safety risk; and (v) manufacture TCR-T therapies efficiently and consistently without the use of viral vectors using our T-Integrate technology. The three central elements of our platform that differentiate us from other cell therapy companies are TargetScan, ReceptorScan, and T-Integrate.

TargetScan. At the core of our proprietary platform is our TargetScan technology that enables us to identify the natural target of a TCR using an unbiased, genome-wide, high-throughput screen. We have developed this technology to be extremely versatile and applicable across multiple therapeutic areas, including cancer, autoimmune disorders, and infectious diseases. It can be applied to virtually any TCR that plays a role in the cause or prevention of disease. TargetScan is also designed to identify potential off-targets of a TCR and eliminate those TCR candidates that cross-react with proteins expressed at high levels in critical organs. We believe this will allow us to reduce the risk and enhance the potential safety profile of our TCR-T therapy candidates early in development before we initiate clinical trials.

ReceptorScan. To further expand our ability to discover and develop therapeutic TCRs, we have developed our proprietary ReceptorScan technology to enable us to identify and clone highly active TCRs that recognize previously identified clinically validated targets. We co-culture hundreds of millions of CD8⁺ T cells from either healthy donors or cancer patients with dendritic cells, that display the target antigen of interest to the T cells. T cells that recognize the target of interest proliferate, and are subsequently isolated based on their ability to recognize a fluorescently labeled version of the target. We then use single cell sequencing to identify the specific TCR sequences that recognize the target. Our novel technologies allow us to gene-synthesize hundreds of TCRs simultaneously and to rapidly sort through hundreds of target-specific TCRs in a single high-throughput screen to identify the most active clones. Using ReceptorScan, we have identified our two lead TCR-T therapy candidates, TSC-100 targeting HA-1 and TSC-101 targeting HA-2.

T-Integrate. Cell therapy manufacturing is highly complex, and associated challenges have led to significant delays or failures in the development of many cell therapies. To enable the rapid, cost-effective, and consistent manufacturing of TCRs, we have developed a non-viral vector delivery system that we refer to as T-Integrate. Our TCR-T therapy candidates are manufactured using a transposon/transposase system, in which the DNA encoding the TCR is manufactured as a Nanoplasmid, a non-viral vector. The Nanoplasmid, together with an mRNA sequence encoding a transposase enzyme, is introduced into the T cell by electroporation. After the T cell translates the mRNA into protein, the transposase enzyme inserts the TCR sequence from the Nanoplasmid into the genome of the T cell. This system is highly reproducible, as the only required components are a Nanoplasmid, which is different for each TCR product, and an mRNA, which is constant for all TCR products. Unlike lentivirus, both of these components are routinely manufactured in a cost-effective manner without the need for extensive process development. We believe our manufacturing platform will enable us to efficiently develop and manufacture many different TCR-T therapies, allowing us to deliver customized multiplexed therapy to patients with cancer.

Our Programs

With our differentiated platform as the foundation, we are building a three-pillar research and development strategy to create transformational TCR-T therapies for patients.

1. *Our Liquid Tumor Program.* We are developing our liquid tumor program to treat patients with hematologic malignancies who are undergoing allogeneic HCT. In the first phase of our clinical development strategy, we are initially focusing on well-recognized cancer targets that have been discovered in patients with exceptional responses to HCT-associated immunotherapy, including HA-1 and HA-2. In addition, to further expand our liquid tumor program, we are developing additional product candidates that target other similarly validated antigens, enabling us to expand the addressable patient population.

We plan to conduct clinical trials of our lead TCR-T therapy candidates, TSC-100 and TSC-101, in parallel, with patients enrolled in treatment arms based on their genotype. Patients who are positive for the target antigen, HA-1 or HA-2, as well as the HLA-A*02:01 allele, which is the HLA type required to display HA-1 and HA-2 on the cell surface for recognition by a T cell, will be eligible for enrollment. Furthermore, eligible patients will require donors who are negative for either the target antigen or the HLA-A*02:01 allele. We plan to incorporate additional product candidates into this trial design as they advance into the clinic, which we believe will allow us to provide a broad array of therapeutic options for the majority of patients with hematologic malignancies receiving HCT. In our clinical trials of TSC-100 and TSC-101, we also plan to evaluate the potential benefit of combining the two therapies as a multiplexed TCR-T therapy for patients who are positive for both HA-1 and HA-2.

Through the development of our liquid tumor program, we are building a foundation of manufacturing, clinical, and regulatory capabilities, which will be applied to the future development of our broader portfolio of TCR-T therapy candidates for solid tumors.

2. *Our Solid Tumor Program.* We are developing a portfolio of autologous TCR-T therapy candidates that are designed to be used in combination with each other to treat and eliminate solid tumors. Our TSC-200 series of TCR-T therapy candidates are designed to elicit an anti-tumor response in patients by targeting cancer-specific antigens in their tumor cells. Our TCR-T therapy candidates include: (i) either well-recognized cancer targets that have demonstrated anti-tumor activity in clinical trials or novel targets that were identified by TargetScan from the T cells of patients responding to immunotherapy and (ii) naturally occurring TCRs specific to a patient's HLA type that recognize these cancer-specific targets. Such targets are not only commonly shared among patients with the same cancer type, but also frequently expressed in multiple solid tumor types, enabling clinical development across multiple indications. Our first four solid TCR-T therapy candidates include a combination of known targets, such as HPV16 for TSC-200 and PRAME for TSC-203, as well as targets that are novel antigens for TCR-T therapy, such as for TSC-201 and TSC-202. In addition to our four lead solid TCR-T therapy candidates, we have identified over 40 novel antigens based on tumor samples from patients who are actively responding to immunotherapy using our TargetScan technology. We are in early stages of analyzing these additional novel antigens and plan to advance those that we believe have the best potential as a TCR-T product candidate into preclinical development.

Our vision is to create and continuously expand ImmunoBank to enable customized multiplexed TCR-T therapy for a wide range of solid tumor patients. For each patient with a solid tumor malignancy, we plan to analyze their tumor to determine which targets are expressed at high levels in their particular cancer. We will then access ImmunoBank and select up to three TCRs that match their HLA type and address the most highly expressed targets in their tumor. We will use this set of TCRs to genetically reprogram their T cells to recognize these targets, and the resulting T cells will be infused back into the patient as a multiplexed TCR-T therapy.

3. *Strategic Partnerships and Collaborations.* T cells play a fundamental role in many other therapeutic areas beyond cancer, such as autoimmune disorders and infectious disease. We believe that our TargetScan technology is well suited to discover novel antigens for the development of therapeutics, diagnostics, and vaccines in these other therapeutic areas. We intend to opportunistically pursue collaborations with strategic partners for applications of our platform technologies outside our core focus of oncology.

Our Strategy

Our mission is to create life-changing T-cell therapies for patients by unleashing the untapped potential of the human immune system. Our goal is to use our proprietary platform for the identification of novel

tumor-specific antigens and clinically active TCRs to become a leader in the development of engineered T-cell therapies for the treatment of liquid and solid tumors. Our strategy includes the following key elements:

- Leverage our proprietary platform technologies to build our diverse ImmunoBank of therapeutic TCRs to treat a wide range of tumor types;
- Advance our lead liquid tumor product candidates, TSC-100 and TSC-101, through clinical development;
- Apply experience from our liquid tumor program to efficiently develop our solid tumor program targeting both novel and previously identified antigens;
- Continue to develop internal manufacturing capabilities based on our non-viral T-Integrate system;
- Develop next generation T-cell engineering capabilities, including allogeneic technologies; and
- Opportunistically pursue strategic partnerships and collaborations to maximize the full potential of our platform in therapeutic areas outside of oncology, such as autoimmune disorders and infectious disease.

Our History and Team

We were founded in early 2018 to discover and develop transformational therapies using a novel T-cell target discovery platform developed by Drs. Stephen Elledge and Tomasz Kula at Brigham and Women's Hospital and Harvard Medical School. Since then, we have made substantial progress building our target and TCR discovery platform technologies, discovering new targets and TCRs, advancing our two lead programs into IND-enabling studies, developing in-house manufacturing capabilities, and, in response to the ongoing COVID-19 pandemic, identifying the targets of T cells from recovering COVID-19 patients. In addition, we have entered into multiple strategic collaborations, including with Novartis Institutes for Biomedical Research, Inc. and QIAGEN Sciences, LLC.

We have assembled a highly qualified team with deep experience in T-cell biology, high throughput screening, engineering and manufacturing of cell therapies, as well as in all phases of research and clinical development, from early-stage discovery and IND-enabling studies through registrational clinical trials. Our team includes industry veterans with prior experience at academic and research institutions such as Harvard University, Harvard Medical School, and Massachusetts General Hospital, and companies such as BlueRock Therapeutics, LLC, CRISPR Therapeutics, Inc., Editas Medicine, Inc., Human Genome Sciences, Inc., Kite Pharma, Inc., KSQ Therapeutics, Inc., Merrimack Pharmaceuticals, Inc., Regeneron Pharmaceuticals, Inc., Repertoire Immune Medicines, Inc., and SQZ Biotechnologies Company. Our research efforts also benefit from the informal advice and guidance provided by our scientific advisory board (SAB) members, including Drs. Elledge and Kula, who receive equity and/or cash compensation. Since our inception, we have raised an aggregate of \$160 million from leading biotechnology investors, including RA Capital Management, Novartis Venture Fund, Novartis Institutes for Biomedical Research, Longwood Fund, Bessemer Venture Partners, GV, 6 Dimensions Capital, Astellas Venture Management, and Pitango HealthTech.

Recent Developments

Preliminary unaudited cash and cash equivalents as of March 31, 2021

On a preliminary unaudited basis, we expect our cash and cash equivalents as of March 31, 2021 to be approximately \$121.5 million. This estimate of cash and cash equivalents is our preliminary estimate based on currently available information and does not present all necessary information for an understanding of our financial condition as of March 31, 2021 or our results of operations for the three months ended March 31, 2021. This preliminary estimate has been prepared by and is the responsibility of our management. Our independent

registered public accounting firm has not audited, reviewed or performed any procedures with respect to this preliminary estimate or the accounting treatment thereof and does not express an opinion or any other form of assurance with respect thereto. We expect to complete our financial statements for the three months ended March 31, 2021 subsequent to the completion of this offering. It is possible that we or our independent registered public accounting firm may identify items that require us to make adjustments to the preliminary estimated cash and cash equivalents balance set forth above and those changes could be material. Accordingly, you should not place undue reliance on this preliminary estimate. The preliminary estimate is not necessarily indicative of any future period and should be read together with the sections titled “Risk factors” and “Special note regarding forward-looking statements.”

Private Placement

In January 2021, we issued and sold 70,136,064 shares of Series C convertible preferred stock and received net cash proceeds of \$99.7 million.

Risks Associated with Our Business

Investing in our common stock involves substantial risk. Our ability to execute our business strategy is subject to numerous risks, as more fully described in the section entitled “Risk Factors” immediately following this prospectus summary. Some of the most significant challenges and risks are more fully described in the section entitled “Risk Factors” and are summarized in the section entitled “Risk Factors—Risk Factor Summary.”

Corporate Information

We were incorporated in the State of Delaware in April 2018. Our principal executive offices are located at 830 Winter Street, Waltham, Massachusetts 02451. Our telephone number is (857) 399-9500. Our website address is www.tscan.com. Information contained on the website is not incorporated by reference into this prospectus, and you should not consider it part of this prospectus. We have included our website address in this prospectus solely as an inactive textual reference.

Implications of Being an Emerging Growth Company and a Smaller Reporting Company

As a company with less than \$1.07 billion in revenue during our most recently completed fiscal year, we qualify as an “emerging growth company” as defined in Section 2(a) of the Securities Act of 1933, as amended, or the Securities Act, as modified by the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. As an emerging growth company, we may take advantage of certain exemptions from requirements that are otherwise applicable, in general, to public companies. These provisions include:

- being permitted to present only two years of audited financial statements in addition to any required unaudited interim financial statements with correspondingly reduced disclosure in the section titled “Management’s discussion and analysis of financial condition and results of operations”, in registration statements, including this prospectus, subject to certain exceptions;
- an exemption from compliance with the auditor attestation requirement on the effectiveness of our internal control over financial reporting pursuant to the Sarbanes-Oxley Act of 2002;
- an exemption from compliance with any requirement that the Public Company Accounting Oversight Board may adopt regarding mandatory audit firm rotation or a supplement to the auditor’s report providing additional information about the audit and the financial statements;

- reduced disclosure about our executive compensation arrangements in our periodic reports, proxy statements, and registration statements, including this prospectus;
- exemptions from the requirements to obtain a non-binding advisory vote on executive compensation or a stockholder approval of any golden parachute arrangements; and
- extended transition periods for complying with new or revised accounting standards.

We will remain an emerging growth company until the earliest to occur of: (i) the last day of the fiscal year in which we have more than \$1.07 billion in annual revenue; (ii) the date we qualify as a “large accelerated filer,” with at least \$700 million of equity securities held by non-affiliates; (iii) the date on which we have issued, in any three-year period, more than \$1.0 billion in non-convertible debt securities; and (iv) the last day of the fiscal year ending after the fifth anniversary of the completion of this offering.

We may take advantage of these exemptions until such time that we are no longer an emerging growth company. Accordingly, the information contained herein may be different than the information you receive from other public companies in which you hold stock. Further, pursuant to Section 107 of the JOBS Act, as an emerging growth company, we have elected to take advantage of the extended transition period for complying with new or revised accounting standards until those standards would otherwise apply to private companies. As a result, our operating results and consolidated financial statements may not be comparable to the operating results and financial statements of other companies who have adopted the new or revised accounting standards. It is possible that some investors will find our common stock less attractive as a result, which may result in a less active trading market for our common stock and higher volatility in our stock price.

We are also a “smaller reporting company,” meaning that the market value of our stock held by non-affiliates plus the proposed aggregate amount of gross proceeds to us as a result of this offering is less than \$700 million and our annual revenue was less than \$100 million during the most recently completed fiscal year. We may continue to be a smaller reporting company after this offering if either (i) the market value of our stock held by non-affiliates is less than \$250 million or (ii) our annual revenue was less than \$100 million during the most recently completed fiscal year and the market value of our stock held by non-affiliates is less than \$700 million. If we are a smaller reporting company at the time we cease to be an emerging growth company, we may continue to rely on exemptions from certain disclosure requirements that are available to smaller reporting companies. Specifically, as a smaller reporting company we may choose to present only the two most recent fiscal years of audited financial statements in our future annual reports on Form 10-K and, similar to emerging growth companies, smaller reporting companies have reduced disclosure obligations regarding executive compensation.

For certain risks related to our status as an emerging growth company and a smaller reporting company, see the section titled “Risk Factors—Risks Related to Our Common Stock and this Offering—We are an “emerging growth company” and a “smaller reporting company,” and we cannot be certain if the reduced reporting applicable to emerging growth companies and smaller reporting companies will make our common stock less attractive to investors.”

THE OFFERING

Common stock offered by us	shares
Option to purchase additional shares of common stock from us	shares
Common stock to be outstanding after this offering	shares, or shares if the underwriters exercise their option to purchase additional shares of common stock in full
Non-voting common stock to be outstanding after this offering	shares
Total common stock and non-voting common stock to be outstanding after this offering	shares, or shares if the underwriters exercise their option to purchase additional shares of common stock in full
Directed Share Program	<p>At our request, the underwriters have reserved up to shares, or up to % of the shares offered by this prospectus, for sale at the initial public offering price through a directed share program to certain of our directors, officers, employees and business associates and other parties related to us. If purchased by these persons, these shares will be subject to a 180-day lock-up restriction.</p> <p>The number of shares available for sale to the general public will be reduced to the extent that such persons purchase such reserved shares. Any reserved shares not so purchased will be offered by the underwriters to the general public on the same basis as the other shares offered by this prospectus. Morgan Stanley & Co. LLC will administer our directed share program. See the sections titled “Certain Relationships and Related Party Transactions” and “Underwriters—Directed Share Program.”</p>
Use of proceeds	<p>We estimate that the net proceeds from the sale of shares of common stock in this offering will be approximately \$ million (or approximately \$ million if the underwriters exercise their option to purchase additional shares in full), based upon an assumed initial public offering price of \$ per share, the midpoint of the price range set forth on the cover page of this prospectus, and after deducting underwriting discounts and commissions and estimated offering expenses payable by us.</p> <p>We intend to use the net proceeds from this offering, together with our existing cash, to conduct clinical trials for TSC-100, TSC-101, and TSC-102, conduct IND-enabling activities and initiate clinical trials for TSC-200, TSC-201, TSC-202 and TSC-203, continue</p>

Risk factors	development of our preclinical discovery programs and platform technologies, expand our manufacturing facility, as well as for working capital and other general corporate purposes. See the section titled “Use of Proceeds” for additional information. See “Risk Factors” and the other information included in this prospectus for a discussion of risks you should carefully consider before investing in our common stock.
Proposed Nasdaq trading symbol	“TCRX”

The number of shares of our common stock and non-voting common stock to be outstanding after this offering is based on 140,961,519 shares of our common stock outstanding as of December 31, 2020, after giving effect to the automatic conversion of all outstanding shares of our preferred stock, including 70,136,064 shares of Series C convertible preferred stock issued in January 2021, into an aggregate of 128,053,586 shares of common stock (of which _____ shares will be non-voting common stock) upon the completion of this offering, and excludes the following:

- 11,852,840 shares of common stock issuable upon the exercise of options outstanding under our 2018 Stock Plan, as amended, or the 2018 Plan, as of December 31, 2020, with a weighted-average exercise price of \$0.32 per share;
- 10,436,957 shares of common stock issuable upon the exercise of options outstanding under our 2018 Plan, granted after December 31, 2020, at a weighted-average exercise price of \$0.88 per share;
- 1,191,950 shares of common stock reserved for future issuance under our 2018 Plan, based on the number of shares available for issuance as of December 31, 2020, plus additional shares of common stock added to the plan in January 2021, less the shares of common stock underlying options granted subsequent to December 31, 2020 and set forth above, which shares will be added to the shares to be reserved under our 2021 Plan, at the time our 2021 Plan becomes effective in connection with this offering;
- 26,880,000 shares of common stock that will become available for future issuance under our 2021 Plan, which will become effective upon the effectiveness of the registration statement of which this prospectus forms a part, as well as any automatic increases in the number of shares of common stock reserved for future issuance under the 2021 Plan; and
- 2,086,000 shares of common stock that will become available for future issuance under our 2021 Employee Stock Purchase Plan, or the 2021 ESPP, which will become effective upon the effectiveness of the registration statement of which this prospectus forms a part, as well as any automatic increases in the number of shares of common stock reserved for future issuance under the 2021 ESPP.

Unless otherwise indicated, all information in this prospectus reflects and assumes:

- the automatic conversion of all shares of our preferred stock, including the Series C convertible preferred stock issued in January 2021, into _____ shares of common stock (of which _____ shares will be non-voting common stock) upon the completion of this offering;
- the filing and effectiveness of our amended and restated certificate of incorporation and the adoption of our amended and restated bylaws, each of which will occur immediately prior to the completion of this offering;
- no exercise of the underwriters’ option to purchase additional shares of common stock;
- no exercise of the outstanding options described above after December 31, 2020; and
- no purchase of shares through our directed share program described under “Underwriters—Directed Share Program.”

SUMMARY CONSOLIDATED FINANCIAL DATA

The following tables set forth a summary of our historical consolidated financial data as of, and for, the periods ended on the dates indicated. The summary consolidated statements of operations data for the years ended December 31, 2019 and 2020 and the consolidated balance sheet data as of December 31, 2020 are derived from our audited consolidated financial statements and related notes included elsewhere in this prospectus. You should read these summary financial data together with our financial statements and related notes appearing elsewhere in this prospectus and the information in the section titled “Management’s discussion and analysis of financial condition and results of operations.” The selected consolidated financial data in this section are not intended to replace our consolidated financial statements and the related notes and are qualified in their entirety by the consolidated financial statements and related notes included elsewhere in this prospectus. Our historical results are not necessarily indicative of the results to be expected in the future.

(in thousands, except share and per share data)	Year ended December 31,	
	2019	2020
Statement of operations data:		
Revenue:		
Collaboration and license revenue	\$ —	\$ 1,085
Operating expenses:		
Research and development	9,442	20,577
General and administrative	4,768	6,741
Total operating expenses	14,210	27,318
Loss from operations	(14,210)	(26,233)
Other income:		
Interest income	552	106
Net loss	\$ (13,658)	\$ (26,127)
Net loss per, basic and diluted	\$ (4.33)	\$ (3.48)
Weighted average common shares outstanding, basic and diluted	3,157,800	7,511,378

	As of December 31, 2020		
	Actual	Pro forma(1)	Pro forma as adjusted(2)(3)
	(in thousands, except share and per share data)		
Balance sheet data:			
Cash	\$ 34,791	\$ 134,491	\$
Working capital(4)	18,999	118,699	
Total assets	49,738	149,438	
Total liabilities	32,519	32,519	
Convertible preferred stock	59,681	—	
Accumulated deficit	(43,533)	(43,533)	
Total stockholders’ (deficit) equity	(42,462)	116,919	

- (1) Pro forma balance sheet data gives effect to (i) the issuance of 70,136,064 shares of Series C convertible preferred stock issued in January 2021 and (ii) the automatic conversion of all outstanding shares of our convertible preferred stock, including the shares of Series C convertible preferred stock issued in January 2021, into an aggregate of _____ shares of common stock (of which _____ shares will be non-voting common stock) upon completion of this offering, as if such conversion had occurred on December 31, 2020.
- (2) The pro forma as adjusted column gives further effect to the sale and issuance of _____ shares of our common stock by us in this offering at the assumed initial public offering price of \$ _____ per share, the midpoint of the price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

[Table of Contents](#)

- (3) The pro forma as adjusted information is illustrative only and will depend on the actual public offering price and other terms of this offering determined at pricing. A \$1.00 increase (decrease) in the assumed initial public offering price of \$ _____ per share, the midpoint of the estimated offering price range set forth on the cover page of this prospectus, would increase (decrease) the pro forma as adjusted amount of each of cash, working capital, total assets and total stockholders' equity by \$ _____ million, assuming that the number of shares of common stock offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions payable by us. An increase (decrease) of 1.0 million shares in the number of shares of common stock offered by us, as set forth on the cover page of this prospectus, would increase (decrease) the pro forma as adjusted amount of each of cash, working capital, total assets and total stockholders' equity by \$ _____ million, assuming no change in the assumed initial public offering price of \$ _____ per share, the midpoint of the estimated offering price range set forth on the cover page of this prospectus, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.
- (4) We define working capital as current assets less current liabilities.

RISK FACTORS

Investing in our common stock involves a high degree of risk. You should consider carefully the risks and uncertainties described below, together with all of the other information in this prospectus, including “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and our consolidated financial statements and the accompanying notes included elsewhere in this prospectus before deciding whether to invest in shares of our common stock. The risks and uncertainties described below are not the only ones we face. Additional risks and uncertainties that we are unaware of or that we deem immaterial may also become important factors that adversely affect our business. If any of the following risks actually occur, our business, financial condition, liquidity, operating results, and prospects could be materially and adversely affected. In that event, the market price of our common stock could decline, and you could lose part or all of your investment. See “Special Note Regarding Forward-Looking Statements.”

RISK FACTOR SUMMARY

Our business operations are subject to numerous risks and uncertainties, including those outside of our control, that could cause our actual results to be harmed, including risks regarding the following:

Risks Related to Our Business and Industry

- Our business depends upon the success of our proprietary platform.
- Our limited operating history may make it difficult to evaluate the success of our business.
- We have incurred significant losses since inception, and we expect to incur losses over the next several years and may not be able to achieve or sustain revenues or profitability in the future.
- We have never generated, and may never generate, any revenue from sales of cell therapy products.
- Even if this offering is successful, we will need to obtain substantial additional funding to complete the development and any commercialization of our product candidates, if approved.
- Raising additional capital may cause dilution to our existing stockholders, restrict our operations or require us to relinquish rights to our intellectual property or product candidates on unfavorable terms.

Risks Related to the Development of Our Product Candidates

- Our approach to the discovery and development of product candidates based on our proprietary platform represents a novel approach to cancer treatment, which creates significant challenges for us.
- If we are unable to advance our product candidates through clinical development, obtain regulatory approval and ultimately commercialize our product candidates, or experience significant delays in doing so, our business will be materially harmed.
- Although many of our personnel have extensive experience in clinical development and manufacturing at other companies, we have no direct experience as a company in conducting clinical trials or managing a manufacturing facility for our product candidates.
- Our preclinical studies and clinical trials may fail to demonstrate adequately the safety, potency and purity of any of our product candidates, which would prevent or delay development, regulatory approval and commercialization.
- Our business could be adversely affected by the effects of health epidemics, including the evolving effects of the COVID-19 pandemic and responses thereto.
- We may rely on third parties to manufacture our clinical product supplies, and we may rely on third parties to produce and process our product candidates, if licensed.

[Table of Contents](#)

- Our product candidates may cause undesirable side effects or have other properties that could halt their clinical development, prevent their regulatory approval, require expansion of the trial size, limit their commercial potential, or result in significant negative consequences.
- If we encounter difficulties enrolling patients in our clinical trials, our clinical development activities could be delayed or otherwise adversely affected.
- The market opportunities for our product candidates may be relatively small and our estimates of the prevalence of our target patient populations may be inaccurate.
- We face significant competition, and our operating results will suffer if we fail to compete effectively.

Risks Related to Manufacturing

- Manufacturing and administering our product candidates is complex and we may encounter difficulties in production.
- We plan to establish our own manufacturing facility and infrastructure in lieu of relying on third parties for the manufacture of our product candidates for certain clinical purposes, which will be costly and time-consuming and may not be successful.
- We may have difficulty validating our manufacturing process as we manufacture TCR-T therapy candidates from an increasingly diverse patient population for our clinical trials.

Risks Related to Government Regulation

- The FDA regulatory approval process is lengthy and time-consuming, and we may experience significant delays in the clinical development and regulatory approval of our product candidates.
- We may be unable to obtain regulatory approval for our product candidates under applicable regulatory requirements.
- Obtaining and maintaining regulatory approval of our product candidates in one jurisdiction does not mean that we will be successful in obtaining regulatory approval of our product candidates in other jurisdictions.
- Recently enacted and future legislation may increase the difficulty and cost for us to obtain marketing approval for and commercialize our product candidates and affect the prices we may obtain.

Risks Related to Our Intellectual Property

- If we are unable to obtain and maintain patent protection for any product candidates we develop and for our technology, or if the scope of the patent protection obtained is not sufficiently broad, our competitors could develop and commercialize products, product candidates and technology similar or identical to ours, and our ability to successfully commercialize any product candidates we may develop may be adversely affected.
- We are currently, and expect in the future to be, party to material license or collaboration agreements.
- Third party claims of intellectual property infringement, misappropriation or other violations may prevent or delay our product discovery and development efforts.

Risks Related to Our Reliance on Third Parties

- If the third parties we plan to rely on to conduct our clinical trials do not properly and successfully carry out their contractual duties or meet expected deadlines, we may not be able to obtain regulatory approval for or commercialize our product candidates.

- We may not realize the benefits of our current or future collaborations, alliances, or licensing arrangements.

RISK FACTORS

Risks Related to Our Business and Industry

Our business depends upon the success of our proprietary platform.

Our success depends on our ability to use our proprietary platform to discover the natural targets of clinically relevant TCRs through our TargetScan technology, to discover highly active TCRs for known targets through our ReceptorScan technology, to genetically engineer patient- or donor-derived T cells safely and reproducibly through our T-Integrate technology, to obtain regulatory approval for product candidates derived from our proprietary platform and related technologies, and to then commercialize our product candidates addressing one or more indications. All of our product candidates will require significant additional clinical and non-clinical development, review and approval by the FDA or other regulatory authorities in one or more jurisdictions, substantial investment, access to sufficient commercial manufacturing capacity and significant marketing efforts before they can be successfully commercialized. Our platform and our product candidates have not yet been evaluated in humans and may never become commercialized. Moreover, all of our current product candidates are being developed using our proprietary platform and leveraging the same or similar technology, manufacturing process and development program. As a result, an issue with one product candidate or failure of any one program to obtain regulatory approval could adversely impact our ability to successfully develop and commercialize all of our other product candidates.

In addition, the success of our proprietary platform in discovering novel targets for TCR-T therapy is dependent on us obtaining tumor samples from cancer patients who actively respond to cancer immunotherapies. If our ability to obtain a significant amount of such tumor samples in a timely manner is compromised due to unforeseen circumstances, we may not be successful in discovering novel targets and creating new product candidates based on such targets.

Our limited operating history may make it difficult to evaluate the success of our business to date and to assess our future viability.

We are a preclinical-stage immunotherapy company with a limited operating history. We commenced operations in April 2018, and our operations to date have been limited to organizing and staffing our company, business planning, raising capital, conducting discovery and research activities, filing patent applications, identifying potential product candidates, undertaking preclinical studies, entering into collaborations, establishing manufacturing for initial quantities of our product candidates, and establishing arrangements for component materials for such manufacturing. All of our product candidates are still in preclinical development. We have not yet demonstrated our ability to successfully initiate, conduct or complete any clinical trials, obtain marketing approvals, manufacture clinical or commercial-scale product or arrange for a third party to do so on our behalf, or conduct sales, marketing and distribution activities necessary for successful product commercialization. Consequently, any predictions about our future success or viability may not be as accurate as they could be if we had a longer operating history.

In addition, as a young business, we may encounter unforeseen expenses, difficulties, complications, delays and other known and unknown factors. We eventually may need to transition at some point from a company with a research and development focus to a company capable of supporting commercial activities. We may not be successful in such a transition.

We expect our financial condition and operating results to continue to fluctuate significantly from quarter to quarter and year to year due to a variety of factors, many of which are beyond our control. Accordingly, the results of any quarterly or annual periods should not be relied upon as indications of future operating performance.

We have incurred significant losses since inception, and we expect to incur losses over the next several years and may not be able to achieve or sustain revenues or profitability in the future.

Investment in biopharmaceutical product development is a highly speculative undertaking and entails substantial upfront capital expenditures and significant risk that any potential product candidate will fail to demonstrate adequate efficacy or an acceptable safety profile, gain regulatory approval and become commercially viable. We are still in the early stages of development of our product candidates and have not yet initiated our first clinical trial. We have no products licensed for commercial sale and have not generated any revenue from product sales to date, and we continue to incur significant research and development and other expenses related to our ongoing operations. We have financed our operations primarily through private placements of our preferred stock.

We have incurred significant net losses in each period since our inception in April 2018. For the years ended December 31, 2019 and 2020, we reported net losses of \$13.7 million and \$26.1 million, respectively. As of December 31, 2020, we had an accumulated deficit of \$43.5 million. We expect to continue to incur significant losses for the foreseeable future, and we expect these losses to increase substantially if and as we:

- continue our research and development efforts to identify and develop lead product candidates and submit investigational new drug applications, or INDs, for such lead product candidates;
- conduct preclinical studies and commence clinical trials for our current and future product candidates based on our proprietary platform;
- develop processes suitable for manufacturing and clinical development
- continue to develop and then expand our manufacturing capabilities;
- seek marketing approvals for any product candidates that successfully complete clinical trials;
- build commercial infrastructure to support sales and marketing for our product candidates;
- expand, maintain and protect our intellectual property portfolio;
- hire additional clinical, regulatory and scientific personnel; and
- operate as a public company.

Because of the numerous risks and uncertainties associated with biopharmaceutical product research and development, we are unable to accurately predict the timing or amount of increased expenses we will incur or when, if ever, we will be able to achieve profitability. Even if we succeed in commercializing one or more of our product candidates, we will continue to incur substantial research and development and other expenditures to develop, seek regulatory approval for, and market additional product candidates. We may encounter unforeseen expenses, difficulties, complications, delays and other unknown factors that may adversely affect our business. The size of our future net losses will depend, in part, on the rate of future growth of our expenses and our ability to generate revenue. Our prior losses and expected future losses have had and will continue to have an adverse effect on our stockholders' equity and working capital.

We have never generated any revenue from sales of cell-therapy products and our ability to generate revenue from cell-therapy product sales and become profitable depends significantly on our success in a number of areas.

Our ability to become profitable depends upon our ability to generate revenue. To date, we have not generated any revenue from sales of any of our product candidates. We do not expect to generate significant revenue unless or until we successfully complete clinical development and obtain regulatory approval of, and then successfully commercialize, at least one of our product candidates. All of our product candidates are in the preclinical stages of development and will require additional preclinical studies, process development, clinical development, regulatory review and approval, substantial investment, access to sufficient commercial

[Table of Contents](#)

manufacturing capacity and significant marketing efforts before we can generate any revenue from product sales. None of our product candidates have completed IND-enabling studies. TSC-100, one of our lead product candidates targeting HA-1, an epitope present on leukemia cells, is in the early stages of development and has not yet been evaluated in clinical trials and will require additional regulatory review and approval, substantial investment, access to sufficient commercial manufacturing capacity and significant marketing efforts before we can generate any revenue from product sales. Our other product candidates are in early preclinical stages. We have not yet administered any of our product candidates in humans and, as such, we face significant translational risk as our product candidates advance to the clinical stage. Our ability to generate revenue depends on a number of factors, including, but not limited to:

- our ability to develop processes suitable for clinical manufacturing and to obtain related CMC regulatory approvals;
- timely completion of our preclinical studies and clinical trials, which may be significantly slower or cost more than we currently anticipate and will depend substantially upon the performance of third party contractors;
- our ability to complete IND-enabling studies and successfully submit INDs or comparable applications;
- whether we are required by the U.S. Food and Drug Administration (FDA) or similar foreign regulatory authorities to conduct additional clinical trials or other studies beyond those planned to support the approval and commercialization of our product candidates or any future product candidates;
- our ability to demonstrate to the satisfaction of the FDA and similar foreign regulatory authorities the safety, potency, purity and acceptable risk to benefit profile of our product candidates or any future product candidates;
- the prevalence, duration and severity of potential side effects or other safety issues experienced with our product candidates or future product candidates, if any;
- the timely receipt of necessary marketing approvals from the FDA and similar foreign regulatory authorities;
- the willingness of physicians, operators of clinics and patients to utilize or adopt any of product candidates or future product candidates to treat liquid or solid tumors;
- our ability and the ability of third parties with whom we contract to manufacture adequate clinical and commercial supplies of our product candidates or any future product candidates, remain in good standing with regulatory authorities and develop, validate and maintain commercially viable manufacturing processes that are compliant with current good manufacturing practices (cGMP);
- our ability to successfully develop a commercial strategy and thereafter commercialize our product candidates or any future product candidates in the United States and internationally, if licensed for marketing, reimbursement, sale and distribution in such countries and territories, whether alone or in collaboration with others;
- patient demand for our product candidates and any future product candidates, if licensed; and
- our ability to establish, obtain, maintain, protect and enforce intellectual property and proprietary rights in and to our product candidates or any future product candidates.

Many of the factors listed above are beyond our control, and could cause us to experience significant delays or prevent us from obtaining regulatory approvals or commercialize our product candidates. Even if we are able to commercialize our product candidates, we may not achieve profitability soon after generating product sales, if ever. If we are unable to generate sufficient revenue through the sale of our product candidates or any future product candidates, we may be unable to continue operations without continued funding.

[Table of Contents](#)

Even if this offering is successful, we will need to obtain substantial additional funding to complete the development and any commercialization of our product candidates, if approved. If we are unable to raise this necessary capital when needed, we would be forced to delay, reduce or eliminate our product development programs, commercialization efforts or other operations.

Since our inception, we have financed our operations through private placements of preferred stock. The development of biopharmaceutical product candidates is capital intensive and we expect our expenses to increase substantially during the next few years. As our product candidates enter and advance through preclinical studies and clinical trials, we will need substantial additional funds to expand our clinical, regulatory, quality and manufacturing capabilities. In addition, if we obtain marketing approval for any of our product candidates, we expect to incur significant commercialization expenses related to marketing, sales, manufacturing and distribution. Furthermore, upon the completion of this offering, we expect to incur additional costs associated with operating as a public company.

As of December 31, 2020, we had \$34.8 million in cash and cash equivalents. Based on our current operating plan, we believe that our existing cash and cash equivalents will be sufficient to fund our anticipated level of operations through at least the next 12 months without the proceeds from this offering. With the expected net proceeds from this offering, we believe that our cash and cash equivalents will be sufficient to fund our operating expenses and capital expenditure requirements through . Accordingly, the expected net proceeds from this offering will not be sufficient for us to fund any of our product candidates through regulatory approval, and we will need to raise substantial additional capital to complete the development and commercialization of our product candidates through equity offerings, debt financings, marketing and distribution arrangements and other collaborations, strategic alliances and licensing arrangements or other sources. We may also need to raise additional funds sooner if we choose to pursue additional indications for our product candidates or otherwise expand more rapidly than we presently anticipate.

We have based these estimates on assumptions that may prove to be incorrect or require adjustment as a result of business decisions, and we could utilize our available capital resources sooner than we currently expect. Our future capital requirements will depend on many factors, including:

- the scope, rate of progress, costs and results of our drug discovery, preclinical development activities, laboratory testing and clinical trials for our product candidates;
- the number and scope of clinical programs we decide to pursue;
- the scope and costs of manufacturing development and commercial manufacturing activities and our ability to scale them up or out;
- the extent to which we acquire or in-license other product candidates and technologies;
- the cost, timing and outcome of regulatory review of our product candidates, including the potential for regulatory authorities to require that we conduct more studies and trials than those that we currently expect to conduct and the costs of post-marketing studies or risk evaluation and mitigation strategies that could be required by regulatory authorities;
- potential changes in the regulatory environment and enforcement rules;
- the cost and timing of establishing sales and marketing capabilities, if any of our product candidates receive marketing approval;
- the costs of preparing, filing and prosecuting patent applications, maintaining, obtaining, protecting and enforcing our intellectual property and proprietary rights and defending intellectual property-related claims;
- our ability to establish and maintain collaborations on favorable terms, if at all;
- the impact of the COVID-19 pandemic or other external disruptions on our business, results of operations and financial position;
- our efforts to enhance operational systems and our ability to attract, hire and retain qualified personnel, including personnel to support the development of our product candidates;

Table of Contents

- potential changes in pharmaceutical pricing and reimbursement infrastructure;
- the costs associated with being a public company; and
- the cost associated with commercializing our product candidates, if they receive marketing approval.

Identifying potential product candidates and conducting preclinical studies and clinical trials is a time consuming, expensive and uncertain process that takes years to complete, and we may never generate the necessary data or results required to obtain marketing approval. In addition, our product candidates, if approved, may not achieve product sales or commercial success. We do not expect to have any products commercially available for sale for many years, if at all. Accordingly, we will need to obtain substantial additional funding in connection with our continuing operations. Adequate additional financing may not be available to us on acceptable terms, or at all, and may be impacted by the economic climate and market conditions. If we are unable to raise capital when needed or on attractive terms, we would be forced to delay, limit, reduce or eliminate our research and development programs or future commercialization efforts or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves. In addition, attempting to secure additional financing may divert the time and attention of management from day-to-day activities and distract from our research and development efforts. We may also seek additional capital due to favorable market conditions or strategic considerations, even if we believe we have sufficient funds for our current or future operating plans.

Raising additional capital may cause dilution to our existing stockholders, restrict our operations or require us to relinquish rights to our intellectual property or product candidates on unfavorable terms to us.

We may seek additional capital through a variety of means, including through collaboration arrangements, public or private equity or debt financings, third party (including government) funding and marketing and distribution arrangements, as well as other strategic alliances and licensing arrangements or any combination of these approaches. However, there can be no assurance that we will be able to raise capital on commercially reasonable terms or at all. To the extent that we raise additional capital through the sale of equity or convertible debt securities, our stockholder ownership interest will be diluted, and the terms may include liquidation preferences or other rights, powers or preferences that may adversely affect rights of our stockholders. To the extent that debt financing is available and we choose to raise additional capital in the form of debt, such debt financing may involve agreements that include covenants limiting or restricting our ability to take certain actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we raise additional capital pursuant to collaborations, licensing arrangements or other strategic partnerships, such agreements may require us to relinquish rights to our technologies or product candidates.

If we are unable to raise additional funds through equity or debt financing or through collaborations, licensing arrangements or strategic partnerships when needed, we may be required to delay, limit, reduce or terminate our product development or commercialization efforts.

Risks Related to the Development of Our Product Candidates

Our approach to the discovery and development of product candidates based on our proprietary platform represents a novel approach to cancer treatment, which creates significant challenges for us.

Our future success depends on the successful development of our product candidates, which target liquid and solid tumors utilizing T-cell receptor therapies, or TCR-T therapies. Advancing our product candidates creates significant challenges for us, including:

- educating medical personnel about the administration of TCR-T therapies on a stand-alone basis or in combination with built-in immune and tumor modulators;

Table of Contents

- while no such side effects have been observed to date in any of our preclinical studies, educating medical personnel regarding the potential side effect profile of our product candidates, such as the potential adverse side effects related to cytokine release syndrome (CRS), graft vs. host disease, neurotoxicity or autoimmune or rheumatologic disorders, which are the most common adverse side effects associated with engineered T-cell therapies;
- administering chemotherapy to patients in advance of administering our product candidates, which may increase the risk of adverse side effects;
- sourcing clinical and, if licensed, commercial, supplies for the materials used to manufacture and process our product candidates;
- manufacturing TCR-Ts efficiently and consistently without the use of viral vectors using our T-Integrate technology;
- developing a complete shipment lifecycle and supply chain, including efficiently managing shipment of patient cells from and to clinical sites, minimizing potential contamination to the cell product and effectively scaling manufacturing capacity to meet demand;
- developing processes suitable for clinical manufacturing and obtaining related CMC regulatory approvals;
- managing costs of inputs and other supplies while scaling production;
- using medicines to manage adverse side effects of our product candidates, which may not adequately control the side effects and/or may have a detrimental impact on the potency of the treatment;
- obtaining and maintaining regulatory approval from the FDA for our product candidates; and
- establishing sales and marketing capabilities upon obtaining any regulatory approval to gain market acceptance of a novel therapy.

In developing our product candidates, we have not exhaustively explored different options in the design of the TCR construct and in the method for manufacturing TCR-T therapies. We may find our existing TCR-T therapy candidates and manufacturing process may be substantially improved with future design or process changes, necessitating development of new or additional TCR constructs and further clinical testing and delaying commercial launch of our first products. For example:

- We have made several TCR constructs and used preclinical studies to select product candidates to advance into clinical trials. The preclinical studies are limited in their ability to predict behavior in patients. As we gain experience working with TCR constructs, we may decide to select other TCR constructs for clinical development.
- The process by which patient cells are converted into a TCR-T product has many steps that can influence quality and activity.

We have explored a subset of variables and expect to continue to improve and optimize the manufacturing process. Depending upon the nature of the process changes, we may be compelled to perform bridging studies and/or to re-start clinical development, causing delays in time to market and potentially introducing a risk of failure if new processes do not perform as expected.

We are very early in our development efforts. All of our product candidates are still in preclinical development. If we are unable to advance our product candidates through clinical development, obtain regulatory approval and ultimately commercialize our product candidates, or experience significant delays in doing so, our business will be materially harmed.

We are very early in our development efforts. All of our product candidates are still in preclinical development, with TSC-100, our most advanced product candidate, still in preclinical development and not having completed IND-enabling studies. Our ability to generate product revenues, which we do not expect will

Table of Contents

occur for many years, if ever, will depend significantly on the successful development and eventual commercialization of one or more of our product candidates. The success of our product candidates will depend on several factors, including the following:

- successful development of a process suitable for clinical manufacturing
- successful completion of preclinical studies;
- successful initiation of clinical trials;
- successful patient enrollment in and completion of clinical trials;
- receipt and related terms of marketing approvals and licensures from applicable regulatory authorities;
- obtaining and maintaining patent and trade secret protection and regulatory exclusivity for our product candidates;
- making arrangements with third party manufacturers, or establishing manufacturing capabilities, for both clinical and commercial supplies of our product candidates;
- establishing sales, marketing and distribution capabilities and launching commercial sales of our product candidates, if and when approved, whether alone or in collaboration with others;
- acceptance of our product candidates, if and when approved, by patients, the medical community and third party payors;
- effectively competing with other cancer therapies;
- obtaining and maintaining third party coverage and adequate reimbursement;
- maintaining a continued acceptable safety profile of our product candidates following licensure; and
- effectively competing with other therapies.

If we do not achieve one or more of these factors in a timely manner or at all, we could experience significant delays or be unable to successfully commercialize our product candidates, which would materially harm our business.

Although many of our personnel have extensive experience in clinical development and manufacturing at other companies, we have no direct experience as a company in conducting clinical trials or managing a manufacturing facility for our product candidates.

Although many of our personnel have extensive experience in clinical development and manufacturing at other companies, we have no direct experience as a company in conducting clinical trials at TScan. In part because of this lack of experience, we cannot be certain that our ongoing preclinical studies will be completed on time or if the planned preclinical studies and clinical trials will begin or be completed on time, if at all. Large-scale clinical trials would require significant additional financial and management resources and reliance on third party clinical investigators, contract research organizations (CROs) and consultants. Relying on third party clinical investigators, CROs and consultants may force us to encounter delays that are outside of our control.

We currently intend to operate our own cell manufacturing facility for Phase 1 and Phase 2 clinical trials, which will require significant resources, and we have limited direct experience as a company in expanding or managing a manufacturing facility. In part because of this lack of experience, we cannot be certain that our manufacturing facility will be completed on time, if at all, or if the planned clinical trials will begin or be completed on time, if at all. In part because of our inexperience, we may have unacceptable or inconsistent product quality success rates and yields, and we may be unable to maintain adequate quality control, quality assurance and qualified personnel. In addition, if we switch from manufacturing in our own facility to manufacturing in a different facility (for example, at an external contract manufacturing organization) for one or

[Table of Contents](#)

more of our product candidates in the future or make changes to our manufacturing process, we may need to conduct additional preclinical studies to bridge our modified product candidates to earlier versions. Failure to successfully create and operate our proposed manufacturing facility could adversely affect our process and clinical development timelines, regulatory approvals, and the commercial viability of our product candidates.

Our business is highly dependent on our current product candidates, TSC-100, TSC-101, TSC-102, TSC-200, TSC-201, TSC-202, and TSC-203, and we must complete IND-enabling studies and clinical testing before we can seek regulatory approval and begin commercialization of any of our product candidates.

There is no guarantee that any of our product candidates will proceed in preclinical or clinical development or achieve regulatory approval. The process for obtaining marketing approval for any product candidate is very long and risky and there will be significant challenges for us to address in order to obtain marketing approval as planned or, if at all.

There is no guarantee that the results obtained in current preclinical studies or our planned IND-enabling studies of TSC-100, TSC-101, TSC-102, TSC-200, TSC-201, TSC-202, and TSC-203 will be sufficient to obtain regulatory approval or marketing authorization for such product candidates. Negative results in the development of our lead product candidates may also impact our ability to obtain regulatory approval for our other product candidates, either at all or within anticipated timeframes because, although other product candidates may target different indications, the underlying proprietary platform, manufacturing process and development process is the same for all of our product candidates. Accordingly, a failure in any one program may affect the ability to obtain regulatory approval to continue or conduct clinical programs for other product candidates.

In addition, because we have limited financial and personnel resources and are placing significant focus on the development of our lead product candidates, we may forgo or delay pursuit of opportunities with other future product candidates that later prove to have greater commercial potential. Our resource allocation decisions may cause us to fail to capitalize on viable commercial products or profitable market opportunities. Our spending on current and future research and development programs and other future product candidates for specific indications may not yield any commercially viable future product candidates. If we do not accurately evaluate the commercial potential or target market for a particular future product candidate, we may relinquish valuable rights to those future product candidates through collaboration, licensing or other royalty arrangements in cases in which it would have been more advantageous for us to retain sole development and commercialization rights to such future product candidates.

Our preclinical studies and clinical trials may fail to demonstrate adequately the safety, potency and purity of any of our product candidates, which would prevent or delay development, regulatory approval and commercialization.

Before obtaining regulatory approvals for the commercial sale of our product candidates, we must demonstrate through lengthy, complex and expensive preclinical studies and clinical trials that our product candidates are both safe and effective for use in each target indication. Preclinical and clinical testing is expensive and can take many years to complete, and its outcome is inherently uncertain. Failure can occur at any time during the preclinical study and clinical trial processes, and, because our product candidates are in an early stage of development, there is a high risk of failure and we may never succeed in developing marketable products.

The results of preclinical studies and early clinical trials of our product candidates may not be predictive of the results of later-stage clinical trials. There is typically an extremely high rate of attrition from the failure of product candidates proceeding through preclinical studies and clinical trials. Product candidates in later stages of clinical trials may fail to show the desired safety, potency and purity profile despite having progressed through preclinical studies and initial clinical trials. A number of companies in the biopharmaceutical industry have suffered significant setbacks in advanced clinical trials due to lack of potency or efficacy, insufficient durability

[Table of Contents](#)

of potency or efficacy or unacceptable safety issues, notwithstanding promising results in earlier trials. Most product candidates that commence preclinical studies and clinical trials are never approved as products.

Any preclinical studies or clinical trials that we may conduct may not demonstrate the safety, potency and purity necessary to obtain regulatory approval to market our product candidates. If the results of our ongoing or future preclinical studies and clinical trials are inconclusive with respect to the safety, potency and purity of our product candidates, if we do not meet the clinical endpoints with statistical and clinically meaningful significance, or if there are safety concerns associated with our product candidates, we may be prevented or delayed in obtaining marketing approval for such product candidates. In some instances, there can be significant variability in safety, potency or purity results between different preclinical studies and clinical trials of the same product candidate due to numerous factors, including changes in trial procedures set forth in protocols, differences in the size and type of the patient populations, changes in and adherence to the clinical trial protocols and the rate of dropout among clinical trial participants.

Clinical development involves a lengthy and expensive process with an uncertain outcome, and results of earlier studies and trials may not be predictive of future clinical trial results. If our preclinical studies and clinical trials are not sufficient to support regulatory approval of any of our product candidates, we may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development of such product candidate.

We cannot be certain that our preclinical study and clinical trial results will be sufficient to support regulatory approval of our product candidates. Clinical testing is expensive and can take many years to complete, and its outcome is inherently uncertain. Human clinical trials are expensive and difficult to design and implement, in part because they are subject to rigorous regulatory requirements. Failure or delay can occur at any time during the clinical trial process.

We may experience delays in obtaining the FDA's authorization to initiate clinical trials under future INDs, completing ongoing preclinical studies of our other product candidates, and initiating our planned preclinical studies and clinical trials. Additionally, we cannot be certain that preclinical studies or clinical trials for our product candidates will begin on time, not require redesign, enroll an adequate number of subjects on time, or be completed on schedule, if at all. Clinical trials can be delayed or terminated for a variety of reasons, including delays or failures related to:

- the FDA or comparable foreign regulatory authorities disagreeing as to the design or implementation of our clinical trials;
- delays in obtaining regulatory approval to commence a clinical trial;
- reaching agreement on acceptable terms with prospective CROs and clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and clinical trial sites;
- obtaining institutional review board (IRB) approval at each clinical trial site;
- recruiting or retaining an adequate number of suitable patients to participate in a clinical trial, including as a result of actions taken by governments and individuals in response to the COVID-19 pandemic;
- having subjects complete a clinical trial or return for post-treatment follow-up;
- clinical trial sites deviating from clinical trial protocol or dropping out of a clinical trial;
- addressing subject safety concerns that arise during the course of a clinical trial;
- adding a sufficient number of clinical trial sites; or
- obtaining sufficient product supply of product candidate for use in preclinical studies or clinical trials from third party suppliers.

[Table of Contents](#)

We may experience numerous adverse or unforeseen events during, or as a result of, preclinical studies and clinical trials that could delay or prevent our ability to receive marketing approval or commercialize our product candidates, including:

- we may receive feedback from regulatory authorities that requires us to modify the design of our clinical trials;
- clinical trials of our product candidates may produce negative or inconclusive results, and we may decide, or regulators may require us, to conduct additional clinical trials or abandon our research efforts for our other product candidates;
- the number of patients required for clinical trials of our product candidates may be larger than we anticipate, enrollment in these clinical trials may be slower than we anticipate or participants may drop out of our clinical trials at a higher rate than we anticipate;
- our third party contractors may fail to comply with regulatory requirements, fail to maintain adequate quality controls or be unable to provide us with sufficient product supply to conduct and complete preclinical studies or clinical trials of our product candidates in a timely manner, or at all;
- we or our investigators might have to suspend or terminate clinical trials of our product candidates for various reasons, including non-compliance with regulatory requirements, a finding that our product candidates have undesirable side effects or other unexpected characteristics or a finding that the participants are being exposed to unacceptable health risks;
- the cost of clinical trials of our product candidates may be greater than we anticipate;
- the effects of the ongoing COVID-19 global pandemic;
- the quality of our product candidates or other materials necessary to conduct preclinical studies or clinical trials of our product candidates may be insufficient or inadequate;
- regulators may revise the requirements for approving our product candidates, or such requirements may not be as we anticipate; and
- our current or future collaborators may conduct clinical trials in ways they view as advantageous to them but that are suboptimal for us.

If we are required to conduct additional clinical trials or other testing of our product candidates beyond those that we currently contemplate, if we are unable to successfully complete clinical trials of our product candidates or other testing, if the results of these trials or tests are not positive or are only moderately positive or if there are safety concerns, our business and results of operations may be adversely affected and we may incur significant additional costs. Accordingly, our clinical trial costs are likely to be significantly higher than those for more conventional therapeutic technologies or drug product candidates.

We could also encounter delays if a clinical trial is suspended or terminated by us, by the IRBs of the institutions in which such clinical trials are being conducted, by the Data Safety Monitoring Board (DSMB) for such clinical trial or by the FDA or other regulatory authorities. Such authorities may suspend or terminate a clinical trial due to a number of factors, including failure to conduct the clinical trial in accordance with regulatory requirements or our clinical trial protocols, inspection of the clinical trial operations or trial site by the FDA or other regulatory authorities resulting in the imposition of a clinical hold, unforeseen safety issues or adverse side effects, failure to demonstrate a benefit from the product candidates, changes in governmental regulations or administrative actions or lack of adequate funding to continue the clinical trial.

If we experience delays in the completion, or termination, of any preclinical study or clinical trial of our product candidates, the commercial prospects of our product candidates may be harmed, and our ability to generate revenues from any of these product candidates will be delayed or not realized at all. In addition, any delays in completing our preclinical studies or clinical trials may increase our costs, slow down our product

candidate development and approval process and jeopardize our ability to commence product sales and generate revenues. Any of these occurrences may significantly harm our business, financial condition and prospects. In addition, many of the factors that cause, or lead to, a delay in the commencement or completion of clinical trials may also ultimately lead to the denial of regulatory approval of our product candidates.

Our business could be adversely affected by the effects of health epidemics, including the evolving effects of the COVID-19 pandemic, in regions where we, our partners or other third parties on which we rely have significant manufacturing facilities, concentrations of potential clinical trial sites or other business operations. The COVID-19 pandemic has had and may continue have a material effect on our operations as well as the business or operations of our partners or other third parties with whom we or our partners conduct business.

Health epidemics in regions where we have concentrations of potential clinical trial sites or other business operations could adversely affect our business, including by causing significant disruption in the operations of third parties upon whom we rely. For example, the COVID-19 pandemic has presented a substantial public health and economic challenge around the world and is affecting employees, patients, communities and business operations, as well as the U.S. economy and financial markets. Our headquarters is located in the Greater Boston Area. In addition, several of our third party suppliers and contractors are located in countries and regions that have been negatively impacted by the COVID-19 global pandemic. In March 2020, the U.S. government imposed bans and restrictions on travel between the United States, Asia and certain other continents and countries and other countries have restricted travel to and from the United States. Although, the Commonwealth of Massachusetts has permitted businesses to re-open on a limited basis, we have implemented work-from-home policies for a vast majority of our employees. The effects of our work-from-home policies may negatively impact productivity, disrupt our business and delay our clinical programs and timelines, the magnitude of which will depend, in part, on the length and severity of any current or future restrictions and other limitations on our ability to conduct our business in the ordinary course. In connection with these measures, we may be subject to claims based upon, arising out of or related to COVID-19 and our actions and responses thereto, including any determinations that we may make to continue to operate or to re-open our facilities where permitted by applicable law. These and similar, and perhaps more severe, disruptions in our operations could negatively impact our business, financial condition, results of operations and growth prospects.

In addition, our planned clinical trials may be affected by the COVID-19 outbreak. Site initiation and patient enrollment may be delayed due to prioritization of hospital resources toward the COVID-19 outbreak. Some patients may not be able to comply with clinical trial protocols if quarantines impede patient movement or interrupt healthcare services. Similarly, our ability to recruit and retain patients and principal investigators and site staff who, as healthcare providers, may have heightened exposure to COVID-19 and adversely impact our planned clinical trial operations.

Furthermore, while the potential economic impact brought by, and the duration of, the COVID-19 pandemic may be difficult to assess or predict, the pandemic could result in significant and prolonged disruption of global financial markets, reducing our ability to access capital, which could in the future negatively affect our liquidity. In addition, a recession or market correction resulting from the spread of COVID-19 could materially affect our business and the value of our common stock.

While we expect the COVID-19 pandemic to continue to adversely affect our business operations, the extent of the impact on our development and regulatory efforts and the future value of and market for our common stock will depend on future developments that are highly uncertain and cannot be predicted with confidence at this time, such as the ultimate duration of the pandemic, travel restrictions, quarantines, social distancing and business closure requirements in the U.S. and in other countries, and the effectiveness of actions taken globally to contain and treat COVID-19. In addition, to the extent the evolving effects of the COVID-19 pandemic adversely affects our business and results of operations, it may also have the effect of heightening many of the other risks and uncertainties described elsewhere in this “Risk Factors” section.

We may rely on third parties to manufacture our clinical product supplies, and we may rely on third parties to produce and process our product candidates, if licensed.

We currently intend to establish facilities to manufacture our clinical scale product candidates for our Phase 1 and Phase 2 clinical trials for TSC-100, TSC-101, TSC-102, TSC-200, TSC-201, TSC-202, and TSC-203. However, we rely on outside vendors to manufacture supplies for our manufacturing process, and we expect to rely on outside vendors to manufacture our product candidates for registration-enabling additional clinical trials as well as commercial sales. We have not yet caused any product candidates to be manufactured or processed on a commercial scale and may not be able to do so for any of our product candidates. We plan to make changes as we work to optimize the manufacturing process. For example, we may switch or be required to switch from research-grade materials to commercial-grade materials in order to get regulatory approval of our product candidates, which could delay regulatory approval, if any. We cannot be sure that even minor changes in the process will result in therapies that are safe and effective and licensed for commercial sale. In addition, changes in the manufacturing process may result in the need to conduct additional bridging clinical trials to demonstrate product comparability.

The facilities used by us or any contract manufacturers to manufacture our product candidates must be approved by the FDA or other foreign regulatory authorities following inspections that will be conducted after we submit an application to the FDA or other foreign regulatory authorities. If we engage contract manufacturers, we may not control the manufacturing process of, and may be completely dependent on, such contract manufacturing partners for compliance with cGMPs and any other regulatory requirements of the FDA or other regulatory authorities for the manufacture of our product candidates. We have limited control over the ability of any contract manufacturers we engage to maintain adequate quality control, quality assurance and qualified personnel. Even with oversight, the third party may not be able to meet proper quality standard or its contractual obligations. If the FDA or a comparable foreign regulatory authority does not approve these facilities for the manufacture of our product candidates or if it withdraws any approval in the future, we may need to find alternative manufacturing facilities, which would significantly impact our ability to develop, obtain regulatory approval for or market our product candidates, if licensed.

We, and any contract manufacturers we engage for registration-enabling clinical trials, may experience manufacturing difficulties due to limited manufacturing experience, resource constraints or as a result of labor disputes, the ongoing COVID-19 pandemic, the U.S.-China trade war or unstable political environments. If we or any contract manufacturers we engage were to encounter any of these difficulties, our ability to manufacture sufficient product supply for our preclinical studies and clinical trials, or to provide products for patients once approved, would be jeopardized.

Many of the materials and reagents we expect to use in our processes are single or sole source, and/or have limited stability and as such supply disruptions could materially impact our ability to develop or manufacture products. For example, the type of cell culture media and cryopreservation buffer that we currently use in our manufacturing process for TSC-100 and TSC-101 are each only available from a limited number of suppliers. In addition, the cell processing equipment and tubing that we use in our current manufacturing process is currently sourced from a single supplier. Any interruption in the supply by those single source suppliers could impact our ability to continue development of any and all of our product candidates on the anticipated timelines or at all.

We cannot guarantee that our product candidates will show any functionality in the solid tumor microenvironment.

There are no approved TCR-T immunotherapies for solid tumors. While we plan to develop product candidates for use in solid tumors, including TSC-200, we cannot guarantee that our product candidates will show any functionality in the solid tumor microenvironment. The cellular environment in which solid tumor cells thrive is generally hostile to T cells due to factors such as the presence of immunosuppressive cells, humoral factors and limited access to nutrients. Our TCR-T-based product candidates may not be able to access the solid

[Table of Contents](#)

tumor, and even if they do, they may not be able to exert anti-tumor effects in a hostile tumor microenvironment. As a result, our product candidates may not demonstrate potency in solid tumors. If we are unable to make our product candidates function in solid tumors, our development plans and business may be significantly harmed.

Since the number of patients that we plan to dose in our initial clinical trials may be small, the results from such clinical trial, once completed, may be less reliable than results achieved in larger clinical trials, which may hinder our efforts to obtain regulatory approval for our product candidates.

The preliminary results of clinical trials with smaller sample sizes can be disproportionately influenced by various biases associated with the conduct of small clinical trials, such as the potential failure of the smaller sample size to accurately depict the features of the broader patient population, which limits the ability to generalize the results across a broader community, thus making the clinical trial results less reliable than clinical trials with a larger number of patients. As a result, there may be less certainty that such product candidates would achieve a statistically significant effect in any future clinical trials. If we conduct any future clinical trials, we may not achieve a statistically significant result or the same level of statistical significance, if any, that we might have anticipated based on the results observed in our initial clinical trials. In addition, patients who are undergoing allogeneic hematopoietic cell transplantation are very sick and may pass away from complications of their standard clinical transplantation thus making it difficult to ascertain the beneficial effects of the added T-cell therapy. Further, toxicities of the T-cell therapy would be difficult to distinguish from the toxicity of the transplantation itself.

We may not be able to file INDs or IND amendments to commence additional clinical trials on the timelines we expect, and even if we are able to, the FDA may not permit us to proceed.

We expect to submit an IND for TSC-100 and TSC-101 in the fourth quarter of 2021 and submit IND applications for at least three of our four solid tumor TCR-T therapy candidates in the second half of 2022, with the fourth IND expected to be filed in 2023. However, we may not be able to file such INDs on the timelines we expect. For example, we may experience manufacturing delays or other delays with IND-enabling studies. Moreover, we cannot be sure that submission of an IND will result in the FDA allowing clinical trials to begin, or that, once begun, issues will not arise that suspend or terminate clinical trials. Additionally, even if such regulatory authorities agree with the design and implementation of the clinical trials set forth in an IND, we cannot guarantee that such regulatory authorities will not change their requirements in the future. These considerations also apply to new clinical trials we may submit as amendments to existing INDs.

In addition, one of our key goals is to develop treatments consisting of a combination of TCR-T therapies, which we refer to as multiplexed TCR-T therapy. Our plan is to assess the safety and preliminary efficacy of multiplexed TCR-T therapy early in the clinical development of our product candidates (e.g., Phase 1). We cannot guarantee, however, that the FDA will permit us to combine our product candidates with each other in a multiplexed TCR-T therapy before more extensive safety data are available for each individual product candidate or each variation or combination of a multiplexed TCR-T therapy. Any such requirements could result in material delays in the development timelines of our multiplexed TCR-T therapy candidates.

Our product candidates may cause undesirable side effects or have other properties that could halt their clinical development, prevent their regulatory approval, require expansion of the trial size, limit their commercial potential, or result in significant negative consequences.

Undesirable side effects caused by our product candidates could cause us or regulatory authorities, including IRBs, to interrupt, delay, or halt clinical trials and could result in a more restrictive label or the delay or denial of regulatory approval by the FDA or other comparable foreign regulatory authorities. Further, clinical trials by their nature utilize a sample of the potential patient population. With a limited number of subjects and limited duration of exposure, rare and severe side effects of our product candidates may only be uncovered with a significantly larger number of patients exposed to the drug. Because of the design of the dose escalation of our

[Table of Contents](#)

our planned Phase 1 clinical trials, undesirable side effects could also result in an expansion in the size of our clinical trials, increasing the expected costs and timeline of our clinical trials. Additionally, results of our clinical trials could reveal a high and unacceptable severity and prevalence of side effects or unexpected characteristics, which may stem from our therapies specifically or may be due to an illness from which the clinical trial subject is suffering.

For example, there could be an increased risk of graft-versus-host disease (GvHD) with the TCR-T treatment. GvHD is a common toxicity in patients undergoing allogeneic hematopoietic stem cell transplantation, the focus of our liquid tumor program. GvHD occurs because donor T cells, which are part of the standard stem cell product, misrecognize antigens in the patient as foreign and attack tissues and organs that express those antigens. GvHD may be worsened by our TCR-T therapy candidates because they are derived from donor T cells. While the engineered T cells express a new T-cell receptor that is specific for the intended target antigen and is not expected to cause GvHD, those T cells may have low levels of endogenous T-cell receptors that have the potential to misrecognize patient antigens as foreign and worsen GvHD.

In solid tumor patients, autoimmunity may occur after TCR-T treatment. TCR-T therapies are generated from a patient's own T cells isolated from their peripheral blood. There is a risk that this process will expand a patient's own T cell that has autoreactivity, or that may recognize healthy cells, and upon re-infusion may trigger an autoimmune reaction resulting in damage to normal tissues and potentially even death.

Autoimmune reaction triggered by an interaction between a patient's naturally occurring antibodies and engineered T cells is a theoretical safety risk of product candidates we develop using our proprietary platform. If a patient's self-generated antibodies were directed to a target expressed on the surface of cells in normal tissue (autoantibodies), engineered T cells would be directed to attack these same tissues, potentially resulting in off-tumor effects. These autoantibodies may be present whether or not the patient has an active autoimmune disease. In our clinical testing, we plan to take steps to minimize the likelihood that this occurs, for example by excluding patients with a history of severe autoimmune disease from our trials. There is no guarantee, however, that we will not observe autoimmune reactions in the future and no guarantee that if we do, that we will be able to implement interventions to address the risk.

In addition, immunogenicity, which is the reaction between a patient's immune system and a foreign protein outside of the autoimmune context, is an additional theoretical safety risk of product candidates we develop using our proprietary platform. Patients' immune systems may recognize the TCR construct on the TCR-T product as a foreign protein and fight against it, potentially rendering it ineffective, or even provoking an allergic/anaphylactoid response or other adverse side effects. The immunogenic potential of novel therapeutics like TCR-T therapies is difficult to predict. There is no guarantee that we will not observe immunogenic reactions in the future and no guarantee that if we do, that we will be able to implement interventions to address the risk.

If unacceptable toxicities arise in the development of our product candidates, we could suspend or terminate our clinical trials or the FDA or comparable foreign regulatory authorities, or local regulatory authorities such as IRBs, could order us to cease clinical trials. Competent national health authorities, such as the FDA, could also deny approval of our product candidates for any or all targeted indications. Treatment-related side effects could also affect patient recruitment or the ability of enrolled patients to complete the clinical trial or result in potential product liability claims. In addition, these side effects may not be appropriately recognized or managed by the treating medical staff, as toxicities resulting from T-cell therapy are not normally encountered in the general patient population and by medical personnel. We expect to have to train medical personnel using our product candidates to understand the side effect profile of our product candidates for both our planned clinical trials and upon any commercialization of any product candidates, if licensed. Inadequate training in recognizing or managing the potential side effects of our product candidates could result in patient deaths. Any of these occurrences may significantly harm our reputation as well as business, financial condition and prospects.

Certain patients may lack sufficient T Cells for our autologous product candidates to be effective.

For autologous TCR-T therapy, our TCR-T therapy candidates are manufactured by using a vector to insert genetic information encoding the TCR construct into the patient's own T cells. This manufacturing process is dependent on a collecting a sufficient number of T cells from the patient. We may not be able to effectively treat some patients if they have an insufficient number of T cells to enable our manufacturing process, which could adversely impact our ability to progress the clinical development of such product candidates and could also adversely impact the commercial viability of such product candidates.

Our product candidates may target healthy cells expressing target antigens leading to potentially fatal adverse effects.

Our product candidates target specific antigens that are also expressed on healthy cells. Our product candidates may target healthy cells, leading to serious and potentially fatal adverse effects. In our planned clinical trials of our product candidates, we plan to use a dose escalation model to closely monitor the effect of our product candidates on vital organs and other potential side effects. Even though we intend to closely monitor the side effects of our product candidates in both preclinical studies and clinical trials, we cannot guarantee that products will not target and kill healthy cells.

Our product candidates may have serious and potentially fatal cross-reactivity to other peptides or protein sequences within the body.

Our product candidates may recognize and bind to a peptide unrelated to the target antigen to which it is designed to bind. If this peptide is expressed within normal tissues, our product candidates may target and kill the normal tissue in a patient, leading to serious and potentially fatal adverse effects. Detection of any cross-reactivity may halt or delay any ongoing clinical trials for any TCR-T therapy candidate and prevent or delay regulatory approval. Unknown cross-reactivity of the TCR-T binding domain to related proteins could also occur. We have also developed a preclinical screening process to identify cross-reactivity of T-cell binders. Any cross-reactivity that impacts patient safety could materially impact our ability to advance our product candidates into clinical trials or to proceed to marketing approval and commercialization.

The vectors used to manufacture our TCR-T therapies may incorrectly modify the genetic material of a patient's T cells, potentially triggering the development of a new cancer or other adverse events.

Our TCR-T therapy candidates are manufactured by using a vector to insert genetic information encoding the TCR construct into the patient's T cells. The TCR construct is then integrated into the natural TCR complex and transported to the surface of the patient's T cells. Because the vector modifies the genetic information of the T cell, there is a risk that modification will occur in the wrong place in the T cell's genetic code, leading to vector-related insertional oncogenesis, and causing the T cell to become cancerous. If the cancerous T cell is then administered to the patient with the TCR-T therapy candidates, the cancerous T cell could trigger the development of a new cancer in the patient. We use non-viral transposon / transposase or lentiviral vectors to insert genetic information into T cells. The risk of insertional oncogenesis remains a concern for gene therapy and we cannot assure that it will not occur in any of our ongoing or planned preclinical studies or clinical trials. There is also the potential risk of delayed adverse events following exposure to gene therapy products due to persistent biological activity of the genetic material or other components of vectors used to carry the genetic material. The FDA has stated that vectors possess characteristics that may pose high risks of delayed adverse events. Non-viral transposon/transposase systems have limited clinical history and such their safety profile is still to be determined . If any such adverse events occur, further advancement of our preclinical studies or clinical trials could be halted or delayed, which would have a material adverse effect on our business and operations.

If we encounter difficulties enrolling patients in our clinical trials, our clinical development activities could be delayed or otherwise adversely affected.

We may experience difficulties in patient enrollment in our clinical trials for a variety of reasons. The timely completion of clinical trials in accordance with their protocols depends on, among other things, our ability to enroll a sufficient number of patients who remain in the clinical trial until its conclusion. The enrollment of patients depends on many factors, including:

- the patient eligibility criteria defined in the clinical trial protocol, particularly those who meet the requisite genetic criteria. For example, for our liquid tumor program, patients would have to be HLA-A*02:01 positive and positive for the minor antigen HA-1 or HA-2 to be eligible for treatment with TSC-100 or TSC-101, respectively;
- for our liquid tumor program, the ability to find a donor who has to be mismatched with the patient either for the HLA type or the minor antigen type to ensure that the engineered T-cell therapy does not recognize donor-derived blood cells;
- the impact of the COVID-19 pandemic on clinical trial initiation and enrollment;
- the size of the patient population required for analysis of the clinical trial's primary endpoints;
- the proximity of patients to clinical trial sites;
- the design of the clinical trial;
- our ability to recruit clinical trial investigators with the appropriate competencies and experience;
- our ability to obtain and maintain patient consents;
- reporting of the preliminary results of any of our clinical trials;
- risk that patients enrolled in clinical trials will drop out of the clinical or pass away from disease-related complications or complications from their standard clinical therapy before they can experience benefits of the engineered T-cell therapy ; and
- for patients in our solid tumor program, the patients need for sufficient T cells in order for the engineered T-cell product to be manufactured from their autologous T cells.

In addition, our clinical trials will compete with other clinical trials for product candidates that are in the same therapeutic areas as our product candidates, and this competition will reduce the number and types of patients available to us because some patients who might have opted to enroll in our clinical trials may instead opt to enroll in a clinical trial being conducted by one of our competitors. Since the number of qualified clinical investigators is limited, we expect to conduct some of our clinical trials at the same clinical trial sites that some of our competitors use, which will reduce the number of patients who are available for our clinical trials at such clinical trial sites. Moreover, because our product candidates represent a departure from more commonly used methods for cancer treatment, potential patients and their doctors may be inclined to use conventional therapies, such as chemotherapy and hematopoietic stem cell transplantation, rather than enroll patients in any future clinical trial. Additionally, because some of our clinical trials are expected to be in patients with relapsed/refractory cancer, the patients are typically in the late stages of their disease and may experience disease progression independent from our product candidates, making them unevaluable for purposes of the clinical trial and requiring additional patient enrollment.

Delays in completing patient enrollment may result in increased costs or may affect the timing or outcome of our ongoing and planned clinical trials, which could prevent completion or commencement of these clinical trials and adversely affect our ability to advance the development of our product candidates.

[Table of Contents](#)

Research and development of biopharmaceutical products is inherently risky. We may not be successful in our efforts to use and enhance our TScan technology discovery platform and TCR technologies to create a pipeline of product candidates and develop commercially successful products, or we may expend our limited resources on programs that do not yield a successful product candidate and fail to capitalize on product candidates or diseases that may be more profitable or for which there is a greater likelihood of success. If we fail to develop additional product candidates, our commercial opportunity will be limited.

A key element of our strategy is to use our TScan technology discovery platform to discover the targets of T-cells in oncology, autoimmune and infectious disease applications to build a pipeline of novel product candidates. We and our collaborators are simultaneously pursuing clinical development of multiple product candidates developed employing our TCR technologies.

We are at an early stage of development and our TScan technology discovery platform has not yet led, and may never lead, to approved or commercially successful products. All of our current product candidates are being developed by leveraging the same or similar underlying proprietary platform, manufacturing process and development program. As a result, an issue with one product candidate or failure of any one program to obtain regulatory approval could lead to a failure of our entire pipeline of product candidates.

Even if we are successful in continuing to build our pipeline, obtaining regulatory approvals and commercializing additional product candidates may require substantial additional funding and are prone to the risks of failure inherent in medical product development.

Investment in biopharmaceutical product development involves significant risk that any potential product candidate will fail to demonstrate adequate efficacy or an acceptable safety profile, gain regulatory approval, and become commercially viable. We cannot provide any assurance that we will be able to successfully advance any of these additional product candidates through the development process. Our research programs may initially show promise in identifying potential product candidates, yet fail to yield product candidates for clinical development or commercialization for many reasons, including the following:

- our research methodology, including our screening technology, may not successfully identify additional product candidates;
- our pursuit of difficult-to-drug targets may make it challenging to design potential product candidates;
- results of clinical trials conducted by others on similar indications or on compounds with similar mechanisms of action could result in our having to conduct additional or cost prohibitive clinical trials, which could delay development and possibly make commercialization prohibitively expensive;
- we may encounter product manufacturing difficulties that limit yield, produce undesirable characteristics, that increase the cost of goods, cause delays, or make the product candidates unmarketable;
- our product candidates may cause adverse effects in patients or subjects, even after successful initial toxicology studies, which may make the product candidates unmarketable;
- our product candidates may not demonstrate a meaningful benefit to patients or subjects; and
- our collaboration partners may change their development profiles or plans for potential product candidates or abandon a therapeutic area or the development of a partnered product.

If any of these events occur, we may be forced to abandon our development efforts for a program or programs, which would have a material adverse effect on our business, operating results and prospects and could potentially cause us to cease operations. Research programs to identify new product candidates require substantial technical, financial and human resources. We may focus our efforts and resources on potential programs or product candidates that ultimately prove to be unsuccessful.

If we are unable to identify suitable compounds for preclinical and clinical development, we will not be able to obtain revenues from sale of drugs in future periods, which likely would result in significant harm to our business prospects and financial position.

The market opportunities for our product candidates may be relatively small as it will be limited to those patients who are ineligible for or have failed prior treatments and our estimates of the prevalence of our target patient populations may be inaccurate.

Cancer therapies are sometimes characterized as first line, second line, or third line, and the FDA often approves new therapies initially only for a particular line of use. When cancer is detected early enough, first line therapy is sometimes adequate to cure the cancer or prolong life without a cure. Whenever first line therapy, usually chemotherapy, antibody drugs, tumor-targeted small molecules, hormone therapy, radiation therapy, surgery, or a combination of these, proves unsuccessful, second line therapy may be administered. Second line therapies often consist of more chemotherapy, radiation, antibody drugs, tumor-targeted small molecules, or a combination of these. Third line therapies can include hematopoietic stem cell transplantation in certain cancers, chemotherapy, antibody drugs and small molecule tumor-targeted therapies, more invasive forms of surgery and new technologies. We expect to initially seek approval of our product candidates in most instances at least as a second or third line therapy, for use in patients to prevent relapse in patients undergoing hematopoietic stem cell transplantation. Subsequently, for those product candidates that prove to be sufficiently safe and beneficial, if any, we would expect to seek approval as a second line therapy and potentially as a first line therapy, but there is no guarantee that our product candidates, even if licensed as a second or third or subsequent line of therapy, would be licensed for an earlier line of therapy, and, prior to any such approvals, we may have to conduct additional clinical trials. Consequently, the potentially addressable patient population for our product candidates may be extremely limited or may not be amenable to treatment with our product candidates.

Our projections of both the number of people who have the cancers we are targeting, as well as the subset of people with these cancers in a position to receive a particular line of therapy and who have the potential to benefit from treatment with our product candidates, are based on our beliefs and estimates. These estimates have been derived from a variety of sources, including scientific literature, surveys of clinics, patient foundations or market research, and may prove to be incorrect. Further, new therapies may change the estimated incidence or prevalence of the cancers that we are targeting. Consequently, even if our product candidates are approved for a second or third line of therapy, the number of patients that may be eligible for treatment with our product candidates may turn out to be much lower than expected.

Our product candidates rely on the use of protein binding domains, or binders, to target specific cancers, which we may develop or which may be developed by third parties. We are limited in our ability to apply our product candidates to a wider range of potential target cancers by our ability to develop, partner for or acquire these binders on commercially reasonable terms.

TCR-T therapies require the use of antigen-specific protein binding domains, or binders, which guide the TCR-Ts and bind to the antigens on the surface of a tumor to target specific types of cancers. Our ability to develop and commercialize our product candidates will depend on our ability to develop these binders or partner for such binders on commercially reasonable terms for use in clinical trials as well as the availability of such binders for use in commercialized products, if licensed. We cannot ensure that we will have a steady supply of binders that we can utilize in combination with the TCR construct to develop future product candidates. If we are unable to enter into such collaborations on commercially reasonable terms or fail to realize the benefits of any such collaboration, we may be limited to using antibody fragments that we are able to independently develop which may limit the ability of our product candidates to target and kill cancer cells.

The failure to enter into a successful collaboration or to develop our own binders may delay our development timelines, increase our costs and jeopardize our ability to develop future product candidates as a commercially viable drug, which could result in delays in product development and harm our business.

Table of Contents

We currently have no marketing and sales organization and have no experience as a company in marketing products. If we are unable to establish marketing and sales capabilities or enter into agreements with third parties to market and sell our product candidates, if licensed, we may not be able to generate product revenue.

We currently have no sales, marketing or distribution capabilities and have no experience as a company in marketing products. We intend to develop an in-house marketing organization and sales force, which will require significant capital expenditures, management resources and time. We will have to compete with other pharmaceutical and biotechnology companies to recruit, hire, train and retain marketing and sales personnel.

If we are unable or decide not to establish internal sales, marketing and distribution capabilities, we will pursue collaborative arrangements regarding the sales and marketing of our product candidates, if licensed. However, there can be no assurance that we will be able to establish or maintain such collaborative arrangements, or if we are able to do so, that they will have effective sales forces. Any revenue we receive will depend upon the efforts of such third parties, which may not be successful. We may have little or no control over the marketing and sales efforts of such third parties and our revenue from product sales may be lower than if we had commercialized our product candidates ourselves. We also face competition in our search for third parties to assist us with the sales and marketing efforts of our product candidates.

There can be no assurance that we will be able to develop in-house sales and distribution capabilities or establish or maintain relationships with third party collaborators to commercialize any product in the United States or overseas.

Even if we obtain regulatory approval of our product candidates, the products may not gain market acceptance among physicians, patients, hospitals, cancer treatment centers and others in the medical community.

The use of engineered T cells as a potential cancer treatment is a recent development and may not become broadly accepted by physicians, patients, hospitals, cancer treatment centers and others in the medical community. Various factors will influence whether our product candidates are accepted in the market, including:

- the clinical indications for which our product candidates are licensed;
- physicians, hospitals, cancer treatment centers and patients considering our product candidates as a safe and effective treatment;
- the potential and perceived advantages of our product candidates over alternative treatments;
- our ability to demonstrate the advantages of our product candidates over other TCR-T therapies;
- the prevalence and severity of any side effects;
- the prevalence and severity of any side effects for other adoptive cell therapies, TCR-T therapies and public perception of other adoptive cell therapies, TCR-T therapies;
- product labeling or product insert requirements of the FDA or other regulatory authorities;
- limitations or warnings contained in the labeling approved by the FDA;
- the timing of market introduction of our product candidates as well as competitive products;
- the cost of treatment in relation to alternative treatments;
- the availability of adequate coverage, reimbursement and pricing by third party payors and government authorities;
- willingness of patients to pay out-of-pocket in the absence of coverage by third party payors and government authorities;

Table of Contents

- relative convenience and ease of administration, including as compared to alternative treatments and competitive therapies; and
- the effectiveness of our sales and marketing efforts.

In addition, although we are not utilizing embryonic stem cells or replication competent vectors, adverse publicity due to the ethical and social controversies surrounding the therapeutic use of such technologies, and reported side effects from any clinical trials using these technologies or the failure of such clinical trials to demonstrate that these therapies are safe and effective may limit market acceptance of our product candidates. If our product candidates are licensed but fail to achieve market acceptance among physicians, patients, hospitals, cancer treatment centers or others in the medical community, we will not be able to generate significant revenue.

In addition, although our product candidates differ in certain ways from other TCR-T therapy approaches, serious adverse events or deaths in other clinical trials involving engineered TCR, or other T-cell products or with our use of licensed TCR-T therapy candidates, even if not ultimately attributable to our product candidates, could result in increased government regulation, unfavorable public perception and publicity, potential regulatory delays in the testing or licensing of our product candidates, stricter labeling requirements for those product candidates that are licensed, and a decrease in demand for any such product candidates.

Even if our product candidates achieve market acceptance, we may not be able to maintain that market acceptance over time if new products or technologies are introduced that are more favorably received than our product candidates, are more cost effective or render our product candidates obsolete.

A variety of risks associated with marketing our product candidates internationally could materially adversely affect our business.

We plan to seek regulatory approval of our product candidates outside of the United States and, accordingly, we expect that we will be subject to additional risks related to operating in foreign countries if we obtain the necessary approvals, including:

- differing regulatory requirements in foreign countries;
- unexpected changes in tariffs, trade barriers, price and exchange controls and other regulatory requirements;
- economic weakness, including inflation, or political instability in particular foreign economies and markets;
- compliance with tax, employment, immigration and labor laws for employees living or traveling abroad;
- foreign taxes, including withholding of payroll taxes;
- foreign currency fluctuations, which could result in increased operating expenses and reduced revenue, and other obligations incident to doing business in another country;
- difficulties staffing and managing foreign operations;
- workforce uncertainty in countries where labor unrest is more common than in the United States;
- potential liability under the Foreign Corrupt Practices Act of 1977 or comparable foreign regulations;
- challenges enforcing our contractual and intellectual property rights, especially in those foreign countries that do not respect and protect intellectual property rights to the same extent as the United States;
- production shortages resulting from any events affecting raw material supply or manufacturing capabilities abroad; and
- business interruptions resulting from geo-political actions, including war and terrorism.

These and other risks associated with international operations may materially adversely affect our ability to attain or maintain profitable operations.

We face significant competition, and our operating results will suffer if we fail to compete effectively.

The biopharmaceutical industry is characterized by intense competition and rapid innovation. Our competitors may be able to develop other products or drugs that are able to achieve similar or better results. Our potential competitors include larger biotechnology and pharmaceutical companies with greater resources than us, academic institutions, governmental agencies, public and private research institutions and early stage or smaller companies. Many of our competitors have substantially greater financial, technical and other resources, such as larger research and development staff, experienced marketing and manufacturing organizations and well-established sales forces. Further, our competitors may have more financial resources, greater access to capital and diversified product offerings and revenue sources which may give our competitors an advantage over us in weathering the effects of the ongoing COVID-19 global pandemic. In addition, many of these competitors are active in seeking patent protection and licensing arrangements in anticipation of collecting royalties for use of technology that they have developed. Mergers and acquisitions in the biotechnology and pharmaceutical industries may result in even more resources being concentrated in our competitors. Competition may increase further as a result of advances in the commercial applicability of technologies and greater availability of capital for investment in these industries. Our competitors, either alone or with collaborative partners, may succeed in developing, acquiring or licensing on an exclusive basis drug or biologic products that are more effective, safer, more easily commercialized or less costly than our product candidates or may develop proprietary technologies or secure patent protection that we may need for the development of our technologies and products. We believe the key competitive factors that will affect the development and commercial success of our product candidates are safety, potency, purity, tolerability, reliability, convenience of use, price and reimbursement.

Specifically, by genetically engineering T-cell therapies, we face significant competition in the TCR space from multiple companies, including Kite Pharma Inc., a subsidiary of Gilead, Inc., Adaptimmune Therapeutics, Plc., Juno Therapeutics, Inc., a subsidiary of Bristol-Myers Squibb, Inc., Iovance Biotherapeutics, Inc., Achilles Therapeutics plc, Geneos Therapeutics, Inc., PACT Pharma, Inc., Celyad, S.A., Fate Therapeutics, Inc., Nkarta, Inc., Medigene AG, Ziopharm Oncology, Inc., Bayer AG, Novartis AG, Selecta Biosciences, Inc., TCR2 Therapeutics Inc., Adaptive Therapeutics, Inc., Immatics US, Inc., 3T Biosciences, Inc. and Regeneron Pharmaceuticals, Inc. Even if we obtain regulatory approval of our product candidates, the availability and price of our competitors' products could limit the demand and the price we are able to charge for our product candidates. We may not be able to implement our business plan if the acceptance of our product candidates is inhibited by price competition or the reluctance of physicians to switch from existing methods of treatment to our product candidates, or if physicians switch to other new drug or biologic products or choose to reserve our product candidates for use in limited circumstances. Moreover, the development and manufacturing costs associated with engineered T-cell therapies may make it difficult to compete with alternative products that may be simpler and cheaper to develop and manufacture. For additional information regarding our competition, see "Business—Competition."

Our internal computer systems, or those used by our third party CROs or other contractors or consultants, may fail or suffer security breaches or other unauthorized or improper access, which could result in a material disruption of the development programs of our product candidates.

Despite the implementation of security measures, our internal computer systems and those of our current and future CROs and other contractors and consultants are vulnerable to a variety of disruptions and data privacy and information security incidents, including data breaches, attacks by hackers and other malicious third parties (including the deployment of computer viruses, malware, ransomware, denial-of-service attacks, social engineering, and other events that affect service reliability and threaten the confidentiality, integrity, and availability of information), unauthorized access, natural disasters, fires, terrorism, war, telecommunications or electrical interruptions or failures, employee error or malfeasance or other malicious or inadvertent disruptions.

[Table of Contents](#)

Additionally, the increased usage of computers operated on home networks due to shelter-in-place, stay-at-home advisories or similar restrictions related to the COVID-19 pandemic may make our or our partners' systems more susceptible to security breaches. While we have not experienced any such material system failure or security breach to date, if such an event were to occur and cause interruptions in our operations, it could result in a material disruption of our development programs and our business operations. For example, the loss of data from completed or future preclinical studies and clinical trials could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. Likewise, to the extent we rely on third parties for the manufacture of our product candidates and to conduct clinical trials, similar events relating to their computer systems could also have a material adverse effect on our business, financial condition, results of operations and prospects.

Unauthorized disclosure of sensitive or confidential data, including personally identifiable information, whether through a breach of computer systems, systems failure, employee negligence, fraud or misappropriation, or otherwise, or unauthorized access to or through our information systems and networks, whether by our employees or third parties, could result in negative publicity, legal liability and damage to our reputation. Unauthorized disclosure of personally identifiable information could also expose us to sanctions for violations of data privacy laws and regulations around the world.

As we become more dependent on information technologies to conduct our operations, cyber incidents, including deliberate attacks and attempts to gain unauthorized access to computer systems and networks, may increase in frequency and sophistication. These threats pose a risk to the security of our systems and networks and to the confidentiality, availability and integrity of our data, and these risks apply both to us and to third parties on whose systems we rely for the conduct of our business. Because the techniques used to obtain unauthorized access, disable or degrade service or sabotage systems change frequently and often are not recognized until launched against a target, we and our partners or collaborators may be unable to anticipate these techniques or to implement adequate preventative measures. Further, we do not have any control over the operations of the facilities or technology of our cloud and service providers, including any third party vendors that collect, process and store personal data on our behalf. Our systems, servers and platforms and those of our service providers may be vulnerable to computer viruses or physical or electronic break-ins that our or their security measures may not detect. Individuals able to circumvent such security measures may misappropriate our confidential or proprietary information, disrupt our operations, damage our computers or otherwise impair our reputation and business. We may need to expend significant resources and make significant capital investments to protect against security breaches or to mitigate the impact of any such breaches. There can be no assurance that we or our third party providers will be successful in preventing cyber-attacks or successfully mitigating their effects. To the extent that any disruption or security breach were to result in a loss of, or damage to, our data or applications, or inappropriate disclosure of confidential or proprietary information, we could incur liability and the further development and commercialization of our product candidates could be delayed.

Security incidents, loss of data or modification of information, and other disruptions could compromise information related to our business or prevent us from accessing critical information, result in a significant disruption of our activities and expose us to liability, which could adversely affect our business and our reputation.

In the ordinary course of our business, we collect and store information, including personal information, intellectual property and proprietary business information that we own or control or have an obligation to protect. For example, we collect and store research and development information, employee data, commercial information, customer information and business and financial information. We and our service providers, including security and infrastructure vendors, manage and maintain our data using a combination of on-site systems and cloud-based data centers. We face a number of risks related to protecting critical information, including inappropriate use or disclosure, unauthorized access or acquisition, or inappropriate modification of, critical information. We also face the risk of being unable to access our critical information or technology systems due to actual or threats of ransomware, unauthorized encryption, or other malicious activity. We face the

[Table of Contents](#)

risk of being unable to adequately monitor, audit and modify our controls over our critical information. These risks extend to third party service providers and subcontractors we use to assist us in managing our information or otherwise process it on our behalf. The secure processing, storage, maintenance and transmission of our critical information is vital to our operations and business strategy, and we devote significant resources to protecting such information.

Although we take reasonable measures to protect critical information and other data from unauthorized access, acquisition, use or disclosure, our information technology and infrastructure and that of our service providers handling and storing information on our behalf may be vulnerable to a variety of disruptions, including data breaches, attacks by hackers and other malicious third parties (including the deployment of computer viruses, malware, ransomware, denial-of-service attacks, social engineering, and other events that affect service reliability and threaten the confidentiality, integrity, and availability of information), unauthorized access, natural disasters, fires, terrorism, war, telecommunications or electrical interruptions or failures, employee error or malfeasance or other malicious or inadvertent disruptions. In particular, the risk of a security breach or disruption, particularly through cyber-attacks or cyber intrusion, has generally increased as the number, intensity, and sophistication of attempted attacks and intrusions from around the world have increased. We may not be able to anticipate all types of security threats, and we may not be able to implement preventive measures that are effective against all such security threats. Because the techniques used by cyber criminals change frequently, may not be recognized until launched, and can originate from a wide variety of sources, including outside groups such as external service providers, organized crime affiliates or terrorist organizations, we and our services providers and other partners may be unable to anticipate these techniques or implement adequate preventative measures. Further, we do not have any control over the operations of the facilities or technology of third parties that collect, process and store sensitive information on our behalf. Any unauthorized access or acquisition, breach, or other loss, of information could result in legal claims or proceedings, and liability under federal, state or foreign laws regarding the privacy and protection of information, including personal information, and could disrupt our operations and harm our reputation. In addition, notice of breaches may be required to affected individuals, regulators, credit reporting agencies or the media. Any such publication or notice could harm our reputation and our ability to compete. The financial exposure from the events referenced above could either not be insured against or not be fully covered through any insurance that we may maintain, and there can be no assurance that the limitations of liability in any of our contracts would be enforceable or adequate or would otherwise protect us from liabilities or damages as a result of the events referenced above. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations and prospects.

Risks Related to Manufacturing

Manufacturing and administering our product candidates is complex and we may encounter difficulties in production, particularly with respect to process development or scaling up of our manufacturing capabilities. If we encounter such difficulties, our ability to provide supply of our TCR-T therapy candidates for clinical trials or for commercial purposes could be delayed or stopped.

The process of manufacturing and administering our product candidates is complex and highly regulated. The manufacture of our product candidates involves complex processes, including the manufacture of a transposon containing the genetic information for our TCR construct, a transposase used to insert the transposon genetic information into the T-cell genome, and manufacturing operations to ensure the safety, integrity, strength, purity, and quality of the final product. More specifically, the manufacture of our product candidates includes harvesting white blood cells from the patient, isolating certain T cells from the white blood cells, combining patient T cells with our delivery vector through a process known as transduction, selection of modified T cells from the population, expanding the selected transduced T cells to obtain the desired dose, aseptically filling product into vessels suitable for storage, distribution, and clinical dosing, and ultimately infusing the modified T cells back into the patient's body. As a result of the complexities entailed in this process, our manufacturing and supply costs will be higher than those at more traditional manufacturing processes and the manufacturing process is less reliable and more difficult to reproduce. Additionally, the number of facilities that are capable of

[Table of Contents](#)

harvesting patients' cells for the manufacture of our product candidates and other autologous cell therapy products and product candidates is limited. As the number of autologous cell therapy products and product candidates increases, the limited number of facilities capable of harvesting patients' cells could result in delays in the manufacture and administration of our product candidates.

Although we plan to establish our own manufacturing facility, we currently rely on third parties for the manufacture of our vector and other components of our manufacturing process. These third party manufacturers may incorporate their own proprietary processes into our components. We have limited control and oversight of a third party's proprietary process, and a third party may elect to modify its process without our consent or knowledge. These modifications could negatively impact our manufacturing, including product loss or failure that requires additional manufacturing runs or a change in manufacturer, both of which could significantly increase the cost of and significantly delay the manufacture of our product candidates. In addition, we are currently reliant on a single manufacturer for our transposon and transposase, and many of the critical raw materials and reagents used in the process are single or sole source. These third party providers may not be able to provide adequate resources, capacity to meet our needs, timely delivery of material, or may change internal processes or specifications that adversely affect our process or product candidates.

Our manufacturing process is and will be susceptible to product loss or failure due to logistical issues, manufacturing issues associated with the differences in patients' white blood cells, interruptions in the manufacturing process or supply chain, contamination, equipment or reagent failure, process design flaws, operator error, power failures, supplier error and variability in patient characteristics. Even minor deviations from normal manufacturing processes could result in reduced production yields, product defects, product rejection, or other supply disruptions. If for any reason we lose a patient's white blood cells, such material gets contaminated or processing steps fail at any point, the manufacturing process of the TCR-T therapy candidate for that patient will need to be restarted, if possible, and the resulting delay may adversely affect that patient's outcome. If microbial, viral, or other contaminations are discovered in our product candidates or in the manufacturing facilities in which our product candidates or critical raw materials or reagents are made or administered, such manufacturing facilities may need to be closed for an extended period of time to investigate and remedy the contamination.

As our product candidates progress through preclinical studies and clinical trials towards licensure and commercialization, it is expected that various aspects of the manufacturing and administration process will be altered in an effort to optimize processes and results. We have already identified some improvements to our manufacturing and administration processes, but these changes may not achieve the intended objectives, and could cause our product candidates to perform inadequately affecting the results of ongoing or future clinical trials. In addition, such changes may require amendments to be made to regulatory applications or necessitate development of new or additional TCR constructs and further clinical testing, which may further delay the timeframes under which modified manufacturing processes can be used for any of our product candidates.

Developing a commercially viable process is a difficult and uncertain task, and there are risks associated with scaling to the level required for advanced clinical trials or commercialization, including, among others, increased costs, potential problems with process scale-out or scale-up, process reproducibility, stability issues, lot consistency, facility suitability or capacity, staffing, and availability of reagents or raw materials. Competitors have had difficulty reliably producing T-cell therapies in the commercial setting. If we experience similar challenges manufacturing product candidates to approved specifications, this may limit our product candidates' utilization and our ability to receive payment for these product candidates once approved. We may ultimately be unable to reduce the expenses associated with our product candidates to levels that will allow us to achieve a profitable return on investment.

We plan to establish our own manufacturing facility and infrastructure in lieu of relying on third parties for the manufacture of our product candidates for certain clinical purposes and the use of third party manufacturing suites, which will be costly, time-consuming, and which may not be successful.

We are in the process of establishing manufacturing capacity to support our Phase 1 and Phase 2 clinical trials for TSC-100, TSC-101, TSC-102, TSC-200, TSC-201, TSC-202, and TSC-203. We have no experience as a company in setting up, building or managing a manufacturing facility or manufacturing suite, and may never be successful in developing our own manufacturing suite, manufacturing facility or manufacturing capability. We will need to hire additional personnel to manage our operations and facilities and develop the necessary infrastructure to continue the research and development, and eventual commercialization, if licensed, of our product candidates. If we fail to recruit the required personnel, manage our growth effectively, have inadequate facility design or construction, or fail to select the correct location, the development and production of our product candidates could be curtailed or delayed. Even if we are successful in establishing a manufacturing suite or manufacturing facility, our manufacturing capabilities could be affected by cost-overruns, unexpected delays, equipment failures, design or construction flaws, labor shortages, supply disruptions, natural disasters, power failures and numerous other factors that could prevent us from realizing the intended benefits of our manufacturing strategy and have a material adverse effect on our business.

In addition, the FDA, the European Medicines Agency (EMA), and other foreign regulatory authorities may require us to submit samples of any lot of any licensed product together with the protocols showing the results of applicable tests at any time. Under some circumstances, the FDA, the EMA or other foreign regulatory authorities may require that we not distribute a lot until the relevant agency authorizes its release. Slight deviations in the manufacturing process, including those affecting quality attributes and stability, may result in unacceptable changes in the product that could result in lot failures or product recalls, or inability to manufacture product in the future. Lot failures or product recalls could cause us to delay or forgo product launches or clinical trials, which could be costly to us and otherwise harm our business, financial condition, results of operations and prospects. Problems in our manufacturing process could restrict our ability to meet market demand for our product candidates.

We also may encounter problems hiring and retaining the experienced scientific, quality-control and manufacturing personnel needed to operate our manufacturing processes and facility, which could result in delays in production or difficulties in maintaining compliance with applicable regulatory requirements.

Any problems in our manufacturing process or facilities could make us a less attractive collaborator for potential partners, including larger pharmaceutical companies and academic research institutions, which could limit our access to additional attractive development programs.

We may have difficulty validating our manufacturing process as we manufacture TCR-T therapy candidates from an increasingly diverse patient population for our clinical trials.

We have limited process development experience and have not yet established lot to lot or donor consistency with healthy or unhealthy donors. As we develop our clinical products, we may encounter unforeseen difficulties due to quality, quantity, supply timing, or variability issues with donor starting materials and may not be able to develop a robust process or incur additional costs or delays in developing a robust process due to starting material variation or supply.

Although we believe our current manufacturing process is scalable for commercialization, we may encounter challenges in validating our process due to the heterogeneity of the product starting material. While we anticipate that during the early phases of our clinical trials we will be able to adapt our process to account for these differences resulting in a more robust process, we cannot guarantee that issues relating to the heterogeneity of the starting material will not impact our ability to manufacture our product candidates for clinical or commercial distribution.

Risks Related to Government Regulation

The FDA regulatory approval process is lengthy and time-consuming, and we may experience significant delays in the clinical development and regulatory approval of our product candidates.

We have not previously submitted a Biologics License Application (BLA) to the FDA or similar licensure applications to comparable foreign regulatory authorities. A BLA must include extensive preclinical and clinical data and supporting information to establish the product candidate's safety, purity, and potency for each desired indication. The BLA must also include significant information regarding the manufacturing controls for the product. We expect the novel nature of our product candidates to create further challenges in obtaining regulatory approval. Accordingly, the regulatory approval pathway for our product candidates may be uncertain, complex, expensive and lengthy, and licensure may not be obtained.

We may also experience delays in completing planned clinical trials for a variety of reasons, including delays related to:

- the availability of financial resources to commence and complete the planned trials;
- reaching agreement on acceptable terms with prospective CROs and clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and clinical trial sites;
- obtaining approval at each clinical trial site by an IRB or ethics committee;
- recruiting suitable patients to participate in a clinical trial;
- having patients complete a clinical trial or return for post-treatment follow-up;
- clinical trial sites deviating from trial protocol or dropping out of a trial;
- adding new clinical trial sites; or
- manufacturing sufficient quantities of qualified materials under cGMPs, including current Good Tissue Practices (cGTPs), and applying them on a subject by subject basis for use in clinical trials.

We could also experience delays if physicians encounter unresolved ethical issues associated with enrolling patients in clinical trials of our product candidates in lieu of prescribing existing treatments that have established safety, efficacy, potency and purity profiles. Further, a clinical trial may be suspended or terminated by us, the IRBs for the institutions in which such trials are being conducted, the Data Monitoring Committee for such trial, or by the FDA or other regulatory authorities due to a number of factors, including failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols, inspection of the clinical trial operations or trial site by the FDA or other regulatory authorities resulting in the imposition of a clinical hold, unforeseen safety issues or adverse side effects, failure to demonstrate a benefit from using a product candidate, changes in governmental regulations or administrative actions or lack of adequate funding to continue the clinical trial. If we experience termination of, or delays in the completion of, any clinical trial of our product candidates, the commercial prospects for our product candidates will be harmed, and our ability to generate product revenue will be delayed. In addition, any delays in completing our clinical trials will increase our costs, slow down our product development and approval process and jeopardize our ability to commence product sales and generate revenue.

Securing regulatory approval also requires the submission of information about the biologic manufacturing process and inspection of manufacturing facilities by the relevant regulatory authority. The FDA or comparable foreign regulatory authorities may fail to approve our manufacturing processes or facilities, whether run by us or our contract manufacturing organizations (CMOs). In addition, if we make manufacturing changes to our product candidates in the future, we may need to conduct additional preclinical or clinical studies to bridge our modified product candidates to earlier versions.

[Table of Contents](#)

Many of the factors that cause, or lead to, a delay in the commencement or completion of clinical trials may ultimately lead to the denial of regulatory approval of our product candidates.

We may be unable to obtain regulatory approval for our product candidates under applicable regulatory requirements. The denial or delay of any such approval would delay commercialization of our product candidates and adversely impact our potential to generate revenue, our business and our results of operations.

The research, testing, manufacturing, labeling, licensure, sale, marketing and distribution of biologic products are subject to extensive regulation by the FDA and other regulatory authorities in the United States and other countries, and such regulations differ from country to country. We are not permitted to market our product candidates in the United States or in any foreign countries until they receive the requisite licensure from the applicable regulatory authorities of such jurisdictions.

The FDA or any foreign regulatory authorities can delay, limit or deny licensure of our product candidates for many reasons, including:

- our inability to demonstrate to the satisfaction of the FDA or the applicable foreign regulatory authority that any of our product candidates are safe, potent and pure;
- the FDA's or the applicable foreign regulatory agency's disagreement with our trial protocol or the interpretation of data from preclinical studies or clinical trials;
- our inability to demonstrate that the clinical and other benefits of any of our product candidates outweigh any safety or other perceived risks;
- the FDA's or the applicable foreign regulatory agency's requirement for additional preclinical studies or clinical trials;
- the results of clinical trials may not meet the level of statistical significance required by the FDA or comparable foreign regulatory authorities for licensure;
- the FDA's or the applicable foreign regulatory agency's failure to approve our manufacturing processes or facilities or those of third party manufacturers upon which we rely;
- the potential for approval policies or regulations of the FDA or the applicable foreign regulatory authorities to significantly change in a manner rendering our clinical data insufficient for licensure;
- the data collected from clinical trials of our product candidates may not be sufficient to the satisfaction of the FDA or comparable foreign regulatory authorities to support the submission of a BLA or other comparable submission in foreign jurisdictions or to obtain licensure of our product candidates in the United States or elsewhere; or
- the approval policies or regulations of the FDA or comparable foreign regulatory authorities may significantly change in a manner rendering our clinical data insufficient for approval.

Any of these factors, many of which are beyond our control, may result in our failing to obtain regulatory approval to market any of our product candidates, which would significantly harm our business, results of operations, and prospects. Of the large number of biological products in development, only a small percentage successfully complete the FDA or other regulatory approval processes and are commercialized. Even if we eventually complete clinical testing and receive licensure from the FDA or applicable foreign regulatory authorities for any of our product candidates, the FDA or the applicable foreign regulatory agency may grant licensure contingent on the performance of costly additional clinical trials which may be required after licensure. The FDA or the applicable foreign regulatory agency also may license our product candidates for a more limited indication or a narrower patient population than we originally requested, and the FDA, or applicable foreign regulatory agency, may not license our product candidates with the labeling that we believe is necessary or desirable for the successful commercialization of such product candidates.

[Table of Contents](#)

In addition, even if the trials are successfully completed, preclinical and clinical data are often susceptible to varying interpretations and analyses, and we cannot guarantee that the FDA or comparable foreign regulatory authorities will interpret the results as we do, and more clinical trials could be required before we submit our product candidates for approval. To the extent that the results of the clinical trials are not satisfactory to the FDA or comparable foreign regulatory authorities for support of a marketing application, approval of our product candidates may be significantly delayed, or we may be required to expend significant additional resources, which may not be available to us, to conduct additional clinical trials in support of potential approval of our product candidates.

Any delay in obtaining, or inability to obtain, applicable regulatory approval would delay or prevent commercialization of our product candidates and would materially adversely impact our business and prospects.

We may seek orphan drug status for TSC-100, TSC-101, TSC-102, TSC-200, TSC-201, TSC-202, and TSC-203 and some of our other future product candidates, but we may be unable to obtain such designations or to maintain the benefits associated with orphan drug status, including market exclusivity, which may cause our revenue, if any, to be reduced.

Under the Orphan Drug Act, the FDA may grant orphan designation to a drug or biologic intended to treat a rare disease or condition, defined as a disease or condition with a patient population of fewer than 200,000 in the United States, or a patient population greater than 200,000 in the United States when there is no reasonable expectation that the cost of developing and making available the drug or biologic in the United States will be recovered from sales in the United States for that drug or biologic. Orphan drug designation must be requested before submitting a BLA. In the United States, orphan drug designation entitles a party to financial incentives such as opportunities for grant funding towards clinical trial costs, tax advantages and user-fee waivers. After the FDA grants orphan drug designation, the generic identity of the drug and its potential orphan use are disclosed publicly by the FDA. Orphan drug designation does not convey any advantage in, or shorten the duration of, the regulatory review and approval process.

If a product that has orphan drug designation subsequently receives the first FDA approval for a particular active ingredient for the disease for which it has such designation, the product is entitled to orphan product exclusivity, which means that the FDA may not approve any other applications, including a BLA, to market the same biologic for the same indication for seven years, except in limited circumstances such as a showing of clinical superiority to the product with orphan drug exclusivity or if FDA finds that the holder of the orphan drug exclusivity has not shown that it can assure the availability of sufficient quantities of the orphan drug to meet the needs of patients with the disease or condition for which the drug was designated. As a result, even if one of our product candidates receives orphan exclusivity, the FDA can still approve other drugs that have a different active ingredient for use in treating the same indication or disease. Furthermore, the FDA can waive orphan exclusivity if we are unable to manufacture sufficient supply of our product.

We may seek orphan drug designation for TSC-100, TSC-101, TSC-102, TSC-200, TSC-201, TSC-202, and TSC-203 and some or all of our other future product candidates in additional orphan indications in which there is a medically plausible basis for the use of these products. Even when we obtain orphan drug designation, exclusive marketing rights in the United States may be limited if we seek licensure for an indication broader than the orphan designated indication and may be lost if the FDA later determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantities of the product to meet the needs of patients with the rare disease or condition. In addition, although we intend to seek orphan drug designation for other product candidates, we may never receive such designations.

On August 3, 2017, the Congress passed the FDA Reauthorization Act of 2017 (FDARA). FDARA, among other things, codified the FDA's pre-existing regulatory interpretation, to require that a drug sponsor demonstrate the clinical superiority of an orphan drug that is otherwise the same as a previously approved drug for the same rare disease in order to receive orphan drug exclusivity. The new legislation reverses prior precedent holding that the Orphan Drug Act unambiguously requires that the FDA recognize the orphan exclusivity period regardless of

[Table of Contents](#)

a showing of clinical superiority. The FDA may further reevaluate the Orphan Drug Act and its regulations and policies. We do not know if, when, or how the FDA may change the orphan drug regulations and policies in the future, and it is uncertain how any changes might affect our business. Depending on what changes the FDA may make to its orphan drug regulations and policies, our business could be adversely impacted.

A Breakthrough Therapy designation by the FDA, even if granted for any of our product candidates, may not lead to a faster development or regulatory review or approval process and it does not increase the likelihood that our product candidates will receive marketing approval.

We plan to seek a Breakthrough Therapy designation for TSC-100, TSC-101, TSC-102, TSC-200, TSC-201 and TSC-202 and may seek Breakthrough Therapy designation for some or all of our future product candidates. A breakthrough therapy is defined as a drug or biologic that is intended, alone or in combination with one or more other drugs or biologics, to treat a serious or life-threatening disease or condition and preliminary clinical evidence indicates that the drug, or biologic, may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. For product candidates that have been designated as breakthrough therapies, interaction and communication between the FDA and the sponsor of the trial can help to identify the most efficient path for clinical development while minimizing the number of patients placed in ineffective control regimens. Biologics designated as breakthrough therapies by the FDA may also be eligible for other expedited approval programs, including Accelerated Approval.

Designation as a breakthrough therapy is within the discretion of the FDA. Accordingly, even if we believe one of our product candidates meets the criteria for designation as a breakthrough therapy, the FDA may disagree and instead determine not to make such designation. In any event, the receipt of a Breakthrough Therapy designation for a product candidate may not result in a faster development process, review or licensure compared to candidate products considered for licensure under non-expedited FDA review procedures and does not assure ultimate approval by the FDA. In addition, even if one or more of our product candidates qualify as breakthrough therapies, the FDA may later decide that the product no longer meets the conditions for qualification. Thus, even though we intend to seek Breakthrough Therapy designation for TSC-100 and some or all of our future product candidates for the treatment of various cancers, there can be no assurance that we will receive breakthrough therapy designation.

A Fast Track designation by the FDA, even if granted for TSC-102, TSC-200, TSC-201, TSC-202, and TSC-203 or any other future product candidates, may not lead to a faster development or regulatory review or approval process, and does not increase the likelihood that our product candidates will receive marketing approval.

If a drug is intended for the treatment of a serious or life-threatening condition and the drug demonstrates the potential to address unmet medical needs for this condition, the drug sponsor may apply for FDA Fast Track designation for a particular indication. We plan to seek Fast Track designation for TSC-100, TSC-101, TSC-200, TSC-201, TSC-202, and TSC-203 and may seek Fast Track designation for certain of our future product candidates, but there is no assurance that the FDA will grant this status to any of our proposed product candidates. Marketing applications filed by sponsors of products in Fast Track development may qualify for priority review under the policies and procedures offered by the FDA, but the Fast Track designation does not assure any such qualification or ultimate marketing approval by the FDA. The FDA has broad discretion whether or not to grant Fast Track designation, so even if we believe a particular product candidate is eligible for this designation, there can be no assurance that the FDA would decide to grant it. Even if we do receive Fast Track designation, we may not experience a faster development process, review or licensure compared to conventional FDA procedures, and receiving a Fast Track designation does not provide assurance of ultimate FDA approval. In addition, the FDA may withdraw Fast Track designation if it believes that the designation is no longer supported by data from our clinical development program. In addition, the FDA may withdraw any Fast Track designation at any time.

Accelerated approval by the FDA, even if granted for TSC-100, TSC-101, TSC-102, TSC-200, TSC-201, TSC-202, and TSC-203 or any other future product candidates, may not lead to a faster development or regulatory review or approval process and it does not increase the likelihood that our product candidates will receive marketing approval.

We plan to seek approval of TSC-100, TSC-101, TSC-102, TSC-200, TSC-201, TSC-202, and TSC-203, and may seek approval of future product candidates using FDA's accelerated approval pathway. A product may be eligible for accelerated approval if it treats a serious or life-threatening condition and generally provides a meaningful advantage over available therapies. In addition, it must demonstrate an effect on a surrogate endpoint that is reasonably likely to predict clinical benefit or on a clinical endpoint that can be measured earlier than irreversible morbidity or mortality (IMM) that is reasonably likely to predict an effect on IMM or other clinical benefit. As a condition of approval, the FDA may require that a sponsor of a drug or biologic receiving accelerated approval perform adequate and well-controlled post-marketing clinical trials. These confirmatory trials must be completed with due diligence. In addition, the FDA currently requires as a condition for accelerated approval pre-approval of promotional materials, which could adversely impact the timing of the commercial launch of the product. Even if we do receive accelerated approval, we may not experience a faster development or regulatory review or approval process, and receiving accelerated approval does not provide assurance of ultimate FDA approval.

Obtaining and maintaining regulatory approval of our product candidates in one jurisdiction does not mean that we will be successful in obtaining regulatory approval of our product candidates in other jurisdictions.

Obtaining and maintaining regulatory approval of our product candidates in one jurisdiction does not guarantee that we will be able to obtain or maintain regulatory approval in any other jurisdiction, while a failure or delay in obtaining regulatory approval in one jurisdiction may have a negative effect on the regulatory approval process in others. For example, even if the FDA grants marketing approval of a product candidate, comparable regulatory authorities in foreign jurisdictions must also approve the manufacturing, marketing and promotion of the product candidate in those countries. Approval and licensure procedures vary among jurisdictions and can involve requirements and administrative review periods different from, and greater than, those in the United States, including additional preclinical studies or clinical trials as clinical trials conducted in one jurisdiction may not be accepted by regulatory authorities in other jurisdictions. In many jurisdictions outside the United States, a product candidate must be approved for reimbursement before it can be approved for sale in that jurisdiction. In some cases, the price that we intend to charge for any of our product candidates for which we receive marketing approval is also subject to approval.

We may also submit marketing applications in other countries. Regulatory authorities in jurisdictions outside of the United States have requirements for approval of product candidates with which we must comply prior to marketing in those jurisdictions. Obtaining foreign regulatory approvals and compliance with foreign regulatory requirements could result in significant delays, difficulties and costs for us and could delay or prevent the introduction of our product candidates in certain countries. If we fail to comply with the regulatory requirements in international markets and/or receive applicable marketing approvals, our target market will be reduced and our ability to realize the full market potential of our product candidates will be harmed.

In addition, the United Kingdom left the European Union on January 31, 2020, an event commonly referred to as "Brexit," and following the "transition period," on December 30, 2020, the European Union, the European Atomic Energy Community and the United Kingdom signed a Trade and Cooperation Agreement. Brexit imposes new regulatory costs and challenges that may have a material adverse effect on us and our operations. We may face decreased chances to obtain market approval for our product candidates in the European Union, including the possibility that the European Medicines Agency will not accept data from our clinical trials conducted in the United Kingdom or will only do so if we comply with certain conditions. Conversely, since a significant proportion of the United Kingdom's regulatory framework affecting the pharmaceutical and biotechnological industry is derived from European Union directives and regulations, Brexit could materially alter the regulatory regime with respect to our product candidates in the United Kingdom, which may increase

[Table of Contents](#)

the time and costs associated with obtaining regulatory approval from the relevant authorities. It may also be time-consuming and expensive for us to alter our internal operations in order to comply with new regulations. Altered regulations could also add time and expense to the process by which our product candidates receive regulatory approval in the United Kingdom and the European Union.

Furthermore, following the Brexit vote, the European Union moved the European Medicines Agency's headquarters from the United Kingdom to the Netherlands. This transition may cause disruption in the administrative and medical scientific links between the European Medicines Agency and the UK Medicines and Healthcare products Regulatory Agency, including delays in granting clinical trial authorization or marketing authorization, disruption of import and export of active substance and other components of new drug formulations and disruption of the supply chain for clinical trial product and final authorized formulations. The cumulative effects of the disruption to the regulatory framework may add considerably to the development lead time to marketing authorization and commercialization of products in the European Union and/or the United Kingdom.

Even if we receive regulatory approval of our product candidates, we will be subject to ongoing regulatory obligations and continued regulatory review, which may result in significant additional expense and we may be subject to penalties if we fail to comply with regulatory requirements or experience unanticipated problems with our product candidates.

Any regulatory approvals that we receive for our product candidates will require surveillance to monitor the safety, potency and purity of the product candidate. The FDA may also require a risk evaluation and mitigation strategy in order to license our product candidates, which could entail requirements for a medication guide, physician communication plans or additional elements to ensure safe use, such as restricted distribution methods, patient registries and other risk minimization tools. In addition, if the FDA or a comparable foreign regulatory authority approves our product candidates, the manufacturing processes, labeling, packaging, distribution, adverse event reporting, storage, advertising, promotion, import, export and recordkeeping for our product candidates will be subject to extensive and ongoing regulatory requirements. These requirements include submissions of safety and other post-marketing information and reports, registration, as well as continued compliance with cGMPs, cGTPs and good clinical practices (GCPs) for any clinical trials that we conduct post-licensure. Later discovery of previously unknown problems with our product candidates, including adverse events of unanticipated severity or frequency, or with our manufacturing processes (or those of third parties we engage), or failure to comply with regulatory requirements, may result in, among other things:

- restrictions on the marketing or manufacturing of our product candidates, withdrawal of the product from the market or voluntary or mandatory product recalls;
- revisions to the labeling, including limitation on approved uses or the addition of additional warnings, contraindications or other safety information, including boxed warnings;
- imposition of a Risk Evaluation and Mitigation Strategy (REMS), which may include distribution or use restrictions;
- requirements to conduct additional post-market clinical trials to assess the safety of the product;
- fines, warning letters or holds on clinical trials;
- refusal by the FDA to approve pending applications or supplements to approved applications filed by us or suspension or revocation of license approvals;
- product seizure or detention, or refusal to permit the import or export of our product candidates; and
- injunctions or the imposition of civil or criminal penalties.

The FDA's and other regulatory authorities' policies may change and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of our product candidates. We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or

[Table of Contents](#)

administrative action, either in the United States or abroad. If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing approval that we may have obtained and we may not achieve or sustain profitability.

The insurance coverage and reimbursement status of newly-approved products is uncertain. Our product candidates may become subject to unfavorable pricing regulations, third party coverage and reimbursement practices, or healthcare reform initiatives, which would harm our business. Failure to obtain or maintain adequate coverage and reimbursement for new or current products could limit our ability to market those products and decrease our ability to generate revenue.

The regulations that govern marketing approvals, pricing, coverage and reimbursement for new drugs vary widely from country to country. In the United States, recently enacted legislation may significantly change the approval requirements in ways that could involve additional costs and cause delays in obtaining approvals. Some countries require approval of the sale price of a drug before it can be marketed. In many countries, the pricing review period begins after marketing or product licensing approval is granted. In some foreign markets, prescription pharmaceutical pricing remains subject to continuing governmental control even after initial approval is granted. As a result, we might obtain marketing approval for a product in a particular country, but then be subject to price regulations that delay our commercial launch of the product, possibly for lengthy time periods, and negatively impact the revenue we are able to generate from the sale of the product in that country. Adverse pricing limitations may hinder our ability to recoup our investment in one or more product candidates, even if any product candidates we may develop obtain marketing approval.

In the United States and markets in other countries, patients generally rely on third party payors to reimburse all or part of the costs associated with their treatment. Adequate coverage and reimbursement from governmental healthcare programs, such as Medicare and Medicaid, and commercial payors is critical to new product acceptance. Our ability to successfully commercialize our product candidates will depend in part on the extent to which coverage and adequate reimbursement for these products and related treatments will be available from government health administration authorities, private health insurers and other organizations. Government authorities and other third party payors, such as private health insurers and health maintenance organizations, decide which medications they will pay for and establish reimbursement levels. The availability of coverage and extent of reimbursement by governmental and private payors is essential for most patients to be able to afford treatments such as gene therapy products. Sales of these or other product candidates that we may identify will depend substantially, both domestically and abroad, on the extent to which the costs of our product candidates will be paid by health maintenance, managed care, pharmacy benefit and similar healthcare management organizations, or reimbursed by government health administration authorities, private health coverage insurers and other third party payors. If coverage and adequate reimbursement is not available, or is available only to limited levels, we may not be able to successfully commercialize our product candidates. Even if coverage is provided, the approved reimbursement amount may not be high enough to allow us to establish or maintain pricing sufficient to realize a sufficient return on our investment.

Reimbursement by a third party payor may depend upon a number of factors, including, but not limited to, the third party payor's determination that use of a product is:

- a covered benefit under its health plan;
- safe, effective and medically necessary;
- appropriate for the specific patient;
- cost-effective; and
- neither experimental nor investigational.

[Table of Contents](#)

A primary trend in the U.S. healthcare industry and elsewhere is cost containment. Government authorities and third party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular medications. In many countries, the prices of medical products are subject to varying price control mechanisms as part of national health systems. In general, the prices of medicines under such systems are substantially lower than in the United States. Other countries allow companies to fix their own prices for medicines, but monitor and control company profits. Additional foreign price controls or other changes in pricing regulation could restrict the amount that we are able to charge for our product candidates. Accordingly, in markets outside the United States, the reimbursement for products may be reduced compared with the United States and may be insufficient to generate commercially reasonable revenues and profits.

There is also significant uncertainty related to the insurance coverage and reimbursement of newly approved products and coverage may be more limited than the purposes for which the medicine is approved by the FDA or comparable foreign regulatory authorities. In the United States, the principal decisions about reimbursement for new medicines are typically made by CMS, an agency within HHS. CMS decides whether and to what extent a new medicine will be covered and reimbursed under Medicare and private payors tend to follow CMS to a substantial degree. No uniform policy of coverage and reimbursement for products exists among third party payors and coverage and reimbursement levels for products can differ significantly from payor to payor. As a result, the coverage determination process is often a time consuming and costly process that may require us to provide scientific and clinical support for the use of our product candidates to each payor separately, with no assurance that coverage and adequate reimbursement will be applied consistently or obtained in the first instance. It is difficult to predict what CMS will decide with respect to reimbursement for fundamentally novel products such as ours. Reimbursement agencies in Europe may be more conservative than CMS. For example, a number of cancer drugs have been approved for reimbursement in the United States and have not been approved for reimbursement in certain European countries. Moreover, eligibility for reimbursement does not imply that any drug will be paid for in all cases or at a rate that covers our costs, including research, development, manufacture, sale, and distribution. Interim reimbursement levels for new drugs, if applicable, may also not be sufficient to cover our costs and may not be made permanent. Reimbursement rates may vary according to the use of the drug and the clinical setting in which it is used, may be based on reimbursement levels already set for lower cost drugs and may be incorporated into existing payments for other services. Our inability to promptly obtain coverage and profitable payment rates from both government-funded and private payors for any approved products we may develop could have a material adverse effect on our operating results, our ability to raise capital needed to commercialize product candidates, and our overall financial condition.

Net prices for drugs may be reduced by mandatory discounts or rebates required by government healthcare programs or private payors and by any future relaxation of laws that presently restrict imports of drugs from countries where they may be sold at lower prices than in the United States. Our inability to promptly obtain coverage and profitable reimbursement rates third party payors for any approved products that we develop could have a material adverse effect on our operating results, our ability to raise capital needed to commercialize products and our overall financial condition.

Increasingly, third party payors are requiring that drug companies provide them with predetermined discounts from list prices and are challenging the prices charged for medical products. We cannot be sure that reimbursement will be available for any product candidate that we commercialize and, if reimbursement is available, the level of reimbursement. Reimbursement may impact the demand for, or the price of, any product candidate for which we obtain marketing approval. In order to obtain reimbursement, physicians may need to show that patients have superior treatment outcomes with our product candidates compared to standard of care drugs, including lower-priced biosimilar versions of standard of care drugs. We expect to experience pricing pressures in connection with the sale of any of our product candidates due to the trend toward managed healthcare, the increasing influence of health maintenance organizations and additional legislative changes. The downward pressure on healthcare costs in general, particularly prescription drugs and surgical procedures and other treatments, has become very intense. As a result, increasingly high barriers are being erected to the entry of new products.

Recently enacted and future legislation may increase the difficulty and cost for us to obtain marketing approval for and commercialize our product candidates and affect the prices we may obtain.

In the United States and some foreign jurisdictions, there have been a number of legislative and regulatory changes and proposed changes regarding the healthcare system that could prevent or delay marketing approval of our product candidates, restrict or regulate post-approval activities and affect our ability to profitably sell any product candidates for which we obtain marketing approval.

In the United States, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Affordability Reconciliation Act (Affordable Care Act or ACA), was signed into law, intended to broaden access to health insurance, reduce or constrain the growth of healthcare spending, enhance remedies against fraud and abuse, add new transparency requirements for the healthcare and health insurance industries, impose new taxes and fees on the health industry and impose additional health policy reforms.

Among the provisions of the Affordable Care Act that are of importance to our potential product candidates are the following:

- an annual, nondeductible fee payable by any entity that manufactures, or imports specified branded prescription drugs and biologic agents;
- an increase in the statutory minimum rebates a manufacturer must pay under the Medicaid Drug Rebate Program;
- an increase in the discount rate for the federal 340B program to eligible hospitals;
- a new Medicare Part D coverage gap discount program, in which manufacturers must agree to offer 70% point-of-sale discounts off negotiated prices;
- extension of manufacturers' Medicaid rebate liability;
- expansion of eligibility criteria for Medicaid programs;
- expansion of the entities eligible for discounts under the Public Health Service pharmaceutical pricing program;
- a new requirement to annually report drug samples that manufacturers and distributors provide to physicians; and
- a new Patient-Centered Outcomes Research Institute to oversee, identify priorities in and conduct comparative clinical effectiveness research, along with funding for such research.

Since its enactment, there have been judicial and Congressional challenges to certain aspects of the Affordable Care Act, and we expect there will be additional challenges and amendments to the Affordable Care Act in the future. For example, legislation informally titled the Tax Cuts and Jobs Acts (TCJA) was enacted, which, among other things, removed penalties for not complying with the individual mandate to carry health insurance. On December 14, 2018, a U.S. District Court Judge in the Northern District of Texas, ruled that the individual mandate is a critical and inseparable feature of the Affordable Care Act, and therefore, because it was repealed as part of the TCJA, the remaining provisions of the Affordable Care Act are invalid as well. On December 18, 2019, the U.S. Court of Appeals for the 5th Circuit upheld the District Court's decision that the individual mandate was unconstitutional but remanded the case back to the District Court to determine whether the remaining provisions of the ACA are invalid as well. The U.S. Supreme Court is currently reviewing the case, although it is unclear when the Supreme Court will make a decision. It is also unclear how other efforts to challenge, repeal or replace the Affordable Care Act will affect the law or our business.

In addition, other legislative changes have been proposed and adopted since the Affordable Care Act was enacted. In August 2011, the Budget Control Act of 2011, among other things, included aggregate reductions of Medicare payments to providers of 2% per fiscal year, which went into effect on April 1, 2013 and, due to subsequent legislative amendments, will remain in effect through 2030, with the exception of a temporary

[Table of Contents](#)

suspension from May 1, 2020 through March 31, 2021, unless additional Congressional action is taken. In addition, on January 2, 2013, President Obama signed into law the American Taxpayer Relief Act of 2012, which, among other things, reduced Medicare payments to several providers, including hospitals, and an increase in the statute of limitations period for the government to recover overpayments to providers from three to five years. These new laws may result in additional reductions in Medicare and other healthcare funding and otherwise affect the prices we may obtain.

We expect that other healthcare reform measures that may be adopted in the future may result in additional reductions in Medicare and other healthcare funding, more rigorous coverage criteria, new payment methodologies and in additional downward pressure on the price that we receive for any approved product. Any reduction in reimbursement from Medicare or other government programs may result in a similar reduction in payments from private payors. The implementation of cost containment measures or other healthcare reforms may prevent us from being able to generate revenue, attain profitability or commercialize our product candidates, if approved.

Moreover, there has recently been heightened governmental scrutiny over the manner in which manufacturers set prices for their marketed products. Individual states in the United States have become increasingly aggressive in implementing regulations designed to contain pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures. Legally mandated price controls on payment amounts by third party payors or other restrictions could harm our business, results of operations, financial condition and prospects. In addition, regional healthcare authorities and individual hospitals are increasingly using bidding procedures to determine what pharmaceutical products and which suppliers will be included in their prescription drug and other healthcare programs. This could reduce the ultimate demand for our product candidates, if approved, or put pressure on our product pricing, which could negatively affect our business, results of operations, financial condition and prospects.

Legislative and regulatory proposals have been made to expand post-approval requirements and restrict sales and promotional activities for pharmaceutical products. We cannot be sure whether additional legislative changes will be enacted, or whether the FDA regulations, guidance or interpretations will be changed, or what the impact of such changes on the marketing approvals of our product candidates, if any, may be. In addition, increased scrutiny by Congress of the FDA's approval process may significantly delay or prevent marketing approval, as well as subject us to more stringent product labeling and post-marketing testing and other requirements.

The impact of recent healthcare reform legislation and other changes in the healthcare industry and in healthcare spending on us is currently unknown, and may adversely affect our business model.

Our revenue prospects could be affected by changes in healthcare spending and policy in the United States and abroad. We operate in a highly regulated industry and new laws, regulations or judicial decisions, or new interpretations of existing laws, regulations or decisions, related to healthcare availability, the method of delivery or payment for healthcare products and services could negatively impact our business, operations and financial condition.

There have been, and likely will continue to be, legislative and regulatory proposals at the foreign, federal and state levels directed at broadening the availability of healthcare and containing or lowering the cost of healthcare. We cannot predict the initiatives that may be adopted in the future, including repeal, replacement or significant revisions to the Affordable Care Act. The continuing efforts of the government, insurance companies, managed care organizations and other payors of healthcare services to contain or reduce costs of healthcare and/or impose price controls may adversely affect:

- the demand for our product candidates, if we obtain regulatory approval;
- our ability to set a price that we believe is fair for our product candidates;

[Table of Contents](#)

- our ability to obtain coverage and reimbursement approval for a product candidate;
- our ability to generate revenue and achieve or maintain profitability;
- the level of taxes that we are required to pay; and
- the availability of capital.

Any reduction in reimbursement from Medicare or other government programs may result in a similar reduction in payments from private payors, which may adversely affect our future profitability.

Regulatory requirements in the United States and abroad governing cell therapy products have changed frequently and may continue to change in the future, which could negatively impact our ability to complete clinical trials and commercialize our product candidates in a timely manner, if at all.

Regulatory requirements in the United States and abroad governing cell therapy products have changed frequently and may continue to change in the future. The FDA has established the Office of Tissues and Advanced Therapies within its Center for Biologics Evaluation and Research to consolidate the review of gene therapy and related products, and has established the Cellular, Tissue and Gene Therapies Advisory Committee, among others, to advise this review. Recently, the National Institutes of Health proposed to revise its guidelines for overseeing gene therapy research, including deleting the protocol registration and reporting requirements for certain therapies and eliminating Recombinant DNA Advisory Committee review and reporting requirements for human gene transfer research.

Inadequate funding for the FDA, the SEC and other government agencies could hinder their ability to hire and retain key leadership and other personnel, prevent new products and services from being developed or commercialized in a timely manner or otherwise prevent those agencies from performing normal business functions on which the operation of our business may rely, which could negatively impact our business.

The ability of the FDA to review and approve new products can be affected by a variety of factors, including government budget and funding levels, ability to hire and retain key personnel and accept the payment of user fees, and statutory, regulatory, and policy changes. Average review times at the agency have fluctuated in recent years as a result. In addition, government funding of the SEC and other government agencies on which our operations may rely, including those that fund research and development activities is subject to the political process, which is inherently fluid and unpredictable.

Disruptions at the FDA and other agencies may also slow the time necessary for new drugs to be reviewed and/or approved by necessary government agencies, which would adversely affect our business. For example, over the last several years the U.S. government has shut down several times and certain regulatory agencies, such as the FDA and the SEC, have had to furlough critical FDA, SEC and other government employees and stop critical activities. If a prolonged government shutdown occurs, it could significantly impact the ability of the FDA to timely review and process our regulatory submissions, which could have a material adverse effect on our business. Further, upon completion of this offering and in our operations as a public company, future government shutdowns could impact our ability to access the public markets and obtain necessary capital in order to properly capitalize and continue our operations.

Separately, in response to the global COVID-19 pandemic, on March 10, 2020, the FDA announced its intention to postpone most foreign inspections of manufacturing facilities and products through April 2020, and subsequently, on March 18, 2020, the FDA announced its intention to temporarily postpone routine surveillance inspections of domestic manufacturing facilities. Regulatory authorities outside the United States may adopt similar restrictions or other policy measures in response to the COVID-19 pandemic. If a prolonged government shutdown occurs, or if global health concerns continue to prevent the FDA or other regulatory authorities from conducting their regular inspections, reviews, or other regulatory activities, it could significantly impact the ability of the FDA or other regulatory authorities to timely review and process our regulatory submissions, which could have a material adverse effect on our business.

Our employees, independent contractors, consultants, commercial partners and vendors may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements.

We are exposed to the risk of employee fraud or other illegal activity by our employees, independent contractors, consultants, commercial partners and vendors. Misconduct by these parties could include intentional, reckless and/or negligent conduct that fails to: comply with the regulations of the FDA and other similar foreign regulatory authorities, provide true, complete and accurate information to the FDA and other similar foreign regulatory authorities, comply with manufacturing standards we have established, comply with healthcare fraud and abuse laws in the United States and similar foreign fraudulent misconduct laws or report financial information or data accurately or to disclose unauthorized activities to us. If we obtain FDA approval of any of our product candidates and begin commercializing those products in the United States, our potential exposure under such laws and regulations will increase significantly, and our costs associated with compliance with such laws and regulations are also likely to increase. These laws may impact, among other things, our current activities with principal investigators and research patients, as well as proposed and future sales, marketing and education programs. In particular, the promotion, sales and marketing of healthcare items and services, as well as certain business arrangements in the healthcare industry, are subject to extensive laws designed to prevent fraud, kickbacks, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, structuring and commission(s), certain customer incentive programs and other business arrangements generally. Activities subject to these laws also involve the improper use of information obtained in the course of patient recruitment for clinical trials. The laws that may affect our ability to operate include, but are not limited to:

- the federal Anti-Kickback Statute, which prohibits, among other things, knowingly and willfully soliciting, receiving, offering or paying any remuneration (including any kickback, bribe, or rebate), directly or indirectly, overtly or covertly, in cash or in kind, to induce, or in return for, either the referral of an individual, or the purchase, lease, order or recommendation of any good, facility, item or service for which payment may be made, in whole or in part, under a federal healthcare program, such as the Medicare and Medicaid programs;
- federal civil and criminal false claims laws and civil monetary penalty laws, which prohibit, among other things, individuals or entities from knowingly presenting, or causing to be presented, claims for payment or approval from Medicare, Medicaid, or other third party payors that are false or fraudulent or knowingly making a false statement to improperly avoid, decrease or conceal an obligation to pay money to the federal government;
- the federal Health Insurance Portability and Accountability Act of 1996 (HIPAA), which created new federal criminal statutes that prohibit knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program or obtain, by means of false or fraudulent pretenses, representations, or promises, any of the money or property owned by, or under the custody or control of, any healthcare benefit program, regardless of the payor (for example, public or private) and knowingly and willfully falsifying, concealing or covering up by any trick or device a material fact or making any materially false statements in connection with the delivery of, or payment for, healthcare benefits, items or services relating to healthcare matters;
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009 (HITECH), and their respective implementing regulations, which impose requirements on certain covered healthcare providers, health plans, and healthcare clearinghouses as well as their respective business associates that perform services for them that involve the use, or disclosure of, individually identifiable health information, relating to the privacy, security and transmission of individually identifiable health information without appropriate authorization;
- the federal Physician Payment Sunshine Act, created under the Affordable Care Act and its implementing regulations, which require manufacturers of drugs, devices, biologicals and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance

[Table of Contents](#)

Program (with certain exceptions) to report annually to HHS information related to payments or other transfers of value made to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors) and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members; and

- federal consumer protection and unfair competition laws, which broadly regulate marketplace activities and activities that potentially harm consumers.

Additionally, we are subject to state and foreign equivalents of each of the healthcare laws described above, among others, some of which may be broader in scope and may apply regardless of the payor.

Effective upon the closing of this offering, we will adopt a code of business conduct and ethics, but it is not always possible to identify and deter employee misconduct, and the precautions we take to detect and prevent inappropriate conduct may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to be in compliance with such laws or regulations.

Efforts to ensure that our business arrangements with third parties will comply with applicable healthcare laws and regulations will involve substantial costs. Because of the breadth of these laws and the narrowness of the statutory exceptions and safe harbors available, it is possible that some of our business activities could be subject to challenge under one or more of such laws. It is possible that governmental authorities will conclude that our business practices may not comply with current or future statutes, regulations or case law involving applicable fraud and abuse or other healthcare laws and regulations. If our operations are found to be in violation of any of these laws or any other governmental regulations that may apply to us, we may be subject to significant criminal, civil and administrative sanctions including monetary penalties, damages, fines, disgorgement, individual imprisonment, and exclusion from participation in government funded healthcare programs, such as Medicare and Medicaid, additional reporting requirements and oversight if we become subject to a corporate integrity agreement or similar agreement to resolve allegations of non-compliance with these laws, reputational harm, and we may be required to curtail or restructure our operations, any of which could adversely affect our ability to operate our business and our results of operations.

The risk of our being found in violation of these laws is increased by the fact that many of them have not been fully interpreted by the regulatory authorities or the courts, and their provisions are open to a variety of interpretations. Any action against us for violation of these laws, even if we successfully defend against it, could cause us to incur significant legal expenses and divert our management's attention from the operation of our business. The shifting compliance environment and the need to build and maintain robust and expandable systems to comply with multiple jurisdictions with different compliance and/or reporting requirements increases the possibility that a healthcare company may run afoul of one or more of the requirements.

The provision of benefits or advantages to physicians to induce or encourage the prescription, recommendation, endorsement, purchase, supply, order or use of medicinal products is also prohibited in the EU. The provision of benefits or advantages to physicians is governed by the national anti-bribery laws of EU Member States, such as the U.K. Bribery Act 2010, or the Bribery Act. Infringement of these laws could result in substantial fines and imprisonment. Payments made to physicians in certain EU Member States must be publicly disclosed. Moreover, agreements with physicians often must be the subject of prior notification and approval by the physician's employer, his or her competent professional organization and/or the regulatory authorities of the individual EU Member States.

These requirements are provided in the national laws, industry codes or professional codes of conduct, applicable in the EU Member States. Failure to comply with these requirements could result in reputational risk, public reprimands, administrative penalties, fines or imprisonment.

We are currently subject to, and may in the future become subject to additional, federal, state and foreign laws and regulations, industry guidelines, and contractual requirements, imposing obligations on how we collect, store, use and process personal information. Our actual or perceived failure to comply with such obligations could harm our business. Ensuring compliance with such laws could also impair our efforts to maintain and expand our customer base, and thereby decrease our revenue.

We are, and may increasingly become, subject to various laws and regulations, as well as contractual obligations and mandatory industry standards relating to privacy and security in the jurisdictions in which we operate. The regulatory environment related to data privacy and security is increasingly rigorous, with new and constantly changing requirements applicable to our business, and enforcement practices are likely to remain uncertain for the foreseeable future. These laws and regulations may be interpreted and applied differently over time and from jurisdiction to jurisdiction, and it is possible that they will be interpreted and applied in ways that may have a material adverse effect on our business, financial condition, results of operations and prospects.

In the United States, various federal and state regulators, including governmental agencies like the Federal Trade Commission, have adopted, or are considering adopting, laws and regulations concerning personal information and data security. Certain state laws may be more stringent or broader in scope, or offer greater individual rights, with respect to personal information than federal, international or other state laws, and such laws may differ from each other, all of which may complicate compliance efforts. For example, the California Consumer Privacy Act of 2018, or CCPA, which increases privacy rights for California residents and imposes obligations on companies that process their personal information and meet certain revenue or volume processing thresholds, came into effect on January 1, 2020, and was further amended by the California Privacy Rights Act (CPRA) on November 3, 2020. Among other things, the CCPA requires covered companies to provide new disclosures to California residents and provide such residents new data protection and privacy rights, including the ability to opt-out of certain sales of personal information. The CPRA significantly modifies the CCPA by expanding residents' rights with respect to certain personal information and creates a new state agency to oversee implementation and enforcement efforts. Many of the CPRA's provisions will become effective on January 1, 2023. The CCPA provides for civil penalties for violations, as well as a private right of action for certain data breaches. This private right of action may increase the likelihood of, and risks associated with, data breach litigation, including class action litigation. In addition, laws in all 50 U.S. states require businesses to provide notice to individuals if certain of their personal information has been disclosed as a result of a qualifying data breach. State laws are changing rapidly and there is discussion in the U.S. Congress of a new comprehensive federal data privacy law to which we may likely become subject, if enacted.

Internationally, laws, regulations and standards in many jurisdictions apply broadly to the collection, use, retention, security, disclosure, transfer, marketing or other processing of personal data. For example, the EU General Data Protection Regulation (GDPR), which became effective on May 25, 2018, is wide-ranging in scope and imposes numerous requirements on companies that process personal data. Specifically, the GDPR greatly increased the European's Commission's jurisdictional reach of its data privacy and security laws and introduced a broad array of requirements for handling personal data, including, for example, requirements to establish a legal basis for processing, higher standards for obtaining consent from individuals to process their personal data, more robust disclosures to individuals, a strengthened individual data rights regime, requirements to implement safeguards to protect the security and confidentiality of personal data that requires the adoption of administrative, physical and technical safeguards, shortened timelines for data breach notifications to appropriate data protection authorities or data subjects, limitations on retention and secondary use of information, increased requirements pertaining to health data and obligations to take certain measures when engaging third party processors in connection with the processing of personal data. EU member states are tasked under the GDPR to enact, and have enacted, certain implementing legislation that adds to and/or further interprets the GDPR requirements and potentially extends our obligations and potential liability for failing to meet such obligations. The GDPR, together with national legislation, regulations and guidelines of the EU member states governing the processing of personal data, impose strict obligations and restrictions on the ability to collect, use, retain, disclose, transfer and otherwise process personal data. In particular, the GDPR also imposes strict obligations, restrictions and rules concerning the rights of individuals to whom the personal data relates, the transfer of personal data to countries outside the

[Table of Contents](#)

European Economic Area, including the United States, security breach notifications and the security and confidentiality of personal data. The GDPR permits data protection authorities to impose large penalties for violations of the GDPR, including potential fines of up to €20 million or 4% of annual global revenues, whichever is greater, and other administrative penalties. The GDPR also confers a private right of action on data subjects and consumer associations to lodge complaints with supervisory authorities, seek judicial remedies, and obtain compensation for damages resulting from violations of the GDPR. Compliance with the GDPR will be a rigorous and time-intensive process that may increase our cost of doing business or require us to change our business practices, and despite those efforts, there is a risk that we may be subject to fines and penalties, litigation, and reputational harm in connection with our European activities. Following the withdrawal of the United Kingdom from the European Union, data privacy and security laws that are substantially similar to the GDPR are in effect in the United Kingdom, which carry similar risks and authorize similar fines for certain violations.

Certain legal regimes outside of the United States, including in the United Kingdom and under the GDPR, prohibit the transfer of personal data to the United States unless certain measures are in place, including, for example, executing Standard Contractual Clauses, or historically, relying on the receiving entity's certification under the EU-US and/or Swiss-US Privacy Shield Frameworks, or the Privacy Shield Frameworks. The Privacy Shield Frameworks were invalidated, and the adequacy of Standard Contractual Clauses is now in question, following the Court of Justice of the European Union's July 2020 decision in the so-called Schrems II case (Data Protection Commissioner v. Facebook Ireland Limited, Maximilian Schrems (Case C-311/18)). There is no guarantee that any transfer mechanism upon which we rely will be deemed to be valid by the relevant legal authorities, or that mechanisms that are currently deemed to be valid will remain valid in the future. This uncertainty, and its eventual resolution, may increase our costs of compliance, impede our ability to transfer data and conduct our business and harm our business or results of operations.

All of these evolving compliance and operational requirements impose significant costs, such as costs related to organizational changes, implementing additional protection technologies, training employees and engaging consultants and legal advisors, which are likely to increase over time. In addition, such requirements may require us to modify our data processing practices and policies, utilize management's time and/or divert resources from other initiatives and projects. Any failure or perceived failure by us to comply with any applicable federal, state or foreign laws and regulations relating to data privacy and security could result in damage to our reputation, as well as proceedings or litigation by governmental agencies or other third parties, including class action privacy litigation in certain jurisdictions, which would subject us to significant fines, sanctions, awards, injunctions, penalties or judgments. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations and prospects.

If we fail to comply with environmental, health and safety laws and regulations, we could become subject to fines or penalties or incur costs that could have a material adverse effect on the success of our business.

We are subject to numerous environmental, health and safety laws and regulations, including those governing laboratory procedures and the handling, use, storage, treatment and disposal of hazardous materials and wastes. Our operations involve the use of hazardous and flammable materials, including chemicals and biological and radioactive materials. Our operations also produce hazardous waste products. We generally contract with third parties for the disposal of these materials and wastes. We cannot eliminate the risk of contamination or injury from these materials. In the event of contamination or injury resulting from our use of hazardous materials, we could be held liable for any resulting damages, and any liability could exceed our resources. We also could incur significant costs associated with civil or criminal fines and penalties.

Although we maintain workers' compensation insurance to cover us for costs and expenses we may incur due to injuries to our employees resulting from the use of hazardous materials, this insurance may not provide adequate coverage against potential liabilities. We do not maintain insurance for environmental liability or toxic tort claims that may be asserted against us in connection with our storage or disposal of biological, hazardous or radioactive materials.

Even if we are able to commercialize any product candidates, the products may become subject to unfavorable pricing regulations, third party reimbursement practices or healthcare reform initiatives, which would harm our business.

The regulations that govern marketing approvals, pricing, coverage and reimbursement for new drug products vary widely from country to country. Current and future legislation may significantly change the approval requirements in ways that could involve additional costs and cause delays in obtaining approvals. Some countries require approval of the sale price of a drug before it can be marketed. In many countries, the pricing review period begins after marketing or product licensing approval is granted. To obtain reimbursement or pricing approval in some countries, we may be required to conduct a clinical trial that compares the cost-effectiveness of our product candidate to other available therapies. In some foreign markets, prescription pharmaceutical pricing remains subject to continuing governmental control even after initial approval is granted. As a result, we might obtain marketing approval for a product candidate in a particular country, but then be subject to price regulations that delay our commercial launch of the product, possibly for lengthy time periods, and negatively impact the revenues, if any, we are able to generate from the sale of the product in that country. Adverse pricing limitations may hinder our ability to recoup our investment in one or more product candidates, even if our product candidates obtain marketing approval.

Our ability to commercialize any product candidates successfully also will depend in part on the extent to which coverage and adequate reimbursement for these products and related treatments will be available from government healthcare programs, private health insurers and other organizations. Government authorities and third party payors, such as private health insurers and health maintenance organizations, decide which medications they will pay for and establish reimbursement levels. A primary trend in the U.S. healthcare industry and elsewhere is cost containment. Government authorities and third party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular medications. Increasingly, government authorities and third party payors are requiring that drug companies provide them with predetermined discounts from list prices and are challenging the prices charged for medical products. Coverage and reimbursement may not be available for any product that we commercialize and, even if these are available, the level of reimbursement may not be satisfactory. Reimbursement may affect the demand for, or the price of, any product candidate for which we obtain marketing approval. Obtaining and maintaining adequate reimbursement for our product candidates may be difficult. We may be required to conduct expensive pharmacoeconomic studies to justify coverage and reimbursement or the level of reimbursement relative to other therapies. If coverage and adequate reimbursement are not available or reimbursement is available only to limited levels, we may not be able to successfully commercialize any product candidate for which we obtain marketing approval.

There may be significant delays in obtaining coverage and reimbursement for newly approved drugs, and coverage may be more limited than the purposes for which the drug is approved by the FDA or similar regulatory authorities outside of the United States. Moreover, eligibility for coverage and reimbursement does not imply that a drug will be paid for in all cases or at a rate that covers our costs, including research, development, intellectual property, manufacture, sale and distribution expenses. Interim reimbursement levels for new drugs, if applicable, may also not be sufficient to cover our costs and may not be made permanent. Reimbursement rates may vary according to the use of the drug and the clinical setting in which it is used, may be based on reimbursement levels already set for lower cost drugs and may be incorporated into existing payments for other services. Net prices for drugs may be reduced by mandatory discounts or rebates required by government healthcare programs or private payors and by any future relaxation of laws that presently restrict imports of drugs from countries where they may be sold at lower prices than in the United States. Third party payors often rely upon Medicare coverage policy and payment limitations in setting their own reimbursement policies. Our inability to promptly obtain coverage and adequate reimbursement rates from both government-funded and private payors for any approved products that we develop could have a material adverse effect on our operating results, our ability to raise capital needed to commercialize products and our overall financial condition.

Risks Related to Our Intellectual Property

If we are unable to obtain and maintain patent protection for any product candidates we develop and for our technology, or if the scope of the patent protection obtained is not sufficiently broad, our competitors could develop and commercialize products, product candidates and technology similar or identical to ours, and our ability to successfully commercialize any product candidates we may develop, and our technology may be adversely affected.

Our success will depend in large part on our ability and the ability of our licensors and collaborators to obtain and maintain patent protection and other intellectual property and proprietary rights in the United States and other countries with respect to our technology and our product candidates, their respective components, formulations, combination therapies, methods used to manufacture them and methods of treatment and development that are important to our business, as well as, our ability to operate our business without infringing, misappropriating or otherwise violating the intellectual property rights of others.

Given the early stage of development of our product candidates, our patent portfolio is similarly at a very early stage. In particular, we do not own or exclusively license any issued patents and all of the patent applications we own are provisional applications. In addition, although we plan to file patent applications with respect to TSC-102, TSC-200, TSC-202, and TSC-203, we currently have not filed any patent applications with respect to these product candidates. Accordingly, our current patent rights do not provide us any legal right to prevent third parties from competing with us in any way. If we do not obtain meaningful patent coverage for our product candidates, their respective components, formulations, combination therapies, methods used to manufacture them and methods of treatment, competitors may be able to erode or negate any competitive advantage we may have, which would likely harm our business and ability to achieve profitability. To establish our proprietary position, we have filed provisional patent applications in the United States related to our novel product candidates that are important to our business, and we have exclusively licensed certain patent applications from The Brigham and Women's Hospital, Inc. (or "BWH"); we may in the future also license or purchase issued patents or pending patent applications filed by others. U.S. provisional patent applications are not eligible to become issued patents until, among other things, we file a non-provisional patent application within 12 months of filing of one or more of our related provisional patent applications. With regard to such U.S. provisional patent applications, if we do not timely file any non-provisional patent applications, we may lose our priority date with respect to our provisional patent applications and any patent protection on the inventions disclosed in our provisional patent applications. While we intend to timely file non-provisional patent applications relating to our provisional patent applications, we cannot predict whether any such patent applications will result in the issuance of patents that provide us with any competitive advantage. If we are unable to secure or maintain patent protection with respect to our antibody technology and any proprietary products and technology we develop, our business, financial condition, results of operations, and prospects could be materially harmed.

If the scope of the patent protection we or our existing and potential licensors obtain, if any, is not sufficiently broad, we may not be able to prevent others from developing and commercializing technology and products similar or identical to ours. The degree of patent protection we require to successfully compete in the marketplace may be unavailable or severely limited and may not adequately protect our business or permit us to gain or keep any competitive advantage. We cannot provide any assurances that any of our owned or exclusively licensed pending patent applications that mature into issued patents will include claims with a scope sufficient to protect our current and future product candidates or otherwise provide any competitive advantage. In addition, to the extent that we license intellectual property now or in the future, we cannot provide any assurances that those licenses will remain in force. In addition, the laws of foreign countries may not protect our rights to the same extent as the laws of the United States. Furthermore, patents have a limited lifespan. In the United States, if all maintenance fees are timely paid, the natural expiration of a patent is generally 20 years from its earliest U.S. non-provisional filing date. Various extensions may be available; however, the life of a patent, and the protection it affords, is limited. Even if patents covering our product candidates are obtained, once the patent life has expired for a product candidate, we may be open to competition. Given the amount of time required for the

[Table of Contents](#)

development, testing and regulatory review of new product candidates, any patents that we may obtain in the future protecting such candidates might expire before or shortly after commercialization of such candidates, if any. As a result, our owned and licensed patent portfolio may not provide us with sufficient rights to exclude others from commercializing product candidates similar or identical to ours.

Even if they are unchallenged, our pending patent applications, if issued, may not provide us with any meaningful protection or prevent competitors or other third parties from designing around our patent claims to circumvent any patents that may issue by developing similar or alternative technologies or therapeutics in a non-infringing manner. For example, a third party may develop a competitive therapy that provides benefits similar to one or more of our product candidates but that uses a formulation and/or a device that falls outside the scope of our patent claims. If any patent protection that we may obtain in the future from the patent applications we hold or pursue with respect to our product candidates is not sufficiently broad to impede such competition, our ability to successfully commercialize our product candidates could be negatively affected, which would harm our business. Similar risks apply to patents or patent applications that we have in-licensed or may in the future in-license.

Patent positions of life sciences companies can be uncertain and involve complex factual and legal questions and are subject of much litigation. No consistent policy governing the scope of claims allowable in the field of antibodies has emerged in the United States. The scope of patent protection in jurisdictions outside of the United States is also uncertain. Changes in either the patent laws or in their interpretation in any jurisdiction that we seek patent protection may diminish our ability to protect our inventions, obtain, maintain, protect and enforce our intellectual property and other proprietary rights; and, more generally, may affect the value of our intellectual property, including the narrowing of the scope of any patents that we may obtain in the future and any that we may license.

The patent prosecution process is complex, expensive, time-consuming and inconsistent across jurisdictions. We may not be able to file, prosecute, maintain, enforce, or license all necessary or desirable patent rights at a commercially reasonable cost or in a timely manner. In addition, we do not intend to pursue, and may not obtain, patent protection in all potentially relevant markets. It is possible that we will fail to identify important patentable aspects of our research and development efforts in time to obtain appropriate or any patent protection or fail to file patent applications covering inventions made in the course of development and commercialization activities before a competitor or another third party files a patent application covering, or publishes information disclosing, a similar, independently-developed invention. Such competitor's or other third party's patent application may pose obstacles to our ability to obtain patent protection or limit the scope of the patent protection we may obtain. While we enter into non-disclosure and confidentiality agreements with parties who have access to confidential or patentable aspects of our research and development efforts, including for example, our employees, corporate collaborators, external academic scientific collaborators, CROs, contract manufacturers, consultants, advisors and other third parties, any of these parties may breach the agreements and disclose such output before a patent application is filed, thereby endangering our ability to seek patent protection. In addition, publications of discoveries in the scientific and scholarly literature often lag behind the actual discoveries, and patent applications in the United States and other jurisdictions are typically not published until 18 months after filing, or in some cases not at all. Consequently, we cannot be certain that we or our licensors were the first to make the inventions claimed in our owned or in-licensed patent rights and patent applications or were the first to file for patent protection on the inventions claimed in our pending patent applications.

The issuance, scope, validity, enforceability and commercial value of our and our current or future licensors' patent rights are highly uncertain. Our and our licensors' pending and future patent applications may not result in patents being issued that protect our technology or product candidates, in whole or in part, or which effectively exclude others from commercializing competitive technologies and product candidates. Further, the scope of the invention claimed in a patent application can be significantly reduced before the patent is issued, and this scope can be reinterpreted after issuance. Even where patent applications we currently own or that we license now or in the future issue as patents, they may not issue in a form that will provide us with adequate protection to prevent competitors or other third parties from competing with us, or otherwise provide us with a competitive

advantage. Any patents that eventually issue may be challenged, narrowed or invalidated by third parties. Consequently, we do not know whether any of our product candidates will be protectable or remain protected by valid and enforceable patent rights. Our competitors or other third parties may be able to evade or circumvent our patent rights by developing new alternative technologies or products in a non-infringing manner.

The issuance or grant of a patent is not conclusive as to its inventorship, scope, validity or enforceability, and our patents we may obtain in the future may be challenged, invalidated, narrowed or held to be unenforceable, including in the courts or patent offices in the United States and abroad, or circumvented. There may be prior art of which we are not aware that may affect the validity or enforceability of a patent claim. There also may be prior art of which we are aware, but which we do not believe affects the validity or enforceability of a claim, but which may, nonetheless, ultimately be found to affect the validity or enforceability of a claim. We may become subject to a third party pre-issuance submission of prior art or opposition, derivation, revocation, re-examination, post-grant and *inter partes* review, or interference proceeding and other similar proceedings challenging any patent rights we may obtain in the future or the patent rights of others, including based on priority of invention or other features of patentability, in the U.S. Patent and Trademark Office (USPTO) or other foreign patent office. An unfavorable determination in any such submission, proceeding or litigation could reduce the scope of, or invalidate, any patent rights we may obtain in the future, allow third parties to use or commercialize our technology or product candidates and compete directly with us, without payment to us (as they can now), or extinguish our ability to manufacture or commercialize product candidates without infringing third party patent rights. Such proceedings also may result in substantial cost and require significant time from our scientists and management, even if the eventual outcome is favorable to us. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have a material adverse effect on the price of our common stock.

In addition, given the amount of time required for the development, testing and regulatory review of new product candidates, any patents we may obtain in the future protecting such candidates might expire before or shortly after commercialization of such candidates, if any. As a result, our intellectual property may never provide us with sufficient rights to exclude others from commercializing products similar or identical to ours. Moreover, any patents or patent applications that we may own or in-license in the future may be co-owned with third parties. If we are unable to obtain an exclusive license to any such third party co-owners' interest in any such patents or patent applications, such co-owners may be able to license their rights to other third parties, including our competitors, thereby enabling our competitors to market competing products and technology. In addition, we or our licensors may need the cooperation of any such co-owners of any patents that we may own or in-license in the future in order to enforce such patents against third parties, and such cooperation may not be provided to us or our licensors. Any of the foregoing could have a material adverse effect on our competitive position, business, financial conditions, results of operations and prospects.

We could be unsuccessful in obtaining meaningful patent protection on one or more components of our platform technology.

We believe that an important factor in our competitive position is our screening technology platform to identify future product candidates and therapeutic targets. Our screening platform is based in part on technology processes that are (or will be) publicly disclosed in patent applications owned by or licensed to us and we do not currently own or in-license any issued patents that protect our screening platform. Even if these patents issue from these patent applications and provide broad protection, it may be difficult or impossible to detect whether a competitor is practicing the proprietary methods claimed in such patent applications in order to discover their own product candidates and therapeutic targets. In such case, any patents that may issue from patent applications owned by or licensed to us would not provide us protection to prevent such activity. Additionally, a competitor may also practice such methods in a jurisdiction where we have no relevant patent protection. Our competitive position could be weakened by competitors or other third parties practicing the methods claimed in these patent applications in a manner we do not detect or in jurisdictions in which we or our licensors do not obtain any relevant patent protection.

If we fail to comply with any of our obligations under existing or future agreements pursuant to which we license intellectual property rights or technology, if the licenses are terminated or if disputes regarding these licenses arise, we could lose significant rights or technology that are material to our business and could interfere with our ability to operate our business.

We are a party to technology licenses, including in-license agreements with BWH and Provincial Health Services Authority (or “PHSA”), and we may enter into additional licenses in the future. See “Business—License and Collaboration Agreements” for more information regarding our agreement with PHSA. Such licenses do, and may in the future, impose commercial, contingent payment, royalty, insurance, indemnification, and other obligations on us. If we fail to comply with these obligations, our licensors may have the right to terminate the license, in which event we could lose valuable rights under our collaboration agreements and our ability to develop product candidates could be impaired. Additionally, should any such license agreement be terminated for any reason, there may be a limited number of replacement licensors, and a significant amount of time may be required to transition to a replacement licensor.

Our rights to develop and commercialize our product candidates are subject in part to the terms and conditions of third party licenses, pursuant to which we have acquired rights from the applicable licensors. Our rights with respect to such intellectual property may terminate, in whole or in part, if we fail to meet applicable requirements or milestones relating to development and commercialization. We may also lose our rights to develop and commercialize our product candidates under such agreements if we fail to pay required milestones or royalties. In the event of an early termination of our license agreements, all rights licensed and developed by us under these agreements may be extinguished, which may have an adverse effect on our business, financial condition, results of operations and prospects.

We rely on certain of our licensors to prepare, file and prosecute patent applications and maintain patents and otherwise protect the intellectual property we license from them and may continue to do so in the future. We have limited or no control over these activities or any other intellectual property that may be related to our in-licensed intellectual property. For example, we cannot be certain that such activities by these licensors have been or will be conducted in compliance with applicable laws and regulations or will result in valid and enforceable patents and other intellectual property rights. We have limited or no control over the manner in which our licensors initiate an infringement proceeding against a third party infringer of the intellectual property rights, or defend certain of the intellectual property that is licensed to us. It is possible that any licensors’ infringement proceeding or defense activities may be less vigorous than had we conducted them ourselves.

These agreements may be complex, and certain provisions in such agreements may be susceptible to multiple interpretations. The resolution of any contract interpretation disagreement that may arise could narrow what we believe to be the scope of our rights to the relevant intellectual property or technology, or increase what we believe to be our financial or other obligations under the relevant agreement, either of which could have a material adverse effect on our business, financial condition, results of operations and prospects.

In addition, a third party may in the future bring claims that our performance under our license agreements, including our sponsoring of clinical trials, interferes with such third party’s rights under its agreement with one of our licensors. If any such claim were successful, it may adversely affect our rights and ability to advance our product candidates as clinical candidates or subject us to liability for monetary damages, any of which would have an adverse effect on our business, financial condition, results of operations and prospects.

We are currently, and expect in the future to be, party to material license or collaboration agreements.

We are currently, and expect in the future to be, party to material license or collaboration agreements. These agreements typically impose numerous obligations and restrictions on us, such as various diligence, commercialization, insurance and payment obligations, among others, in order to maintain such licenses. Any of these restrictions or obligations could delay or otherwise negatively impact a transaction that we may wish to enter into. In addition, any termination of these licenses could result in the loss of significant rights and could harm our ability to commercialize our product candidates.

[Table of Contents](#)

Licensing of intellectual property is of high importance to our business and involves complex legal, business and scientific issues. Disputes may also arise between us and our licensors regarding intellectual property subject to a license agreement, including:

- the scope of rights granted under the license agreement and other interpretation-related issues;
- whether, and the extent to which, our product candidates, technology and processes infringe on intellectual property of the licensor that is not subject to the licensing agreement;
- our right to sublicense patent and other intellectual property rights to third parties under collaborative development relationships;
- the calculation and existence of certain payment obligations under the license agreement;
- our diligence obligations with respect to the use of the licensed technology in relation to our development and commercialization of our product candidates, and what activities satisfy those diligence obligations;
- the inventorship and ownership of inventions, know-how and other intellectual property and proprietary rights resulting from the joint creation or use of intellectual property by our licensors and us and our partners; and
- the priority of invention of patented technology.

If disputes over intellectual property that we have licensed prevent or impair our ability to maintain our current licensing arrangements on acceptable terms, we may be unable to successfully develop and commercialize the affected product candidates.

We are generally also subject to all of the same risks with respect to protection of intellectual property that we license, as we are for intellectual property that we own, which we describe below, and our success will depend in part on the ability of our licensors to adequately obtain, maintain, protect and enforce patent protection for our licensed intellectual property, especially with respect to patent rights which we exclusively in-license. If we or our licensors fail to adequately protect this intellectual property, our ability to commercialize products could suffer.

We rely on certain of our licensors to prepare, file and prosecute patent applications and maintain patents and otherwise protect the intellectual property we license from them and may continue to do so in the future. We have limited control over these activities or any other intellectual property that may be related to our in-licensed intellectual property. For example, we cannot be certain that such activities by these licensors have been or will be conducted in compliance with applicable laws and regulations or will result in valid and enforceable patents and other intellectual property rights. We have limited control over the manner in which our licensors initiate an infringement proceeding against a third party infringer of the intellectual property rights, or defend certain of the intellectual property that is licensed to us. It is possible that any licensors' infringement proceeding or defense activities may be less vigorous than had we conducted them ourselves or may not be conducted in accordance with our best interests.

Furthermore, certain of our licenses may not provide us with exclusive rights to use the licensed intellectual property and technology, or may not provide us with exclusive rights to use such intellectual property and technology in all relevant fields of use and in all territories in which we may wish to develop or commercialize our technology and product candidates in the future. For example, a portion of our intellectual property portfolio is non-exclusively licensed to us and may be used by our licensors or licensed to third parties, and such third parties may have certain enforcement rights with respect to such intellectual property. Thus, patent rights licensed to us could be put at risk of being invalidated or interpreted narrowly in litigation filed by or against our licensors or another licensee or in administrative proceedings brought by or against our licensors or another licensee in response to such litigation or for other reasons. As a result, we may not be able to prevent competitors or other third parties from developing and commercializing competitive products, including in territories covered by our licenses.

[Table of Contents](#)

Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations and prospects.

Our proprietary position may depend upon patents that are manufacturing, formulation or method-of-use patents, which may not prevent a competitor or other third party from using the same product candidate for another use.

Composition-of-matter patents are generally considered to be the strongest form of intellectual property protection for drug products because such patents provide protection without regard to any particular method of use or manufacture or formulation of the API used. We do not have any issued patents, but our pending owned U.S. provisional patent applications include claims that cover compositions of matter of our TSC-100 and TSC-101 TCR-T therapy candidates. We cannot be certain that claims in any patent that may issue from our pending owned or in-licensed patent applications will cover the composition-of-matter of any of our current or future product candidates. If we are unsuccessful in obtaining issued patents that cover the composition of matter of any of our current or future product candidates, competitors may be able to erode or negate any competitive advantage we may have and our business, financial condition, results of operations and prospects could be materially harmed.

If our efforts to protect the proprietary nature of the intellectual property related to our technologies are not adequate, we may not be able to compete effectively in our market.

Biotechnology and pharmaceutical companies generally, and we in particular, compete in a crowded competitive space characterized by rapidly evolving technologies and aggressive defense of intellectual property. The USPTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other provisions during the patent process. There are situations in which noncompliance can result in abandonment or lapse of a patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. In such an event, competitors might be able to enter the market earlier than would otherwise have been the case.

We rely upon a combination of patent rights, confidentiality agreements, trade secret protection and license agreements to protect the intellectual property related to our technologies. Any disclosure to or misappropriation by third parties of our confidential proprietary information could enable competitors or other third parties to quickly duplicate or surpass our technological achievements, thus eroding our competitive position in our market. We, or any partners, collaborators, licensees or licensors may fail to identify patentable aspects of inventions made in the course of development and commercialization activities before it is too late to obtain patent protection on them. Therefore, we may miss potential opportunities to strengthen our patent position.

It is possible that defects of form in the preparation or filing of our patent applications may exist, or may arise in the future, for example with respect to proper priority claims, inventorship, claim scope, or requests for patent term adjustments. If we or any partners, collaborators, licensees or licensors fail to establish, maintain or protect such patent rights and other intellectual property rights, such rights may be reduced or eliminated. If any partners, collaborators, licensees or licensors are not fully cooperative or disagree with us as to the prosecution, maintenance or enforcement of any patent rights, such patent rights could be compromised. If there are material defects in the form, preparation, prosecution, or enforcement of our patent applications, any patents that may issue from such patent applications may be invalid and/or unenforceable, and such applications may never result in valid, enforceable patents. Any of these outcomes could impair our ability to prevent competition from third parties, which may have an adverse impact on our business, financial condition, results of operations and prospects.

Currently, our patent applications are directed to our TCR-T therapy candidates and accompanying technologies. We seek or plan to seek patent protection for our proprietary platform and product candidates by filing and prosecuting patent applications in the United States and other countries as appropriate. As of April 16, 2021, our patent portfolio consisted of one patent family exclusively licensed from BWH, which family includes one pending U.S. non-provisional patent application and six pending foreign non-provisional patent applications

[Table of Contents](#)

directed to a granzyme B (GzB)-based antigen screening technology platform compositions of matter and certain screening methods thereof, and seven patent families encompassing an aggregate of 16 U.S. provisional patent applications. The claims of these patent applications are drawn to subject matter in the following main technology areas: certain compositions of matter directed to SARS-CoV-2 immunodominant antigens, anti-SARS-CoV-2 TCRs, anti-SARS-CoV-2 vaccines, anti-HA-1 TCRs (including the TSC-100 TCR-T therapy candidate), anti-HA-2 TCRs (including the TSC-101 TCR-T therapy candidate), TCRs targeting the antigen of TSC-201, and certain therapeutic and diagnostic uses thereof, as well as a phospholipid scrambling reporter-based T cell antigen screening platform and certain screening methods thereof. Any patents that may issue from these patent applications are expected to expire on various dates from 2038 through 2042, in each case without taking into account any possible patent term adjustments or extensions.

We anticipate additional patent applications will be filed both in the United States and in other countries, as appropriate. However, we cannot predict:

- whether and when any patents will issue;
- the degree and range of protection that any patents that may issue will afford us against competitors;
- whether any of our intellectual property will provide any competitive advantage;
- whether any patents that may issue may be challenged, invalidated, modified, revoked, circumvented or found to be unenforceable;
- whether or not others will obtain patents claiming inventions similar to those covered by our patent applications; or
- whether we will need to initiate or defend litigation or administrative proceedings, which may be costly regardless of whether we win or lose.

Additionally, we cannot be certain that the claims in our pending patent applications covering the composition of matter of our product candidates will be considered patentable by the USPTO or patent offices in foreign countries.

Method-of-use patents protect the use of a product for the specified method. If we obtain any of these types of patents, they would not prevent a competitor from making and marketing a product that is identical to one of our product candidates for an indication that is outside the scope of the patented method. Moreover, even if competitors do not actively promote their product for our targeted indications, physicians may prescribe these products “off-label.” Although off-label prescriptions may induce or contribute to the infringement of method-of-use patents, the practice is common, and such infringement is difficult to prevent or prosecute.

The strength of patents in the biotechnology and pharmaceutical field involves complex legal and scientific questions and can be uncertain. The patent applications that we own or in-license may fail to result in issued patents with claims that cover our product candidates or uses thereof in the United States or in other foreign countries. Even if the patents do successfully issue, third parties may challenge the validity, enforceability or scope thereof, which may result in such patents being narrowed, invalidated or held unenforceable. If the breadth or strength of protection provided by the patent applications we hold with respect to our product candidates is threatened, it could dissuade companies from collaborating with us to develop, and threaten our ability to commercialize, our product candidates. Further, if we encounter delays in our clinical trials, the period of time during which we could market our product candidates under patent protection would be reduced. Since patent applications in the United States and most other countries are confidential for a period of time after filing, we cannot be certain that we were the first to file any patent application related to our product candidates. Various post-grant review proceedings, such as *inter partes* review and post-grant review, are available for any interested third party to challenge the patentability of claims in any patents issued to us or our licensors. While these post-grant review proceedings have been used less frequently to invalidate biotech patents, they have been successful regarding other technologies, and these relatively new procedures are still changing, and those changes might affect future results. No assurance can be given that, if challenged, any patents that we or our licensors may

[Table of Contents](#)

obtain would be declared by a court to be valid or enforceable or that, even if found valid and enforceable, a competitor's technology or product would be found by a court to infringe any such patent. We may analyze patents or patent applications of our competitors that we believe are relevant and conclude that our activities do not infringe any valid claims of those patents or patent applications, but our conclusions may be erroneous or our competitors may obtain patents with issued claims, including in patents we consider to be unrelated, that block our efforts or that our product candidates or our activities infringe. Others may independently develop products that have the same effect as our product candidates without infringing any patents we may obtain or any of our other intellectual property rights, or they may design around the claims of any patents that we may obtain.

Recent and future patent reform legislation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of any patents we may obtain. In March 2013, under the Leahy-Smith America Invents Act, or the America Invents Act, the United States moved from a "first to invent" to a "first-to-file" system. Under a "first-to-file" system, assuming the other requirements for patentability are met, the first inventor to file a patent application generally will be entitled to a patent on the invention regardless of whether another inventor had made the invention earlier. The America Invents Act included a number of other significant changes to U.S. patent law, including provisions that have affected the way patent applications are prosecuted, redefined prior art and established a new post-grant review system. The effects of these changes are still unclear as the USPTO only recently developed new regulations and procedures in connection with the America Invents Act, and many of the substantive changes to patent law, including the "first-to-file" provisions, only became effective in March 2013. Moreover, the courts have yet to address many of these provisions. Overall, the America Invents Act and its implementation have increased the uncertainties and costs surrounding the prosecution of our patent applications and any enforcement or defense of any patents that we may obtain, which could have a material adverse effect on our business and financial condition.

The degree of future protection for our proprietary rights is uncertain because legal means afford only limited protection and may not adequately protect our rights or permit us to gain or keep our competitive advantage. For example:

- others may be able to make or use compounds or cells that are similar to the biological compositions of our product candidates but that are not covered by the claims of any patents that we may obtain;
- the active biological ingredients in our current product candidates may eventually become commercially available in biosimilar drug products, and no patent protection may be available with regard to formulation or method of use;
- we or our licensors, as the case may be, might not have been the first to file patent applications for these inventions;
- there may be prior public disclosures that could invalidate any patents that we or our licensors may obtain;
- the inventors of our owned or in-licensed patent applications may become involved with competitors, develop products or processes that design around any patents that we may obtain, or become adverse to us or patent applications on which they are named as inventors;
- it is possible that our owned or in-licensed patent applications omit individual(s) that should be listed as inventor(s) or include individual(s) that should not be listed as inventor(s), which may cause any patents that may issue from these patent applications to be held invalid or unenforceable;
- we have engaged and may continue to engage in scientific collaborations, and such collaborators may develop adjacent or competing products to ours that are outside the scope of any patents that we may obtain;
- we may not develop additional proprietary technologies for which we can obtain patent protection;
- product candidates or diagnostic tests we develop may be covered by third parties' patents or other exclusive rights; or
- the patents of others may have an adverse effect on our business.

If we are unable to protect the confidentiality of our trade secrets, our business and competitive position would be harmed.

In addition to the protection afforded by any patent rights we may obtain, we seek to rely on trade secret protection, confidentiality agreements, and license agreements to protect our proprietary know-how, information, technology and other proprietary information that is not patentable, processes for which patents are difficult to enforce and any other elements of our product discovery and development processes that involve proprietary know-how, information, or technology that we have not sought to protect through patent applications. For example, significant elements of our product candidates, including aspects of sample preparation, methods of manufacturing, cell culturing conditions, computational-biological algorithms, and related processes and software, are based on unpatented trade secrets that are not publicly disclosed. It is our policy to require our employees, consultants, outside scientific collaborators, sponsored researchers and other advisors to execute confidentiality agreements upon the commencement of employment or consulting relationships with us. These agreements generally provide that all confidential information concerning our business or financial affairs developed or made known to the individual or entity during the course of the party's relationship with us is to be kept confidential and not disclosed to third parties except in specific circumstances. In the case of employees, the agreements provide that all inventions conceived by the individual, and which are related to our current or planned business or research and development or made during normal working hours, on our premises or using our equipment or proprietary information, are our exclusive property. In addition, we take other appropriate precautions, such as physical and technological security measures, to guard against misappropriation of our proprietary technology by third parties. Despite these measures, we cannot be certain that our trade secrets and other confidential proprietary information will not be disclosed or that competitors will not otherwise gain access to our trade secrets or independently develop substantially equivalent information and techniques. Furthermore, the laws of some foreign countries do not protect proprietary rights to the same extent or in the same manner as the laws of the United States. Courts outside the United States are sometimes less willing to protect trade secrets. As a result, we may encounter significant problems in protecting and defending our intellectual property both in the United States and abroad. If we choose to go to court to stop a third party from using any of our trade secrets, we may incur substantial costs. These lawsuits may consume our time and other resources even if we are successful. If we are unable to prevent unauthorized disclosure of our material intellectual property to third parties, we will not be able to establish or maintain a competitive advantage in our market, which could materially adversely affect our business, operating results and financial condition. For more information, see "Risk Factors—Risks Related to Our Intellectual Property—"We have limited foreign intellectual property rights and may not be able to protect our intellectual property rights throughout the world."

Third party claims of intellectual property infringement, misappropriation or other violations may prevent or delay our product discovery and development efforts.

Our commercial success depends in part on our avoiding infringement, misappropriation or other violation of the patents and proprietary rights of third parties. There is a substantial amount of litigation involving patents and other intellectual property rights in the biotechnology and pharmaceutical industries. We may be exposed to, or threatened with, future litigation by third parties having patent or other intellectual property rights alleging that our product candidates and/or technologies infringe their intellectual property rights. Numerous U.S. and foreign issued patents and pending patent applications, which are owned by third parties, exist in the fields in which we are developing our product candidates or identifying potential product candidates. As the biotechnology and pharmaceutical industries expand and more patents are issued, the risk increases that our product candidates may give rise to claims of infringement of the patent rights of others. Moreover, it is not always clear to industry participants, including us, which patents cover various types of drugs, products or their methods of use or manufacture. Because of the large number of patents and patent applications in our fields, there is a risk that third parties may allege they have patent rights encompassing our product candidates, technologies or methods.

[Table of Contents](#)

If a third party claims that we infringe, misappropriate or otherwise violate its intellectual property rights, we may face a number of issues, including, but not limited to:

- infringement, misappropriation and other violation of intellectual property claims which, regardless of merit, may be expensive and time-consuming to litigate and may divert our management's attention from our core business;
- substantial damages for infringement, misappropriation or other violation which we may have to pay if a court decides that the product candidate or technology at issue infringes on, misappropriates or otherwise violates the third party's rights, and, if the court finds that the infringement was willful, we could be ordered to pay treble damages and the patent owner's attorneys' fees;
- a court prohibiting us from developing, manufacturing, marketing or selling our product candidates, or from using our proprietary technologies, unless the third party licenses its product rights to us, which it is not required to do;
- if a license is available from a third party, we may have to pay substantial royalties, upfront fees and other amounts, and/or grant cross-licenses to intellectual property rights for our product candidates or using our proprietary technologies; and
- redesigning our product candidates or processes so they do not infringe third party intellectual property rights, which may not be possible or may require substantial monetary expenditures and time.

Some of our competitors or other third parties may be able to sustain the costs of complex patent litigation more effectively than we can because they have substantially greater resources. In addition, any uncertainties resulting from the initiation and continuation of any litigation could have a material adverse effect on our ability to raise the funds necessary to continue our operations or could otherwise have a material adverse effect on our business, results of operations, financial condition and prospects.

Third parties may assert that we are employing their proprietary technology without authorization. Generally, conducting preclinical and clinical trials and other development activities in the United States is not considered an act of infringement. If any of our product candidates is licensed by the FDA, a third party may then seek to enforce its patent by filing a patent infringement lawsuit against us. While we do not believe that any claims that could otherwise have a materially adverse effect on the commercialization of our product candidates, if licensed, are valid and enforceable, we may be incorrect in this belief, or we may not be able to prove it in litigation. In this regard, patents issued in the United States by law enjoy a presumption of validity that can be rebutted only with evidence that is "clear and convincing", a heightened standard of proof. As a result, there is no assurance that a court of competent jurisdiction would invalidate the claims of any such U.S. patent. If any third party patent were held by a court of competent jurisdiction to cover the manufacturing process of our product candidates, constructs or molecules used in or formed during the manufacturing process, or any final product itself, or aspects of our formulations, processes for manufacture or methods of use, including combination therapy or patient selection methods, the holder of any such patent may be able to block our ability to commercialize the product candidate unless we obtained a license under the applicable patent, or until such patent expires or it is finally determined to be held invalid or unenforceable. In any case, such a license may not be available on commercially reasonable terms or at all. If we are unable to obtain a necessary license to a third party patent on commercially reasonable terms, or at all, our ability to commercialize our product candidates may be impaired or delayed, which could in turn significantly harm our business. Even if we obtain a license, it may be non-exclusive, thereby giving our competitors access to the same technologies licensed to us, and it could require us to make substantial licensing and royalty payments. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have a material adverse effect on the price of our common stock. Any of the foregoing events could harm our business, financial condition, results of operations and prospects.

Parties making claims against us may seek and obtain injunctive or other equitable relief, which could effectively block our ability to further develop and commercialize our product candidates. Defense of these

claims, regardless of their merit, could involve substantial litigation expense and would be a substantial diversion of employee resources from our business. In the event of a successful claim of infringement against us, we may have to pay substantial damages, including treble damages and attorneys' fees for willful infringement, obtain one or more licenses from third parties, pay royalties or redesign our infringing products, which may be impossible or require substantial time and monetary expenditure. We cannot predict whether any such license would be available at all or whether it would be available on commercially reasonable terms. Furthermore, even in the absence of litigation, we may need or may choose to obtain licenses from third parties to advance our research or allow commercialization of our product candidates. We may fail to obtain any of these licenses at a reasonable cost or on reasonable terms, if at all. In that event, we would be unable to further develop and commercialize our product candidates. Any of the foregoing events could harm our business, financial condition, results of operations and prospects.

We may not be successful in obtaining or maintaining necessary rights to product components and processes for our development pipeline through acquisitions and in-licenses.

Because additional product candidates may require the use of proprietary rights held by third parties, the growth of our business will likely depend in part on our ability to acquire, in-license or use these proprietary rights. In addition, while we have certain patent rights directed to certain TCR constructs, we may not be able to obtain intellectual property to broad T-cell or TCR-T constructs.

Our product candidates may also require specific formulations to work effectively and efficiently and rights to these formulations may be held by others. Similarly, efficient production or delivery of our product candidates may also require specific compositions or methods, and the rights to these may be owned by third parties. We may be unable to acquire or in-license any formulations, compositions, methods of use, processes or other third party intellectual property rights that we identify as necessary or important to our business operations. We may fail to obtain any of these licenses at a reasonable cost or on reasonable terms, if at all, which would harm our business. We may need to cease use of the compositions or methods covered by such third party intellectual property rights, and may need to seek to develop alternative approaches that do not infringe on such intellectual property rights which may entail additional costs and development delays, even if we were able to develop such alternatives, which may not be feasible. Even if we are able to obtain a license, it may be non-exclusive, thereby giving our competitors access to the same technologies licensed to us. In that event, we may be required to expend significant time and resources to develop or license replacement technology. Moreover, the specific antibodies that will be used with our product candidates may be covered by the intellectual property rights of others.

Additionally, we may collaborate with academic institutions to accelerate our preclinical research or development under written agreements with these institutions. In certain cases, these institutions provide us with an option to negotiate a license to any of the institution's rights in technology resulting from the collaboration. Regardless of such option, we may be unable to negotiate a license within the specified timeframe or under terms that are acceptable to us. If we are unable to do so, the institution may offer the intellectual property rights to others, potentially blocking our ability to pursue our program. If we are unable to successfully obtain rights to required third party intellectual property or to maintain the existing intellectual property rights we have, we may have to abandon development of such program and our business and financial condition could suffer.

The licensing and acquisition of third party intellectual property rights is a competitive area, and companies that may be more established or have greater resources than we do may also be pursuing strategies to license or acquire third party intellectual property rights that we may consider necessary or attractive in order to commercialize our product candidates. More established companies may have a competitive advantage over us due to their size, cash resources and greater clinical development and commercialization capabilities.

We may eventually become involved in lawsuits to protect or enforce our intellectual property and proprietary rights, including any patents that we or our licensors may obtain in the future, which could be expensive, time-consuming and unsuccessful.

In the future, competitors or other third parties may infringe any patents that we or our licensors may obtain. To counter any such future infringement or unauthorized use, we may eventually be required to file infringement claims, which can be expensive and time-consuming. Any claims we assert against perceived infringers could provoke these parties to assert counterclaims against us alleging that we infringe their patents or that our licensors' patents are invalid or unenforceable. In addition, in a patent infringement proceeding, a court may decide that one or more patents that we may obtain in the future is not valid or is unenforceable, in whole or in part, construe the patent's claims narrowly or may refuse to stop the other party from using the technology at issue on the grounds that such patents, if any, do not cover the technology in question. An adverse result in any litigation or defense proceedings could put one or more of such patents, if any, at risk of being invalidated, held unenforceable, or interpreted narrowly and could put our patent applications at risk of not issuing. Asserting any patent rights we may obtain in the future, and defending challenges to our rights, regardless of their merit, would involve substantial litigation expense and would be a substantial diversion of employee resources from our business and we may find it impractical or undesirable to enforce our intellectual property against some third parties.

Post-grant, interference or derivation proceedings provoked by third parties or brought by us or declared by the USPTO may be necessary to determine the validity or priority of inventions with respect to our or our licensors' patent applications or any patents that may issue therefrom. An unfavorable outcome could result in a loss of any patent rights we may have. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation or proceeding. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have a material adverse effect on the price of our common stock. Any of the foregoing events could harm our business, financial condition, results of operations and prospects.

Obtaining and maintaining our patent protection depends on compliance with various procedures, document submission, fee payments and other requirements imposed by governmental patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements.

Some of our patent applications may be allowed in the future. We cannot be certain that an allowed patent application will become an issued patent. There may be events that cause withdrawal of the allowance of a patent application. For example, after a patent application has been allowed, but prior to being issued, material that could be relevant to patentability may be identified. In such circumstances, the applicant may pull the application from allowance in order for the USPTO or foreign patent agency to review the application in view of the new material. In that circumstance, the USPTO or the other agency may not re-allow an application in view of the new material. Further, periodic maintenance fees, renewal fees, annuity fees and various other governmental fees on patents and/or patent applications will be due to be paid to the USPTO and foreign patent agencies at several stages over the lifetime of the patents and/or patent applications. The USPTO and various foreign governmental patent agencies also require compliance with a number of procedural, documentary and other similar provisions during the patent application process and following the issuance of a patent. We also may be dependent on our licensors to take the necessary action to comply with these requirements with respect to our licensed intellectual property. While an inadvertent lapse can in many cases be cured by payment of a late fee or by other means in accordance with the applicable rules, there are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. Noncompliance events that could result in abandonment or lapse of a patent or patent application include, but are not limited to, failure to respond to official actions within prescribed time limits, non-payment of fees and failure to properly legalize and submit formal documents. In such an event, our competitors and other third parties might be able to enter the market without infringing our or our licensors' patents and patent

applications, which could have a material adverse effect on our business, financial condition, results of operations and prospects.

If we obtain any patents covering our product candidates, they could nonetheless be found invalid or unenforceable if challenged in court or the USPTO.

The issuance of a patent is not conclusive as to its inventorship, scope, validity or enforceability. Our in-licensed patents, and any of our owned or in-licensed patent applications that may issue in the future, may be challenged at the USPTO or foreign patent offices in re-examination, *inter partes* review, post-grant review and equivalent proceedings in foreign jurisdictions (such as opposition proceedings). Such proceedings could result in the revocation of or amendment to such patents in such a way that they no longer cover our product candidates or technologies. If we or one of our licensing partners initiates legal proceedings against a third party to enforce a patent that we may obtain in the future covering one of our product candidates, the defendant could counterclaim that such patent is invalid and/or unenforceable. In patent litigation in the United States, counterclaims alleging invalidity and/or unenforceability are commonplace, and there are numerous grounds upon which a third party can assert invalidity or unenforceability of a patent. Grounds for a validity challenge could be an alleged failure to meet any of several statutory requirements, including lack of novelty, obviousness or non-enablement. Grounds for an unenforceability assertion could be an allegation that someone connected with prosecution of the patent withheld relevant information from the USPTO, or made a misleading statement, during prosecution. Third parties may also raise similar claims before administrative bodies in the United States or abroad, even outside the context of litigation. Such mechanisms include re-examination, *inter partes* review, post-grant review and equivalent proceedings in foreign jurisdictions (such as opposition proceedings). Such proceedings could result in revocation or amendment to any patents we may obtain in the future in such a way that they would no longer cover our product candidates. The outcome following legal assertions of invalidity and unenforceability is unpredictable. With respect to the validity question, for example, we cannot be certain that there is no invalidating prior art, of which we, our patent counsel and the patent examiner were unaware during prosecution. If a defendant were to prevail on a legal assertion of invalidity and/or unenforceability, or if we are otherwise unable to adequately protect our rights, we would lose at least part, and perhaps all, of any patent protection we may eventually obtain on our product candidates and technologies. Such a loss of patent protection could have a material adverse impact on our business, financial condition, results of operations and prospects and our ability to commercialize or license our technology and product candidates.

Changes to patent law and its interpretation in the United States and in foreign jurisdictions could diminish the value of patents in general and may impact the validity, scope or enforceability of our patent rights, thereby impairing our ability to protect our product candidates and technologies.

As is the case with other biopharmaceutical companies, our success is heavily dependent on intellectual property, particularly any patents that may issue from our pending patent applications. Changes in either the patent laws or in their interpretation in any jurisdiction that we seek patent protection may diminish our ability to protect our inventions, obtain, maintain and enforce our intellectual property and proprietary rights and, more generally, may affect the value of our intellectual property and proprietary rights. The United States continues to adapt to wide-ranging patent reform legislation that became effective starting in 2012. Moreover, various courts, including the U.S. Supreme Court, have rendered decisions that have narrowed the scope of patent protection available in certain circumstances and weakened the rights of patent owners in certain situations. In addition to increasing uncertainty with regard to our ability to obtain patents in the future, this combination of events has created uncertainty with respect to the value of patents, once obtained. Depending on decisions by the U.S. Congress, the federal courts, and the USPTO, the laws and regulations governing patents could change in unpredictable ways that would weaken our ability to obtain new patents or to enforce patents that we might obtain in the future. For example, in the case *Assoc. for Molecular Pathology v. Myriad Genetics, Inc.*, the U.S. Supreme Court held that certain claims to DNA molecules are not patentable. We cannot predict how future decisions by the courts, Congress or the USPTO may impact the value of our pending patent applications. Similarly, any adverse changes in the laws and regulations governing patents in other jurisdictions could have an

adverse effect on our ability to obtain and effectively enforce our patent rights and have a material adverse effect on our business and financial condition.

We have limited foreign intellectual property rights and may not be able to protect our intellectual property rights throughout the world.

In the United States, we have filed only provisional patent applications, and outside the United States we have made no filings; our only rights outside the United States consist of seven pending patent applications that we exclusively license from BWH. Filing, prosecuting and defending patents on product candidates in all countries throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the United States can be less extensive than those in the United States. In addition, the laws of some foreign countries do not protect intellectual property rights to the same extent as the laws in the United States, and we may encounter difficulties in protecting and defending such rights in foreign jurisdictions. Consequently, we may not be able to prevent third parties from practicing our inventions in some or all countries outside the United States, or from selling or importing products made using our inventions in and into the United States or other jurisdictions. Competitors or other third parties may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and further, may also export otherwise infringing products to territories where we have patent protection, but enforcement is not as strong as in the United States. These products may compete with our product candidates and our patent rights or other intellectual property rights may not be effective or sufficient to prevent them from competing. In addition, certain countries have compulsory licensing laws under which a patent owner may be compelled to grant licenses to other parties. Furthermore, many countries limit the enforceability of patents against other parties, including government agencies or government contractors. In these countries, the patent owner may have limited remedies, which could materially diminish the value of any patents. Most of our patent portfolio is at the very early stage. We will need to decide whether, and in which jurisdictions, to pursue protection for the various inventions in our portfolio prior to applicable filing deadlines.

Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents, trade secrets and other intellectual property protection, particularly those relating to biopharmaceutical products and biotechnology, which could make it difficult for us to stop the infringement, misappropriation or other violation of our intellectual property rights, including any infringement of any patents we may obtain in the future in such countries, or marketing of competing products in violation of our proprietary rights generally. Proceedings to enforce any patent rights we may obtain in the future in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patent applications at risk of not issuing, any patents we obtain in the future at risk of being invalidated or interpreted narrowly and could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate and the damages or other remedies awarded, if any, may not be commercially meaningful. Accordingly, our efforts to establish our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license.

We may be subject to claims challenging the inventorship or ownership of our patent rights and other intellectual property.

We may be subject to claims that former employees, collaborators or other third parties have an interest in our intellectual property as an inventor or co-inventor. It is our policy to enter into confidentiality and intellectual property assignment agreements with our employees, consultants, and contractors. These agreements generally provide that inventions conceived by the party in the course of rendering services to us will be our exclusive property. However, such agreements may not be honored and may not effectively assign intellectual property rights to us. For instance, the assignment of intellectual property rights may not be self-executing, or the assignment agreements may be breached, and we may be forced to bring claims against current or former

[Table of Contents](#)

employees, consultants, and contractors, or defend claims that they may bring against us, to determine the ownership of what we regard as our intellectual property. Moreover, there may be circumstances where we are unable to negotiate for such ownership rights.

Disputes regarding ownership or inventorship of intellectual property can also arise in other contexts, such as collaborations and sponsored research. If we are subject to a dispute challenging our rights in or to inventions or other intellectual property, such a dispute could be expensive and time consuming. If we are unsuccessful in defending such claims, in addition to paying monetary damages, unless we are able to obtain a license, which might not be available on commercially reasonable terms or at all, we could lose valuable rights in intellectual property, such as the exclusive ownership of, or right to use, intellectual property that we regard as our own or that is important to our business. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management and other employees, and certain customers, licensors or partners may defer engaging with us until the particular dispute is resolved. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations and prospects.

We may be subject to claims that our employees, consultants or independent contractors have wrongfully used or disclosed trade secrets or other confidential information of their former employers or other third parties or claims asserting ownership of what we regard as our own intellectual property.

We have received, and will continue to receive, confidential and proprietary information from third parties. In addition, we have employed and expect to continue to employ individuals who were previously employed at university or other biotechnology or pharmaceutical companies, including our competitors or potential competitors, in some cases until recently. Although we try to ensure that our employees, consultants, advisors and independent contractors do not use the proprietary information or know-how of others in their work for us, we may be subject to claims that we, our employees, advisors, consultants or independent contractors have deliberately, inadvertently or otherwise used or disclosed intellectual property, including trade secrets or other proprietary information of these former employers, competitors or other third parties, or to claims that we have improperly used or obtained such trade secrets. We may be subject to claims that we or our employees, consultants or independent contractors have inadvertently or otherwise used or disclosed confidential information of these third parties or our employees' former employers or our consultants' or contractors' current or former clients or customers. Litigation may be necessary to defend against these claims. Even if we are successful in defending against these claims, litigation could result in substantial cost and be a distraction to our management and employees. If we are not successful in defending such claims, in addition to paying monetary damages, we could lose access or exclusive access to valuable intellectual property rights and face increased competition to our business. Any of the foregoing could harm our business, financial condition, results of operations and prospects.

We may be subject to claims, and damages resulting from claims, that we or our employees have wrongfully used or disclosed alleged trade secrets of our competitors or are in breach of non-competition or non-solicitation agreements with our competitors.

Many of our employees were previously employed at other pharmaceutical companies, including our competitors or potential competitors, in some cases until recently. We may be subject to claims that we or our employees have inadvertently or otherwise used or disclosed trade secrets or other proprietary information of these former employers or competitors. In addition, we have been and may in the future be subject to claims that we caused an employee to breach the terms of his or her non-competition or non-solicitation agreement. Litigation may be necessary to defend against these claims. Even if we are successful in defending against these claims, litigation could result in substantial costs and could be a distraction to management. If our defense to those claims fails, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. Any litigation or the threat thereof may adversely affect our ability to hire employees. A loss of key personnel or their work product could hamper or prevent our ability to commercialize product candidates or potential products, which could have an adverse effect on our business, results of operations, financial condition and prospects.

Patent terms may be inadequate to protect our competitive position on our product candidates for an adequate amount of time. If we do not obtain patent term extension and data exclusivity for any of our current or future product candidates, our business may be materially harmed.

Depending upon the timing, duration, conditions and specifics of any FDA marketing approval of any of our current or future product candidates that we may receive, one or more U.S. patents that we may obtain in the future may be eligible for limited patent term extension under the Drug Price Competition and Patent Term Restoration Act of 1984, or the Hatch-Waxman Amendments, and one or more of our foreign patent rights may be eligible for patent term extension under similar legislation, for example, in the European Union. In the United States, the Hatch-Waxman Amendments permit a patent extension term of up to five years as compensation for effective patent term lost during product development and the FDA regulatory review process. A patent term extension cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval, only one patent may be extended and only those claims covering the approved drug, a method for using it, or a method for manufacturing it may be extended. However, there are no assurances that the FDA or any comparable foreign regulatory authority or national patent office will grant such extensions, in whole or in part. For example, we may not be granted an extension if we fail to exercise due diligence during the testing phase or regulatory review process, fail to apply within applicable deadlines, fail to apply prior to the expiration of relevant patents, or otherwise fail to satisfy other applicable requirements. Moreover, the applicable time period or the scope of patent protection afforded could be less than we request. If we are unable to obtain patent term extension or term of any such extension is less than we request, the period during which we can enforce our patent rights for the applicable product candidate will be shortened, and our competitors or other third parties may obtain approval to market competing products following expiration of any patents that we may obtain in the future, and our business, financial condition, results of operations, and prospects could be materially harmed.

If our trademarks are not adequately protected, then we may not be able to build name recognition in our markets of interest and our business may be adversely affected.

We rely on both registered and common law protection for our trademarks, and have filed applications to register various trademarks, including “TSCAN THERAPEUTICS” and “TSCAN,” for use in connection with our product candidates and services in various countries. These trademarks may not afford adequate protection. Our trademark applications may be provisionally or ultimately refused by the USPTO or the trademark agencies of other countries, or such applications may be challenged by others. We also may not have the financial resources to enforce the rights under these trademarks, which may enable others to use the trademarks and dilute their value. Our trademarks may be challenged, infringed, circumvented or declared generic or determined to be infringing the trademarks of others. In such a case, we may not be able to protect or derive any value from such trademarks, or may be required to cease using a conflicting mark entirely. The value of our trademarks may also be diminished by our own actions, such as failing to impose appropriate quality control when licensing our trademarks. Any of the foregoing could impair the value of, or ability to use, our trademarks, reduce our ability to compete effectively, and have an adverse effect on our business.

Certain of our in-licensed patent rights are, and our future owned and in-licensed patent rights may be, subject to a reservation of rights by one or more third parties, including government march-in rights with regards to certain patents, that may limit our ability to exclude third parties from commercializing product candidates similar or identical to ours.

Certain of our in-licensed patent rights may be subject to a reservation of rights by one or more third parties. Pursuant to the Bayh-Dole Act, the U.S. government has march-in rights with regards to government-funded technology. For example, the U.S. government has certain rights, including march-in rights, to patent rights and technology funded by the U.S. government and licensed to us from BWH. When new technologies are developed with government funding, in order to secure ownership of such patent rights, the recipient of such funding is required to comply with certain government regulations, including timely disclosing the inventions claimed in such patent rights to the U.S. government and timely electing title to such inventions. Any failure to timely elect title to such inventions may provide the U.S. government with the right to, at any time, take title to such

[Table of Contents](#)

inventions. Additionally, the U.S. government generally obtains certain rights in any resulting patents, including a non-exclusive license authorizing the government to use the invention or to have others use the invention on its behalf. If the government decides to exercise these rights, it is not required to engage us as its contractor in connection with doing so. These rights may permit the U.S. government to disclose our confidential information to third parties and to exercise march-in rights to use or allow third parties to use our licensed technology. The U.S. government can exercise its march-in rights if it determines that action is necessary because we fail to achieve practical application of the government-funded technology, because action is necessary to alleviate health or safety needs, to meet requirements of federal regulations, or to give preference to U.S. industry. In addition, our rights in such inventions may be subject to certain requirements to manufacture products embodying such inventions in the United States. Any exercise by the government of any of the foregoing rights could harm our competitive position, business, financial condition, results of operations, and prospects.

Risks Related to Our Reliance on Third Parties

We plan to rely on third parties to conduct our clinical trials. If these third parties do not properly and successfully carry out their contractual duties or meet expected deadlines, we may not be able to obtain regulatory approval of or commercialize our product candidates.

We plan to utilize and depend upon independent investigators and collaborators, such as medical institutions, CROs, CMOs and strategic partners to conduct our preclinical studies and clinical trials under agreements with us. We expect to have to negotiate budgets and contracts with CROs, trial sites and CMOs which may result in delays to our development timelines and increased costs. We will rely heavily on these third parties over the course of our clinical trials, and we control only certain aspects of their activities. As a result, we will have less direct control over the conduct, timing and completion of these clinical trials and the management of data developed through clinical trials than would be the case if we were relying entirely upon our own staff. Nevertheless, we are responsible for ensuring that each of our studies is conducted in accordance with applicable protocol, legal and regulatory requirements and scientific standards, and our reliance on third parties does not relieve us of our regulatory responsibilities. We and these third parties are required to comply with GCPs, which are regulations and guidelines enforced by the FDA and comparable foreign regulatory authorities for product candidates in clinical development. Regulatory authorities enforce these GCPs through periodic inspections of trial sponsors, principal investigators and trial sites. If we or any of these third parties fail to comply with applicable GCP regulations, the clinical data generated in our clinical trials may be deemed unreliable and the FDA or comparable foreign regulatory authorities may require us to perform additional clinical trials before approving our marketing applications. We cannot provide assurance that, upon inspection, such regulatory authorities will determine that any of our clinical trials comply with the GCP regulations. In addition, our clinical trials must be conducted with biologic product produced under cGMP regulations, including cGTP regulations, and will require a large number of test patients. Our failure or any failure by these third parties to comply with these regulations or to recruit a sufficient number of patients may require us to repeat clinical trials, which would delay the regulatory approval process. Moreover, our business may be implicated if any of these third parties violates federal or state fraud and abuse or false claims laws and regulations or healthcare privacy and security laws.

Any third parties conducting our clinical trials are not and will not be our employees and, except for remedies available to us under our agreements with such third parties, we cannot control whether or not they devote sufficient time and resources to our ongoing, clinical and non-clinical product candidates. These third parties may also have relationships with other commercial entities, including our competitors, for whom they may also be conducting clinical trials or other drug development activities, which could affect their performance on our behalf. If these third parties do not successfully carry out their contractual duties or obligations or meet expected deadlines, if they need to be replaced or if the quality or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our clinical protocols or regulatory requirements or for other reasons, our clinical trials may be extended, delayed or terminated and we may not be able to complete development of, obtain regulatory approval of or successfully commercialize our product candidates. As a result, our financial

[Table of Contents](#)

results and the commercial prospects for our product candidates would be harmed, our costs could increase and our ability to generate revenue could be delayed.

Switching or adding third parties to conduct our clinical trials involves substantial cost and requires extensive management time and focus. In addition, there is a natural transition period when a new third party commences work. As a result, delays occur, which can materially impact our ability to meet our desired clinical development timelines.

We have in the past and may in the future form or seek collaborations or strategic alliances or enter into additional licensing arrangements in the future, and we may not realize the benefits of such collaborations, alliances or licensing arrangements.

We have in the past and may in the future form or seek strategic alliances, create joint ventures or collaborations, or enter into additional licensing arrangements with third parties that we believe will complement or augment our development and commercialization efforts with respect to our product candidates and any future product candidates that we may develop. Any of these relationships may require us to incur non-recurring and other charges, increase our near and long-term expenditures, issue securities that dilute our existing stockholders or disrupt our management and business.

In addition, we face significant competition in seeking appropriate strategic partners and the negotiation process is time-consuming and complex. Moreover, we may not be successful in our efforts to establish a strategic partnership or other alternative arrangements for our product candidates because they may be deemed to be at too early of a stage of development for collaborative effort and third parties may not view our product candidates as having the requisite potential to demonstrate safety, potency and purity and obtain marketing approval.

Further, collaborations involving our product candidates are subject to numerous risks, which may include the following:

- collaborators have significant discretion in determining the efforts and resources that they will apply to a collaboration;
- collaborators may not perform their obligations as expected;
- collaborators may not pursue development and commercialization of our product candidates or may elect not to continue or renew development or commercialization of our product candidates based on clinical trial results, changes in their strategic focus due to the acquisition of competitive products, availability of funding or other external factors, such as a business combination that diverts resources or creates competing priorities;
- collaborators may delay clinical trials, provide insufficient funding for a clinical trial, stop a clinical trial, abandon a product candidate, repeat or conduct new clinical trials or require a new formulation of a product candidate for clinical testing;
- collaborators could independently develop, or develop with third parties, products that compete directly or indirectly with our product candidates;
- a collaborator with marketing and distribution rights to one or more products may not commit sufficient resources to their marketing and distribution;
- collaborators may not properly maintain or defend our intellectual property or proprietary rights or may use our intellectual property or proprietary information in a way that gives rise to actual or threatened litigation that could jeopardize or invalidate our intellectual property or proprietary information or expose us to potential liability;
- disputes may arise between us and a collaborator that cause the delay or termination of the research, development or commercialization of our product candidates, or that result in costly litigation or arbitration that diverts management attention and resources;

[Table of Contents](#)

- the number and type of our collaborations could adversely affect our attractiveness to future collaborators or acquirers;
- there may be conflicts between different collaborators that could negatively affect those collaborations and potentially others;
- collaborations may be terminated and, if terminated, may result in a need for additional capital to pursue further development or commercialization of the applicable product candidates; and
- collaborators may own or co-own intellectual property covering our product candidates that results from our collaborating with them, and in such cases, we would not have the exclusive right to commercialize such intellectual property.

As a result, if we enter into additional collaboration agreements and strategic partnerships or license our product candidates, we may not be able to realize the benefit of such transactions if we are unable to successfully integrate them with our existing operations and company culture, which could delay our timelines or otherwise adversely affect our business. We also cannot be certain that, following a strategic transaction or license, we will achieve the revenue or specific net income that justifies such transaction. Any delays in entering into new collaborations or strategic partnership agreements related to our product candidates could delay the development and commercialization of our product candidates in certain geographies for certain indications, which would harm our business prospects, financial condition and results of operations.

Our collaboration agreements may grant our collaborators exclusive rights under certain of our intellectual property, and may therefore preclude us from entering into collaborations with others relating to the same or similar compounds, therapeutic targets, indications or diseases. For example, our existing Collaboration and License Agreement with Novartis Institutes for Biomedical Research (Novartis) grants Novartis options to obtain exclusive, worldwide licenses to certain target antigens identified in performance of such agreement and corresponding T-cell receptors for such target antigens. In addition, our collaboration agreements may place restrictions or additional obligations on our ability to license additional compounds in different indications, targets, diseases or geographical locations. If we fail to comply with or breach any provision of a collaboration agreement, a collaborator may have the right to terminate, in whole or in part, such agreement or to seek damages. Many of our collaborators also have the right to terminate the collaboration agreement for convenience. For example, Novartis may terminate its Collaboration and License Agreement with us at any time for any or no reason upon 90 days' notice. If a collaboration agreement is terminated, in whole or in part, we may be unable to continue the development and commercialization of the applicable product candidates, and even if we are able to do so, such efforts may be delayed and result in additional costs. See "Business—License and Collaboration Agreements" for more information regarding our collaboration agreements.

We may in the future determine to partner with additional pharmaceutical and biotechnology companies for development and potential commercialization of therapeutic products. We face significant competition in seeking appropriate collaborators. Our ability to reach a definitive agreement for a collaboration will depend, among other things, upon our assessment of the collaborator's resources and expertise, the terms and conditions of the proposed collaboration and the proposed collaborator's evaluation of a number of factors. If we elect to fund and undertake development or commercialization activities on our own, we may need to obtain additional expertise and additional capital, which may not be available to us on acceptable terms or at all. If we fail to enter into collaborations and do not have sufficient funds or expertise to undertake the necessary development and commercialization activities, we may not be able to further develop our product candidates or bring them to market or continue to develop our discovery platform and our business, prospects, financial condition and results of operations may be materially and adversely affected.

In the future, we may rely on the use of manufacturing suites in third party GMP facilities or third parties to manufacture our product candidates. Our business could be harmed if we are unable to use third party manufacturing suites or if the third party manufacturers fail to provide us with sufficient quantities of our product candidates or fail to do so at acceptable quality levels, prices, or timing.

We are in the process of adding manufacturing capacity at our facilities in Waltham, which we expect to be operational in the second fiscal quarter of 2021, but the build-out and staffing of the manufacturing suite may be delayed and the suite may never become operational. We have not yet caused our product candidates to be manufactured or processed on a commercial scale and may not be able to do so for any of our product candidates.

We expect to use third parties as part of our manufacturing process for registrational trials for our current pipeline, and we may also use them for product candidates in the future. Our anticipated reliance on a limited number of third party manufacturers exposes us to the following risks:

- we may be unable to identify manufacturers on acceptable terms or at all because the number of potential manufacturers is limited and the FDA must inspect any manufacturers for current cGMP and cGTP compliance as part of our marketing application;
- a new manufacturer would have to be educated in, or develop substantially equivalent processes for, the production of our product candidates;
- our manufacturers may have little or no experience with autologous cell products, which are products made from a patient's own cells, and therefore may require a significant amount of support from us in order to implement and maintain the infrastructure and processes required to manufacture our product candidates;
- our third party manufacturers might be unable to timely manufacture our product candidates or produce the quantity and quality required to meet our clinical and commercial needs, if any;
- our third party suppliers or collaborators from whom we receive our antibodies used in combination with our product candidates may be unable to timely manufacture or provide the applicable antibody or produce the quantity and quality required to meet our clinical and commercial needs;
- contract manufacturers may not be able to execute our manufacturing procedures and other logistical support requirements appropriately;
- our future contract manufacturers may not perform as agreed, may not devote sufficient resources to our product candidates or may not remain in the contract manufacturing business for the time required to supply our clinical trials or to successfully produce, store, and distribute our product, if any;
- manufacturers are subject to ongoing periodic unannounced inspection by the FDA and corresponding state agencies to ensure strict compliance with cGMP, cGTP and other government regulations and corresponding foreign standards. We do not have control over third party manufacturers' compliance with these regulations and standards;
- we may not own, or may have to share, the intellectual property rights to any improvements made by our third party manufacturers in the manufacturing process for our product candidates;
- our third party manufacturers could breach or terminate their agreements with us;
- raw materials and components used in the manufacturing process, particularly those for which we have no other source or supplier, may not be available or may not be suitable or acceptable for use due to material or component defects;
- our contract manufacturers and critical reagent suppliers may be subject to inclement weather, as well as natural or man-made disasters;
- our contract manufacturers may have unacceptable or inconsistent product quality success rates and yields, and we have no direct control over our contract manufacturers' ability to maintain adequate quality control, quality assurance and qualified personnel; and

[Table of Contents](#)

- our contract manufacturers may be adversely affected by the ongoing COVID-19 pandemic, the ongoing U.S.-China trade war, political unrest in countries where we or our partners operate, earthquakes and other natural or man-made disasters, equipment failures, labor shortages, power failures, and numerous other factors.

Each of these risks could delay or prevent the completion of our clinical trials or the approval of any of our product candidates by the FDA, result in higher costs or adversely impact commercialization of our product candidates. In addition, we will rely on third parties to perform certain specification tests on our product candidates prior to delivery to patients. If these tests are not appropriately done and test data are not reliable, patients could be put at risk of serious harm and the FDA could place significant restrictions on our company until deficiencies are remedied.

The manufacture of biological drug products is complex and requires significant expertise and capital investment, including the development of advanced manufacturing techniques and process controls. Manufacturers of biologic products often encounter difficulties in production, particularly in scaling up or out, validating the production process and assuring high reliability of the manufacturing process (including the absence of contamination). These problems include logistics and shipping, difficulties with production costs and yields, quality control, including stability of the product, intermediates, or raw materials, product testing, operator error and availability of qualified personnel, as well as compliance with strictly enforced federal, state and foreign regulations. Furthermore, if contaminants are discovered in our supply of our product candidates or in the manufacturing facilities, such manufacturing facilities may need to be closed for an extended period of time to investigate and remedy the contamination. We cannot provide assurance that any stability failures or other issues relating to the manufacture of our product candidates will not occur in the future.

We may fail to manage the logistics of collecting and shipping patient material to our manufacturing site (or that of any third party we engage) and shipping the product candidate back to the patient. Logistical and shipment delays and problems caused by us, our vendors or other factors not in our control, such as weather, could prevent or delay the delivery of product candidates to patients. Additionally, we have to maintain a complex chain of identity and chain of custody with respect to patient material as it moves to the manufacturing facility, through the manufacturing process and back to the patient. Failure to maintain chain of identity and chain of custody could result in patient death, loss of product or regulatory action.

Our product candidates rely on the availability of specialty materials, which may not be available to us on acceptable terms or at all.

Our product candidates require specialty materials, some of which are manufactured by small companies with limited resources and experience to support a commercial product. We do not have long-term contracts with many of these suppliers and may not be able to contract with them on acceptable terms or at all. In addition, a number of our suppliers normally support blood-based hospital businesses and generally do not have the capacity to support commercial products manufactured under cGMP by biopharmaceutical firms or may divert their resources towards hospitals rather than us. Our suppliers may be ill-equipped to support our needs, especially in non-routine circumstances like an FDA inspection or medical crisis, such as widespread contamination. We may experience delays in receiving key materials to support clinical or commercial manufacturing. For example, in 2020, we experienced significant delays in receiving shipments of materials utilized in our cell expansion process as a result of the distributor prioritizing distribution of such products for medical use, rather than product candidate development, and, subsequently, increased demand following the easing of state and federal workplace restrictions.

In addition, some of our raw materials are currently sourced from a single supplier, or a small number of suppliers. For example, the type of cell culture media and cryopreservation buffer that we currently use in our manufacturing process for TSC-100 and TSC-101 are each only sourced from a limited number of suppliers. In addition, the cell processing equipment and tubing that we use in our current manufacturing process is only

[Table of Contents](#)

sourced from a single supplier. We also use certain biologic materials, that are available from multiple suppliers, but each version may perform differently, requiring us to characterize them and potentially modify some of our protocols if we change suppliers. We cannot be sure that these suppliers will remain in business, or that they will not be purchased by one of our competitors or another company that is not interested in continuing to produce these materials for our intended purpose. Accordingly, if we no longer have access to these suppliers, we may experience delays in our clinical or commercial manufacturing which could harm our business or results of operations.

Our manufacturing process needs to comply with FDA regulations relating to the quality and reliability of such processes. Any failure to comply with relevant regulations could result in delays in or termination of our clinical programs and suspension or withdrawal of any regulatory approvals.

In order to commercially produce our product candidates either at our own facility or at a third party's facility, we will need to comply with the FDA's cGMP regulations and guidelines, including cGTPs. We may encounter difficulties in achieving quality control and quality assurance and may experience shortages in qualified personnel. We are subject to inspections by the FDA and comparable foreign regulatory authorities to confirm compliance with applicable regulatory requirements. Any failure to follow cGMP, cGTP or other regulatory requirements or delay, interruption or other issues that arise in the manufacture, fill-finish, packaging, or storage of our TCR-T therapy candidates as a result of a failure of our facilities or the facilities or operations of third parties to comply with regulatory requirements or pass any regulatory authority inspection could significantly impair our ability to develop and commercialize our TCR-T programs, including leading to significant delays in the availability of our TCR-T therapy candidates for our clinical trials or the termination of or suspension of a clinical trial, or the delay or prevention of a filing or approval of marketing applications for our Product candidates. Significant non-compliance could also result in the imposition of sanctions, including warning or untitled letters, fines, injunctions, civil penalties, failure of regulatory authorities to grant marketing approvals for our Product candidates, delays, suspension or withdrawal of approvals, license revocation, seizures or recalls of products, operating restrictions and criminal prosecutions, any of which could damage our reputation and our business.

If our third party manufacturers use hazardous and biological materials in a manner that causes injury or violates applicable law, we may be liable for damages.

Our research and development activities involve the controlled use of potentially hazardous substances, including chemical and biological materials, by our third party manufacturers. Our manufacturing is (and any third party manufacturers we engage are) subject to federal, state and local laws and regulations in the United States governing the use, manufacture, storage, handling and disposal of medical and hazardous materials. Although we believe that our manufacturers' procedures for using, handling, storing and disposing of these materials comply with legally prescribed standards, we cannot completely eliminate the risk of contamination or injury resulting from medical or hazardous materials. As a result of any such contamination or injury, we may incur liability or local, city, state or federal authorities may curtail the use of these materials and interrupt our business operations. In the event of an accident, we could be held liable for damages or penalized with fines, and the liability could exceed our resources. We do not have any insurance for liabilities arising from medical or hazardous materials. Compliance with applicable environmental laws and regulations is expensive, and current or future environmental regulations may impair our research, development and production efforts, which could harm our business, prospects, financial condition or results of operations.

Risks Related to Employee Matters and Managing Growth

We are highly dependent on our key personnel, and if we are not successful in attracting and retaining highly qualified personnel, we may not be able to successfully implement our business strategy.

Our ability to compete in the highly competitive biotechnology and pharmaceutical industries depends upon our ability to attract and retain highly qualified managerial, scientific and medical personnel. We are highly

[Table of Contents](#)

dependent on our management, scientific and medical personnel, including our Chief Executive Officer, our Chief Business Officer, and our Chief Scientific Officer. The loss of the services of any of our executive officers, other key employees and other scientific and medical advisors, and an inability to find suitable replacements could result in delays in product development and harm our business.

We conduct our operations at our facility in Waltham, Massachusetts. This region is headquarters to many other biopharmaceutical companies and many academic and research institutions. Competition for skilled personnel in our market is intense and may limit our ability to hire and retain highly qualified personnel on acceptable terms or at all. Changes to U.S. immigration and work authorization laws and regulations, including those that restrain the flow of scientific and professional talent, can be significantly affected by political forces and levels of economic activity. Our business may be materially adversely affected if legislative or administrative changes to immigration or visa laws and regulations impair our hiring processes and goals or projects involving personnel who are not U.S. citizens.

To encourage valuable employees to remain at our company, in addition to salary and cash incentives, we have provided stock options that vest over time. The value to employees of stock options that vest over time may be significantly affected by movements in our stock price that are beyond our control, and may at any time be insufficient to counteract more lucrative offers from other companies. Despite our efforts to retain valuable employees, members of our management, scientific and development teams may terminate their employment with us on short notice. Although we have employment agreements with our key employees, these employment agreements provide for at-will employment, which means that any of our employees could leave our employment at any time, with or without notice. Our success also depends on our ability to continue to attract, retain and motivate highly skilled junior, mid-level and senior managers as well as junior, mid-level and senior scientific and medical personnel.

We will need to grow the size of our organization, and we may experience difficulties in managing this growth.

As of December 31, 2020, we had 57 full-time employees and 1 part-time employee. As our development and commercialization plans and strategies develop, and as we transition into operating as a public company, we expect to need additional managerial, operational, sales, marketing, financial and other personnel, as well as additional facilities to expand our operations. Future growth would impose significant added responsibilities on members of management, including:

- identifying, recruiting, integrating, maintaining and motivating additional employees;
- managing our internal development efforts effectively, including the clinical and FDA review process for our product candidates, while complying with our contractual obligations to contractors and other third parties; and
- improving our operational, financial and management controls, reporting systems and procedures.

Our future financial performance and our ability to commercialize our product candidates will depend, in part, on our ability to effectively manage any future growth, and our management may also have to divert a disproportionate amount of its attention away from day-to-day activities in order to devote a substantial amount of time to managing these growth activities.

We currently rely, and for the foreseeable future will continue to rely, in substantial part on certain independent organizations, advisors and consultants to provide certain services, including substantially all aspects of regulatory approval, and clinical trial management. There can be no assurance that the services of independent organizations, advisors and consultants will continue to be available to us on a timely basis when needed, or that we can find qualified replacements. In addition, if we are unable to effectively manage our outsourced activities or if the quality or accuracy of the services provided by consultants is compromised for any reason, our clinical trials may be extended, delayed or terminated, and we may not be able to obtain regulatory

approval of our product candidates or otherwise advance our business. There can be no assurance that we will be able to manage our existing consultants or find other competent outside contractors and consultants on economically reasonable terms, or at all.

If we are not able to effectively expand our organization by hiring new employees and expanding our groups of consultants and contractors, or we are not able to effectively build out new facilities to accommodate this expansion, we may not be able to successfully implement the tasks necessary to further develop and commercialize our product candidates and, accordingly, may not achieve our research, development and commercialization goals.

Business disruptions could seriously harm our future revenue and financial condition and increase our costs and expenses.

Our operations, and those of our CROs, CMOs and other contractors and consultants, could be subject to earthquakes, power shortages, telecommunications failures, water shortages, floods, hurricanes, typhoons, fires, extreme weather conditions, medical epidemics and other natural or man-made disasters or business interruptions, for which we are predominantly self-insured. The occurrence of any of these business disruptions could seriously harm our operations and financial condition and increase our costs and expenses. Our ability to obtain clinical supplies of our product candidates could be disrupted if the operations of these suppliers are affected by a man-made or natural disaster or other business interruption.

If product liability lawsuits are brought against us, we may incur substantial liabilities and may be required to limit commercialization of our product candidates.

We face an inherent risk of product liability as a result of the planned clinical testing of our product candidates and will face an even greater risk if we commercialize any products. For example, we may be sued if our product candidates cause or are perceived to cause injury or are found to be otherwise unsuitable during clinical testing, manufacturing, marketing or sale. Any such product liability claims may include allegations of defects in manufacturing, defects in design, a failure to warn of dangers inherent in the product, negligence, strict liability or a breach of warranties. Claims could also be asserted under state consumer protection acts. If we cannot successfully defend ourselves against product liability claims, we may incur substantial liabilities or be required to limit commercialization of our product candidates. Even successful defense would require significant financial and management resources. Regardless of the merits or eventual outcome, liability claims may result in:

- decreased demand for our product candidates or products that we may develop;
- injury to our reputation;
- withdrawal of clinical trial participants;
- initiation of investigations by regulators;
- costs to defend the related litigation;
- a diversion of management's time and our resources;
- substantial monetary awards to trial participants or patients;
- product recalls, withdrawals or labeling, marketing or promotional restrictions;
- loss of revenue;
- exhaustion of any available insurance and our capital resources;
- the inability to commercialize any product candidate; and
- a decline in our share price.

Failure to obtain or retain sufficient product liability insurance at an acceptable cost to protect against potential product liability claims could prevent or inhibit the commercialization of products we develop, alone or

with corporate collaborators. Although we have clinical trial insurance, our insurance policies also have various exclusions, and we may be subject to a product liability claim for which we have no coverage. We may have to pay any amounts awarded by a court or negotiated in a settlement that exceed our coverage limitations or that are not covered by our insurance, and we may not have, or be able to obtain, sufficient capital to pay such amounts. Even if our agreements with any future corporate collaborators entitle us to indemnification against losses, such indemnification may not be available or adequate should any claim arise.

U.S. federal income tax reform could adversely affect us.

On December 22, 2017, the United States enacted the “Tax Cuts and Jobs Act”, or TCJA, that significantly reformed the Code. The TCJA, among other things, contained significant changes to corporate taxation, including a reduction of the corporate tax rate from a top marginal rate of 35% to a flat rate of 21%, the limitation of the tax deduction for net interest expense to 30% of adjusted earnings (except for certain small businesses), the limitation of the deduction for net operating loss carryforwards (NOLs) arising in taxable years beginning after December 31, 2017 to 80% of current year taxable income and elimination of NOL carrybacks for losses arising in taxable years ending after December 31, 2017 (though any such NOLs may be carried forward indefinitely), the imposition of a one-time taxation of offshore earnings at reduced rates regardless of whether they are repatriated, the elimination of U.S. tax on foreign earnings (subject to certain important exceptions), the allowance of immediate deductions for certain new investments instead of deductions for depreciation expense over time, and the modification or repeal of many business deductions and credits. The financial statements contained herein reflect the effects of the TCJA based on current guidance. However, there remain uncertainties and ambiguities in the application of certain provisions of the TCJA, and, as a result, we made certain judgments and assumptions in the interpretation thereof.

As part of Congress’s response to the COVID-19 pandemic, the Families First Coronavirus Response Act (FFCR Act) was enacted on March 18, 2020, and the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) was enacted on March 27, 2020. Both contain numerous tax provisions. In particular, the CARES Act retroactively and temporarily (for taxable years beginning before January 1, 2021) suspends application of the 80%-of-income limitation on the use of NOLs, which was enacted as part of the TCJA. It also provides that NOLs arising in any taxable year beginning after December 31, 2017 and before January 1, 2021 are generally eligible to be carried back up to five years. The CARES Act also temporarily (for taxable years beginning in 2019 or 2020) relaxes the limitation of the tax deductibility for net interest expense by increasing the limitation from 30% to 50% of adjusted taxable income.

Regulatory guidance under the TCJA, the FFCR Act and the CARES Act is and continues to be forthcoming and such guidance could ultimately increase or lessen impact of these laws on our business and financial condition. It is also likely that Congress will enact additional tax legislation in connection with the COVID-19 pandemic, some of which could have an impact on our company. In addition, it is uncertain if and to what extent various states will conform to the TCJA, the FFCR Act or the CARES Act.

Our ability to utilize our net operating loss carryforwards and certain other tax attributes may be limited.

Under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended, if a corporation undergoes an “ownership change” (generally defined as a greater than 50% change (by value) in its equity ownership over a three-year period), the corporation’s ability to use its pre-change net operating loss carryforwards and other pre-change tax attributes to offset its post-change taxable income may be limited. As a result of our most recent private placements and other transactions that have occurred over the past three years, we may have experienced, and, upon closing of this offering, may experience, an “ownership change.” We may also experience ownership changes in the future as a result of subsequent shifts in our stock ownership. As of December 31, 2020, we had U.S. federal net operating loss carryforwards of \$17.6 million and U.S. federal research and development tax credit carryforwards of \$1.5 million that expire through 2040 and which could be limited if we experience an “ownership change.” The reduction of the corporate tax rate under the TCJA may cause a reduction in the

[Table of Contents](#)

economic benefit of our net operating loss carryforwards and other deferred tax assets available to us. Under the TCJA, federal net operating losses generated after December 31, 2017 will not be subject to expiration.

Risks Related to our Common Stock and to this Offering

There has been no prior public market for our common stock, the stock price of our common stock may be volatile or may decline regardless of our operating performance and stockholders may not be able to resell their shares at or above the initial public offering price.

There has been no public market for our common stock prior to this offering. The initial public offering price for our common stock will be determined through negotiations between the underwriters and us and may vary from the market price of our common stock following this offering. If a purchaser of shares of our common stock in this offering, may not be able to resell those shares at or above the initial public offering price. An active or liquid market in our common stock may not develop upon the completion of this offering or, if it does develop, it may not be sustainable. The market price of our common stock may fluctuate significantly in response to numerous factors, many of which are beyond our control, including:

- overall performance of the equity markets;
- our operating performance and the performance of other similar companies;
- results from our ongoing clinical trials and future clinical trials with our current and future product candidates or of our competitors;
- delays in the commencement, enrollment and the ultimate completion of clinical trials;
- changes in our projected operating results that we provide to the public, our failure to meet these projections or changes in recommendations by securities analysts that elect to follow our common stock;
- regulatory actions with respect to our product candidates;
- regulatory or legal developments in the United States and other countries;
- the level of expenses related to future product candidates or clinical development programs;
- our failure to achieve product development or commercialization goals or regulatory approval milestones in the timeframe we announce;
- changes in hospital or ECP practices;
- announcements of acquisitions, strategic alliances or significant agreements by us or by our competitors;
- developments or disputes concerning intellectual property or proprietary rights;
- our ability to obtain, maintain, protect and enforce our intellectual property and proprietary rights;
- recruitment or departure of key personnel;
- the economy as a whole and market conditions in our industry, including conditions resulting from COVID-19;
- variations in our financial results or the financial results of companies that are perceived to be similar to us;
- financing or other corporate transactions, or inability to obtain additional funding;
- trading activity by a limited number of stockholders who together beneficially own a majority of our outstanding common stock;
- the expiration of market standoff or contractual lock-up agreements;

Table of Contents

- the size of our market float; and
- any other factors discussed in this prospectus.

In addition, the stock markets have experienced extreme price and volume fluctuations that have affected and continue to affect the market prices of equity securities of many biopharmaceutical companies. Stock prices of many biopharmaceutical companies have fluctuated in a manner unrelated or disproportionate to the operating performance of those companies. In the past, stockholders have filed securities class action litigation following periods of market volatility. If we were to become involved in securities litigation, it could subject us to substantial costs, divert resources and the attention of management from our business and adversely affect our business.

If securities or industry analysts do not publish research or publish inaccurate or unfavorable research about our business, our stock price and trading volume could decline.

The trading market for our common stock will depend in part on the research and reports that securities or industry analysts publish about us or our business. Securities and industry analysts do not currently, and may never, publish research on our company. If no or only very few securities analysts commence coverage of us, or if industry analysts cease coverage of us, the trading price for our common stock would be negatively affected. If one or more of the analysts who cover us downgrade our common stock or publish inaccurate or unfavorable research about our business, our common stock price would likely decline. If one or more of these analysts cease coverage of us or fail to publish reports on us regularly, demand for our common stock could decrease, which might cause our common stock price and trading volume to decline.

Purchasers of shares of our common stock in this offering will experience substantial and immediate dilution.

Purchasers of shares of our common stock in this offering will experience substantial and immediate dilution in the pro forma net tangible book value per share after giving effect to this offering of \$ _____ per share as of December 31, 2020, based on an assumed initial public offering price of our common stock of \$ _____ per share, the midpoint of the price range on the cover page of this prospectus, because the price that a purchaser pays will be substantially greater than the pro forma net tangible book value per share of the common stock that the purchaser acquires. This dilution is due in large part to the fact that our earlier investors paid substantially less than the initial public offering price when they purchased their shares of our capital stock. Purchasers in this offering will experience additional dilution upon exercise of options to purchase common stock under our equity incentive plans, upon vesting of options to purchase common stock under our equity incentive plans, if we issue restricted stock to our employees under our equity incentive plans or if we otherwise issue additional shares of our common stock.

Substantial amounts of our outstanding shares may be sold into the market when lock-up periods end. If there are substantial sales of shares of our common stock, the price of our common stock could decline.

The price of our common stock could decline if there are substantial sales of our common stock, particularly sales by our directors, executive officers and significant stockholders, or if there is a large number of shares of our common stock available for sale and the market perceives that sales will occur. After this offering, we will have _____ outstanding shares of our common stock (including _____ shares of non-voting common stock), based on the number of shares outstanding as of March 31, 2021. All of the shares of common stock sold in this offering will be available for sale in the public market, unless purchased by our affiliates or existing stockholders. Substantially all of our outstanding shares of common stock are currently restricted from resale as a result of “lock-up” agreements (which may be waived by Morgan Stanley & Co. LLC, Jefferies LLC, Cowen and Company, LLC, and Barclays Capital Inc. with or without notice), as more fully described in “Shares Eligible for Future Sale.” These shares will become available to be sold 181 days after the date of this prospectus. Shares held by directors, executive officers and other affiliates will be subject to volume limitations under Rule 144 under the Securities Act of 1933, as amended, or the Securities Act, and various vesting agreements.

[Table of Contents](#)

After our initial public offering, certain of our stockholders will have rights, subject to some conditions and subject to the lock-up agreements described above, to require us to file registration statements covering their shares or to include their shares in registration statements that we may file for ourselves or our stockholders, subject to lockup agreements. We also intend to register shares of common stock that we have issued and may issue under our employee equity incentive plans. Once we register these shares, they will be able to be sold freely in the public market upon issuance, subject to existing market standoff or lock-up agreements (including the lock-up agreements described above).

The market price of the shares of our common stock could decline as a result of the sale of a substantial number of our shares of common stock in the public market or the perception in the market that the holders of a large number of shares intend to sell their shares.

The concentration of our stock ownership will likely limit our stockholders' ability to influence corporate matters, including the ability to influence the outcome of director elections and other matters requiring stockholder approval.

Prior to this offering our executive officers, directors, and 5% or greater stockholders beneficially owned, in the aggregate, approximately 72.5% of our outstanding voting stock as of March 31, 2021, and, upon the closing of this offering, assuming that same group will beneficially own approximately % of our outstanding voting stock (assuming no purchases of shares in this offering by any members of this group (including through our directed share program), no exercise by the underwriters of their option to purchase additional shares, no exercise of outstanding options or warrants and after giving effect to the issuance of shares in this offering, and further assuming that all shares of non-voting common stock are converted into voting common stock in accordance with the terms of our amended and restated certificate of incorporation). See "Description of capital stock—Common Stock and Non-Voting Common Stock". As a result, these stockholders, acting together, will have significant influence over all matters that require approval by our stockholders, including the election of directors and approval of significant corporate transactions. Corporate actions might be taken even if other stockholders, including those who purchase shares in this offering, oppose them. This concentration of ownership might also have the effect of delaying or preventing a change of control of our company that other stockholders may view as beneficial.

In addition, we entered into a nominating agreement with Baker Brothers Life Sciences, L.P. and 667, L.P. (collectively, the BBA Funds which was subsequently amended and restated on April 22, 2021), pursuant to which, among other things, we agreed to support the nomination of, and cause our board of directors (or the nominating committee thereof) to include in the slate of nominees recommended to our stockholders for election as directors at each annual or special meeting of our stockholders at which directors are to be elected, one person designated from time to time by the BBA Funds, subject to the requirements of fiduciary duties under applicable law and the terms and conditions of such nominating agreement. The agreement only applies during the period beginning at the closing of our initial public offering and for the three years thereafter, as long as (1) the BBA Funds and their affiliates, collectively, beneficially own at least 75% of the Series C convertible preferred stock purchased by the BBA Funds in such Series C convertible preferred stock financing, or such number of shares of our common stock issued upon conversion of such number of shares of Series C convertible preferred stock (in either case, as adjusted for any stock split, stock dividend, combination, or other recapitalization or reclassification or similar transaction), and (2) the BBA Funds and their affiliates, collectively, beneficially own at least 2% of our then outstanding voting common stock. For more information regarding this nominating agreement, see the section entitled "Management—Board composition." This concentration of ownership may prevent or discourage unsolicited acquisition proposals or offers for our common stock that you or other stockholders may feel are in your or their best interest as one of our stockholders.

We are an “emerging growth company” and a “smaller reporting company,” and we cannot be certain if the reduced reporting requirements applicable to emerging growth companies and smaller reporting companies will make our common stock less attractive to investors.

We are an “emerging growth company” as defined in the JOBS Act and we intend to take advantage of some of the exemptions from reporting requirements that are applicable to other public companies that are not emerging growth companies, including:

- the option to present only two years of audited financial statements, in addition to any required unaudited interim financial statements, with correspondingly reduced “Management’s Discussion and Analysis of Financial Condition and Results of Operations” disclosure;
- not being required to comply with the auditor attestation requirements of Section 404(b) of the Sarbanes Oxley Act;
- not being required to comply with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor’s report providing additional information about the audit and the financial statements;
- not being required to disclose certain executive compensation-related items such as the correlation between executive compensation and performance and comparisons of the chief executive officer’s compensation to median employee compensation; and
- not being required to submit certain executive compensation matters to stockholder advisory votes, such as “say-on-pay,” “say-on-frequency,” and “say-on-golden parachutes.”

The JOBS Act permits an “emerging growth company” such as us to take advantage of an extended transition period to comply with new or revised accounting standards applicable to public companies. We have elected to take advantage of this extended transition period.

We cannot predict if investors will find our common stock less attractive because we will rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile. We may take advantage of these reporting exemptions until we are no longer an emerging growth company. We will remain an emerging growth company until the earlier of (1) the last day of the fiscal year (a) following the fifth anniversary of the completion of this offering, (b) in which we have total annual gross revenue of at least \$1.07 billion or (c) in which we are deemed to be a large accelerated filer, which means the market value of our common stock that is held by non-affiliates exceeds \$700 million as of the prior June 30th and (2) the date on which we have issued more than \$1.0 billion in non-convertible debt during the prior three-year period.

Even after we no longer qualify as an emerging growth company, we may still qualify as a “smaller reporting company,” which would allow us to continue to take advantage of many of the same exemptions from disclosure requirements, including not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act and reduced disclosure obligations regarding executive compensation in this prospectus and our periodic reports and proxy statements. We cannot predict if investors will find our common stock less attractive because we may rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile.

Requirements associated with being a public company will increase our costs significantly, as well as divert significant company resources and management attention.

After the completion of this offering, we will be subject to the reporting requirements of the Securities Exchange Act of 1934, as amended, or the Exchange Act, or the other rules and regulations of the Securities and Exchange Commission, or the SEC, or any securities exchange relating to public companies. Compliance with the various reporting and other requirements applicable to public companies requires considerable time and attention of

[Table of Contents](#)

management and we will incur significant legal, accounting and other expenses that we did not incur as a private company. We cannot provide assurance that we will satisfy our obligations as a public company on a timely basis.

In addition, as a public company, it may be more difficult or more costly for us to obtain certain types of insurance, including directors' and officers' liability insurance, and we may be forced to accept reduced policy limits and coverage or incur substantially higher costs to obtain the same or similar coverage. The impact of these events could also make it more difficult for us to attract and retain qualified personnel to serve on our board of directors, our board committees or as executive officers.

If we fail to maintain proper and effective internal controls, our ability to produce accurate and timely financial statements could be impaired, which could result in sanctions or other penalties that would harm our business.

After the completion of this offering, we will be subject to the reporting requirements of the Exchange Act, the Sarbanes-Oxley Act and the rules and regulations of the Nasdaq Global Market, or Nasdaq. The Sarbanes Oxley Act requires, among other things, that we maintain effective disclosure controls and procedures and internal controls over financial reporting. Commencing with our fiscal year ending the year after this offering is completed, we must perform system and process design evaluation and testing of the effectiveness of our internal controls over financial reporting to allow management to report on the effectiveness of our internal controls over financial reporting in our Form 10-K filing for that year, as required by Section 404 of the Sarbanes-Oxley Act. To achieve compliance with Section 404 within the prescribed period, we will be engaged in a process to document and evaluate our internal control over financial reporting, which is both costly and challenging. In this regard, we will need to continue to dedicate internal resources, including through hiring additional financial and accounting personnel, potentially engage outside consultants and adopt a detailed work plan to assess and document the adequacy of internal control over financial reporting, continue steps to improve control processes as appropriate, validate through testing that controls are functioning as documented and implement a continuous reporting and improvement process for internal control over financial reporting. This will require that we incur substantial additional professional fees and internal costs to expand our accounting and finance functions and that we expend significant management efforts. Prior to this offering, we have never been required to test our internal controls within a specified period and, as a result, we may experience difficulty in meeting these reporting requirements in a timely manner.

We may discover weaknesses in our system of internal financial and accounting controls and procedures that could result in a material misstatement of our financial statements. Our internal control over financial reporting will not prevent or detect all errors and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud will be detected.

If we are not able to comply with the requirements of Section 404 of the Sarbanes-Oxley Act in a timely manner, or if we are unable to maintain proper and effective internal controls over financial reporting, we may not be able to produce timely and accurate financial statements. If that were to happen, our investors could lose confidence in our reported financial information, the market price of our stock could decline and we could be subject to sanctions or investigations by the SEC or other regulatory authorities including equivalent foreign authorities.

We will have broad discretion in the use of the net proceeds from this offering and may not use them effectively.

We cannot specify with any certainty the particular uses of the net proceeds that we will receive from this offering, but we currently expect such uses will include conducting clinical trials for TSC-100, TSC-101, and TSC-102, conducting IND-enabling activities and initiate clinical trials for TSC-200, TSC-201, TSC-202, and TSC-203,

[Table of Contents](#)

continuing development of our pre-clinical discovery programs and platform technologies, expanding our manufacturing facility, and other general corporate purposes, which may include the hiring of additional personnel, capital expenditures and the costs of operating as a public company. We will have broad discretion in the application of the net proceeds, including working capital and other general corporate purposes, and purchasers in this offering and other stockholders may disagree with how we spend or invest these proceeds. The failure by our management to apply these funds effectively could adversely affect our business and financial condition. Pending their use, we may invest the net proceeds from our initial public offering in a manner that does not produce income or that loses value. These investments may not yield a favorable return to our investors.

We do not intend to pay dividends for the foreseeable future.

We have never declared nor paid cash dividends on our capital stock. We currently intend to retain any future earnings to finance the operation and expansion of our business, and we do not expect to declare or pay any dividends in the foreseeable future. Consequently, stockholders must rely on sales of their common stock after price appreciation, which may never occur, as the only way to realize any future gains on their investment.

We could be subject to securities class action litigation.

In the past, securities class action litigation has often been brought against a company following a decline in the market price of its securities. This risk is especially relevant for us because biopharmaceutical companies have experienced significant stock price volatility in recent years. If we face such litigation, it could result in substantial costs and a diversion of management's attention and resources, which could harm our business.

Our operating results may fluctuate significantly, which makes our future operating results difficult to predict and could cause our operating results to fall below expectations or our guidance.

Our quarterly and annual operating results may fluctuate significantly in the future, which makes it difficult for us to predict our future operating results. Our operating results may fluctuate due to a variety of factors, many of which are outside of our control and may be difficult to predict, including the following:

- the timing and success or failure of clinical trials for our product candidates or competing product candidates, including the nature of the data obtained from such clinical trials, or any other change in the competitive landscape of our industry, including consolidation among our competitors or partners;
- our ability to successfully recruit patients for preclinical studies and clinical trials, and any delays caused by difficulties in such recruitment efforts;
- our ability to obtain regulatory approval for our product candidates, and the timing and scope of any such approvals we may receive;
- the timing and cost of, and level of investment in, research and development activities relating to our product candidates, which may change from time to time;
- the cost of manufacturing our product candidates, which may vary depending on the quantity of production and the terms of our agreements with manufacturers;
- our ability to attract, hire and retain qualified personnel;
- expenditures that we will or may incur to develop additional product candidates;
- the level of demand for our product candidates should they receive approval, which may vary significantly;
- the risk/benefit profile, cost and reimbursement policies with respect to our product candidates, if approved, and existing and potential future drugs that compete with our product candidates;
- the changing and volatile U.S., European and global economic environments, including impact of COVID-19; and
- future accounting pronouncements or changes in our accounting policies.

[Table of Contents](#)

The cumulative effects of these factors could result in large fluctuations and unpredictability in our quarterly and annual operating results. As a result, comparing our operating results on a period-to-period basis may not be meaningful. This variability and unpredictability could also result in our failing to meet the expectations of industry or financial analysts or investors for any period. If our revenue or operating results fall below the expectations of analysts or investors or below any forecasts we may provide to the market, or if the forecasts we provide to the market are below the expectations of analysts or investors, the price of our common stock could decline substantially. Such a stock price decline could occur even when we have met any previously publicly stated guidance we may provide.

Delaware law and provisions in our amended and restated certificate of incorporation and amended and restated bylaws that will be in effect at the completion of this offering could make a merger, tender offer or proxy contest difficult, thereby depressing the trading price of our common stock.

Following the completion of this offering, our status as a Delaware corporation and the anti-takeover provisions of the Delaware General Corporation Law may discourage, delay or prevent a change in control by prohibiting us from engaging in a business combination with an interested stockholder for a period of three years after the person becomes an interested stockholder, even if a change of control would be beneficial to our existing stockholders. In addition, our amended and restated certificate of incorporation and amended and restated bylaws that will be in effect at the completion of this offering will contain provisions that may make the acquisition of our company more difficult, including the following:

- a classified board of directors with three-year staggered terms, which could delay the ability of stockholders to change the membership of a majority of our board of directors;
- the ability of our board of directors to issue shares of preferred stock and to determine the price and other terms of those shares, including preferences and voting rights, without stockholder approval, which could be used to significantly dilute the ownership of a hostile acquiror;
- the exclusive right of our board of directors to elect a director to fill a vacancy created by the expansion of our board of directors or the resignation, death or removal of a director, which prevents stockholders from being able to fill vacancies on our board of directors;
- a prohibition on stockholder action by written consent, which forces stockholder action to be taken at an annual or special meeting of our stockholders;
- the requirement that a special meeting of stockholders may be called only by a majority vote of our entire board of directors, the chairman of our board of directors or our chief executive officer, which could delay the ability of our stockholders to force consideration of a proposal or to take action, including the removal of directors;
- the requirement for the affirmative vote of holders of at least 66 2/3% of the voting power of all of the then-outstanding shares of the voting stock, voting together as a single class, to amend the provisions of our amended and restated certificate of incorporation or our amended and restated bylaws, which may inhibit the ability of an acquiror to effect such amendments to facilitate an unsolicited takeover attempt; and
- advance notice procedures with which stockholders must comply to nominate candidates to our board of directors or to propose matters to be acted upon at a stockholders' meeting, which may discourage or deter a potential acquiror from conducting a solicitation of proxies to elect the acquiror's own slate of directors or otherwise attempting to obtain control of us.

In addition, as a Delaware corporation, we are subject to Section 203 of the Delaware General Corporation Law. These provisions may prohibit large stockholders, in particular those owning 15% or more of our outstanding voting stock, from merging or combining with us for a certain period of time. A Delaware corporation may opt out of this provision by express provision in its original certificate of incorporation or by amendment to its certificate of incorporation or bylaws approved by its stockholders. However, we have not opted out of this provision.

[Table of Contents](#)

These and other provisions in our amended and restated certificate of incorporation, amended and restated bylaws and Delaware law could make it more difficult for stockholders or potential acquirors to obtain control of our board of directors or initiate actions that are opposed by our then-current board of directors, including delay or impede a merger, tender offer or proxy contest involving our company. The existence of these provisions could negatively affect the price of our common stock and limit opportunities for stockholders to realize value in a corporate transaction.

For information regarding these and other provisions, see the section titled “Description of capital stock.”

Our amended and restated certificate of incorporation provides that the Court of Chancery of the State of Delaware and the federal district courts of the United States will be the exclusive forum for substantially all disputes between us and our stockholders, which could limit our stockholders’ ability to obtain a favorable judicial forum for disputes with us or our directors, officers or employees.

Our amended and restated certificate of incorporation will provide that the Court of Chancery of the State of Delaware is the exclusive forum for any derivative action or proceeding brought on our behalf, any action asserting a breach of fiduciary duty, any action asserting a claim against us arising pursuant to the Delaware General Corporation Law, our certificate of incorporation or our bylaws or any action asserting a claim against us that is governed by the internal affairs doctrine. This provision would not apply to claims brought to enforce a duty or liability created by the Exchange Act, the Securities Act or any other claim for which the federal courts have exclusive jurisdiction. Our amended and restated certificate of incorporation provides further that the federal district courts of the United States will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Exchange Act and the Securities Act, including claims arising from this offering. These choices of forum provisions may limit a stockholder’s ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers or other employees and may discourage these types of lawsuits. Furthermore, the enforceability of similar choice of forum provisions in other companies’ certificates of incorporation has been challenged in legal proceedings, and it is possible that a court could find these types of provisions to be inapplicable or unenforceable. While the Delaware courts have determined that such choice of forum provisions are facially valid, a stockholder may nevertheless seek to bring a claim in a venue other than those designated in the exclusive-forum provisions, and there can be no assurance that such provisions will be enforced by a court in those other jurisdictions. If a court were to find the exclusive-forum provision contained in our amended and restated certificate of incorporation to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could harm our business.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements that involve substantial risks and uncertainties. All statements other than statements of historical facts contained in this prospectus, including statements regarding our future results of operations and financial position, future revenue, business strategy, prospects, product candidates, planned preclinical studies and clinical trials, results of clinical trials, research and development costs, regulatory approvals, timing and likelihood of success, as well as plans and objectives of management for future operations, are forward-looking statements. These statements involve known and unknown risks, uncertainties and other important factors that are in some cases beyond our control and may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements.

The words “may,” “will,” “should,” “would,” “expect,” “plan,” “anticipate,” “could,” “intend,” “target,” “project,” “contemplate,” “believe,” “estimate,” “predict,” “potential” or “continue” or the negative of these terms or other similar expressions are intended to identify forward looking statements. Forward-looking statements contained in this prospectus include, but are not limited to, statements about:

- the beneficial characteristics, safety, efficacy, therapeutic effects and potential advantages of our TCR-T therapy candidates;
- our expectations regarding our preclinical studies being predictive of clinical trial results;
- the timing of the initiation, progress and expected results of our preclinical studies, clinical trials and our research and development programs;
- our plans relating to developing and commercializing our TCR-T therapy candidates, if approved, including sales strategy;
- estimates of the size of the addressable market for our TCR-T therapy candidates;
- our manufacturing capabilities and the scalable nature of our manufacturing process;
- our estimates regarding expenses, future milestone payments and revenue, capital requirements and needs for additional financing;
- our expectations regarding competition;
- our anticipated growth strategies;
- our ability to attract or retain key personnel;
- our ability to establish and maintain development partnerships and collaborations;
- our expectations regarding federal, state and foreign regulatory requirements;
- regulatory developments in the United States and foreign countries;
- our ability to obtain and maintain intellectual property protection for our proprietary platform technology and our product candidates;
- the anticipated trends and challenges in our business and the market in which we operate;
- the sufficiency of our existing capital resources to fund our future operating expenses and capital expenditure requirements;
- the effect of the COVID-19 pandemic, including mitigation efforts and political, economic, legal and social effects, on any of the foregoing or other aspects of our business or operations; and
- our anticipated use of our existing resources and the proceeds from this offering and our ability to obtain additional financing in the future.

These forward-looking statements are subject to a number of risks, uncertainties and assumptions, including those described in the section titled “Risk factors” elsewhere in this prospectus. Moreover, we operate in a very

[Table of Contents](#)

competitive and rapidly changing environment. New risks emerge from time to time and it is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. In light of these risks, uncertainties and assumptions, the forward-looking events and circumstances discussed in this prospectus may not occur and actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements.

You should not rely upon forward-looking statements as predictions of future events. The forward-looking statements contained in this prospectus are made as of the date of this prospectus, and although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee that the future results, advancements, discoveries, levels of activity, performance or events and circumstances reflected in the forward-looking statements will be achieved or occur. Moreover, except as required by law, neither we nor any other person assumes responsibility for the accuracy and completeness of the forward-looking statements. We undertake no obligation to update publicly any forward-looking statements for any reason after the date of this prospectus to conform these statements to actual results or to changes in our expectations.

You should read this prospectus and the documents that we reference in this prospectus and have filed with the SEC as exhibits to the registration statement of which this prospectus is a part with the understanding that our actual future results, levels of activity, performance and events and circumstances may be materially different from what we expect.

INDUSTRY AND MARKET DATA

This prospectus contains estimates, projections and other information concerning our industry, our business and the markets for our product candidates, including data regarding the estimated size of such markets and the incidence of certain medical conditions. We obtained the industry, market and similar data set forth in this prospectus from our internal estimates and research, and from academic and industry research, publications, surveys and studies conducted by third parties, including governmental agencies. Industry publications and third party research, surveys and studies generally indicate that their information has been obtained from sources believed to be reliable. Our estimates of the potential market opportunities for our product candidates include a number of key assumptions based on our industry knowledge, industry publications and third party research, surveys and studies, which may be based on a small sample size and fail to accurately reflect market opportunities. Information based on estimates, forecasts, projections, market research or similar methodologies is inherently subject to uncertainties and actual events or circumstances may differ materially from events and circumstances that are assumed in this information. Unless otherwise expressly stated, we obtained this industry, business, market and other data from reports, research surveys, studies and similar data prepared by us and third parties, industry, medical and general publications, government data and similar sources.

USE OF PROCEEDS

We estimate that the net proceeds from this offering will be approximately \$ _____ million, or \$ _____ million if the underwriters exercise their option to purchase additional shares in full, assuming an initial public offering price of \$ _____ per share, the midpoint of the estimated price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

Each \$1.00 increase (decrease) in the assumed initial public offering price of \$ _____ per share, the midpoint of the estimated price range set forth on the cover page of this prospectus, would increase (decrease) the net proceeds to us from this offering by \$ _____ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. We may also increase or decrease the number of shares we are offering. An increase (decrease) of 1.0 million shares in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase (decrease) our net proceeds from this offering by \$ _____ million, assuming no change in the assumed initial public offering price per share and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

As of December 31, 2020, we had cash of \$34.8 million. In addition, we issued and sold 70,136,064 shares of our Series C convertible preferred stock in January 2021 for an aggregate of \$99.7 million in net proceeds. We currently intend to use the net proceeds from this offering, together with our existing cash, as follows:

- approximately \$30.0 million to fund the Phase 1/2 clinical development of TSC-100, TSC-101, and TSC-102, through completion of the Phase 1 portion and part of the Phase 2 portion of our planned Phase 1/2 clinical trials;
- approximately \$35.0 million to conduct IND-enabling activities and initiate the Phase 1 clinical trials for TSC-200, TSC-201, TSC-202 and TSC-203;
- approximately \$25.0 million for the continued development of our discovery programs; and
- the remainder for continued development of our TargetScan and ReceptorScan platforms, expansion of our manufacturing facility, working capital and other general corporate purposes, which may include the hiring of additional personnel, capital expenditures and the costs of operating as a public company.

This expected use of the net proceeds from this offering represents our intentions based upon our current plans and business conditions, which could change in the future as our plans and business conditions evolve. As of the date of this prospectus, we cannot predict with certainty all of the particular uses for the net proceeds to be received upon the completion of this offering or the amounts that we will actually spend on the uses set forth above. The amounts and timing of our actual expenditures and the extent of our preclinical, clinical and future development activities may vary significantly depending on numerous factors, including the progress of our and our development partner's development efforts, the status of and results from our planned clinical trials, the timing of regulatory submissions and the outcome of regulatory review, the timing and costs associated with the manufacture and supply of product candidates for clinical development or commercialization, as well as any collaborations that we may enter into with third parties for our product candidates, and any unforeseen cash needs. As a result, we will retain broad discretion over the allocation of the net proceeds from this offering.

Based on our planned use of the net proceeds from this offering and our existing cash, we estimate that such funds will be sufficient to enable us to fund our operating expenses and capital expenditure requirements through _____. We have based these estimates on assumptions that may prove to be wrong and we could use our capital resources sooner than we currently expect.

We may also use a portion of the net proceeds from this offering for the acquisition or in-license of other therapeutic products, businesses or technologies, although we have no current agreements or commitments for

[Table of Contents](#)

any material acquisitions or licenses of any products, businesses or technologies. Pending our use of the net proceeds from this offering, we plan to invest the net proceeds in a variety of capital preservation investments, including short-term interest-bearing investment-grade securities, certificates of deposit or government securities.

DIVIDEND POLICY

We have never declared or paid any cash dividends on our capital stock and we do not currently intend to pay any cash dividends on our capital stock for the foreseeable future. We currently intend to retain all available funds and any future earnings to support operations and to finance the growth and development of our business. Our future ability to pay cash dividends on our capital stock may also be limited by the terms of any future debt or preferred securities or any future credit facility.

CAPITALIZATION

The following table sets forth our cash and our capitalization as of December 31, 2020:

- on an actual basis;
- on a pro forma basis to give effect to (i) the issuance and sale of 70,136,064 shares of Series C convertible preferred stock in January 2021 for net cash proceeds of \$99.7 million; (ii) the automatic conversion of all outstanding shares of our preferred stock, which includes our Series C convertible preferred stock, into an aggregate of 128,053,586 shares of common stock (including _____ shares of non-voting common stock) upon completion of this offering, as if such conversion had occurred on December 31, 2020; and (iii) the filing and effectiveness of our amended and restated certificate of incorporation, which will occur immediately prior to the completion of this offering; and
- on a pro forma as adjusted basis to give further effect to the sale and issuance of _____ shares of our common stock by us in this offering at the assumed initial public offering price of \$ _____ per share of common stock, the midpoint of the price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

You should read this information in conjunction with our financial statements and the related notes appearing elsewhere in this prospectus, as well as the section of this prospectus titled “Management’s discussion and analysis of financial condition and results of operations.”

	As of December 31, 2020		
	Actual	Pro Forma	Pro Forma as Adjusted(1)
	(in thousands, except share and per share data)		
Cash and cash equivalents	\$ 34,791	\$ 134,491	\$ _____
Preferred stock: Convertible preferred stock (Series A Preferred Stock and Series B Preferred Stock), \$0.0001 par value; 57,917,522 shares authorized; 57,917,522 shares issued and outstanding, actual; no shares authorized, issued, and outstanding, pro forma and pro forma as adjusted	\$ 59,681	\$ —	\$ _____
Stockholders’ (deficit) equity:			
Preferred stock, \$0.0001 par value per share; no shares authorized, issued and outstanding, actual; _____ shares authorized, no shares issued and outstanding, pro forma and pro forma as adjusted	—	—	—
Common stock, \$0.0001 par value per share; 86,000,000 shares authorized, 12,907,933 shares issued and 9,314,183 outstanding, actual; _____ shares authorized, _____ shares issued and outstanding, pro forma; 300,000,000 shares authorized, shares _____ issued and outstanding, pro forma as adjusted	1	14	—
Non-voting common stock, \$0.0001 par value per share; no shares authorized, issued or outstanding, actual; 10,000,000 shares authorized, shares issued and outstanding, pro forma and pro forma as adjusted	—	—	—
Additional paid-in capital	1,070	160,438	—
Accumulated deficit	(43,533)	(43,533)	—
Total stockholders’ (deficit) equity	(42,462)	116,919	—
Total capitalization	\$ 17,219	\$ 116,919	\$ _____

[Table of Contents](#)

- (1) The pro forma as adjusted information is illustrative only and will depend on the actual public offering price and other terms of this offering determined at pricing. A \$1.00 increase (decrease) in the assumed initial public offering price of \$ _____ per share of common stock, the midpoint of the estimated offering price range set forth on the cover page of this prospectus, would increase (decrease) the pro forma as adjusted amount of each of cash, additional paid-in capital, total stockholders' equity and total capitalization by \$ _____ million, assuming that the number of shares of common stock offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions payable by us. An increase (decrease) of 1.0 million shares in the number of shares of common stock offered by us, as set forth on the cover page of this prospectus, would increase (decrease) the pro forma as adjusted amount of each of cash, additional paid-in capital, total stockholders' equity and total capitalization by \$ _____ million, assuming no change in the assumed initial public offering price of \$ _____ per share of common stock, the midpoint of the estimated offering price range set forth on the cover page of this prospectus, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The above discussion and table are based on shares of common stock outstanding as of December 31, 2020 and excludes the following:

- 3,593,750 shares of common stock that were issued and outstanding but that were subject to a right of repurchase by us at December 31, 2020 and are not included in stockholders' equity pursuant to U.S. generally accepted accounting principles, or GAAP;
- 11,852,840 shares of common stock issuable upon the exercise of options outstanding under our 2018 Plan, as of December 31, 2020, with a weighted-average exercise price of \$0.32 per share;
- 10,436,957 shares of common stock issuable upon the exercise of options outstanding under our 2018 Plan, granted after December 31, 2020, at a weighted-average exercise price of \$0.88 per share;
- 1,191,950 shares of common stock reserved for future issuance under our 2018 Plan, based on the number of shares available for issuance as of December 31, 2020, plus additional shares of common stock added to the plan in January 2021, less the shares of common stock underlying options granted subsequent to December 31, 2020 and set forth above, which shares will be added to the shares to be reserved under our 2021 Plan, at the time our 2021 Plan becomes effective in connection with this offering;
- 26,880,000 shares of common stock that will become available for future issuance under our 2021 Plan, which will become effective upon the effectiveness of the registration statement of which this prospectus forms a part, as well as any automatic increases in the number of shares of common stock reserved for future issuance under the 2021 Plan; and
- 2,086,000 shares of common stock that will become available for future issuance under our 2021 ESPP, which will become effective upon the effectiveness of the registration statement of which this prospectus forms a part, as well as any automatic increases in the number of shares of common stock reserved for future issuance under the 2021 ESPP.

DILUTION

If you invest in our common stock in this offering, your ownership interest will be immediately diluted to the extent of the difference between the assumed initial public offering price per share of our common stock and the pro forma as adjusted net tangible book value per share of our common stock immediately after this offering.

As of December 31, 2020, our historical net tangible book value (deficit) was \$(42.5) million, or \$(4.56) per share of common stock. Our historical net tangible book value (deficit) represents our total tangible assets less our liabilities and preferred stock, which is not included in stockholders' (deficit). Our historical net tangible book value (deficit) per share represents historical net tangible book value (deficit) divided by 9,314,183 shares of common stock outstanding as of December 31, 2020.

Our pro forma net tangible book value as of December 31, 2020, was \$116.9 million, or \$0.85 per share of common stock, after giving effect to (i) the issuance and sale of 70,136,064 shares of Series C convertible preferred stock for net cash proceeds of \$99.7 million in January 2021; and (ii) the automatic conversion of all outstanding shares of our preferred stock, which includes our Series C convertible preferred stock, into an aggregate of shares of common stock (including shares of non-voting common stock) immediately prior to the completion of this offering.

After giving further effect to our sale of shares of common stock in this offering at an assumed initial public offering price of \$ per share, the midpoint of the estimated price range set forth on the cover page of this prospectus and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us, our pro forma as adjusted net tangible book value as of December 31, 2020 would have been \$ million, or \$ per share. This represents an immediate increase in pro forma as adjusted net tangible book value of \$ per share to our existing stockholders and an immediate dilution of \$ per share to investors purchasing common stock in this offering. We determine dilution per share to new investors participating in this offering by subtracting pro forma as adjusted net tangible book value per share after this offering from the assumed initial public offering price per share paid by investors participating in this offering. The following table illustrates this dilution to investors participating in this offering on a per share basis:

Assumed initial public offering price per share	\$
Historical net tangible book value (deficit) per share as of December 31, 2020	\$(4.56)
Increase in historical net tangible book value per share attributable to conversion of our outstanding preferred stock	5.41
Pro forma net tangible book value per share as of December 31, 2020	0.85
Increase in pro forma net tangible book value per share attributable to new investors in this offering	
Pro forma as adjusted net tangible book value per share immediately after this offering	
Dilution per share to new investors purchasing shares in this offering	\$

The pro forma as adjusted dilution information discussed above is illustrative only and will depend on the actual initial public offering price and other terms of this offering determined at pricing. A \$1.00 increase (decrease) in the assumed initial public offering price of \$ per share, the midpoint of the estimated price range set forth on the cover page of this prospectus, would increase (decrease) the pro forma as adjusted net tangible book value by \$ per share and the dilution per share to new investors by \$ per share, assuming the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. An increase (decrease) of 1.0 million shares of common stock in the number of shares we are offering would increase (decrease) our pro forma as adjusted net tangible book value by \$ million, or \$ per share, and the pro forma dilution per share to investors in this offering by \$ per share, assuming no

[Table of Contents](#)

change in the assumed initial public offering price, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

If the underwriters' option to purchase additional shares of common stock in this offering is exercised in full, the pro forma as adjusted net tangible book value would be \$ _____ million, representing an immediate increase in pro forma as adjusted net tangible book value per share of \$ _____ to existing stockholders and immediate dilution per share to investors participating in this offering of \$ _____, assuming an initial public offering price of \$ _____ per share of common stock, the midpoint of the price range set forth on the cover page of this prospectus, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The table below summarizes, as of December 31, 2020, on the pro forma as adjusted basis described above, the number of shares of our common stock, the total consideration, and the average price per share paid to us by our existing stockholders and to be paid by new investors participating in this offering at an assumed initial public offering price of \$ _____ per share, the midpoint of the estimated price range set forth on the cover page of this prospectus, and before deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

	<u>Shares purchased</u>		<u>Total consideration</u>		<u>Weighted-average price per share</u>
	<u>Number</u>	<u>Percent</u>	<u>Amount</u>	<u>Percent</u>	<u>\$</u>
Existing stockholders		%	\$	%	\$
New investors participating in this offering					
Total		100%	\$	100%	

The table above assumes no exercise of the underwriters' option to purchase additional shares of common stock in this offering. If the underwriters' option to purchase additional shares of common stock is exercised in full, the number of shares held by existing stockholders will be reduced to _____ % of the total number of shares of common stock to be outstanding upon completion of this offering, and the number of shares of common stock held by new investors participating in this offering will be increased to _____ % of the total number of shares of common stock to be outstanding upon completion of the offering.

Each \$1.00 increase (decrease) in the assumed initial public offering price of \$ _____ per share would increase (decrease) total consideration paid by new investors by \$ _____ million and increase (decrease) the percent of total consideration paid by new investors by _____ %, assuming the number of shares we are offering, as set forth on the cover page of this prospectus, remains the same. We may also increase or decrease the number of shares we are offering. An increase (decrease) of 1,000,000 in the number of shares offered by us would increase (decrease) total consideration paid by new investors by \$ _____ million, assuming no change in the assumed initial price to the public.

The tables and discussion above are based on the number of shares of our common stock outstanding as of December 31, 2020 and gives effect to the conversion of all of our outstanding preferred stock into shares of our common stock (including non-voting common stock) upon the completion of this offering and excludes the following:

- 3,593,750 shares of common stock that were issued and outstanding but that were subject to a right of repurchase by us at December 31, 2020 and are not included in stockholders' equity pursuant to GAAP;
- 11,852,840 shares of common stock issuable upon the exercise of options outstanding under our 2018 Plan, as of December 31, 2020, with a weighted-average exercise price of \$0.32 per share;
- 10,436,957 shares of common stock issuable upon the exercise of options outstanding under our 2018 Plan, granted after December 31, 2020, at a weighted-average exercise price of \$0.88 per share;

[Table of Contents](#)

- 1,191,950 shares of common stock reserved for future issuance under our 2018 Plan, based on the number of shares available for issuance as of December 31, 2020, plus additional shares of common stock added to the plan in January 2021, less the shares of common stock underlying options granted subsequent to December 31, 2020 and set forth above, which shares will be added to the shares to be reserved under our 2021 Plan, at the time our 2021 Plan becomes effective in connection with this offering;
- 26,880,000 shares of common stock that will become available for future issuance under our 2021 Plan, which will become effective upon the effectiveness of the registration statement of which this prospectus forms a part, as well as any automatic increases in the number of shares of common stock reserved for future issuance under the 2021 Plan; and
- 2,086,000 shares of common stock that will become available for future issuance under our 2021 ESPP, which will become effective upon the effectiveness of the registration statement of which this prospectus forms a part, as well as any automatic increases in the number of shares of common stock reserved for future issuance under the 2021 ESPP.

To the extent that any outstanding options are exercised or new awards are granted under our equity compensation plans, new investors will experience further dilution.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

You should read the following discussion and analysis of our financial condition and results of operations together with our financial statements and related notes included elsewhere in this prospectus. Some of the information contained in this discussion and analysis or set forth elsewhere in this prospectus, including information with respect to our plans and strategy for our business and related financing, includes forward-looking statements that involve risks and uncertainties. As a result of many factors, including those factors set forth in the "Risk Factors" and "Special Note Regarding Forward-Looking Statements" sections of this prospectus, our actual results could differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis.

Overview

We are a preclinical-stage biopharmaceutical company focused on developing a robust pipeline of T cell receptor-engineered T cell, or TCR-T, therapies for the treatment of patients with cancer. Our approach is based on the central premise that we can learn from patients who are winning their fight against cancer in order to treat those who are not. Using one of our proprietary platform technologies, TargetScan, we analyze the T cells of cancer patients with exceptional responses to immunotherapy to discover how the immune system naturally recognizes and eliminates tumor cells in these patients. This allows us to precisely identify the targets of T cell receptors, or TCRs, that are driving these exceptional responses. We aim to use these anti-cancer TCRs to treat patients with cancer by genetically engineering their own T cells to recognize and eliminate their cancer. In addition to discovering TCR-T therapies against novel targets, we are using our ReceptorScan technology to further diversify our portfolio of therapeutic TCRs. We believe this two-pronged approach will enable us to discover and develop a wide array of potential treatment options for patients with cancer.

We are advancing a robust pipeline of TCR-T therapy candidates for the treatment of patients with hematologic and solid tumor malignancies. Our lead liquid tumor product candidates, TSC-100 and TSC-101, are in development for the treatment of patients with hematologic malignancies to eliminate residual leukemia and prevent relapse after hematopoietic stem cell transplantation, or HCT. TSC-100 and TSC-101 target HA-1 and HA-2 antigens, respectively, which are well-recognized TCR targets that were identified in patients with exceptional responses to HCT-associated immunotherapy. In addition, we are developing multiple TCR-T therapy candidates for the treatment of various solid tumors. One of the key goals for our solid tumor program is to develop what we refer to as multiplexed TCR-T therapy. We are designing these multiplexed therapies to be a combination of up to three highly active TCRs that are customized for each patient and selected from our bank of therapeutic TCRs, which we refer to as ImmunoBank.

Since our inception in 2018, we have devoted our efforts to raising capital, obtaining financing, filing, prosecuting and maintaining intellectual property rights, organizing and staffing our company and incurring research and development costs related to the identification of novel targets for TCRs and development of TCR-T therapies to target and eliminate cancer cells. We do not have any therapies approved for sale and have not generated any revenue from product sales. To date, we have funded our operations primarily with proceeds from sales of convertible preferred stock and revenue received under our collaboration agreement with Novartis Institutes for Biomedical Research, Inc., or Novartis, and licensing agreements with QIAGEN Sciences, LLC, or Qiagen, and other parties. Through December 31, 2020, we have received gross proceeds of \$60.0 million from sales of our convertible preferred stock. Under the terms of our Collaboration and License Agreement with Novartis, we received a \$20.0 million upfront payment and agreed to invest an estimated \$10.0 million in research costs that will be reimbursed by Novartis over the research term. During January 2021, we received an additional \$99.7 million of net cash proceeds from the sale of our Series C convertible preferred stock.

[Table of Contents](#)

We have incurred significant operating losses since our inception. We reported net losses of \$13.7 million and \$26.1 million for the years ended December 31, 2019 and 2020, respectively. As of December 31, 2020, we had an accumulated deficit of \$43.5 million. We expect to continue to incur significant expenses and increasing operating losses for the foreseeable future. We expect that our expenses and capital expenditures will increase substantially in connection with our ongoing activities, particularly if and as we:

- continue our research and development efforts to identify and develop product candidates and submit investigational new drug applications, or INDs, for such product candidates;
- conduct preclinical studies and commence clinical trials for our current and future product candidates based on our proprietary platform;
- develop processes suitable for manufacturing and clinical development
- continue to develop and expand our manufacturing capabilities;
- seek marketing approvals for any product candidates that successfully complete clinical trials;
- build commercial infrastructure to support sales and marketing for our product candidates;
- expand, maintain and protect our intellectual property portfolio;
- hire additional clinical, regulatory and scientific personnel; and
- operate as a public company.

We will not generate revenue from sales of our therapies unless and until we successfully complete clinical development and obtain regulatory approval for one or more of our product candidates. If we obtain regulatory approval for any of our product candidates, we expect to incur significant expenses related to developing our commercialization capability to support the sales, marketing and distribution of those therapies. Further, following the completion of this offering, we expect to incur additional costs associated with operating as a public company.

As a result, we will need substantial additional funding to support our continuing operations and pursue our growth strategy. Until such time as we can generate significant revenue from sales of our therapies, if ever, we expect to finance our operations through a combination of equity offerings, debt financings, or other capital sources, including collaborations with other companies, and other strategic transactions. We may be unable to raise additional funds or enter into such other agreements or arrangements when needed on favorable terms, or at all. If we fail to raise capital or enter into such agreements as, and when, needed, we may have to significantly delay, scale back, or discontinue the development and commercialization of one or more of our product candidates.

Because of the numerous risks and uncertainties associated with TCR-T therapy candidate development, we are unable to accurately predict the timing or amount of increased expenses or when, or if, we will be able to achieve or maintain profitability. Even if we are able to generate sales of our therapies, we may not become profitable. If we fail to become profitable or are unable to sustain profitability on a continuing basis, then we may be unable to continue our operations at planned levels and be forced to reduce or terminate our operations.

We believe that the expected net proceeds from this offering, together with our existing cash will enable us to fund our operating expenses and capital expenditures into . We have based this estimate on assumptions that may prove to be wrong, and we could exhaust our available capital resources sooner than we expect. See “—Liquidity and capital resources” and “Risk factors—Risks related to our financial position and need for additional capital.”

Impact of COVID-19

In March 2020, the World Health Organization declared the COVID-19 outbreak a pandemic. The ongoing COVID-19 global and national health emergency has caused significant disruption in the international and

[Table of Contents](#)

United States economies and financial markets. The spread of COVID-19 has caused illness, quarantines, cancellation of events and travel, business and school shutdowns, reduction in business activity and financial transactions, labor shortages, supply chain interruptions and overall economic and financial market instability and business disruptions for us and many of our vendors.

In response to public health directives and orders and to help minimize the risk of the virus to employees, we have taken a series of actions aimed at safeguarding our employees and business associates, including implementing a flexible work-at-home policy. These disruptions could result in increased costs of execution of development plans or may negatively impact the quality, quantity, timing and regulatory usability of data that we would otherwise be able to collect. While these disruptions are currently expected to be temporary, there is considerable uncertainty around the duration of these disruptions. Therefore, the related financial impact and duration cannot be reasonably estimated at this time.

Components of Results of Operations

Revenue

To date, our revenue has been derived from our one collaboration and two licensing agreements. We have not generated any revenue from the sale of therapies to date, nor do we expect to originate revenues therefrom in the near future, if at all. If our development efforts for our product candidates are successful and result in regulatory approval or if we enter into additional license or collaboration agreements with third parties, we may generate additional revenue in the future from sales of our therapies, payments from license or collaboration agreements that we may enter into with third parties, or any combination thereof. However, there can be no assurance as to when we will generate such revenue, if at all. We expect that our revenue for at least the next several years will be derived primarily from collaborations and licenses that we may enter into in the future, if any.

Collaboration Revenue

In March 2020, we entered into a Collaboration and License Agreement, or the Novartis Agreement, with Novartis Institutes for Biomedical Research, Inc., or Novartis, to collaborate on their research efforts to discover and develop novel TCR-T therapies. Under the Novartis Agreement, we will identify and characterize TCRs in accordance with a research plan, transfer data arising from the research plan, and Novartis will have the option to license and develop TCRs for up to three novel targets identified in performance of the collaboration during the collaboration period of the Novartis Agreement. Novartis will also have rights of first negotiation for certain additional targets and TCRs identified in performance of the collaboration during a defined period. We are free to develop TCRs against targets not licensed by Novartis.

The collaboration includes an upfront fee and research funding together totaling \$30.0 million and potential milestone payments contingent on clinical, regulatory and sales success that could aggregate in the hundreds of millions of dollars. In addition to the milestones, Novartis will pay us royalties equal to a percentage in the mid-single-digits to low-teens on net sales for each therapy.

The Novartis Agreement is within the scope of ASC 606 under which we have identified a single performance obligation consisting of the research services, data reporting and participation in a joint steering committee. During the year ended December 31, 2020, we recognized \$0.8 million of revenue associated with the Novartis Agreement. We expect to recognize the remaining arrangement consideration over the expected research term, which is not expected to exceed 3 years. In addition, we have received an aggregate of \$20.0 million of cash representing the one-time, non-refundable, non-contingent and non-creditable upfront payment and have receivables for reimbursement of expenditures under the arrangement of \$0.3 million as of December 31, 2020.

Operating Expenses

Research and Development Expenses

Research and development expenses consist primarily of costs incurred in connection with our research activities, including our therapeutic discovery efforts, preclinical trials and the development of our proprietary

[Table of Contents](#)

platform technologies and product candidates. We expense research and development costs as incurred, which include:

- employee-related expenses, including salaries, bonuses, benefits, stock-based compensation, and other related costs for those employees involved in research and development efforts;
- expenses incurred in connection with our research programs, including under agreements with third parties, such as consultants and contract research organizations, or CROs;
- the cost of raw materials, developing and scaling our manufacturing process, and manufacturing our product candidates for use in our research and preclinical studies, including under agreements with third parties, such as consultants, contractors, and CMOs;
- laboratory supplies and research materials;
- facilities, depreciation, and other expenses, which include direct and allocated expenses for rent and maintenance of facilities and insurance; and
- payments made under third party licensing agreements.

We expense research and development costs as incurred. Non-refundable advance payments that we make for goods or services to be received in the future for use in research and development activities are recorded as prepaid expenses. The prepaid amounts are expensed as the related goods are delivered or the services are performed, or when it is no longer expected that the goods will be delivered or the services rendered. Upfront payments under license agreements are expensed upon receipt of the license, and annual maintenance fees under license agreements are expensed in the period in which they are incurred. Milestone payments under license agreements are accrued, with a corresponding expense being recognized, in the period in which the milestone is determined to be probable of achievement and the related amount is reasonably estimable.

Our direct external research and development expenses consist of costs that include fees, reimbursed materials, direct material costs, and other costs paid to consultants, contractors, CMOs and CROs in connection with our development and manufacturing activities. We do not allocate employee costs, general laboratory supplies, and facilities expenses, including depreciation or other indirect costs, to specific product development programs because these costs are deployed across multiple programs and our platform technology and, as such, are not separately classified. When our TCR-T therapy candidates enter clinical development, we will begin to segregate related research and development expenses by product candidate.

Product candidates in later stages of clinical development generally have higher development costs than those in preclinical and earlier stages of clinical development, primarily due to increased size and duration of later stage clinical trials. We expect that our research and development expenses will increase substantially in connection with our planned preclinical and clinical development activities in the near term and in the future. At this time, we cannot accurately estimate or know the nature, timing and costs of the efforts that will be necessary to complete the preclinical and clinical development of any of our product candidates. The successful development and commercialization of our product candidates is highly uncertain. This is due to the numerous risks and uncertainties associated with therapeutic development and commercialization, including the following:

- the number and scope of preclinical and clinical programs we decide to pursue;
- the timing and progress of preclinical and clinical development activities for each program;
- our ability to raise additional funds necessary to complete preclinical and clinical development of and commercialize our product candidates;
- the progress of the development efforts of parties with whom we may enter into collaboration arrangements;
- our ability to maintain our current research and development programs and to establish new ones;

Table of Contents

- our ability to establish new licensing or collaboration arrangements;
- the successful initiation and completion of clinical trials with safety, tolerability and efficacy profiles that are satisfactory to the U.S. Food and Drug Administration, or the FDA, or any comparable foreign regulatory authority;
- the receipt and related terms of regulatory approvals from applicable regulatory authorities;
- the availability of raw materials for use in the manufacture of our product candidates;
- our ability to consistently manufacture our product candidates for use in clinical trials;
- our ability to establish and operate a manufacturing facility, or secure manufacturing supply through relationships with third parties;
- our ability to obtain and maintain patents, trade secret protection and regulatory exclusivity, both in the United States and internationally;
- our ability to protect our rights in our intellectual property portfolio;
- the commercialization of our product candidates, if and when approved;
- obtaining and maintaining third party insurance coverage and adequate reimbursement;
- the acceptance of our product candidates, if approved, by patients, the medical community and third party payors;
- competition with other products and therapies; and
- a continued acceptable safety profile of our therapies following approval.

A change in the outcome of any of these variables with respect to the development of any of our product candidates could significantly change the costs and timing associated with the development of these product candidates. We may never succeed in obtaining regulatory approval for any of our product candidates or in establishing market acceptance for any product candidates that may be approved.

General and Administrative Expenses

General and administrative expenses consist primarily of salaries and personnel expenses, including stock-based compensation, for our personnel in executive, legal, finance and accounting, human resources, and other administrative functions. General and administrative expenses also include legal fees relating to corporate matters; professional fees paid for accounting, auditing, consulting, and tax services; insurance costs; travel expenses; and facility costs not otherwise included in research and development expenses.

We anticipate that our general and administrative expenses will increase in the future as we increase our headcount to support our continued research activities and development of our product candidates. We also anticipate that we will incur significantly increased accounting, audit, legal, regulatory, compliance and director and officer insurance costs as well as investor and public relations expenses associated with operating as a public company. In addition, if we obtain regulatory approval for a product candidate and do not enter into a third party commercialization collaboration, we expect to incur significant expenses related to building a sales and marketing team to support sales, marketing and distribution activities.

Other Income

Other income consists primarily of interest earned on our cash balances held in financial institutions.

Income Taxes

Since our inception, we have not recorded any U.S. federal or state income tax benefits for the net losses we have incurred in any year or for our earned research and development tax credits, due to the uncertainty of

[Table of Contents](#)

realizing a benefit from those items. As of December 31, 2020, we had federal and state net operating loss carryforwards of \$17.6 million and \$16.7 million, respectively, which may be used to offset future taxable income, if any. These amounts expire at various dates through 2040. The federal net operating losses generated in and after 2018 can be carried forward indefinitely. As of December 31, 2020, we had federal and state tax credit carryforwards of \$1.5 million and \$0.8 million, respectively. These amounts expire at various dates through 2035. Due to the degree of uncertainty related to the ultimate use of the deferred tax assets, we have fully reserved these tax benefits, as the determination of the realization of the deferred tax benefits was not determined to be more likely than not.

Results of Operations

The following table summarizes our results of operations for the years ended December 31, 2019 and 2020:

	Year Ended December 31,		Change
	2019	2020	
	<i>(in thousands)</i>		
Revenue			
Collaboration and license revenue	\$ —	\$ 1,085	\$ 1,085
Operating expenses:			
Research and development	9,442	20,577	11,135
General and administrative	4,768	6,741	1,973
Total operating expenses	14,210	27,318	13,108
Loss from operations	(14,210)	(26,233)	(12,023)
Other income:			
Interest income	552	106	(446)
Net loss	<u>\$ (13,658)</u>	<u>\$ (26,127)</u>	<u>\$ (12,469)</u>

Revenue

We had no revenue for the year ended December 31, 2019 compared to \$1.1 million for the year ended December 31, 2020. The increase in revenue was associated with the recognition of the \$1.1 million of revenue primarily associated with the Novartis Agreement. The revenue generated from the Novartis Agreement is expected to increase significantly in 2021.

Research and Development Expenses

The following table summarizes our research and development expenses for the years ended December 31, 2019 and 2020:

	Year Ended December 31,		Change
	2019	2020	
	<i>(in thousands)</i>		
Preclinical studies	3,328	7,922	4,594
Legal and professional fees	345	859	514
Personnel expenses (including stock-based compensation)	3,618	7,383	3,765
Facility-related and other	2,152	4,414	2,262
Total research and development expenses	<u>\$9,442</u>	<u>\$ 20,577</u>	<u>\$ 11,153</u>

[Table of Contents](#)

Research and development expenses were \$9.4 million for the year ended December 31, 2019 compared to \$20.6 million for the year ended December 31, 2020. The increase in research and development expenses was primarily attributable to a \$4.6 million increase in laboratory supplies, research material, and preclinical studies. Additionally, there was a \$3.8 million increase in personnel expenses, including an increase of \$0.1 million related to stock-based compensation expense and a \$2.7 million increase in professional fees, facility-related expenses and other expenses due to the expansion of leased facilities.

General and Administrative Expenses

General and administrative expenses were \$4.8 million for the year ended December 31, 2019 compared to \$6.7 million for the year ended December 31, 2020. The increase in general and administrative expense was primarily due to a \$1.4 million increase in legal and professional fees, as well as a \$0.4 million increase in personnel expenses, which includes an increase of \$0.3 million related to stock-based compensation expense and an increase of \$0.1 million in other expenses.

Other Income

Other income for the year ended December 31, 2019 was \$0.6 million, compared to \$0.1 million for the year ended December 31, 2020. The decrease primarily related to the money market interest rates decreasing due to the COVID-19 pandemic and a draw down on cash to fund operations.

Liquidity and Capital Resources

Sources of Liquidity

We have not generated any revenue from product sales and have incurred net losses and negative cash flows from our operations. We have not generated any product revenue and have incurred net losses and negative cash flows from our operations. Our primary use of cash is to fund operating expenses, which consist primarily of research and development expenditures, and to a lesser extent, general and administrative expenditures. Under the terms of the Novartis Agreement, we received an upfront payment of \$20 million. Additionally, Novartis is obligated to reimburse us for costs incurred to perform the research and development activities of up to \$10 million. As of December 31, 2020, we had cash and restricted cash of \$35.4 million. In January 2021, we issued and sold 70,136,064 shares of Series C convertible preferred stock for net cash proceeds of \$99.7 million.

Funding requirements

We expect our expenses to increase substantially in connection with our ongoing activities, particularly as we advance our research programs into preclinical and clinical development. In addition, we expect to continue to incur additional costs associated with operating as a public company. The timing and amount of our operating expenditures will depend largely on:

- the identification of additional research programs and product candidates;
- the scope, progress, costs and results of preclinical and clinical development of any product candidates we may develop;
- the costs, timing and outcome of regulatory review of any product candidates we may develop;
- our decision to initiate a clinical trial, not to initiate a clinical trial or to terminate a clinical trial;
- our decision to build manufacturing capabilities;
- investing in next-generation T-cell engineering capabilities;
- changes in laws or regulations applicable to any product candidates we may develop, including but not limited to clinical trial requirements for approvals;

Table of Contents

- the cost and timing of obtaining materials to produce adequate supply for any preclinical or clinical development of any product candidate we may develop;
- the costs and timing of future commercialization activities, including manufacturing, marketing, sales and distribution, for any product candidate we may develop for which we obtain marketing approval;
- the legal costs involved in prosecuting patent applications and enforcing patent claims and other intellectual property claims;
- additions or departures of key scientific or management personnel;
- our ability to establish and maintain collaborations on favorable terms, if at all, as well as the costs and timing of any collaboration, license or other arrangement, including the terms and timing of any milestone payments thereunder; and
- the costs of operating as a public company.

We believe that the net proceeds from this offering, together with our existing cash and cash equivalents, will enable us to fund our operating expenses and capital expenditure requirements into . We have based this estimate on assumptions that may prove to be wrong, and we could utilize our available capital resources sooner than we expect.

Until such time, if ever, as we can generate substantial product revenue, we expect to finance our operations through a combination of equity offerings, debt financings, collaborations, strategic alliances and marketing, distribution or licensing arrangements. To the extent that we raise additional capital through the sale of equity or convertible debt securities, your ownership interest will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect your rights as a common stockholder. Debt financing and preferred equity financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making acquisitions or capital expenditures or declaring dividends. If we raise additional funds through additional collaborations, strategic alliances or marketing, distribution or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or product candidates, or grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds through equity or debt financings or other arrangements when needed, we may be required to delay, limit, reduce or terminate our research, product development or future commercialization efforts, or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

We have not yet received regulatory approval for or commercialized any of our product candidates and do not expect to generate revenue from product sales for several years, if at all. We do not expect to generate any product revenue unless and until we (1) complete development of any of our product candidates; (2) obtain applicable regulatory approvals; and (3) successfully commercialize or enter into collaborative agreements for our product candidates. We do not know with certainty when, or if, any of these items will ultimately occur. We expect to incur continuing significant losses for the foreseeable future and our losses to increase as we ramp up our preclinical and clinical development programs. We may encounter unforeseen expenses, difficulties, complications, delays and other currently unknown factors that could adversely affect our business.

Moreover, following the completion of this offering, we will be a publicly traded company and will incur significant legal, accounting and other expenses that we were not required to incur as a private company. In addition, the Sarbanes-Oxley Act of 2002, as well as rules adopted by the SEC and Nasdaq, requires public companies to implement specified corporate governance practices that are currently not applicable to us as a private company. Pursuant to Section 404 of the Sarbanes-Oxley Act of 2002, or Section 404, we will first be required to furnish a report by our management on our internal control over financial reporting for the year ending December 31, 2021. However, while we remain an emerging growth company or a smaller reporting company, we will not be required to include an attestation report on internal control over financial reporting

[Table of Contents](#)

issued by our independent registered public accounting firm. To achieve compliance with Section 404 within the prescribed period, we will be engaged in a process to document and evaluate our internal control over financial reporting, which is both costly and challenging. In this regard, we will need to continue to dedicate internal resources, potentially engage outside consultants and adopt a detailed work plan to assess and document the adequacy of internal control over financial reporting, continue steps to improve control processes as appropriate, validate through testing that controls are functioning as documented and implement a continuous reporting and improvement process for internal control over financial reporting. We expect these rules and regulations will increase our legal and financial compliance costs and will make some activities more time-consuming and costly.

We will require additional capital to develop our product candidates and fund our operations into the foreseeable future. We anticipate that we will eventually need to raise substantial additional capital, the requirements for which will depend on many factors, including:

- the scope, timing, rate of progress and costs of our drug discovery efforts, preclinical development activities, laboratory testing and clinical trials for our product candidates;
- the number and scope of clinical programs we decide to pursue;
- the cost, timing and outcome of preparing for and undergoing regulatory review of our product candidates;
- the scope and costs of development and manufacturing activities;
- the cost and timing associated with commercializing our product candidates, if they receive marketing approval;
- the amount of revenue, if any, received from commercial sales of our product candidates, should any of our product candidates receive marketing approval;
- the achievement of milestones or occurrence of other developments that trigger payments under any collaboration agreements we might have at such time;
- the extent to which we acquire or in-license other product candidates and technologies;
- the costs of preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property rights and defending intellectual property-related claims;
- our ability to establish and maintain collaborations on favorable terms, if at all;
- our efforts to enhance operational systems and our ability to attract, hire and retain qualified personnel, including personnel to support the development of our product candidates and, ultimately, the sale of our products, following FDA approval;
- our implementation of various computerized information systems;
- impact of COVID-19 on our clinical development or operations; and
- the costs associated with being a public company.

A change in the outcome of any of these or other variables with respect to the development of any of our product candidates could significantly change the costs and timing associated with the development of that product candidate. Furthermore, our operating plans may change in the future, and we will continue to require additional capital to meet operational needs and capital requirements associated with such operating plans. If we raise additional funds by issuing equity securities, our stockholders may experience dilution. Any future debt financing into which we enter may impose upon us additional covenants that restrict our operations, including limitations on our ability to incur liens or additional debt, pay dividends, repurchase our common stock, make certain investments or engage in certain merger, consolidation or asset sale transactions. Any debt financing or additional equity that we raise may contain terms that are not favorable to us or our stockholders.

[Table of Contents](#)

Adequate funding may not be available to us on acceptable terms or at all. Our potential inability to raise capital when needed could have a negative impact on our financial condition and our ability to pursue our business strategies. If we are unable to raise additional funds as required, we may need to delay, reduce, or terminate some or all development programs and clinical trials. We may also be required to sell or license our rights to product candidates in certain territories or indications that we would otherwise prefer to develop and commercialize ourselves. If we are required to enter into collaborations and other arrangements to address our liquidity needs, we may have to give up certain rights that limit our ability to develop and commercialize our product candidates or may have other terms that are not favorable to us or our stockholders, which could materially and adversely affect our business and financial prospects. See the section of this prospectus titled “Risk Factors” for additional risks associated with our substantial capital requirements.

Cash Flows

The following table summarizes our sources and uses of cash for each of the periods presented:

	Year Ended December 31,		Change
	2019	2020	
	(in thousands)		
Net cash provided by (used in) operating activities	\$ (12,522)	\$ (3,023)	\$ 9,499
Net cash used in investing activities	(1,247)	(4,238)	(2,991)
Net cash provided by financing activities	34,812	288	(34,524)
Net increase (decrease) in cash and restricted cash	\$ 21,043	\$ (6,973)	\$(28,016)

Operating Activities

During the year ended December 31, 2019, operating activities used \$12.5 million of cash, due to our net loss of \$13.7 million, partially offset by non-cash charges of \$0.7 million and net cash provided by changes in our operating assets and liabilities of \$0.3 million.

During the year ended December 31, 2020, operating activities used \$3.0 million of cash, due to our net loss of \$26.1 million, partially offset by non-cash charges of \$1.8 million and net cash provided by changes in our operating assets and liabilities of \$21.3 million. Net cash provided by changes in our operating assets and liabilities primarily consisted of a \$19.4 million increase in deferred revenue from the upfront payment in the Novartis Agreement.

Investing Activities

During the year ended December 31, 2019 and 2020, net cash used in investing activities was \$1.2 million and \$4.2 million, respectively, related to the purchases of property and equipment.

Financing Activities

During the year ended December 31, 2019, net cash provided by financing activities was \$34.8 million, consisting primarily of net proceeds from our issuance of convertible preferred stock.

During the year ended December 31, 2020, net cash provided by financing activities was \$0.3 million, consisting primarily of net proceeds from the exercise of common stock options.

Critical Accounting Policies and Significant Judgments and Estimates

Our financial statements are prepared in accordance with generally accepted accounting principles in the United States, or GAAP. The preparation of our financial statements and related disclosures requires us to make

estimates and judgments that affect the reported amounts of assets, liabilities, costs and expenses, and the disclosure of contingent assets and liabilities in our financial statements. We base our estimates on historical experience, known trends and events, and various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. We evaluate our estimates and assumptions on an ongoing basis. Our actual results may differ from these estimates under different assumptions or conditions. While our significant accounting policies are described in more detail in Note 2 to our financial statements included elsewhere in this prospectus, we believe that the following accounting policies are those most critical to the judgments and estimates used in the preparation of our financial statements.

Revenue Recognition

To date, our revenues have consisted of consideration related to the Novartis Agreement. We adopted the provisions of Accounting Standards Update 2014-09, *Revenue from Contracts with Customers* (Topic 606), or ASC 606, on January 1, 2018. In accordance with ASC 606, we recognize revenue when our customers obtain control of promised goods or services, in an amount that reflects the consideration which we expect to receive in exchange for those goods or services.

To determine the appropriate amount of revenue to be recognized for arrangements determined to be within the scope of ASC 606, we perform the following five steps: (i) identification of the promised goods or services in the contract; (ii) determination of whether the promised goods or services are performance obligations including whether they are distinct in the context of the contract; (iii) measurement of the transaction price, including the assessment of the constraint on variable consideration; (iv) allocation of the transaction price to the performance obligations; and (v) recognition of revenue when, or as we satisfy each performance obligation.

As part of the accounting for arrangements under ASC 606, we must use significant judgment to determine the performance obligations based on the determination under step (ii) above. We also use judgment to determine whether milestones or other variable consideration, except for royalties and sales-based milestones, should be included in the transaction price as described below. We recognize revenue based on those amounts when, or as, the performance obligations under the contract are satisfied.

We utilize judgment to assess the nature of the performance obligation to determine whether the performance obligation is satisfied over time or at a point in time and, if over time, the appropriate method of measuring progress. We evaluate the measure of progress each reporting period and, if necessary, adjust the measure of performance and related revenue recognition. The measure of progress, and the resulting periods over which revenue should be recognized, are subject to estimates by management and may change over the course of the arrangement, which are subject to review by the joint steering committee, or JSC. Such a change could have a material impact on the amount of revenue we record in future periods. We concluded that the transfer of control to the customer for the performance obligation occurs over the time period that the research and development services are provided by us. We recognize revenue for the performance obligation as those services are provided using an input method, based on the cumulative costs incurred compared to the total estimated costs expected to be incurred to satisfy the performance obligation. The cost-to-cost method is, in management's judgment, the best measure of progress towards satisfying the performance condition.

At the inception of each arrangement that includes research, development or regulatory milestone payments, we evaluate whether the milestones are considered likely to be met and estimate the amount to be considered for inclusion in the transaction price using the most-likely-amount method. If it is probable that a significant reversal in the amount of cumulative revenue recognized would not occur, the associated milestone value is included in the transaction price. For milestone payments due upon events that are not within our control, such as regulatory approvals, we are not able to assert that it is likely that the regulatory approval will be granted and that it is probable that a significant reversal in the amount of cumulative revenue recognized will not occur until those approvals are received. In making this assessment, we evaluate factors such as the scientific, clinical, regulatory, commercial, and other risks that must be overcome to achieve the particular milestone. There is considerable

judgment involved in determining whether it is probable that a significant reversal in the amount of cumulative revenue recognized would not occur.

We reevaluate the transaction price and our total estimated costs expected to be incurred at the end of each reporting period and as uncertain events, such as changes to the expected timing and cost of certain research, development and manufacturing activities that we are responsible for, are resolved or other changes in circumstances occur. If necessary, we will adjust our estimate of the transaction price or our estimates of the total costs expected to be incurred.

Accrued Research and Development Expenses

As part of the process of preparing our financial statements, we are required to estimate our accrued research and development expenses. This process involves estimating the level of service performed and the associated cost incurred for the service when we have not yet been invoiced or otherwise notified of actual costs. The majority of our service providers invoice us in arrears for services performed, on a pre-determined schedule or when contractual milestones are met; however, some require advance payments. We make estimates of our accrued expenses as of each balance sheet date in the financial statements based on facts and circumstances known to us at that time. At each period end, we corroborate the accuracy of these estimates with the service providers and make adjustments, if necessary. Examples of estimated accrued research and development expenses include those related to fees paid to:

- Vendors in connection with discovery and preclinical development activities;
- CROs in connection with preclinical and clinical studies and testing; and
- CMOs in connection with the process development and scale up activities and the production of materials.

We record the expense and accrual related to contract research and manufacturing based on our estimates of the services received and efforts expended considering a number of factors, including our knowledge of the progress towards completion of the research, development, and manufacturing activities; invoicing to date under contracts; communication from the contract research organizations, contract manufacturing organizations and other companies of any actual costs incurred during the period that have not yet been invoiced; and the costs included in the contracts and purchase orders. The financial terms of these agreements are subject to negotiation, vary from contract to contract, and may result in uneven payment flows. There may be instances in which payments made to our vendors will exceed the level of services provided and result in a prepayment of the expense. In accruing service fees, we estimate the time period over which services will be performed and the level of effort to be expended in each period. If the actual timing of the performance of services or the level of effort varies from the estimate, we adjust the accrual or the amount of prepaid expense accordingly. Although we do not expect our estimates to be materially different from amounts actually incurred, our understanding of the status and timing of services performed relative to the actual status and timing of services performed may vary and may result in reporting amounts that are too high or too low in any particular period. To date, there have not been any material adjustments to our prior estimates of accrued research and development expenses.

Stock-Based Compensation

We measure all stock-based awards granted based on the fair value on the date of the grant using the Black-Scholes option-pricing model for options or the difference, if any, between the purchase price per share of the award and the fair value of our common stock for restricted common stock awards. Compensation expense for those awards is recognized over the requisite service period, which is generally the vesting period of the respective award.

We use the straight-line method to record the expense of awards with only service-based vesting conditions. The Black-Scholes option-pricing model uses as inputs the fair value of our common stock and assumptions we make for the volatility of our common stock, the expected term of our common stock options, the risk-free

interest rate for a period that approximates the expected term of our common stock options, and our expected dividend yield.

Determination of Fair Value of Common Stock

As there has been no public market for our common stock to date, the estimated fair value of our common stock has been determined by our board of directors as of the date of each option grant, with input from management, considering our most recently available third party valuations of common stock and our board of directors' assessment of additional objective and subjective factors that it believed were relevant and which may have changed from the date of the most recent valuation through the date of the grant. These third party valuations were performed in accordance with the guidance outlined in the American Institute of Certified Public Accountants' Accounting and Valuation Guide, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation*. Our common stock valuations were prepared using either an option pricing method, or OPM, or a hybrid method, both of which used market approaches to estimate our enterprise value. The hybrid method is a probability-weighted expected return method, or PWERM, where the equity value in one or more of the scenarios is calculated using an OPM. The PWERM is a scenario-based methodology that estimates the fair value of common stock based upon an analysis of future values for the company, assuming various outcomes. The common stock value is based on the probability-weighted present value of expected future investment returns considering each of the possible outcomes available as well as the rights of each class of stock. The future value of the common stock under each outcome is discounted back to the valuation date at an appropriate risk-adjusted discount rate and probability weighted to arrive at an indication of value for the common stock. A discount for lack of marketability of the common stock is then applied to arrive at an indication of value for the common stock. The OPM treats common stock and preferred stock as call options on the total equity value of a company, with exercise prices based on the value thresholds at which the allocation among the various holders of a company's securities changes. Under this method, the common stock has value only if the funds available for distribution to stockholders exceeded the value of the preferred stock liquidation preferences at the time of the liquidity event, such as a strategic sale or a merger. These third party valuations were performed at various dates, which resulted in valuations of our common stock of \$0.30 per share as of July 8, 2019, \$0.64 per share as of June 10, 2020, \$0.71 per share as of January 15, 2021, \$1.41 per share as of March 1, 2021 and \$1.70 per share as of March 19, 2021. In addition to considering the results of these third party valuations, our board of directors considered various objective and subjective factors to determine the fair value of our common stock as of each grant date, including:

- the price at which we sold shares, or expected to sell shares, of our preferred stock and the superior rights and preferences of the preferred stock relative to our common stock at the time of each grant;
- the progress of our research and development programs;
- our stage of development and commercialization and our business strategy;
- external market conditions affecting the biopharmaceutical and biotechnology industries, and trends within those industries;
- our financial position, including cash on hand, and our historical and forecasted performance and operating results;
- the lack of an active public market for our common stock and our preferred stock;
- the likelihood of achieving a liquidity event, such as an initial public offering, or IPO, or a sale of our company in light of prevailing market conditions; and
- the analysis of IPOs and the market performance of similar companies in our industry.

The assumptions underlying these valuations represented management's best estimate, which involved inherent uncertainties and the application of management's judgment. As a result, if we had used significantly different assumptions or estimates, the fair value of our common stock and our stock-based compensation expense could have been materially different.

[Table of Contents](#)

Once a public trading market for our common stock has been established in connection with the completion of this offering, it will no longer be necessary for our board of directors to estimate the fair value of our common stock in connection with our accounting for granted stock options and other such awards we may grant, as the fair value of our common stock will be determined based on the quoted market price of our common stock.

As of December 31, 2020, based on the assumed initial public offering price per share of \$ _____, the midpoint of the price range set forth on the cover page of this prospectus, the aggregate intrinsic value of our outstanding stock options, was \$ _____ million, with \$ _____ million related to vested stock options.

Recently Issued Accounting Pronouncements

We do not believe that any recently issued accounting pronouncements will materially impact our financial position and results of operations.

Emerging Growth Company and Smaller Reporting Company Status

The Jumpstart Our Business Startups Act of 2012 permits an “emerging growth company” such as us to take advantage of an extended transition period to comply with new or revised accounting standards applicable to public companies until those standards would otherwise apply to private companies. We have elected not to “opt out” of such extended transition period, which means that when a standard is issued or revised and it has different application dates for public or private companies, we will adopt the new or revised standard at the time private companies adopt the new or revised standard and will do so until such time that we either (i) irrevocably elect to “opt out” of such extended transition period or (ii) no longer qualify as an emerging growth company. We may choose to early adopt any new or revised accounting standards whenever such early adoption is permitted for private companies.

We are also a “smaller reporting company”, meaning that the market value of our stock held by non-affiliates plus the proposed aggregate amount of gross proceeds to us as a result of this offering is less than \$700 million and our annual revenue was less than \$100 million during the most recently completed fiscal year. We may continue to be a smaller reporting company after this offering if either (i) the market value of our stock held by non-affiliates is less than \$250 million or (ii) our annual revenue was less than \$100 million during the most recently completed fiscal year and the market value of our stock held by non-affiliates is less than \$700 million. If we are a smaller reporting company at the time we cease to be an emerging growth company, we may continue to rely on exemptions from certain disclosure requirements that are available to smaller reporting companies. Specifically, as a smaller reporting company we may choose to present only the two most recent fiscal years of audited financial statements in our Annual Report on Form 10-K and, similar to emerging growth companies, smaller reporting companies have reduced disclosure obligations regarding executive compensation.

Quantitative and Qualitative Disclosures about Market Risks

We are exposed to market risk related to changes in interest rates. As of December 31, 2020, we had cash and cash equivalents of \$35.4 million, which included restricted cash of \$0.6 million, which were held in savings accounts at banking institutions and money market funds that invest in U.S. Government securities. Interest income is sensitive to changes in the general level of interest rates; however, due to the nature of these investments, an immediate 10% change in market interest rates would not have a material effect on the fair market value of our cash balance or on our financial position or results of operations.

We are not currently exposed to significant market risk related to changes in foreign currency exchange rates. Our operations may be subject to fluctuations in foreign currency exchange rates in the future. We do not believe that inflation has had a material effect on our business, financial condition, or results of operations during the years ended December 31, 2019 and 2020. Our operations may be subject to inflation in the future.

BUSINESS

Overview

We are a preclinical-stage biopharmaceutical company focused on developing a robust pipeline of T cell receptor-engineered T cell, or TCR-T, therapies for the treatment of patients with cancer. Our approach is based on the central premise that we can learn from patients who are winning their fight against cancer in order to treat those who are not. Using one of our proprietary platform technologies, TargetScan, we analyze the T cells of cancer patients with exceptional responses to immunotherapy to discover how the immune system naturally recognizes and eliminates tumor cells in these patients. This allows us to precisely identify the targets of T cell receptors, or TCRs, that are driving these exceptional responses. We aim to use these anti-cancer TCRs to treat patients with cancer by genetically engineering their own T cells to recognize and eliminate their cancer. In addition to discovering TCR-T therapies against novel targets, we are using our ReceptorScan technology to further diversify our portfolio of therapeutic TCRs with TCR-T therapies against known targets. We believe this two-pronged approach will enable us to discover and develop a wide array of potential treatment options for patients with cancer.

We are advancing a robust pipeline of TCR-T therapy candidates for the treatment of patients with hematologic and solid tumor malignancies. Our lead liquid tumor product candidates, TSC-100 and TSC-101, are in development for the treatment of patients with hematologic malignancies to eliminate residual leukemia and prevent relapse after hematopoietic stem cell transplantation, or HCT. TSC-100 and TSC-101 target HA-1 and HA-2 antigens, respectively, which are well-recognized TCR targets that were identified in patients with exceptional responses to HCT-associated immunotherapy. We plan to submit Investigational New Drug, or IND, applications with the U.S. Food and Drug Administration, or FDA, for each of TSC-100 and TSC-101 in the fourth quarter of 2021. In addition, we are developing multiple TCR-T therapy candidates for the treatment of various solid tumors. One of the key goals for our solid tumor program is to develop what we refer to as multiplexed TCR-T therapy. We are designing these multiplexed therapies to be a combination of up to three highly active TCRs that are customized for each patient and selected from our bank of therapeutic TCRs, which we refer to as ImmunoBank. We are currently advancing four solid tumor programs, TSC-200, TSC-201, TSC-202, and TSC-203, through lead optimization, and expect to submit IND applications for at least three of our four solid tumor TCR-T therapy candidates in the second half of 2022, with the fourth IND expected to be submitted in 2023.

T cells are an essential component of the adaptive immune system and provide protection against cancer, infection, and autoimmune disease. Multiple approaches have been and are continuing to be explored to develop effective T cell-based therapies for the treatment of cancer, including tumor infiltrating lymphocyte, or TIL, therapy and chimeric antigen receptor T cell, or CAR-T, therapy. The success of TIL therapy depends on the specific T cells present in the patient. If their TILs do not have appropriate anti-cancer specificities, the therapy is unlikely to be effective. In addition, TIL therapy has, to date, shown limited applicability for the treatment of liquid tumors. In contrast, CAR-T therapy has proven effective in certain hematological malignancies of lymphoid origin, but have not yet shown efficacy or safety in myeloid malignancies. Additionally, this type of treatment is limited to targets on the surface of tumor cells and has not yet been shown to effectively penetrate solid tumors. Both TIL and CAR-T therapies, as well as other immunotherapies such as checkpoint inhibitors, harness the power of cytotoxic T cells in fighting cancer. Despite demonstrating compelling efficacy, they are only effective in a subset of patients. To address a broader patient population, we believe additional T cell-based approaches are needed that more closely mimic the way the immune system recognizes and fights cancer in patients who are responding to immunotherapy.

Our decision to develop TCR-T therapies for the treatment of cancer is based on our conviction that we can learn from the natural interaction between T cells and tumor cells and harness this information to treat patients by reprogramming their immune systems. We believe that TCR-T therapy combines the benefits of TIL and CAR-T therapies while uniquely addressing their key limitations.

[Table of Contents](#)

The development of TCR-T therapy requires three key prerequisites: (i) an effective anti-cancer TCR; (ii) knowledge of the precise peptide antigen, a protein or other molecule to which an antibody binds, that is recognized by the TCR; and (iii) confirmation that the TCR does not recognize problematic off-targets. We believe that our approach provides us with the following key advantages:

- *Our TCR-T therapies are based on highly active TCRs that are clinically relevant.* Many other approaches to T-cell therapy rely on specifically expanding T cells that are already present in the patient. Our platform analyzes anti-cancer T cells from a wide variety of patients who are responding to immunotherapy in order to find the most active and clinically relevant TCRs against each target. We believe this will allow us to develop TCR-T therapies for a wide range of patients, including those who do not have T cells that efficiently recognize their cancers.
- *Our TCR-T therapies are designed to be used in combination with each other.* We are building our diverse ImmunoBank of TCRs to allow for multiplexed TCR-T therapy, which has the potential to address the heterogeneous nature of solid tumors and to prevent resistance developing due to loss of a single target. We believe this approach may allow us to overcome the limitations and challenges of TCR-T therapy development to date.
- *Our approach is expandable.* ImmunoBank has the flexibility to be used with new and optimized methods of T-cell engineering that we may develop over time. We are building ImmunoBank to be compatible with both autologous and allogeneic engineering technologies in order to potentially transition to generating off-the-shelf, allogeneic T cells that have been pre-engineered with our TCRs for direct administration to patients.

Our proprietary platform is designed to: (i) discover anti-cancer TCRs from patients with exceptional responses to immunotherapy; (ii) determine novel targets of clinically relevant TCRs; (iii) discover novel TCRs that recognize clinically validated targets; (iv) identify off-targets of TCRs to eliminate candidates that could potentially pose a safety risk; and (v) manufacture TCR-T therapies efficiently and consistently without the use of viral vectors using our T-Integrate technology. The three central elements of our platform that differentiate us from other cell therapy companies are TargetScan, ReceptorScan, and T-Integrate.

TargetScan. At the core of our proprietary platform is our TargetScan technology that enables us to identify the natural target of a TCR using an unbiased, genome-wide high-throughput screen. We have developed this technology to be extremely versatile and applicable across multiple therapeutic areas, including cancer, autoimmune disorders, and infectious diseases. It can be applied to virtually any TCR that plays a role in the cause or prevention of disease. Using TargetScan, we have identified more than 40 shared antigens in patient tumors, and over 90% of these targets have not previously been publicly identified as targets for TCR-T therapy. We believe this provides us with a competitive advantage, because not only are we among the first to identify these targets as tumor-specific antigens, but we have already identified highly active TCRs that recognize these targets. TargetScan is also designed to identify potential off-targets of a TCR and eliminate those TCR candidates that cross-react with proteins expressed at high levels in critical organs. We believe this will allow us to reduce the risk and enhance the potential safety profile of our TCR-T therapy candidates early in development before we initiate clinical trials.

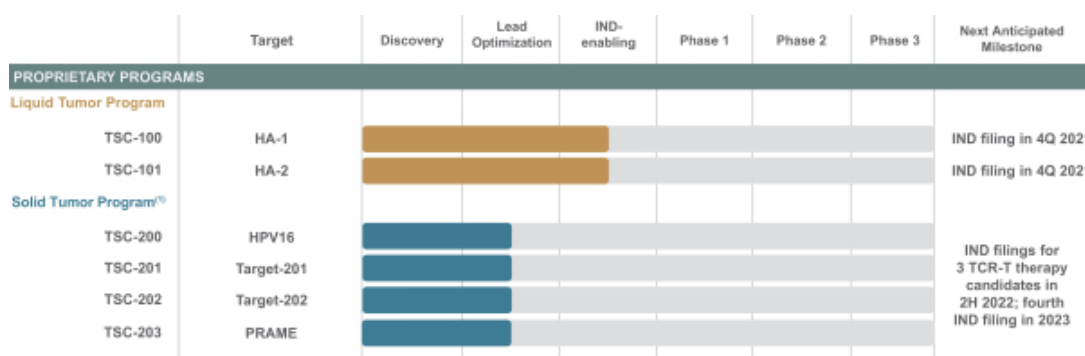
ReceptorScan. To further expand our ability to discover and develop therapeutic TCRs, we have developed our proprietary ReceptorScan technology to enable us to identify and clone highly active TCRs that recognize known or clinically validated targets. We co-culture hundreds of millions of CD8⁺ T cells from either healthy donors or cancer patients with dendritic cells, also referred to as antigen-presenting cells, that display the target antigen of interest to the T cells. T cells that recognize the target of interest proliferate, and are subsequently isolated based on their ability to recognize a fluorescently labeled version of the target. We then use single cell sequencing to identify the specific TCR sequences that recognize the target. Our novel technologies allow us to gene-synthesize hundreds of TCRs simultaneously and to rapidly sort through hundreds of target-specific TCRs in a single high-throughput screen to identify the most active clones. Using ReceptorScan, we have identified our two lead TCR-T therapy candidates, TSC-100 targeting HA-1 and TSC-101 targeting HA-2.

Table of Contents

T-Integrate. Manufacturing cell therapies is highly complex, and associated challenges have led to significant delays or failures in the development of many cell therapies. To enable the rapid, cost-effective, and consistent manufacturing of TCR-Ts, we have developed a non-viral vector delivery system that we refer to as T-Integrate. Our TCR-T therapy candidates are manufactured using a transposon/transposase system, in which the DNA encoding the TCR is manufactured as a Nanoplasmid, a non-viral vector. The Nanoplasmid, together with an mRNA sequence encoding a transposase enzyme, is introduced into the T cell by electroporation. After the T cell translates the mRNA into protein, the transposase enzyme inserts the TCR sequence from the Nanoplasmid into the genome of the T cell. This system is highly reproducible, as the only required components are a Nanoplasmid, which is different for each TCR product, and an mRNA, which is constant for all TCR products. Unlike lentivirus, both of these components are routinely manufactured in a cost-effective manner without the need for extensive process development. We believe our manufacturing platform will enable us to efficiently develop and manufacture many different TCR-T therapies, allowing us to deliver customized multiplexed therapy to patients with cancer.

Our Pipeline

We are leveraging our proprietary platform technologies to develop a robust pipeline of TCR-T therapies with the goal of building our ImmunoBank of TCRs to treat a wide range of tumor types. In addition, we are applying our platform to identify targets and TCRs in therapeutic areas outside of oncology, such as autoimmune disorders and infectious disease, through strategic partnerships. Our current proprietary pipeline is summarized in the figure below.



In addition to our proprietary pipeline programs noted above, we also are in the discovery phase for our TSC-102 program, which is targeting an additional MiHA target that is presented on HLA-B*07:02. Our overall strategy is to progressively build this program to provide a broad array of therapeutic options for the majority of patients with hematologic malignancies receiving HCT. Beyond our proprietary pipeline programs, we have also entered into collaborations with strategic partners for applications of our platform technologies. We have a collaboration and license agreement with Novartis to identify novel cancer antigens from the T cells of patients with one specific type of cancer. Novartis has the option to license and develop therapies for up to three discovered targets. In addition, we have partnered with QIAGEN Sciences, LLC to develop a highly specific diagnostic test to determine prior exposure to SARS-CoV-2 based on the presence of anti-viral T cells.

With our differentiated platform as the foundation, we are building a three-pillar research and development strategy to create transformational TCR-T therapies for patients.

1. *Our Liquid Tumor Program*. We are developing our liquid tumor program to treat patients with hematologic malignancies who are undergoing allogeneic HCT. In the first phase of our clinical development strategy, we are initially focusing on clinically validated cancer targets that have been discovered in patients with exceptional responses to HCT-associated immunotherapy, including HA-1 and HA-2. In addition, to further

expand our liquid tumor program, we are developing additional product candidates that target other similarly validated antigens, enabling us to expand the addressable patient population.

We plan to conduct clinical trials of our lead TCR-T therapy candidates, TSC-100 and TSC-101, in parallel, with patients enrolled in treatment arms based on their genotype. Patients who are positive for the target antigen, HA-1 or HA-2, as well as the HLA-A*02:01 allele, which is the HLA type required to display HA-1 and HA-2 on the cell surface for recognition by a T cell, will be eligible for enrollment. Furthermore, eligible patients will require donors who are negative for either the target antigen or the HLA-A*02:01 allele. We plan to incorporate additional product candidates into this trial design as they advance into the clinic, which we believe will allow us to provide a broad array of therapeutic options for the majority of patients with hematologic malignancies receiving HCT. In our clinical trials of TSC-100 and TSC-101, we also plan to evaluate the potential benefit of combining the two therapies as a multiplexed TCR-T therapy for patients who are positive for both HA-1 and HA-2.

Through the development of our liquid tumor program, we are building a foundation of manufacturing, clinical, and regulatory capabilities, which will be applied to the future development of our broader portfolio of TCR-T therapy candidates for solid tumors.

2. *Our Solid Tumor Program.* We are developing a portfolio of autologous TCR-T therapy candidates that are designed to be used in combination with each other to treat and eliminate solid tumors. Our TSC-200 series of product candidates are designed to elicit an anti-tumor response in patients by targeting cancer-specific antigens in their tumor cells. Our TCR-T therapy candidates include: (i) either well-recognized cancer targets that have demonstrated anti-tumor activity in clinical trials or novel targets that were identified by TargetScan from the T cells of patients responding to immunotherapy and (ii) naturally occurring TCRs specific to a patient's HLA type that recognize these cancer-specific targets. Such targets are not only commonly shared among patients with the same cancer type, but also frequently expressed in multiple solid tumor types, enabling clinical development across multiple indications. Our first four product candidates include a combination of known targets, such as HPV16 for TSC-200 and PRAME for TSC-203, as well as targets that are novel antigens for TCR-T therapy, such as for TSC-201 and TSC-202. In addition to our four lead product candidates, we have identified over 40 novel antigens based on tumor samples from patients who are actively responding to immunotherapy using our TargetScan technology. We are in early stages of analyzing these additional novel antigens and plan to advance those that we believe have the best potential as a TCR-T product candidate into preclinical development.

Our vision is to create and continuously expand ImmunoBank to enable customized multiplexed TCR-T therapy for a wide range of solid tumor patients. For each patient with a solid tumor malignancy, we plan to analyze their tumor to determine which targets are expressed at high levels in their particular cancer. We will then access ImmunoBank and select up to three TCRs that match their HLA type and address the most highly expressed targets in their tumor. We will use this set of TCRs to genetically reprogram their T cells to recognize these targets, and the resulting T cells will be infused back into the patient as a multiplexed TCR-T therapy.

3. *Strategic Partnerships and Collaborations.* T cells play a fundamental role in many other therapeutic areas beyond cancer, such as autoimmune disorders and infectious disease. We believe that our TargetScan technology is well suited to discover novel antigens for the development of therapeutics, diagnostics, and vaccines in these other therapeutic areas. We intend to opportunistically pursue collaborations with strategic partners for applications of our platform technologies outside our core focus of oncology.

Our History and Team

We were founded in early 2018 to discover and develop transformational therapies using a novel T-cell target discovery platform developed by Drs. Stephen Elledge and Tomasz Kula at Brigham and Women's Hospital and Harvard Medical School. Since then, we have made substantial progress building our target and TCR discovery platform technologies, discovering new targets and TCRs, advancing our two lead programs into IND-enabling studies, developing in-house manufacturing capabilities, and, in response to the ongoing

[Table of Contents](#)

COVID-19 pandemic, identifying the targets of T cells from recovering COVID-19 patients. In addition, we have entered into multiple strategic collaborations, including with Novartis Institutes for Biomedical Research, Inc., and QIAGEN Sciences, LLC.

We have assembled a highly qualified team with deep experience in T-cell biology, high throughput screening, engineering and manufacturing of cell therapies, as well as in all phases of research and clinical development, from early-stage discovery and IND-enabling studies through registrational clinical trials. Our team includes industry veterans with prior experience at academic and research institutions such as Harvard University, Harvard Medical School, and Massachusetts General Hospital, and companies such as BlueRock Therapeutics, LLC, CRISPR Therapeutics, Inc., Editas Medicine, Inc., Human Genome Sciences, Inc., Kite Pharma, Inc., KSQ Therapeutics, Inc., Merrimack Pharmaceuticals, Inc., Regeneron Pharmaceuticals, Inc., Repertoire Immune Medicines, Inc., and SQZ Biotechnologies Company. Our research efforts also benefit from the informal advice and guidance provided by our scientific advisory board members, including Drs. Elledge and Kula, who receive equity and/or cash compensation. Since our inception, we have raised an aggregate of \$160 million from leading biotechnology investors, including RA Capital Management, Novartis Venture Fund, Novartis Institutes for Biomedical Research, Longwood Fund, Bessemer Venture Partners, GV, 6 Dimensions Capital, Astellas Venture Management, and Pitango HealthTech.

Our Strategy

Our mission is to create life-changing T-cell therapies for patients by unleashing the untapped potential of the human immune system. Our goal is to use our proprietary platform for the identification of novel tumor-specific antigens and clinically active TCRs to become a leader in the development of engineered T-cell therapies for the treatment of liquid and solid tumors. Our strategy includes the following key elements:

- **Leverage our proprietary platform technologies to build our diverse ImmunoBank of therapeutic TCRs to treat a wide range of tumor types.** Our TargetScan technology enables us to identify novel antigens that are broadly expressed across multiple types of solid tumors. In order to ensure that the antigens identified are clinically relevant, we use TCRs from tumor samples of patients with exceptional responses to immunotherapy. Our platform allows us to assess the specificity and cytotoxicity of these TCRs to develop a portfolio of TCR-T therapy candidates with therapeutic potential. As we continue to expand our screening technology, we believe we will be able to generate our ImmunoBank of therapeutic TCRs with the diversity required to treat many solid tumors using multiplexed therapy.
- **Advance our lead liquid tumor product candidates, TSC-100 and TSC-101, through clinical development.** Our two lead programs, TSC-100 and TSC-101, are designed to target HA-1 and HA-2, respectively, both of which are antigens with clinically demonstrated anti-tumor effects in patients who naturally develop T cells specific to these targets. Using our ReceptorScan technology, we generated hundreds of highly active TCRs that recognize HA-1 and HA-2. We selected TSC-100 and TSC-101 based on their superior potency and lack of off-target effects. We plan to submit INDs for each of TSC-100 and TSC-101 in the fourth quarter of 2021. In addition, through our liquid tumor programs, we are building a foundation of manufacturing, clinical and regulatory capabilities to support the development of our broad portfolio of TCR-T therapies.
- **Apply experience from our liquid tumor program to efficiently develop our solid tumor program targeting both novel and previously identified antigens.** Using our TargetScan technology, we have identified over 40 novel antigens based on tumor samples from patients who are actively responding to immunotherapy. We are initially developing our TSC-200 series of TCR-T therapies against four selected target antigens that are frequently expressed across multiple solid tumor types. Our first four solid tumor TCR-T therapy candidates include a combination of known targets, such as HPV16 for TSC-200 and PRAME for TSC-203, as well as targets that are novel antigens for TCR-T therapy, such as for TSC-201 and TSC-202. We believe that the treatment of solid tumors will require a combination of several TCR-T therapies, which we refer to as 'multiplexed therapy'. We plan to leverage the foundation built

from our liquid tumor programs to efficiently develop a robust portfolio of TCR-T therapy candidates and expand ImmunoBank to enable multiplexed TCR-T therapies for solid tumors.

- **Continue to develop manufacturing capabilities based on our non-viral T-Integrate system.** We believe that in-house manufacturing capabilities substantially facilitate the successful early development of cell therapies. For our TCR-T therapy candidates, we have developed a non-viral gene delivery system, which we refer to as T-Integrate, based on transposons that are designed to enable cost-effective and consistent cell manufacturing with short development times. We have built an internal good manufacturing practices, or GMP, manufacturing facility that we expect will provide sufficient capacity to support all of our clinical programs through Phase 2 clinical trials.
- **Develop next generation T-cell engineering capabilities.** Our long-term vision is to build an allogeneic repository of off-the-shelf, genetically engineered T cells and provide multiplexed TCR-T therapies to patients with a wide range of malignancies. Although our initial solid tumor programs are autologous, we are developing T-cell engineering technologies and in-house manufacturing capabilities to transition our therapeutic TCRs to allogeneic therapies based on T cells derived from healthy donors or induced pluripotent stem cells, or iPSCs. We are also exploring additional next generation technologies, such as *in vivo* T-cell engineering, to further advance our T-cell engineering capabilities.
- **Opportunistically pursue strategic partnerships and collaborations to maximize the full potential of our platform.** Our platform represents a powerful tool to identify targets and TCRs in therapeutic areas outside of oncology, such as autoimmune disorders and infectious disease. We intend to seek strategic partners with proven clinical development and commercialization capabilities for certain targets and/or assets that do not overlap with our internal programs or our core focus. To date, we have established a partnership for COVID-19 with QIAGEN Sciences, LLC for the development of a T cell-based diagnostic.

Background on T-Cell Therapies

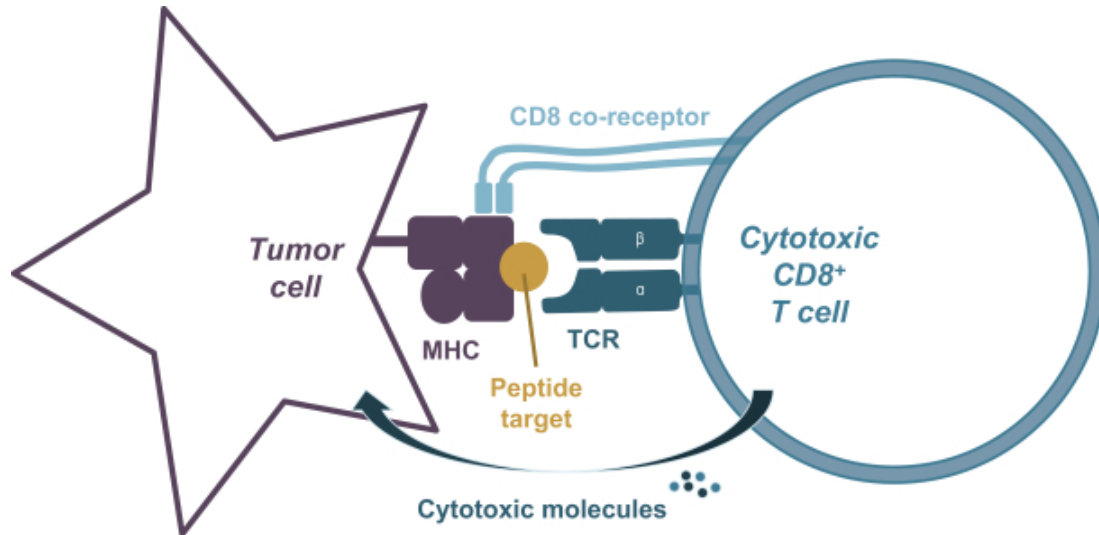
The human immune system constantly provides a natural and highly effective defense against cancer, which only forms when tumor cells find a way to evade the immune system. The treatment of cancer was revolutionized about a decade ago with the advent of immunotherapy – therapeutic approaches designed to re-enable or re-direct immune cells to recognize and fight cancer. Over the past 10 years, a suite of immuno-oncology drugs has been approved and adopted as part of routine clinical practice. Successes in immuno-oncology came initially from the approval of immune checkpoint inhibitors and more recently from the development of cellular therapies, such as CAR-T and TIL therapies. These therapies all harness the power of cytotoxic T cells in fighting both hematologic malignancies and solid tumors. Although these therapies have demonstrated compelling efficacy, they are only effective in a subset of patients. To address a broader patient population, we believe additional T cell-based approaches are needed that more closely mimic the way the immune system recognizes and fights cancer in patients who are responding to immunotherapy.

Overview of T-Cell Biology

T cells are an essential component of the adaptive immune system and provide protection against cancer, infection, and autoimmune disease. T cells are classically divided into two primary types of activating cells: helper T cells and cytotoxic T cells. Helper T cells, which express the CD4 co-receptor, function by providing signals to other immune cells for activation and recruitment. Cytotoxic T cells, which express the CD8 co-receptor, function by killing any cells in the human body that are expressing unnatural proteins, including proteins that are not expressed in normal tissue, proteins that arise from mutated genes, or proteins derived from pathogens. By definition, tumor cells are abnormal and make a wide variety of unnatural proteins. T cells are activated and exert their helper or cytotoxic function when their T cell receptors, or TCRs, recognize antigens displayed on the surface of malignant or infected cells.

Virtually every cell in the body has a mechanism for displaying on its surface a sampling of every protein that is being made by the cell. This includes all normal proteins as well as aberrant proteins if the cell is cancerous or proteins from pathogens if the cell has been infected. Cellular proteins are broken down into short fragments, or peptides, by the proteasome, and these peptides are loaded into Major Histocompatibility Complexes, or MHCs, to be displayed on the outside of the cell. These peptide/MHC complexes are recognized by TCRs on cytotoxic CD8⁺ T cells, as shown in the graphic below. Because the TCR recognizes both the peptide and the MHC, a TCR only functions correctly when both the peptide and the correct MHC are present.

TCRs on Cytotoxic CD8⁺ T Cells Recognize the Peptide/MHC Complexes of Tumor Cells



MHC proteins, which present different peptides to the human immune system, are highly variable among people. An individual's MHC proteins are determined by their Human Leukocyte Antigen, or HLA, type. Although there are many different HLA types, some are quite common. For example, 42% of individuals in the United States are positive for the HLA-A*02:01 allele, or variant. TCRs are often referred to as "HLA-restricted" because they are only able to interact with specific HLA types. For this reason, TCR-T therapy harnesses the exquisite specificity of the TCR-peptide-MHC interaction to selectively target tumor cells.

Current Approaches to T-Cell Therapy

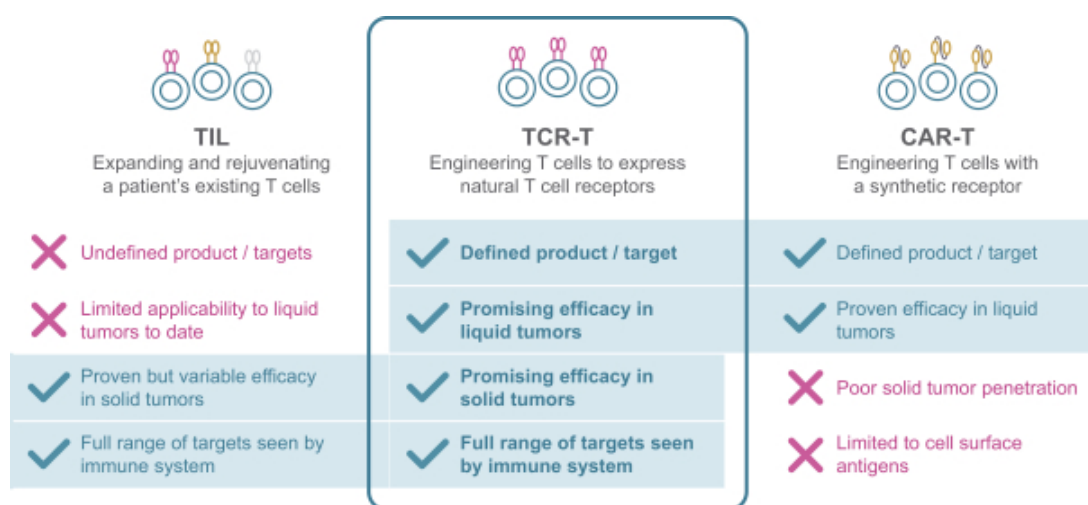
Multiple approaches are being explored to develop effective T cell-based therapies for the treatment of cancer. One approach is to isolate naturally occurring T cells from a patient's tumor, referred to as TILs, expand and activate those cells *ex vivo*, and then return them to the patient via intravenous infusion. Although the targets of these T cells are not known, it is presumed that T cells isolated from a tumor are enriched in T cells directed against cancer cells. This approach, however, depends on the specific T cells present in the patient. If the patient's TILs do not have appropriate anti-cancer specificities or if their TILs cannot be adequately expanded *ex vivo*, the therapy is unlikely to be effective.

A different approach that has proven effective in certain hematological malignancies is to identify targets that are preferentially expressed on the surface of tumor cells, such as CD19. Antibody fragments that recognize these targets are used to create an artificial construct that links the antibody to key signaling elements required

for T-cell activation. The resulting CAR is incorporated genetically into a patient's T cells, thereby redirecting those cells to recognize and fight the patient's cancer. Although CAR-T therapies have been highly effective in certain tumor types, leading to multiple approved products, the benefit of these therapies and the addressable cancer indications have been limited by several factors. First, it is likely that there is a relatively limited set of truly tumor-specific cell surface antigens. In general, most antigens expressed on the surface of tumor cells are also expressed on normal cells, resulting in therapies that, even if effective, have a narrow therapeutic window and are vulnerable to potentially life-threatening toxicities. Second, CAR-T cells rely on antibody fragments that recognize cell-surface proteins, precluding intracellular proteins as potential targets. Third, CAR-T therapies generally do not efficiently penetrate solid tumors, which to date has limited their applicability to hematologic malignancies.

In contrast to CAR-T therapies, naturally occurring TCRs offer two important benefits compared to antibody-containing artificial receptors. First, TCRs are the natural receptors used by the T cell to recognize foreign antigens. As such, they are optimized to stimulate the T cell appropriately when they engage their targets on a tumor cell. An appropriately stimulated T cell will not only kill the tumor cell, but also produce cytokines that stimulate other immune cells and make copies of itself, or proliferate, to further augment the immune response. Balancing all the cellular responses of a T cell is something that has been finely tuned over millions of years of evolution and is best mediated by naturally occurring TCRs, rather than by artificial constructs. Second, TCRs can recognize a much broader set of antigens, including peptides derived from both cell surface and intracellular proteins, whereas CARs are restricted to recognizing only cell surface proteins. MHC-I peptides are predominantly derived from intracellular proteins rather than extracellular proteins, which dramatically increases the universe of potential cancer-specific antigens that can be recognized by TCRs compared to CARs. We believe TCR-T therapy combines the benefits of TIL and CAR-T therapies while uniquely addressing their key limitations, as shown below.

Comparison of T-Cell Therapy Modalities



The development of TCR-T therapy requires three key prerequisites: (i) an effective anti-cancer TCR; (ii) knowledge of the precise peptide antigen that is recognized by the TCR; and (iii) confirmation that the TCR does not recognize problematic off-targets. Each of these prerequisites is technically challenging. Historically, targets of anti-cancer T-cell clones were identified through a manual and labor intensive process, and the identification of each target was often a multi-year project. As a result, only a few dozen targets have been identified to date and most clinical development efforts are focused on a short list of the most promising targets.

Our Approach

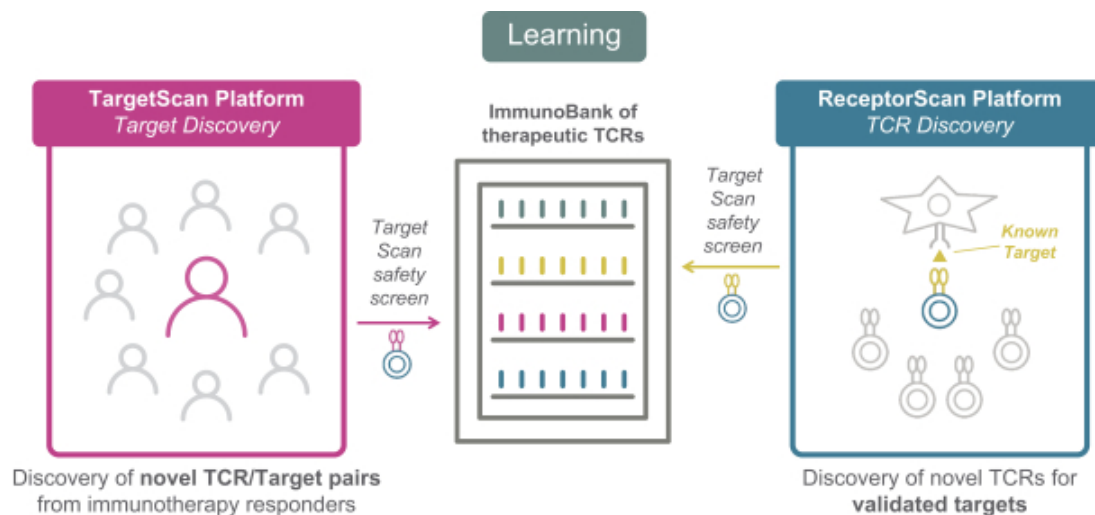
Our approach is based on the central premise that we can **learn** from patients who are winning their fight against cancer in order to **treat** those who are not. Using our proprietary platform technologies, we are analyzing the T cells of cancer patients with exceptional responses to immunotherapy to discover clinically relevant targets and TCRs. We are building ImmunoBank with the goal of delivering customized multiplexed TCR-T therapy to a wide range of patients with cancers.

Learning

When a patient responds to an immunotherapy drug such as an immune checkpoint inhibitor, their tumor shrinks because T cells in their tumor become activated and drive an anti-tumor cytotoxic response. The TCRs of their T cells recognize tumor-specific antigens on tumor cells and signal the T cell to kill the cancer cells. Our approach starts with isolating clinically active anti-cancer T cells from tumor samples of patients who are actively responding to immunotherapy agents. We then use our proprietary TargetScan technology to determine the precise targets being recognized by their TCRs. This provides us with a novel TCR/target pair that can be developed into a TCR-T therapy candidate. The advantage of our approach is that when we identify a new target, we know the target is immunologically relevant – the human immune system has already used that target to recognize and fight cancer. Furthermore, we have already identified a TCR that recognizes the target and, importantly, is associated with a meaningful clinical response in a patient. To de-risk clinical development of the TCR, we use our TargetScan technology to scan across every peptide sequence in the entire human proteome with the goal of ensuring that it does not have any problematic off-target effects. We then select TCRs that are highly active with no apparent problematic off-target effects to be added to ImmunoBank.

In addition to discovering novel TCR/target pairs, we are leveraging our proprietary ReceptorScan technology to identify highly active TCRs against previously identified and clinically validated targets. Once we identify these highly active TCRs, we use our TargetScan technology to reduce the risk that they exhibit problematic off-target effects, which de-risks their subsequent clinical development. The diagram below illustrates our proprietary discovery process where therapeutic TCR candidates are discovered using either TargetScan or ReceptorScan and those that we characterize as the best TCRs are added to ImmunoBank.

Our Proprietary Target and TCR Discovery Process

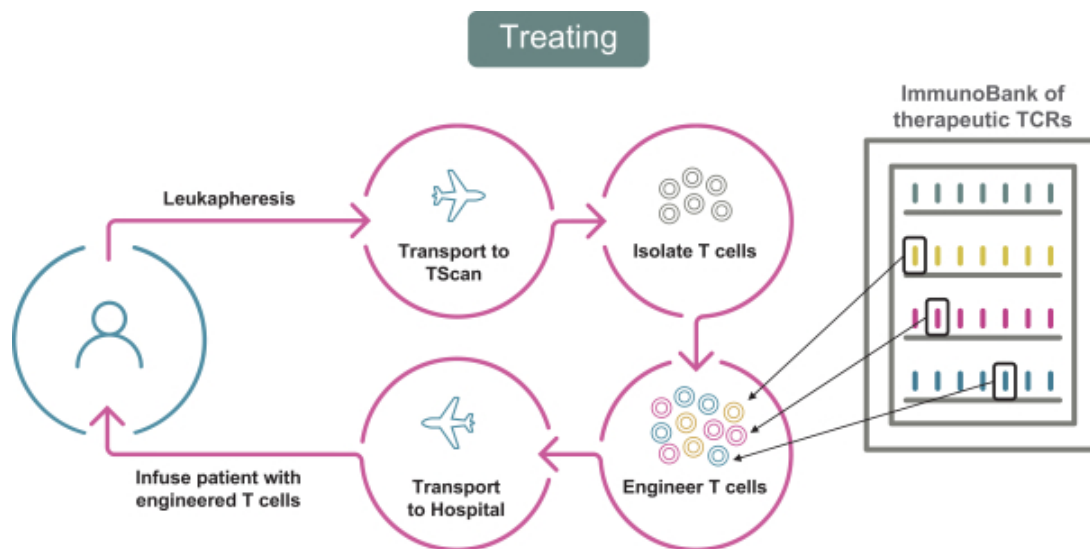


Treating

Our discovery process enables us to build and expand ImmunoBank with what we believe represents the most active TCRs isolated from a large group of diverse patients who are responding to immunotherapy. We are developing TCR-T therapies that use these clinically relevant TCRs to reprogram the T cells of patients who do not spontaneously generate effective anti-cancer T cells and thus do not respond to immunotherapy. Our manufacturing process begins with obtaining white blood cells from either the patient or a healthy donor using a procedure called leukapheresis. We will then transport these white blood cells to our in-house manufacturing facility, where we isolate the T cells and genetically engineer them using TCR sequences from ImmunoBank. We believe the continued expansion and diversification of ImmunoBank will enable us to deliver customized multiplexed TCR-T therapy to patients, where each patient's T cells are engineered with multiple TCRs that are matched to their specific tumor and HLA type. For example, if a patient's tumor expresses high levels of cancer target X, their T cells will be reprogrammed with a TCR that recognizes target X.

Once the T cells are engineered with a combination of the most relevant TCRs, they will be transported back to the hospital and reintroduced into the patient by intravenous infusion. Following the infusion, the engineered T cells, which are designed to recognize multiple targets expressed by the patient's tumor, will proliferate *in vivo* and mount an anti-cancer immune response. Our patient treatment and manufacturing process is summarized in the graphic below.

Our Patient Treatment and Manufacturing Process



Key Features of Our Approach

We believe there are three key advantages to our approach:

- *Our TCR-T therapies are based on highly active TCRs that are clinically relevant.* Many other approaches to T cell therapy rely on specifically expanding T cells that are already present in the patient. Our platform analyzes anti-cancer T cells from a wide variety of patients who are responding to immunotherapy in order to find the most active and clinically relevant TCRs against each target. We believe we can develop TCR-T therapies for a wide range of patients, including those who do not have T cells that efficiently recognize their cancers.

[Table of Contents](#)

- *Our TCR-T therapies are designed to be used in combination with each other.* We are building our diverse ImmunoBank of TCRs to allow for multiplexed TCR-T therapy, which has the potential to address the heterogeneous nature of solid tumors and to prevent resistance developing due to loss of a single target. We believe this approach may allow us to overcome the limitations and challenges of TCR-T therapy development to date.
- *Our approach is expandable.* ImmunoBank has the flexibility to be used with new and optimized methods of T cell engineering that we may develop over time. We are building ImmunoBank to be compatible with both autologous and allogeneic engineering technologies in order to potentially transition to generating off-the-shelf, allogeneic T cells that have been pre-engineered with our TCRs for direct administration to patients.

Our Platform

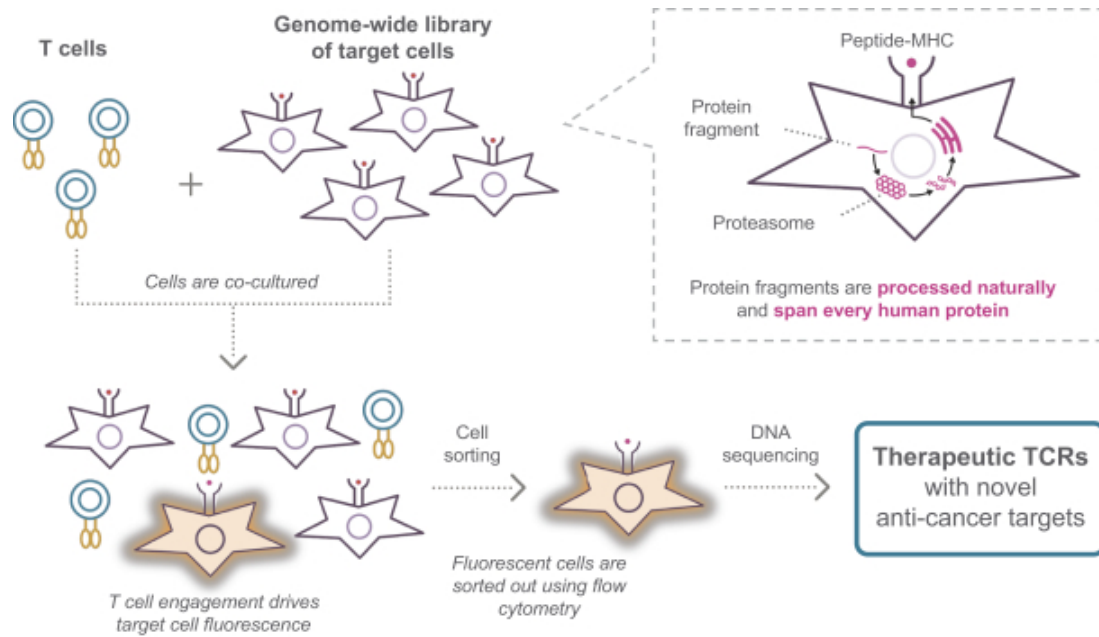
Our proprietary platform is designed to: (i) discover anti-cancer TCRs from patients with exceptional responses to immunotherapy; (ii) determine novel targets of clinically relevant TCRs; (iii) discover novel TCRs that recognize clinically validated targets; (iv) identify off-targets of TCRs to eliminate candidates that could potentially pose a safety risk; and (v) manufacture TCR-T therapies efficiently and consistently without the use of viral vectors using our T-Integrate technology. The three central elements of our platform that differentiate us from other cell therapy companies are TargetScan, ReceptorScan, and T-Integrate.

TargetScan—Identification of Novel Targets of Clinically Active TCRs

At the core of our proprietary platform is our TargetScan technology that enables us to identify the natural target of a TCR using an unbiased, genome-wide, high-throughput screen. We have developed this technology to be extremely versatile and applicable across multiple therapeutic areas, including cancer, autoimmune disorders, and infectious diseases. It can be applied to virtually any TCRs that plays a role in the cause or prevention of disease. TargetScan is also designed to identify potential off-targets of a TCR and eliminate those TCR candidates that cross-react with proteins expressed at high levels in critical organs. We believe this will allow us to reduce the risk and enhance the potential safety profile of our TCR-T therapy candidates early in development before we initiate clinical trials.

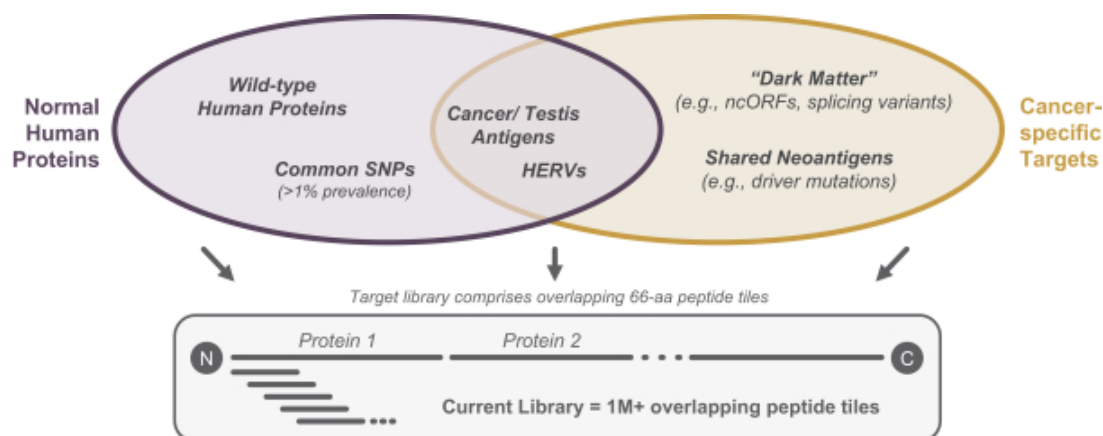
To identify the target of a clinically active TCR found in the T cells of a patient actively responding to immunotherapy, we mix T cells expressing that TCR with a genome-wide library of target cells where every cell in the library expresses a different protein fragment. In each target cell, the protein fragment is processed naturally by the proteasome or immunoproteasome and the resulting peptides are displayed on cell-surface MHC proteins. If a T cell recognizes the peptide-MHC complex on a target cell, it attempts to kill the target cell, thereby activating a proprietary fluorescent reporter in the target cell. By isolating fluorescent target cells and sequencing their expression cassettes, TargetScan reveals the natural target(s) of the T cell, as shown below. This technology was published as a feature article in *Cell* in 2019.

Overview of Our Proprietary TargetScan Technology



Central to this technology is the library of protein fragments used for any given TargetScan screen. Our proprietary libraries comprise hundreds of thousands of specific sequences that collectively include most or all of the targets that a TCR could potentially recognize. For example, our current Oncology Target Discovery Library (version 3.0) comprises over one million clones, each expressing a unique protein fragment. Collectively, these fragments span every human protein encoded in the human genome, along with all single nucleotide polymorphisms, or SNPs, which are single amino acid variations in naturally occurring proteins, observed at over 1% frequency in the human population. In addition, the library includes elements that are specific to cancer cells, which are particularly interesting to us as potential targets: common oncogenic driver mutations, cancer/testis antigens, human endogenous retroviruses, or HERVs, and a large collection of sequences that are not translated in normal tissue but frequently translated in human cancers. We constructed our libraries using a tiling pattern of overlapping fragments to provide complete and redundant coverage of every targeted sequence, as shown in the graphic below.

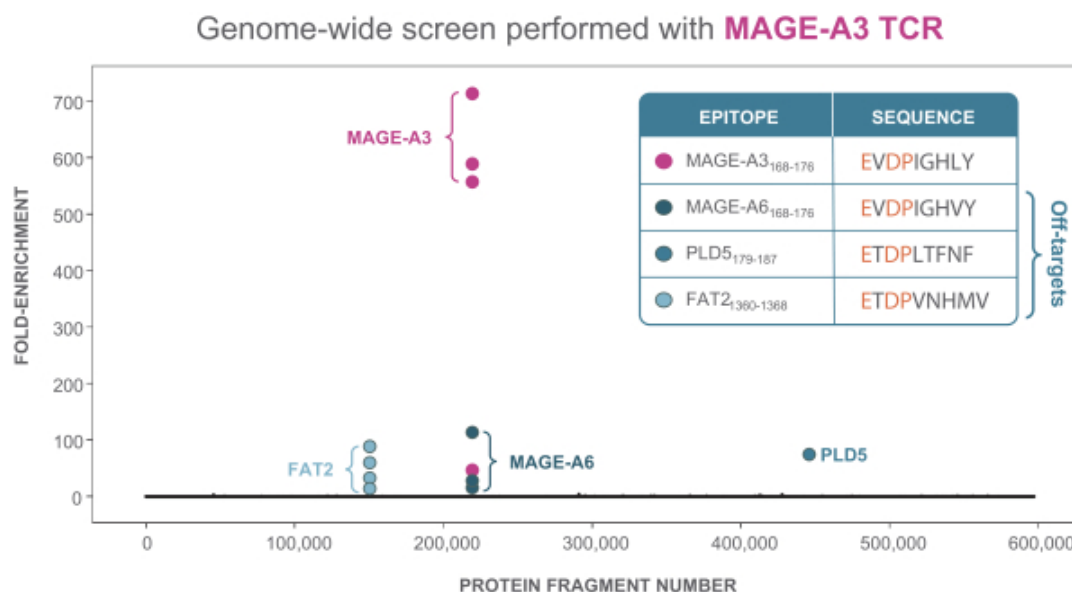
Oncology Target Discovery Library (Version 3.0)



Our Oncology Target Discovery Library allows us to precisely identify the novel targets recognized by TCRs from patients who are actively responding to immunotherapy. In addition, because the library comprehensively covers every non-mutated human protein sequence, we are also able to fully characterize all potential off-target interactions for any given TCR, which we believe will help us reduce the risk and enhance the potential safety profile of our TCR-T therapy candidates before we advance them to clinical development. Furthermore, we can use our screen for any HLA type, enabling target discovery across a wide range of patient demographics.

We have validated our TargetScan technology with a proof-of-concept screen using our Oncology Target Discovery Library (version 2.0), which included approximately 600,000 protein fragments spanning every human protein. Using a TCR known to recognize MAGE-A3, our screen, as shown below, correctly identified MAGE-A3 as its natural target, and also identified three off-targets, including two that are unrelated at the gene level to MAGE-A3 and would likely not have been identified in a bioinformatic search. The ability to identify problematic off-targets is critical as TCR-T therapies engineered with TCRs that recognize off-targets expressed at high levels in critical organs could cause toxicities, thereby limiting their therapeutic potential.

**TargetScan Proof-of-Concept:
Target Screen of MAGE-A3 Specific TCR Identifies MAGE-A3 and Three Off-Target**

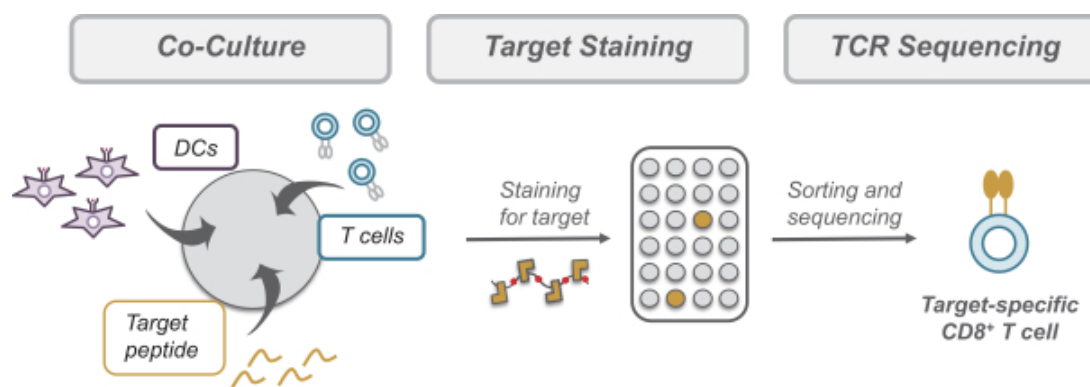


Using TargetScan, we have identified more than 40 shared antigens in patient tumors, and over 90% of these targets have not previously been identified as targets for TCR-T therapy. We believe this provides us with a competitive advantage, because not only are we among the first to identify these targets as tumor-specific antigens, but we have already identified highly active TCRs that recognize these targets.

ReceptorScan—Discovery of Novel Therapeutic TCRs for Known Targets

To further expand our ability to discover and develop therapeutic TCRs, we have developed our proprietary ReceptorScan technology to enable us to identify and clone highly active TCRs that recognize previously identified, clinically validated targets. As shown in the graphic below, we co-culture hundreds of millions of CD8⁺ T cells from either healthy donors or cancer patients with dendritic cells that display the target antigen of interest to the T cells. T cells that recognize the target of interest proliferate, and are subsequently isolated based on their ability to recognize a fluorescently labeled version of the target. We then use single cell sequencing to identify the specific TCR sequences that recognize the target. Our novel technologies allow us to gene-synthesize hundreds of TCRs simultaneously and to rapidly sort through hundreds of target-specific TCRs in a single high-throughput screen to identify the most active clones. Using ReceptorScan, we have identified our two lead TCR-T therapy candidates, TSC-100 targeting HA-1 and TSC-101 targeting HA-2.

Overview of Our Proprietary ReceptorScan Technology



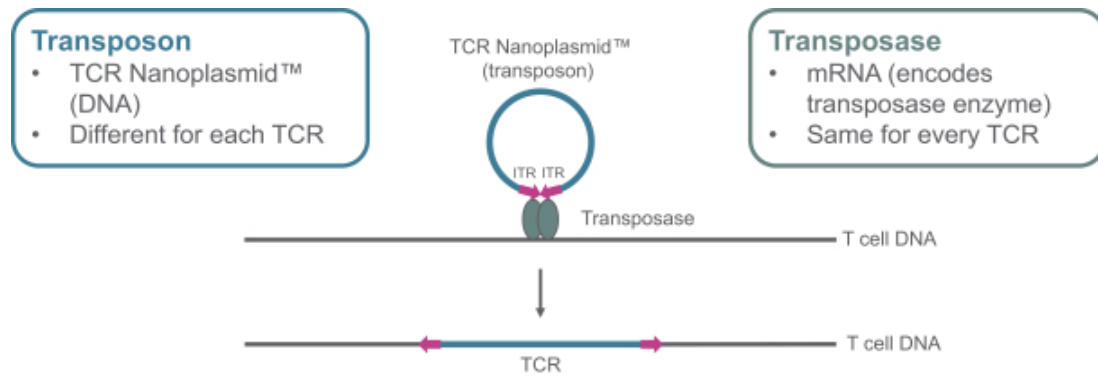
T-Integrate—Genetic Engineering of T Cells Using Transposons

Cell therapy manufacturing is highly complex, and associated challenges have led to significant delays or failures in the development of many cell therapies. To enable the rapid, cost-effective, and consistent manufacturing of TCRs, we have developed a non-viral vector delivery system that we refer to as T-Integrate. Our manufacturing platform enables us to introduce any of the TCRs from ImmunoBank, along with additional genetic elements such as CD8 that further augment T-cell function, into the genomes of patient- or donor-derived T cells.

Genetically engineering a T cell requires two steps: (1) delivering DNA encoding the TCR into the nucleus of a T cell and (2) integrating that DNA into the genome of the T cell. These two steps are often accomplished through the use of retroviral vectors, such as lentivirus, by packaging RNA encoding the TCR into lentiviral particles, which are then used to infect T cells. Although effective, manufacturing lentiviral particles is time-consuming, costly, and often highly variable. In addition, each new TCR requires extensive process development, as the TCR sequence affects the efficiency with which it is packaged into the lentivirus.

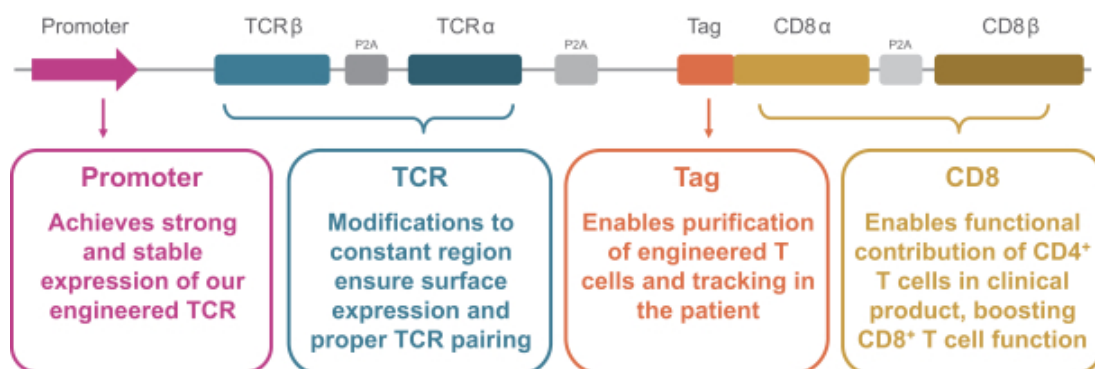
As a more efficient and reproducible alternative to lentivirus, we have developed T-Integrate to genetically engineer T cells using a transposon/transposase system, as shown in the graphic below. In this system, DNA encoding the TCR is manufactured as a Nanoplasmid and enables DNA delivery using a smaller plasmid footprint. The Nanoplasmid, together with an mRNA sequence encoding a transposase enzyme, is introduced into the T cell by electroporation. After the T cell translates the mRNA into protein, the transposase enzyme inserts the TCR sequence from the Nanoplasmid into the genome of the T cell. This system is highly reproducible, as the only required components are a Nanoplasmid, which is different for each TCR product, and mRNA, which is constant for all TCR products. Unlike lentivirus, both of these components are routinely manufactured in a cost-effective manner without the need for extensive process development. We believe our manufacturing platform will enable us to efficiently develop and manufacture many different TCR-T therapies, allowing us to deliver customized multiplexed therapy to patients with cancer.

Our T-Integrate Manufacturing Platform



Our transposon vector includes both the beta and alpha chains of the TCR under the control of a strong promoter. This is designed to ensure that high levels of the TCR are produced on the surface of the T cells and that the TCRs that are normally expressed in the patient or donor's T cells, or the 'endogenous' TCRs, are suppressed. We have also introduced specific alterations in the constant region of the TCR to further augment its stability. In addition to the TCR, our transposon construct includes genes encoding the alpha and beta chains of the cell-surface protein CD8. CD8 forms a complex with the TCR and is necessary for the TCR to recognize its target on tumor cells. Including the CD8 co-receptor in our construct enables us to genetically reprogram both major types of T cells: cytotoxic T cells that naturally make their own CD8 and helper T cells that do not make CD8. Our final TCR-T therapies are a mixture of both cytotoxic and helper T cells that have been reprogrammed to recognize and eliminate tumor cells expressing the relevant targets. We also included a short peptide tag at the beginning of CD8 alpha in our construct. This tag does not interfere with the function of CD8 alpha, but provides a way to easily purify the engineered T cells during our manufacturing process. An illustration of the construct of our TCR-T therapies is shown below.

Construct of our TCR-T Therapies



Our Programs

With our differentiated platform as our foundation, we are building a three-pillar research and development strategy to create transformational TCR-T therapies for patients, as shown below.

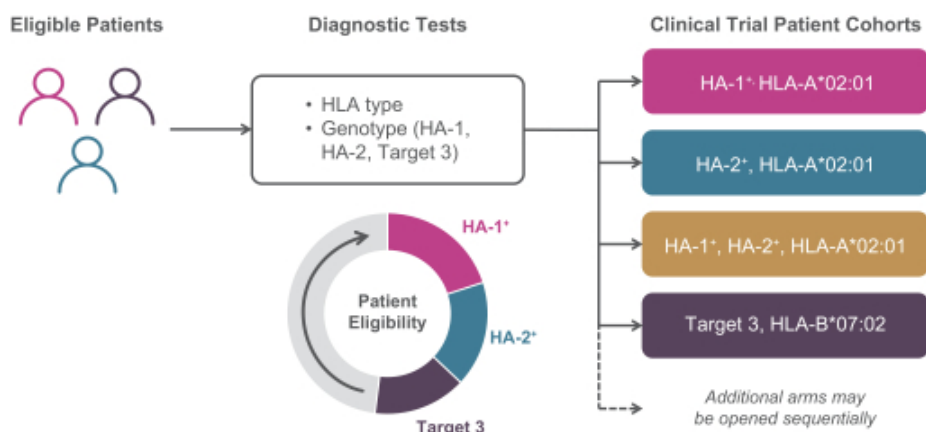


Our Liquid Tumor Program

We are developing our liquid tumor program to treat patients with hematologic malignancies who are undergoing for allogeneic HCT. In the first phase of our clinical development strategy, we are initially focusing on well-recognized cancer targets that have been discovered in patients with exceptional responses to HCT-associated immunotherapy, including HA-1 and HA-2. In addition, to further expand our liquid tumor program, we are developing additional product candidates that target other similarly validated antigens, enabling us to expand the addressable patient population.

We plan to conduct clinical trials of our lead TCR-T therapy candidates, TSC-100 and TSC-101, in parallel, with patients enrolled in treatment arms based on their genotype, as shown below. Patients who are positive for the target antigen, HA-1 or HA-2, as well as the HLA-A*02:01 allele, which is the HLA type required to display HA-1 and HA-2 on the cell surface for recognition by a T cell, will be eligible for enrollment. Furthermore, eligible patients will require donors who are negative for either the target antigen or the HLA-A*02:01 allele. We also plan to incorporate additional product candidates into this trial design as they advance into the clinic, which we believe has the potential to allow us to provide a broad array of therapeutic options for the majority of patients with hematologic malignancies receiving HCT. In our clinical trials of TSC-100 and TSC-101, we also plan to evaluate the potential benefit of combining the two therapies as a multiplexed TCR-T therapy for patients who are positive for both HA-1 and HA-2.

Our Clinical Development Strategy for Multiple TCR-T Therapies

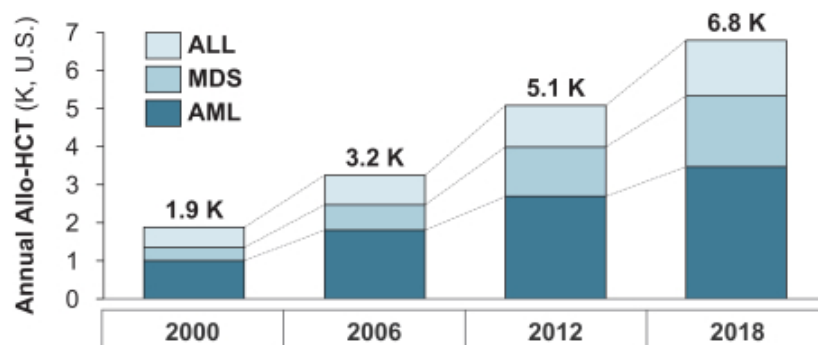


Background on Hematologic Malignancies

Hematopoietic stem cell transplantation, or HCT, has become the standard of care for many hematologic malignancies. When a patient with leukemia undergoes HCT, they start by receiving a conditioning regimen of high dose chemotherapy with or without radiation. This regimen is intended to kill both the patient’s leukemia cells as well as their native blood cells and blood cell precursors, including hematopoietic stem cells in their bone marrow. The patient then receives hematopoietic stem cells from an MHC-matched donor. The stem cells engraft in their bone marrow and start to repopulate their body with new blood cells, which are now genetically identical to the donor. HCT has demonstrated the rare opportunity in cancer treatment to generate long-term remissions or cures. For example, patients with acute myeloid leukemia, or AML, who receive HCT have a five-year post-transplant survival rate of 41%.

Approximately 7,000 allogeneic HCT procedures are performed yearly in the United States, primarily in patients with AML or acute lymphocytic leukemia, or ALL. As a curative therapy for many hematologic malignancies, use of HCT has been steadily increasing over the last two decades, as shown below, with increased use driven largely by increasing donor availability, an increase in disease prevalence due to aging populations, and improved conditioning regimens permitting broader use in older patient segments. While the approval of CAR-T therapies has significantly impacted the treatment of B-cell malignancies over the last decade, HCT in non-B cell malignancies is anticipated to remain the standard of care for patients. In addition, adoption of safer and more effective conditioning regimens is anticipated to continue to drive an increasing use of HCT in patient segments previously deemed too old or unfit for transplant or those who failed to achieve proper remission prior to transplant.

The Number of Allogeneic HCT Procedures in the U.S. Continues to Rise



However, despite the increasing use of HCT and the resulting clinical benefits or cures, up to half of the patients who receive HCT relapse, at which point there are limited treatment options and the prognosis is very poor. Clinical observations have shown that if the T cells of the donor recognize certain minor histocompatibility antigens, or miHAs, in the patient’s leukemia cells, such as proteins that have single amino acid differences between the patient and the donor, the T cells of the donor drive a specific graft vs. leukemia, or GvL, effect, whereby the engrafted donor T cells detect remaining leukemia as foreign and eliminate the remaining disease. As a result, the patient often experiences a long-term remission from their cancer, or even a complete cure. If the miHAs are also expressed in non-hematopoietic tissues, the patient may develop graft vs. host disease, or GvHD, but if the miHAs are only expressed in blood cells, a specific GvL effect is observed without an increase in GvHD. Our liquid tumor program is focused on targeting miHAs that are exclusively expressed in hematopoietic cells in order to induce the GvL effect while potentially mitigating the risk of GvHD.

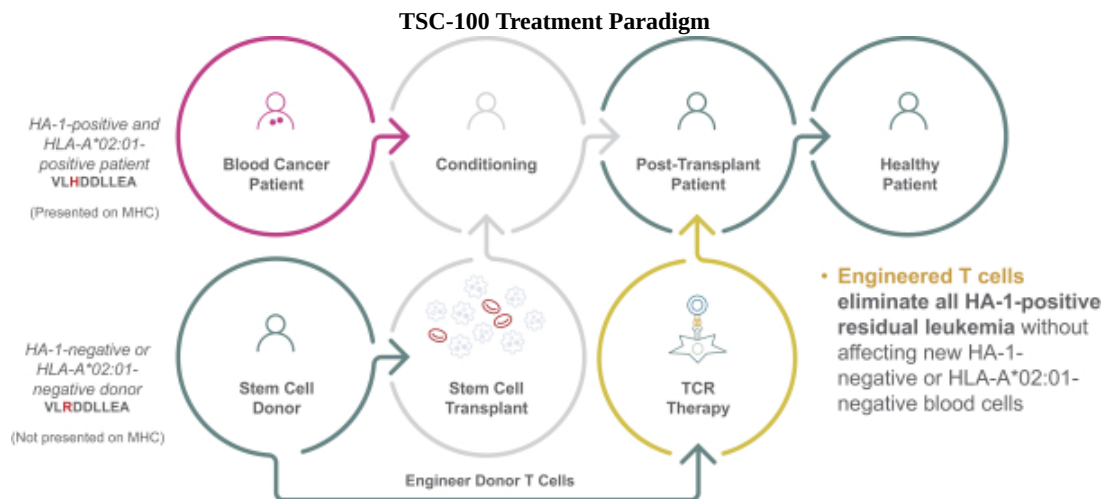
TSC-100

TSC-100 is an allogeneic TCR-T therapy candidate directed at eliminating all native blood cells, including residual cancer cells, in HA-1-positive and HLA-A*02:01-positive patients with hematologic malignancies who undergo HCT using a donor who is either HA-1-negative or HLA-A*02:01-negative. Using ReceptorScan, we screened over a hundred million CD8+ T cells and identified and assessed hundreds of highly active TCRs that recognize the HA-1 antigen. We selected TCR-100a based on its superior affinity, cytotoxic activity, and specificity compared to the others. TSC-100 is designed to elicit an anti-tumor response in patients by targeting HA-1, which is present on malignant and normal blood cells of HA-1-positive patients but not on any of the new, donor-derived blood cells they receive from a donor who is either HA-1-negative or HLA-A*02:01-negative. We believe that donor T cells specifically engineered to express TCR-100a will generate an anti-tumor effect in patients, leading to a reduction in relapse rates and an increase in long-term survival. We plan to file an IND for TSC-100 with the FDA in the fourth quarter of 2021.

HA-1 was one of the first miHAs to be discovered in a patient undergoing HCT. HA-1 is a peptide antigen derived from the protein ARHGAP45, which is an intracellular protein expressed at high levels in all blood cells but not in any other tissue. ARHGAP45 comes in two forms. In HA-1-positive individuals, the peptide has the sequence VLHDDLLEA and, if the individual has the HLA type A*02:01, the antigen is efficiently displayed on the surface of blood cells. In HA-1-negative individuals, the peptide has the sequence VLRDDLLEA, and the HA-1 antigen is not displayed. Approximately 60% of people have the VLHDDLLEA sequence and approximately 42% of people in the United States have the HLA type A*02:01, which means that approximately 25% of individuals in the United States are HA-1-positive with the specific HLA type required for antigen expression. Studies of patients receiving HCT have shown that in cases where the T cells of an HA-1-negative donor naturally develop a response to HA-1 in an HA-1-positive patient, the T cells mediate a specific GvL effect and the patient often experiences a long-term remission. TSC-100 is based on this clinical observation and is designed to specifically cause this GvL effect in patients receiving HCT.

Table of Contents

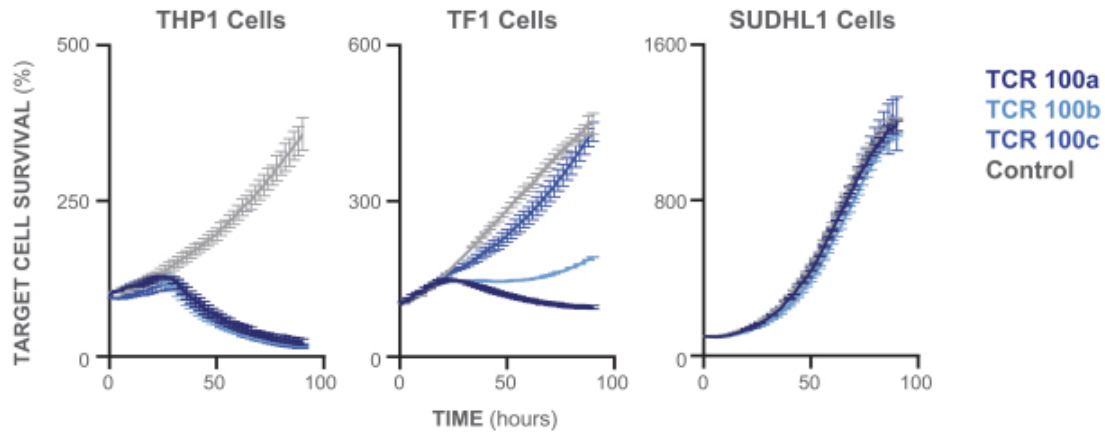
We are developing TSC-100 as a treatment for patients with cancer who are HA-1-positive and have been deemed eligible for HCT. For each patient, a healthy donor who is HA-1-negative or HLA-A*02:01-negative will be identified. Hematopoietic stem cells isolated from that donor will be used as the source of transplant material. In parallel, T cells isolated from the same donor will be genetically engineered to recognize HA-1. Once engraftment of donor stem cells is established in the patient, TSC-100 will be infused into the patient with the goal of eliciting a highly specific anti-tumor effect. The engineered donor T cells are designed to recognize and eliminate all of the patient's native blood cells, including residual leukemia cells, which are HA-1-positive, thereby preventing relapse and potentially promoting complete cures. Because the patient's new healthy blood cells are derived from the donor and are therefore either HA-1-negative or HLA-A*02:01-negative, we believe that TSC-100 should have minimal toxic side effects. A summary of the treatment paradigm for TSC-100 is illustrated below.



Preclinical Data

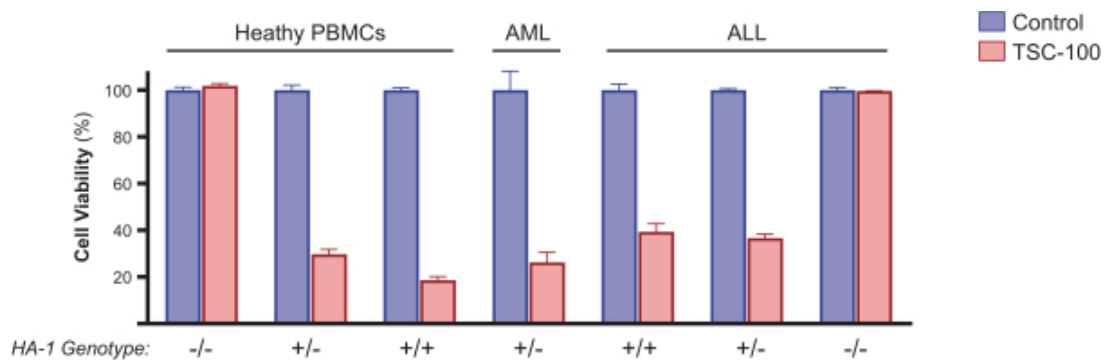
Using ReceptorScan, we screened over 175 million T cells from six healthy donors to identify naturally occurring TCRs specific for HA-1. We then extensively characterized over 300 of these TCRs for their ability to specifically recognize and kill tumor cells that express HA-1. We prioritized TCRs with the highest potency in cytotoxicity assays and in their production of cytokines associated with increased T-cell activation and function. Through this screening process, we identified TCR-100a, which exhibited superior potency compared to the other TCRs. We assessed the *in vitro* HA-1-specific cytotoxicity of TCR-100a using cell lines with various levels of HA-1 expression, as shown below. THP1, a cell line that expresses moderate levels of HA-1, was susceptible to cell killing by multiple TCRs we tested. However, TF1, a cell line that expresses less than half the level of HA-1 expressed by THP1, was sensitive to cell killing by TCR-100a but was resistant to almost all other HA-1-specific TCRs, including TCRs reported in the literature. Our preclinical studies also demonstrated that SUDHL1 cells, which lack HA-1 expression, were resistant to all tested HA-1-specific TCRs, as expected, highlighting the high selectivity and potential safety of TCR-T therapies.

In Vitro Studies Demonstrate Superior HA-1-Specific Cytotoxicity of TCR-100a Compared to Other TCRs



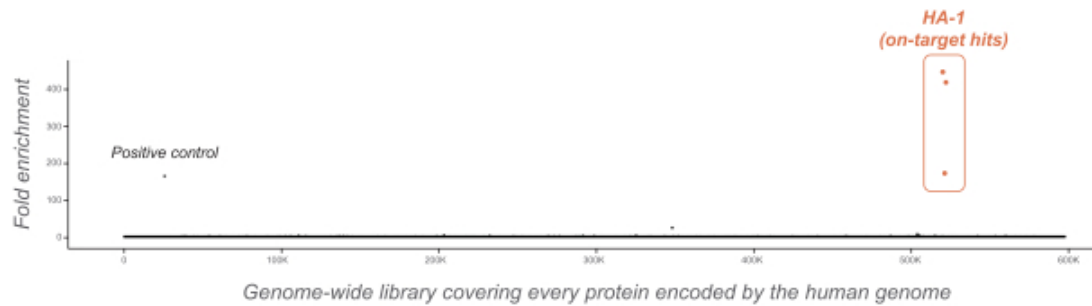
Because people inherit two copies of every chromosome, one from their mother and one from their father, everyone has two copies of the ARHGAP45 gene. HA-1-positive patients can therefore be either homozygous for HA-1 (+/+), with both genes encoding the HA-1-positive peptide (VLHDDLLEA), or heterozygous for HA-1 (+/-), with one gene encoding the HA-1-positive peptide and the other encoding the HA-1-negative peptide (VLRDDLLEA). To ensure that TSC-100 is able to effectively eliminate healthy blood cells and leukemia cells that are either homozygous HA-1-positive (+/+) or heterozygous HA-1-positive (+/-), we assessed the activity of TSC-100 against blood cells derived from a variety of healthy donors and patients with AML and ALL. As shown below, TSC-100 eliminates both homozygous and heterozygous healthy blood cells and leukemia cells.

TSC-100 Displays Specific Cytotoxic Activity Towards HA-1-positive Cells



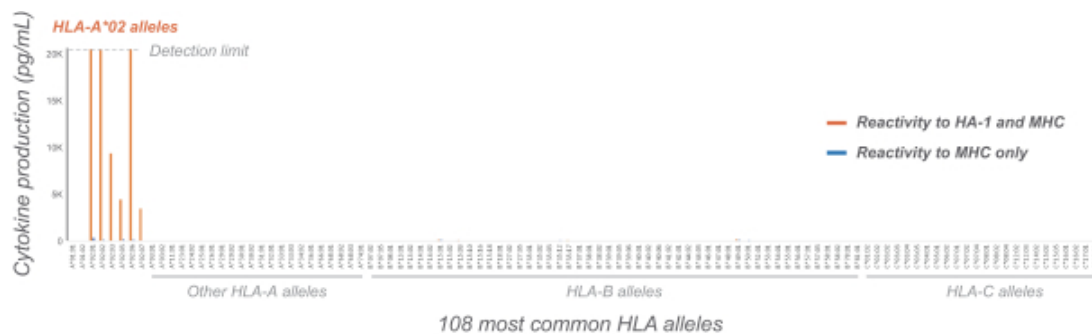
Previous clinical studies by others with TCRs that exhibited unexpected off-target effects led to significant toxicities. In order to reduce the potential for TCR-100a to exhibit problematic off-target effects, we used TargetScan to comprehensively scan for any other potential targets recognized by TCR-100a. This screen was performed using a subset of our Oncology Target Discovery Library (version 2.0), which includes approximately 600,000 protein fragments and collectively spans every protein encoded in the human genome as well as all common SNPs. As shown below, all three protein fragments in the library that contain the HA-1-positive peptide antigen were strongly enriched in the screen and no significant off-target interactions were observed. In contrast, some of the other HA-1-specific TCRs identified by ReceptorScan did exhibit off-target effects, highlighting our ability to select candidates that we believe have favorable risk/benefit profiles.

TargetScan Screen Reveals No Significant Off-Targets for TCR-100a



To further evaluate the potential safety profile of TSC-100, we screened TCR-100a against HA-1-positive and HA-1-negative cells that individually express each of the 108 most common HLA alleles. In the HA-1-positive cells, TCR-100a was able to mediate efficient recognition in cells expressing HLA-A*02:01 as well as in cells expressing two related HLA types, HLA-A*02:02 and HLA-A*02:06. This suggests that patients with any of these three HLA types could potentially benefit from TSC-100. Notably, TCR-100a showed no recognition of HA-1-negative cells across all 108 HLA types, indicating low risk of alloreactivity or misrecognizing other antigens on other HLA types, as shown below.

TSC-100 Shows No Detectable Alloreactivity Across 108 Different HLA Types



TSC-101

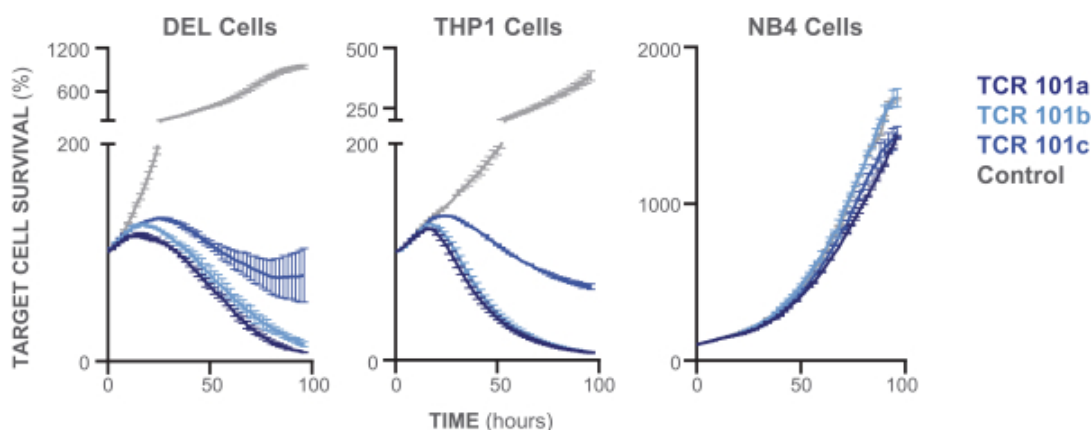
Similar to TSC-100, TSC-101 is an allogeneic TCR-T therapy candidate directed at eliminating residual cancer cells in HA-2-positive and HLA-A*02:01-positive patients with hematologic malignancies who undergo HCT using a donor who is either HA-2-negative or HLA-A*02:01-negative. HA-2, which is derived from the protein MYO1G, is another miHA that has been identified to be clinically relevant. In patients who naturally develop HA-2-specific T cells, a GvL effect has been observed and these patients experience long-term remissions. Using ReceptorScan, we have identified a highly active TCR, which we refer to as TCR-101a, that recognizes HA-2. We intend to file an IND for TSC-101 in the fourth quarter of 2021.

Unlike HA-1, the HA-2 antigen is highly prevalent, with approximately 95% of individuals in the United States being HA-2-positive. However, as with HA-1, a specific HLA type, HLA-A*02:01, which is present in approximately 42% of individuals in the United States, is required to display the HA-2 antigen on the cell surface for recognition by a T cell. As a result, approximately 40% of HCT patients would be positive for both HA-2 and HLA-A*02:01 and therefore be eligible for treatment with TSC-101 using a donor who is negative for

HLA-A*02:01, regardless of whether the donor is HA-2-positive or HA-2-negative. Such donors are straightforward to identify and should be available to most patients who undergo half-matched, or haploidentical, transplantation using family members as donors, as patients typically have between two and three potential haploidentical donors.

Similar to TCR-100a, we used ReceptorScan to identify TCR-101a amongst a screen of 240 million T cells. We tested TCR-101a *in vitro* using cell lines and found superior antigen binding and cytotoxicity compared with more than 300 other TCRs assessed. As shown in the figure below, TCR-101a had superior activity against DEL cells, which have high levels of HA-2, and THP-1 cells, which have low levels of HA-2. In addition, TCR-101a had no effect against NB4 cells, which do not express HLA-A*02:01, indicating that TCR-101a should not affect donor blood cells that are HLA-A*02:01-negative. We are currently conducting preclinical studies using TargetScan to assess potential off-target effects and performing alloreactivity studies to ensure that other HLA types are not misrecognized.

TCR-101a Demonstrates Superior Cytotoxicity *in vitro* Compared to Other TCRs



TSC-102 and Additional Liquid Tumor Programs

To broaden the eligible HCT patient population beyond those who have the HLA type A*02:01, we have identified a third miHA that requires a different HLA type, B*07:02, to be displayed on the surface of blood cells. Like HA-1 and HA-2, this target was identified in HCT patients who achieved durable complete remissions from their hematologic cancers with little to no GvHD. This antigen is highly expressed in normal and malignant hematopoietic cells and is not expressed in normal tissues, based on publicly available databases. We are developing TSC-102 as an allogeneic TCR-T therapy candidate directed at eliminating residual cancer cells in patients with hematologic malignancies who are positive for both this antigen and HLA-B*07:02 and undergo HCT using a donor who is negative for either the target or this specific HLA type.

Approximately 25% of the population has the HLA type B*07:02, and the antigen we have chosen is present in about 71% of these individuals. Therefore, approximately 18% of patients undergoing HCT would be eligible for treatment with TSC-102. Using ReceptorScan, we have identified over 1,000 potential TCRs that recognize this target and studies are underway to identify the most potent TCR candidate. We are continuing to conduct target validation studies and to assess our TCR candidates using TargetScan.

In addition to TSC-102, we are continuing to explore additional miHA targets to provide a broad array of therapeutic options for the majority of patients with hematologic malignancies receiving HCT.

Clinical Development Plan for Our Liquid Tumor Program

Background on Types of HCT

Patients with acute leukemias who undergo allogeneic HCT have heterogeneous outcomes that are primarily related to two main variables: (i) the intensity or doses of the conditioning regimen they receive prior to the stem cell infusion and (ii) the type of donor who provides the stem cells.

High-intensity conditioning regimens are called myeloablative conditioning and associated with higher mortality rates. They are therefore reserved for young and relatively fit patients. Lower-intensity regimens are called reduced-intensity conditioning, or RIC, and better tolerated, but are associated with higher relapse rates. TSC-100 and TSC-101 are both designed to substantially reduce relapse rates, and we plan to enroll patients who are eligible for RIC-based HCT with the goal of improving clinical outcomes for these patients.

There are different types of donors who are eligible for allogeneic HCT procedures. Donors who are siblings of the patient and are perfectly matched for 8 out of 8 HLA alleles are considered the highest priority donor type for patients undergoing allogeneic HCT, but these types of donor are available for less than a third of patients. For the majority of patients, the choice is between an unrelated donor who is perfectly matched for 8 out of 8 HLA alleles, referred to as a matched unrelated donor, or MUD, or a family member such as a sibling, parent or child who has a half-match with the patient, referred to as a haploidentical donor, or haplo. Historically, haplo donor transplantation was associated with much higher GvHD than MUD-transplants, but a recent treatment regimen that uses chemotherapy given 3 days after stem cell infusion called post-transplantation cyclophosphamide, or PTCy, specifically kills immune cells that cause GvHD. As a result, haplo transplants with PTCy have recently achieved equivalent outcomes as MUD transplants and are rapidly increasing in usage in the United States and worldwide.

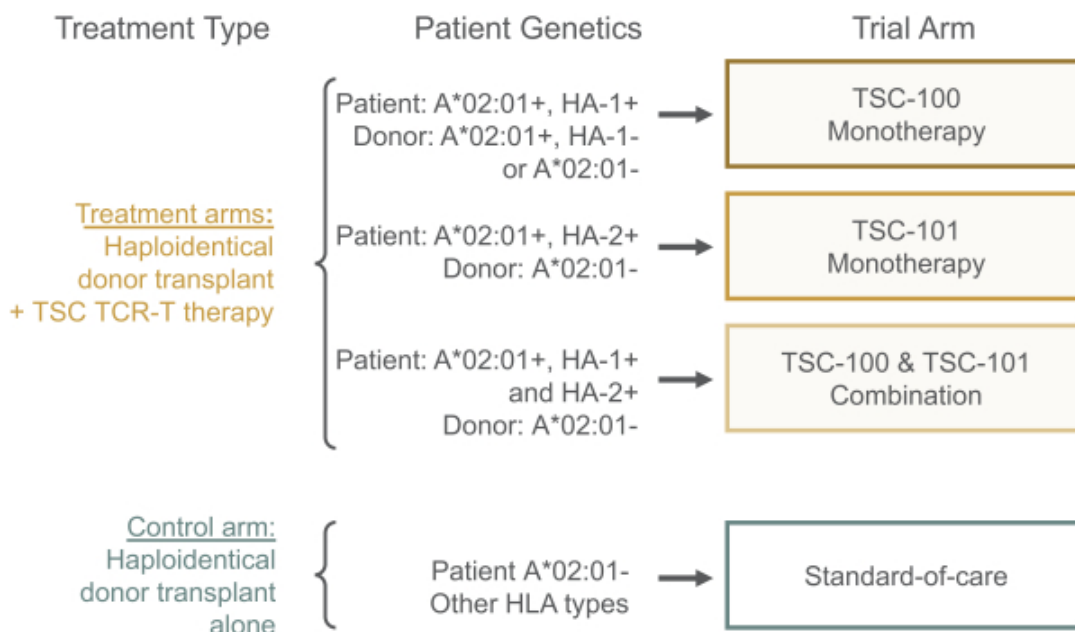
The use of haplos greatly expands the donor pool for patients undergoing HCT and provides patients with the optionality to choose donors who are mismatched on specific HLA types, such as A*02:01, as opposed to being mismatched on certain minor antigens, such as HA-1 or HA-2. We are developing TSC-100 and TSC-101 with a specific focus on patients undergoing haplo donor transplantation with donors who are negative for either the miHA or the specific HLA type. We believe the engineered donor T cells will recognize any residual leukemia cells, which are target-positive, in the patient and prevent relapse with the potential to promote complete cures. Because the patient's new healthy blood cells are derived from the donor and are therefore either target-negative or not able to express the target, we believe TSC-100 and TSC-101 should have minimal toxic side effects.

Planned Phase 1 Clinical Trial

We are planning to conduct safety studies for TSC-100 and TSC-101 within a single, multi-arm Phase 1 clinical trial. Once safety results are available for the individual therapies, we plan to open a third arm to evaluate the safety of multiplexed therapy, combining TSC-100 and TSC-101 in patients who are positive for both HA-1 and HA-2.

Our Phase 1 clinical trial is designed to include the measurement of early surrogate markers of efficacy, such as chimerism, or the percentage of blood cells that are donor-derived, and whether patients continue to have detectable residual leukemia in their post-transplant bone marrow biopsy, both of which are predictors of relapse. As shown in the graphic below, we also plan to include a control arm, comprising patients who do not meet the HLA or miHA genetic criteria and are treated with standard RIC haplo transplantation alone. Comparisons of both safety and efficacy outcomes with this control arm will potentially enable all patients treated with TSC-100, TSC-101, or the combination to be included as part of the efficacy analysis in a future biologics license application, or BLA, filing.

Planned Multi-Arm Phase 1 Clinical Trial Design

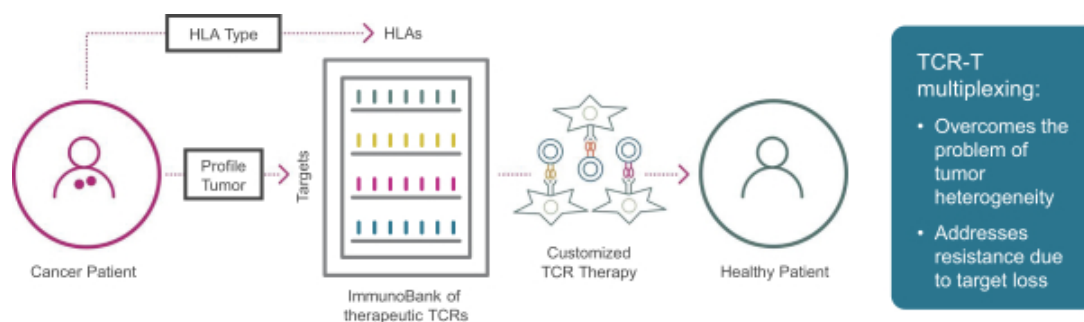


Solid Tumor Program

We are developing a portfolio of autologous TCR-T therapy candidates that are designed to be used in combination with each other to treat and eliminate solid tumors. Our TSC-200 series of product candidates are designed to elicit an anti-tumor response in patients by targeting cancer-specific antigens in their tumor cells. Our TCR-T therapy candidates include: (i) either well-recognized cancer targets that have demonstrated anti-tumor activity in clinical trials or novel targets that were identified by TargetScan from the T cells of patients responding to immunotherapy and (ii) naturally occurring TCRs specific to a patient’s HLA type that recognize these cancer-specific targets. Such targets are not only commonly shared among patients with the same cancer type, but also frequently expressed in multiple solid tumor types, enabling clinical development across multiple indications. Our first four solid tumor TCR-T therapy candidates include a combination of known targets, such as HPV16 for TSC-200 and PRAME for TSC-203, as well as novel TCR-T therapy targets that have not yet been tested in the clinic, such as TSC-201 and TSC-202. We are currently advancing our four solid tumor TCR-T therapy candidates through lead optimization, and we expect to submit IND applications for at least three of our four candidates in the second half of 2022, with the fourth IND expected to be filed in 2023. In addition to our four lead solid tumor TCR-T therapy candidates, we have identified over 40 novel antigens based on tumor samples from patients who are actively responding to immunotherapy using our TargetScan technology. We are in early stages of analyzing these additional novel antigens and advance those that we believe have the best potential as a TCR-T therapy candidate into preclinical development.

We are building ImmunoBank, a collection of highly active TCRs, to enable multiplexed TCR-T therapy. Our vision is to expand ImmunoBank with TCRs that recognize diverse targets and are associated with multiple HLA types in order to provide a broad array of therapeutic options for patients with various types of solid tumors. For each patient with a solid tumor malignancy, we plan to analyze their tumor to determine which targets are expressed at high levels in their particular cancer. We will then access ImmunoBank and select up to three TCRs that match their HLA type and address the most highly expressed targets in their tumor. We will use this set of TCRs to genetically reprogram their T cells to recognize these targets and the resulting engineered T cells will be infused back into the patient as a multiplexed TCR-T therapy.

Our Strategy to Treat Solid Tumors with Multiplexed TCR-T Therapy



TCR-T Therapy for the Treatment of Solid Tumors

Immunotherapy has reshaped the treatment of solid tumors by demonstrating that tumor shrinkage, eradication, and long-term durable responses can be obtained by stimulating the patient’s own immune system to attack their cancer cells. Immune checkpoint inhibitors, such as nivolumab or pembrolizumab, work by unleashing anti-cancer T cells that are already present in a patient’s tumor, enabling those T cells to recognize and eliminate their cancer. For patients who respond to checkpoint inhibitors, these agents have been shown to be very effective. However, only a subset of patients respond to checkpoint inhibitors, highlighting the need for T cell-based therapies that can treat the majority of patients who do not respond. Despite their efficacy in only a subset of patients, checkpoint inhibitors generated 2019 sales of approximately \$22 billion.

One reason why many patients do not respond to current immunotherapy treatments is that they lack T cells with highly active TCRs that recognize cancer-specific antigens in their tumors. By reprogramming the patient’s own T cells to recognize these targets, we believe we can expand the dramatic responses observed with checkpoint inhibitor therapy to the many patients for whom these therapies are ineffective.

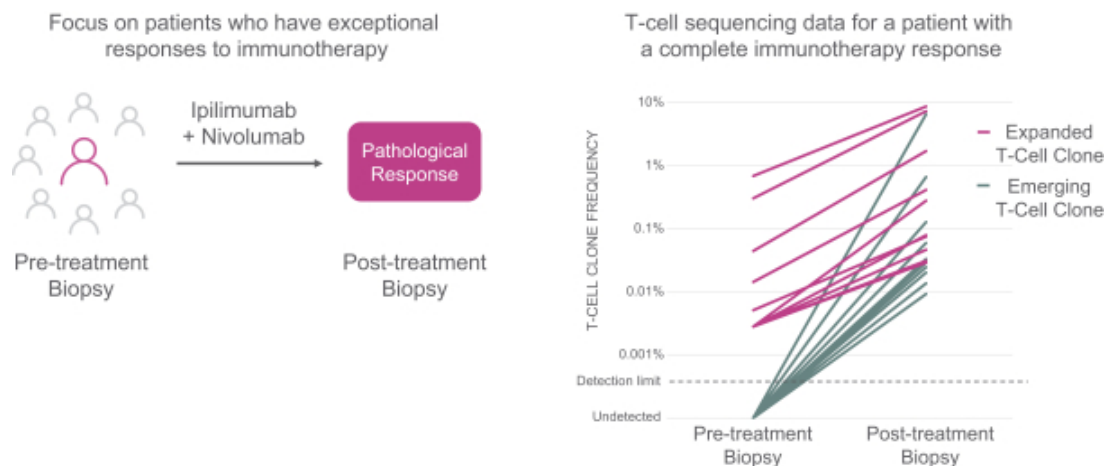
Our Solution

Our solid tumor program is based on the premise that if we can understand how T cells naturally fight cancer, we can use this information to design life-changing TCR-T therapies for virtually any patient with cancer. Our discovery process begins with identifying patient T cells that are actively driving their clinical response to immunotherapy. We then use TargetScan to determine the precise targets of these highly active TCRs. Our discovery efforts are initially focused on patients with head & neck cancer who respond to checkpoint inhibitor therapy and patients with melanoma who respond to TIL therapy. These cancers represent tumor types with a high degree of T-cell infiltration and strong responses to immunotherapy, which provides us with clinically active T cells from which we can discover novel TCR/target pairs. We have found that targets discovered in one type of cancer are often expressed in other cancers as well, enabling broader clinical development of our TCR-T therapy candidates. The tumor types we are focused on also express several known targets that were previously discovered from patient T cells. We are using ReceptorScan to discover highly active TCRs for these previously identified targets to complement the discovery of our novel TCR/target pairs.

Novel Targets Identified from Patients with Head & Neck Cancer

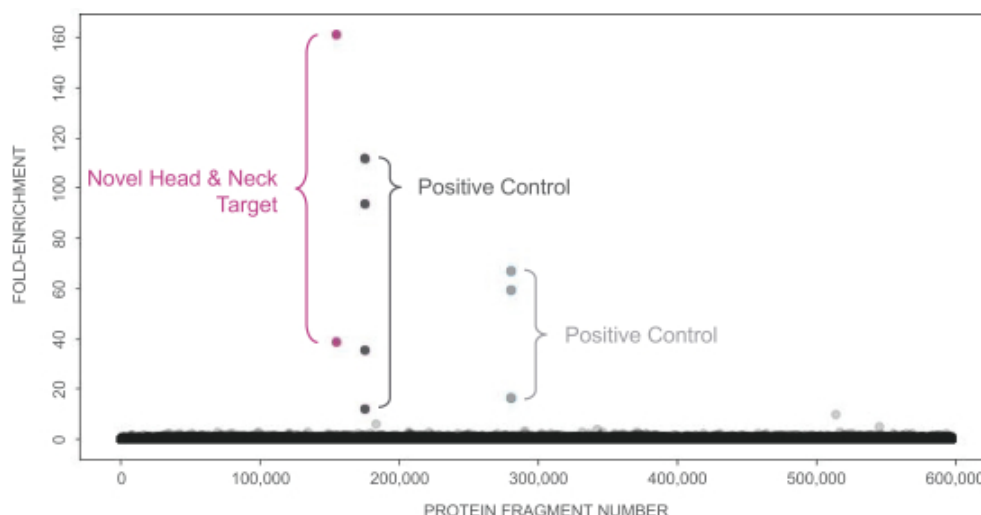
One of the ways we identify anti-cancer TCRs is by focusing on T cells that clonally expand in a tumor when the patient responds to checkpoint inhibitor therapy. Some of this work is being performed under collaborative research agreements with various academic institutions. Using single cell sequencing, our collaborators determined the TCR sequences of thousands of T cells in the tumors of patients with head & neck cancer before and after immunotherapy. This analysis also revealed the frequency of each T-cell clone in the tumor samples. As an example, if a particular TCR sequence is observed at 0.05% frequency in the tumor before the patient receives immunotherapy and then increases to 5% after the tumor starts to shrink, the T cell has clonally expanded 100-fold and is likely to have played a causal role in driving the patient's clinical response. Certain TCR sequences are not detectable in the pre-treatment biopsy but are observed at high frequency in the post-treatment tumor. These emerging clones are also potential candidates for driving the patient's clinical response. An illustrative example of T-cell sequencing data from one patient with head & neck cancer who had a complete response to immunotherapy.

Clinically Relevant Anti-Cancer T Cells Identified Through T-Cell Sequencing



We have performed genome-wide TargetScan screens on over 100 TCRs derived from T cells that clonally expanded in the tumors of patients with head & neck cancer who are responding to immune checkpoint inhibitors, which has resulted in our discovery of over 20 novel shared antigens. An example of one such screen is shown below. This screen was performed with our Oncology Target Discovery Library (version 2.0), which comprises over 600,000 protein fragments. Two protein fragments, shown in dark pink, were specifically recognized by the TCR. Due to the redundancy built into our library through its overlapping tiling pattern, both of the identified clones contain the same nine amino acid-long peptide antigen that we determined to be the target of this TCR. Notably, no off-targets were observed in the screen, highlighting the value of the TargetScan technology in identifying TCRs with clean specificity profiles.

Identification of a Novel Target from a Patient with Head & Neck Cancer



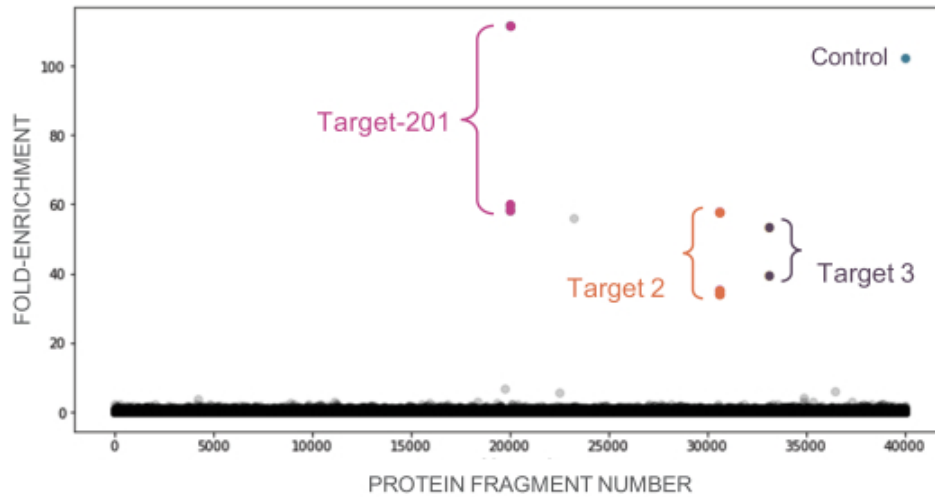
Novel Targets Identified from Patients with Melanoma

Another approach we use to identify clinically relevant anti-cancer T cells is to analyze T cells from patients with melanoma who respond to TIL therapy. Using single cell sequencing, we determine the TCR sequences of the T cells in the responding patient's TIL therapy product and focus on the most abundant T-cell clones. We have found that TIL therapy products are often dominated by as few as two or three clones, further increasing our confidence that these TCRs played a causal role in fighting the patient's cancer.

To increase the throughput of our discovery efforts, we have used TargetScan in a more directed manner to screen sub-libraries of protein fragments that focus on particular classes of tumor antigens. For example, we built a sub-library that focuses on cancer/testis antigens, or CTAs, which are genes that typically play a role in embryonic development but are not expressed in any adult tissues other than testes. T cells do not infiltrate testes and cells in the testes have very low levels of MHC proteins, making testes an immune-privileged site that will not be targeted by engineered T cells in the context of cell therapy. CTA genes are frequently found to be expressed in tumor cells and often play a role in causing cancer. Several well-recognized targets in development for TCR-T therapy are CTAs, including NY-ESO-1 and MAGE-A4.

We are focused on the discovery of novel targets within this class of antigens and have built a TargetScan library comprising 40,000 fragments that tiles across 1,600 CTA genes. Because this library is substantially less complex than our genome-wide Oncology Target Discovery Library, we can screen the library with dozens of TCRs simultaneously. For example, the screen shown below was conducted with 35 TCRs derived from 11 patients with melanoma who received TIL therapy. In a single screen, we identified three TCR/target pairs that recognize CTAs, including the antigen target for one of our lead solid tumor product candidates, TSC-201, which we refer to as Target-201, as well as two other antigens that have not previously been identified as targets for TCR-T therapy.

Three Novel Cancer/Testis Antigen Targets Identified from TIL-Responsive Patients



TCR and Target Validation Process

When we discover novel TCR/target pairs, we first determine if the gene that encodes the target is expressed at high levels in normal tissue. As shown below, Target-201 is exclusively expressed in testis, which is an immune privileged tissue and, as a result, should not pose a significant safety concern. We also examine how frequently the target is expressed in various solid tumors. As shown below in dark pink, Target-201 is overexpressed in a high percentage of melanoma tumor samples as well as in several other tumor types, including non-small cell lung cancer, or NSCLC, head & neck cancer, and cervical cancer.

Selective Expression of Target-201 in Multiple Tumor Types vs. Normal Tissues

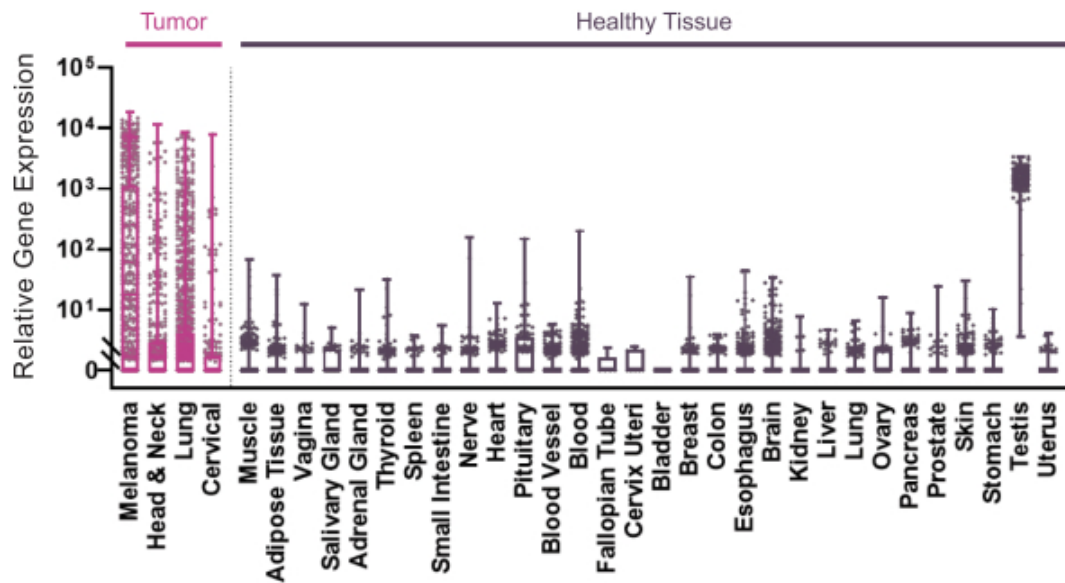
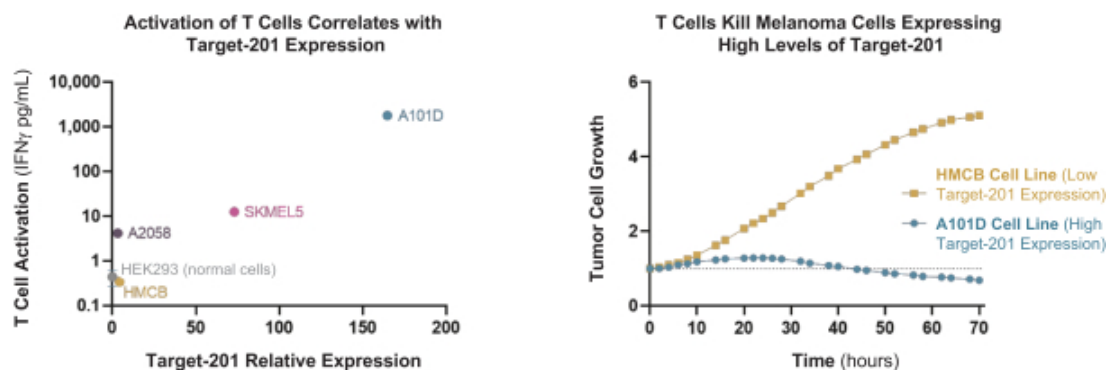


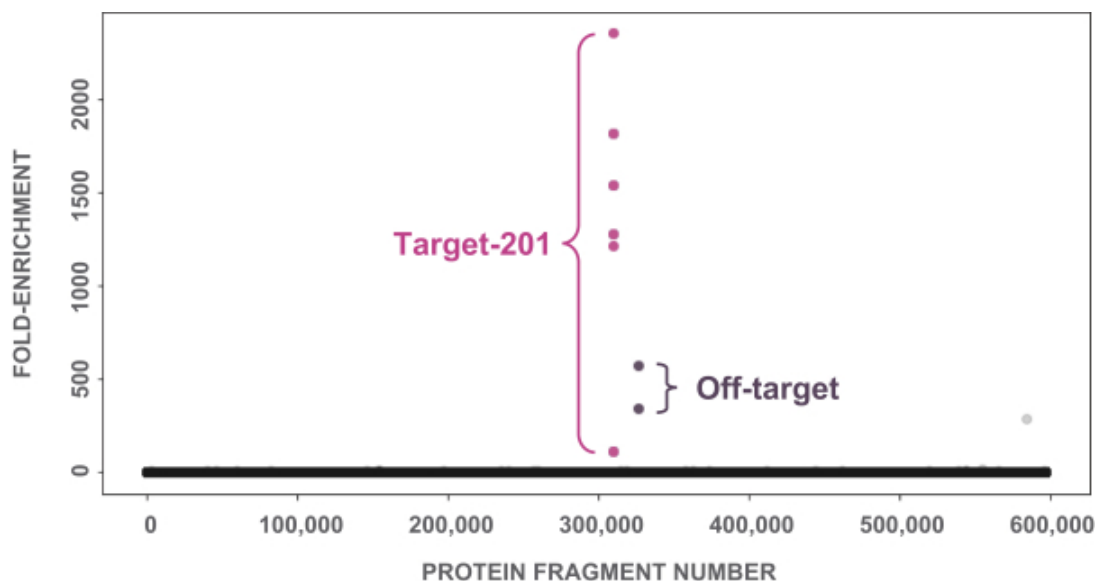
Table of Contents

Next, as part of our discovery process, we test if the TCRs discovered with our approach are able to kill cancer cells that naturally express the relevant target and specific HLA type. As shown below on the left, when T cells expressing the TCR that recognizes Target-201 are cultured with melanoma cell lines that naturally express different levels of Target-201, such as A101D and SKMEL5, the degree to which the T cells gets activated correlates with the expression level of Target-201 in the melanoma cells. In addition, the T cells kill melanoma cells expressing high levels of Target-201, as shown below on the right but do not kill cells that express low levels of Target-201, which highlights the selectivity of the TCR for Target-201.



Finally, to reduce the risk that a TCR discovered in a targeted screen recognizes any problematic off-targets, we re-screen the TCR using TargetScan and our genome-wide library. As shown below, when the TCR that recognizes Target-201 was re-screened using our Oncology Target Discovery Library (version 2.0), which includes protein fragments spanning every normal protein encoded in the human genome, only one potential off-target was observed. We subsequently identified several cell lines that naturally express the full-length protein from which the off-target antigen was derived and found that T cells engineered with the TCR do not recognize or kill these cells. Although the TCR recognizes target cells overexpressing protein fragments containing this off-target antigen, it does not recognize cells expressing the full-length protein at normal levels. This shows that our genome-wide screen detects potential off-targets with very high sensitivity, and that not all off-targets detected in this manner are problematic. In the event, however, that a TCR exhibits problematic off-target effects, we can use ReceptorScan to discover alternative TCRs that have similar anti-cancer effects but do not cross-react with proteins expressed at high levels on normal tissue or critical organs.

Genome-Wide Safety Screen of Target-201 TCR Using TargetScan



To further expand the pool of addressable patients with our TSC-200 series of product candidates, we can also use ReceptorScan to identify TCRs recognizing antigens on the same target protein that are presented by different HLA alleles. Ultimately, we believe this strategy has the potential to enable multiplexed TCR-T therapy in which a patient is treated with more than one TCR for the same target protein, presented on two different HLA alleles. This approach could reduce the risk of resistance arising from loss, downregulation, or mutation of individual HLA genes.

TSC-200 Series

Our first four solid tumor TCR-T therapy candidates include a combination of known targets, such as HPV16 for TSC-200 and PRAME for TSC-203, as well as targets that are novel antigens for TCR-T therapy, such as for TSC-201 and TSC-202. All of these targets are frequently expressed in the solid tumors of interest to us, including melanoma, head & neck cancer, NSCLC, and cervical cancer. We plan to advance a combination of known and novel targets into clinical development, which will allow us to use the product candidates targeting known antigens as backbones for our initial clinical trials evaluating multiplexed TCR-T therapy. For example, we plan to evaluate TSC-200, which targets well-known and clinically-validated oncogenic proteins derived from HPV16, in combination with TSC-201 and TSC-202, which target antigens that have not yet been tested for TCR-T therapy.

TSC-200

In parallel with our TargetScan discovery efforts in head & neck cancer, we are using ReceptorScan to discover highly active TCRs that target antigens in human papilloma virus, or HPV, for our TSC-200 program. Over 25% of head & neck cancers are caused by HPV infection, including up to 70% of oropharyngeal cancers. HPV antigens are a particularly compelling set of targets due to the fact that HPV proteins drive tumorigenesis in these cancers, which means that these proteins are (1) present in every tumor cell in an HPV-positive tumor and (2) essential to the survival of the tumor cell. In addition to head & neck cancers, HPV is found in more than 90% of cervical and anal cancers as well as over 60% of vaginal, vulval, and penile cancers. Recent Phase 1 clinical data from the National Cancer Institute showed tumor regression with objective clinical responses in

[Table of Contents](#)

50% of patients with metastatic HPV-positive cancers who were treated with a TCR-T candidate targeting HPV16, which we believe provides clinical support for the inclusion of an HPV16-targeting TCR, TSC-200, in our multiplexed TCR-T therapy strategy. We have identified over a thousand TCRs that recognize HLA-A*02:01-specific antigens derived from HPV16, and we are currently identifying the most active TCR to advance to IND-enabling studies. We also intend to extend our discovery efforts to include additional HPV16-derived antigens presented on other HLA types as the program advances.

TSC-201

As detailed above, using our TargetScan technology, we have identified what we refer to as Target-201, as one of three targets from the T cells of melanoma patients responding to TIL therapy. Target-201 is a CTA that is exclusively expressed in testis and is not expressed in normal adult tissues. The testis is an immunoprivileged tissue and, as a result, we believe that targeting Target-201 should not pose a significant safety concern. In addition, Target-201, which contributes to tumorigenesis by suppressing the cellular mechanisms responsible for controlling cell division, is selectively expressed across multiple different types of tumors, including approximately 50% of melanomas, approximately 25% of head & neck cancers, and approximately 15% of non-small cell lung cancers. Tumors expressing Target-201 have been shown to be associated with metastasis and poor patient survival. We have identified two clinically active TCRs that recognize novel epitopes derived from Target-201 presented on two common HLA alleles, and we are currently evaluating which TCR/Target-201 antigen pair to advance to IND-enabling studies. We are also using ReceptorScan to identify additional TCRs for Target-201 epitopes presented on other HLA alleles to further expand the addressable patient population.

TSC-202

We have also identified clinically active TCRs targeting what we refer to as Target-202, which is a protein involved in cell invasion and migration that plays a role in the metastasis of tumors. Target-202 is a CTA that is expressed only in the placenta, with very low expression in testis and no expression in any other adult tissue. Increased expression of Target-202 is positively correlated with the degree of tumor invasion, lymph node metastasis, distant metastasis, and poor prognosis. Expression of Target-202 is especially high in HPV-positive tumors. Target-202 expression is repressed in normal tissue by the tumor suppressor protein p53. In HPV-driven carcinomas, however, the viral protein E6 causes degradation of p53, leading to increased expression of Target-202. As a result, high expression of Target-202 is observed in over 90% of cervical cancers and approximately 75% head & neck cancers. Target-202 is also expressed in HPV-negative tumors, including approximately 40% of lung cancers and up to 80% of primary breast cancers. Using ReceptorScan, we have identified hundreds of TCRs that recognize multiple HLA-A*02:01-specific epitopes derived from Target-202, and we are currently identifying the most active TCR to advance to IND-enabling studies. In addition, we are using TargetScan to discover additional novel epitopes derived from Target-202 presented on other HLA types.

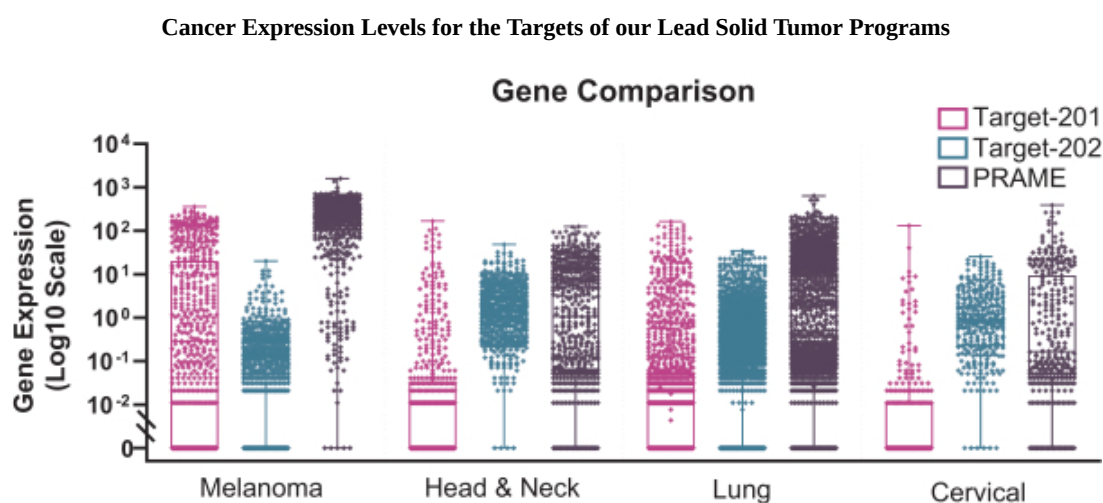
TSC-203

We are developing TSC-203 as a TCR-T therapy candidate targeting a known cancer antigen, Preferentially Expressed Antigen in Melanoma, or PRAME. Similar to Target-201, PRAME contributes to tumorigenesis by suppressing cellular signals that control cell division, and higher expression levels of PRAME in tumors correlate with increased metastasis and poor patient outcomes. PRAME is a CTA that, like Target-201 and Target-202, is absent in adult tissues except in the ovaries and testis. Approximately 50% of NSCLCs and approximately 90% of melanomas and head & neck cancers express PRAME. Moreover, PRAME expression is very homogeneous within these tumors, which we believe make it an attractive target for multiplexed TCR-T therapy. Using ReceptorScan, we have identified thousands of TCRs across multiple PRAME-derived epitopes presented on HLA-A*02:01, and we are currently identifying the most active TCR to advance to IND-enabling studies. In addition, we are using TargetScan on clinically active TCRs from patients with melanoma and head & neck cancer to identify novel PRAME epitopes presented on other HLA types.

In addition to our four lead solid tumor TCR-T therapy candidates, we have identified more than 40 novel antigens using TargetScan, of which over 90% have not previously been publicly disclosed as targets for TCR-T therapy. Although target validation naturally results in attrition, it is clear that tumor-resident T cells recognize many more shared antigens than have been reported to date. Many of the antigens we have identified are expressed across multiple solid tumor types and some have expression levels comparable or superior to targets currently in clinical development by others such as NY-ESO-1. We are currently in the process of validating several of these additional novel antigens and identifying potential TCR/target pairs using our platform technologies. We plan to continuously expand ImmunoBank with TCRs for both known and novel targets to enable customized multiplexed TCR-T therapy for a wide range of solid tumor patients.

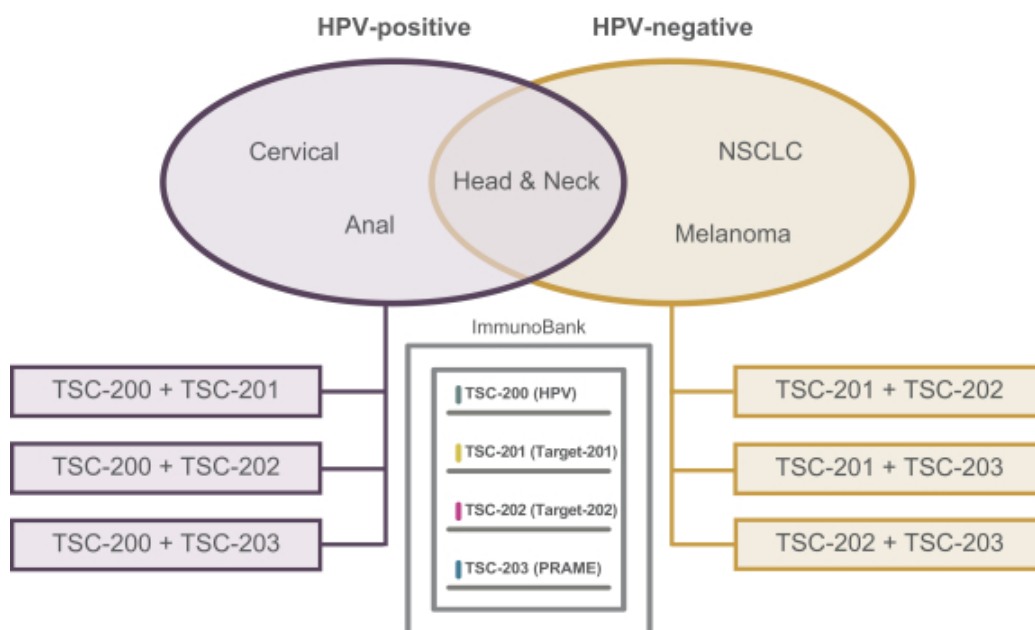
Clinical Development Plan for Our Solid Tumor Program

For the initial first-in-human studies for our TSC-200 series of TCR-T therapy candidates, we plan to evaluate at least three TCRs in parallel to determine the safety and preliminary efficacy of multiplexed TCR-T therapy. We envision using TSC-200 as the backbone therapy for patients with HPV-positive malignancies, including head & neck, cervical, and anal cancers. According to the Center for Disease Control, the incidence of HPV-positive cancers in the U.S. is approximately 35,000 cases per year, with five-year survival rates ranging from approximately 50% to 70%. The targets of TSC-201, TSC-202, and TSC-203 are also frequently expressed in the solid tumors of interest to us, as shown below.



After establishing single agent safety for each of our initial solid tumor TCR-T therapy candidates in a multi-arm Phase 1 clinical trial, we plan to test TSC-200 in combination with TSC-201, TSC-202, or TSC-203 in patients who are positive for the respective targets of these therapies. We will also explore three-TCR combinations in patients who are positive for the three respective targets. Because the targets of TSC-201, TSC-202, and TSC-203 are also frequently expressed in melanoma and NSCLC, we will also explore various combinations of these TCR-T therapy candidates in patients with HPV-negative head & neck cancer, melanoma, and NSCLC. A summary of our planned Phase 1 clinical strategy is shown below. We plan to submit IND applications for at least three of our four solid tumor TCR-T therapy candidates in the second half of 2022, with the fourth IND expected to be filed in 2023. As we continue to discover and validate TCR/target pairs, we aim to continue to file additional INDs and introduce those solid tumor TCR-T therapy candidates into this multi-arm basket-style Phase 1 clinical trial. We believe this trial will serve as the first step towards our long-term goal of building and expanding ImmunoBank to provide customized multiplexed TCR-T therapy for virtually any patient with a solid tumor malignancy.

TSC-200 Series Phase 1 Clinical Strategy



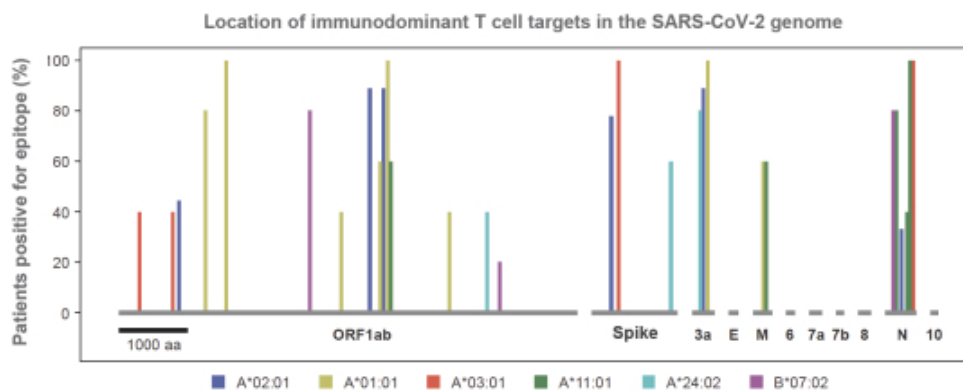
Expansion Opportunities Beyond Oncology

Our primary focus is on the development of T-cell therapies to treat cancer. However, T cells play a fundamental role in many other disease areas, such as infectious disease and autoimmune disease. We believe that our TargetScan technology is well suited to discover novel antigens for the development of therapeutics, diagnostics, and vaccines in these other areas. We intend to build additional corporate value by opportunistically pursuing collaborations with strategic partners for applications of our platform technologies outside our core focus.

COVID-19

As a proof-of-concept for TargetScan's applicability and antigen discovery capabilities in infectious disease, we applied our technology to identify the antigens most frequently recognized by the T cells of patients who had recovered from COVID-19. We screened the entire genome of SARS-CoV-2, the virus that causes COVID-19, as well as the genomes of SARS-CoV and the four seasonal coronaviruses that cause the common cold. We found that the antigens recognized by CD8⁺ T cells were largely derived from segments of the virus that are not part of the spike protein, which is the current target of COVID-19 vaccines. Additionally, patient T cells were generally not found to be cross-reactive with seasonal coronaviruses, suggesting that prior coronavirus exposure is unlikely to confer immunity to COVID-19. We published the details of these studies in the journal *Immunity* in 2020.

T-Cell Targets in SARS-CoV-2 Are Primarily Located In Proteins Other Than the Spike Protein



We have partnered with QIAGEN Sciences, LLC to develop a highly specific diagnostic test to determine prior exposure to the virus based upon the presence of anti-viral T cells.

We believe that our findings can also be used to develop next-generation vaccines for COVID-19 that confer durable immune protection from SARS-CoV-2 infection and potentially provide protection against future variants. Most current vaccine efforts elicit a response to the SARS-CoV-2 spike protein. While these first-generation vaccines are able to elicit neutralizing antibodies and provide effective protection against infection, it is not clear how durable these responses will be given that antibody levels have been shown to rapidly decline after a few months and numerous coronavirus variants have now been discovered with mutations in the spike protein. Notably, none of the mutations observed in these variants occurs in the 29 T-cell targets that we identified, suggesting that vaccines delivering these target antigens may be less susceptible to vaccine-resistant strains emerging in the future.

Other Diseases

TargetScan can also be used for novel target discovery in additional infectious and autoimmune diseases. For example, infections such as tuberculosis, influenza, and HIV have been shown to be T cell-mediated and are associated with high mortality rates. In addition, many autoimmune diseases such as rheumatoid arthritis, psoriasis, and scleroderma are largely T cell-mediated, but with poorly defined instigating self-antigens. Our TargetScan technology, which provides an unbiased, genome-wide method to discover the natural targets of disease-relevant T cells, is well positioned to identify these self-antigens. We believe the discovery of these targets could enable the development of novel, more targeted therapeutic approaches to treat these diseases.

License and Collaboration Agreements

Collaboration and License Agreement with Novartis

On March 27, 2020, we entered into a Collaboration and License Agreement with Novartis Institutes for BioMedical Research, Inc. (Novartis) (such agreement, the Novartis Agreement). Pursuant to the Novartis Agreement, we have received an aggregate of \$20.0 million of cash representing the upfront payment and have receivables for reimbursement of expenditures under the arrangement of \$0.3 million as of December 31, 2020. We granted Novartis and its affiliates options to obtain exclusive, royalty-bearing, sublicensable, transferable, worldwide licenses to certain target antigens identified in performance of the Novartis Agreement and

[Table of Contents](#)

corresponding T-cell receptors for such target antigens to make, have made, import, use, sell or offer for sale, including to develop, manufacture, commercialize, register, hold or keep, have used, export, transport, distribute, promote, market or have sold or otherwise dispose of such target antigens and corresponding T-cell receptors. Novartis can exercise each option by paying us \$10.0 million and can exercise up to three options (each target antigen for which Novartis exercises an option, an "Optioned Program"). In addition, we granted Novartis and its affiliates an option to obtain a non-exclusive, royalty-bearing, sublicensable, transferable, worldwide license under our intellectual property corresponding to products associated with such Optioned Program and improvements to our platform created in performance of activities under the Novartis Agreement, in each case, solely as necessary to exploit products associated with such Optioned Program.

The ownership of inventions (and resulting patent rights) created in performance of the collaboration will be determined by inventorship (i.e., inventions invented solely by us in performance of the collaboration and inventions invented solely by Novartis in performance of the collaboration will be owned by Novartis and inventions invented jointly by us and Novartis in performance of the collaboration will be jointly owned). We retain our rights to (i) our intellectual property, (ii) programs that are not selected by Novartis and (iii) our platform improvements, which will not be considered collaboration technology.

Each party has the sole right (but not the obligation) in its sole discretion and cost, to prepare, file, prosecute and maintain all patents and patent applications that are owned solely by such party. For any collaboration patents or patent applications owned by us, if we elect not to file a patent application or to cease the prosecution or maintenance of any of our collaboration patents or patent applications, we must notify Novartis immediately of such decision, at which point Novartis will become permitted to file or continue prosecution or maintenance of such patent or patent application in our name. For joint collaboration patents and patent applications, Novartis has the first right (but not the obligation) to prepare, file, prosecute and maintain any joint collaboration patent or patent applications and/or optioned program patents or patent applications.

For each Optioned Program, as between the parties Novartis is solely responsible for the clinical development of such Option Program. Novartis is required to pay us up to an aggregate of \$230.0 million upon achievement of certain clinical milestones and milestones for the first commercial sale in certain countries with respect to products directed to the corresponding target antigen for each Optioned Program. Novartis is also required to pay us up to an aggregate of \$260.0 million upon achievement of certain annual net sales milestones for products directed to the corresponding target antigen for each Optioned Program. In addition, for each Optioned Program, Novartis is required to pay us, on a product-by-product and country-by-country basis, tiered royalties in the low-single-digit to mid-single-digit percentage on Novartis', its affiliates' and sublicensees' net sales of certain products directed to target antigens for each Optioned Program and a percentage in the mid-single-digits to low-teens on Novartis' net sales of products directed to such antigens and containing a T-cell receptor we identified to Novartis in our performance of the Novartis Agreement, subject to certain customary reductions. Royalties will be payable on a product-by-product and country-by-country basis during the period of time commencing on the first commercial sale of an applicable product in a country and ending upon the later of: (a) 10 years from the date of first commercial sale of such product in such country; (b) expiration of the last-to-expire valid claim of patents licensed by us to Novartis under the Novartis Agreement covering the manufacture, use or sale of such product in such country; or (c) the expiration of any regulatory or marketing exclusivity in such country with respect to such product (the "Royalty Term"). Novartis may terminate the Novartis Agreement entirely or on a program-by-program basis at any time for convenience upon 90 days' notice; provided, however, that Novartis will be required to fulfill any payment obligations that accrued prior to termination.

For a period of up to 180 days after the end of the collaboration period (which collaboration period will end no later than March 2023), we agree to notify Novartis if we intend to seek a third party partner to exclusively license or similarly grant rights to patents or know-how developed by us under the collaboration to allow for the development or commercialization of products directed to any programs that Novartis has not exercised an option to prior to the expiration of such option (a ROFN Notice). Upon receiving such notice, Novartis will have 90 days to provide us with a term sheet to exclusively license such collaboration technology to develop or

commercialize products directed to such previously declined program, which will trigger Novartis's right of first negotiation. If Novartis delivers such term sheet, then Novartis will have 270 days following the ROFN Notice to negotiate a license for such collaboration technology.

The Novartis Agreement will remain in effect until (i) all options expire unexercised or (ii) if any options are exercised, on a product-by-product and country-by-country basis for each Optioned Program, upon the expiration of the Royalty Term for all products associated with such Optioned Program in such country. Either party may terminate the Novartis Agreement upon an uncured material breach of the agreement or insolvency of the other party. We may terminate the Novartis Agreement immediately upon written notice to Novartis if Novartis challenges the validity, enforceability or scope of any of the patents we license to Novartis under the agreement. Novartis may terminate the agreement, either in its entirety or on a program-by-program basis, for convenience at any time with 90 days' prior written notice.

Exclusive Patent License Agreement with BWH

On December 5, 2018, we entered into an Exclusive Patent License Agreement with The Brigham and Women's Hospital, Inc. ("BWH"), as amended on July 26, 2019 and further amended and restated on April 20, 2021 (collectively, the "BWH Agreement"), pursuant to which we obtained an exclusive, sublicensable, worldwide license to practice under certain of BWH's patent rights for identifying T Cell epitopes, which are relevant to our platform for identifying potential therapeutic products. The original 2018 BWH Agreement granted us the right to practice BWH's patent rights in a certain field of use ("MHC Class I License Field"). In connection with the amended and restatement of the BWH Agreement in 2021, we expanded the field of use in which we are authorized to practice BWH's patent rights to include MHC Class II uses and applications in exchange for certain additional payments to BWH. We are obligated to use commercially reasonable efforts to develop and commercialize at least one product or process that practices the licensed patent rights and at least one therapeutic or diagnostic product or process directed to an epitope identified through practicing the licensed patent rights.

Upon execution of the amendment of the BWH Agreement dated April 20, 2021, we paid an additional one-time fee of \$466,500. We are required to pay BWH up to an aggregate of \$12.72 million upon the achievement of certain clinical, regulatory and sales milestones for therapeutic products and processes. We are obligated to pay a low double-digit percentage of all non-royalty income we receive under sublicenses of BWH's patent rights. We are also obligated to pay a low single-digit percentage of all non-royalty income we receive under agreements with third parties ("Collaborators") where we practice under BWH's patent rights in connection with the research or development one or more therapeutic products or processes with or for such third party ("Collaboration Agreements"). We are also obligated to pay tiered royalties in the high single-digit percentage range on annual net sales of products and processes that practice the licensed patent rights and in the low single-digit percentage range on annual net sales of therapeutic and diagnostic products and processes directed to an epitope identified through practicing the licensed patent rights (other than those sold by Collaborators), with the royalty percentage for such products and processes decreasing to lower than one-percent royalties if directed to epitopes identified through practicing the licensed patent rights after December 31, 2019. For therapeutic and diagnostic products and processes directed to an epitope identified through practicing the licensed patent rights and sold by a Collaborator, we are obligated to pay lower than one-percent royalties of the Collaborator's annual net sales of such products and processes. For products and processes sold by us, our affiliates or sublicensees, such royalties only apply to products and processes directed to epitopes in a defined field of use MHC Class I field identified prior to December 31, 2022 and products and processes based on epitopes in the MHC Class II field identified prior to September 30, 2023. For products or processes directed to epitopes identified under a Collaboration Agreement, such royalties apply regardless of when the epitopes were identified. For each applicable product or process, such royalty is payable until the tenth (10th) anniversary of the first commercial sale of such product or process. The royalty rates are also subject to reduction upon certain other events.

The BWH Agreement will terminate upon the later of (a) the last to expire or abandoned valid claim within the licensed patents, and (b) one year after the last sale for which a royalty is due. We also have the right to

[Table of Contents](#)

terminate the BWH Agreement in its entirety or on a country-by-country basis, for any reason upon 90 days' prior written notice to BWH. BWH may terminate the BWH Agreement; (1) without notice if we fail to maintain insurance required by the BWH Agreement; (2) upon notice within 60 days of our bankruptcy; (3) upon notice within 60 days after notice by BWH of our default in the performance of any obligation under the BWH Agreement that is not cured within such 60-day period; (4) if we fail to make any payments due under the BWH Agreement and do not cure such failure within 10 days after receiving BWH notice thereof; or (5) if we or any of our affiliates challenge the validity, enforceability or scope of any of the patent rights licensed to us under the BWH Agreement.

Option and Exclusive License Agreement with Qiagen

On November 5, 2020, we entered into an Option and Exclusive License Agreement with QIAGEN Sciences, LLC (Qiagen) (such agreement, the Qiagen Agreement). Pursuant to the Qiagen Agreement, Qiagen paid us a one-time non-refundable, non-creditable \$150,000 option fee (Option Fee) in exchange for an option to obtain an exclusive, royalty-bearing, sublicensable, worldwide license under our rights to patents and patent applications related to certain SARS-CoV-2 peptides to use, make and otherwise commercialize products containing such SARS-CoV-2 peptides (the Option). Qiagen exercised the Option on April 14, 2021 and is required to pay us an additional \$150,000 option exercise fee. If Qiagen exercises the Option, Qiagen may freely sublicense its rights through multiple tiers so long as it binds each sublicensee to terms consistent with the Qiagen Agreement and remains responsible for any breaches of such terms by its sublicensees. Regardless of whether Qiagen exercises the Option, we expressly reserved the right to conduct research or develop or commercialize products for or related to the treatment of SARS-CoV-2. To date, we have not received any payments from Qiagen under the Qiagen Agreement other than the Option Fee and we are not owed any payment from Qiagen under the Qiagen Agreement other than the option exercise fee.

In addition, Qiagen is required to pay us a one-time, non-refundable, non-creditable \$300,000 milestone payment upon launch of the first in vitro diagnostic product containing the licensed peptides. Qiagen is also required to pay us, on a product-by-product and country-by-country basis, royalties in the low-single-digit to mid-single-digit percentage on Qiagen's and its affiliates' net sales of products containing the licensed peptides, subject to certain customary reductions, for as long as such products are covered by a valid claim of the patents licensed by us to Qiagen under the Qiagen Agreement.

We are solely responsible for managing patent maintenance, prosecution and enforcement during the term of both the Option Exercise Period (defined below) and term of the Qiagen Agreement.

The Qiagen Agreement will expire upon the later to occur of (i) expiration of the last to expire valid claim of patents we license to Qiagen under the Qiagen Agreement or (ii) 15 years from the effective date of the Qiagen Agreement. Qiagen may terminate the Qiagen Agreement for any reason upon 60 days' prior written notice to us; provided, however, that Qiagen will be required to fulfill any payment obligations that accrued prior to termination.

Non-Exclusive License Agreement with Provincial Health Services Authority

On October 15, 2020, we entered into a Non-Exclusive License Agreement with the Provincial Health Services Authority of British Columbia (PHSA) (such agreement, the PHSA Agreement). Pursuant to the PHSA Agreement, we obtained a non-exclusive, perpetual, non-transferable, sublicensable, worldwide license to practice certain of PHSA's patent rights for identifying T Cell epitopes, which epitopes are relevant to our platform for identifying potential TCR-T therapies. Any sublicenses we grant to PHSA's patent rights must also include a license of our own IP; we are not permitted to sublicense PHSA's rights on a standalone basis.

Pursuant to the PHSA Agreement, we paid PHSA a one-time, non-refundable upfront fee of \$500,000 as well as a reimbursement for previously incurred patent prosecution costs of approximately \$50,000. Starting on the first anniversary of the effective date of the PHSA Agreement and continuing for five years thereafter, we are required to pay PHSA a mid-five-figure annual license fee. In addition, we are obligated to pay a mid-six-figure fee for each sublicense and each further sublicense granted by one of our sublicensees or a sublicensee of our sublicensee (through multiple tiers) of the rights granted to us under the PHSA Agreement.

The PHSA Agreement will terminate upon the last to expire patent licensed under the PHSA Agreement. We also have the right to terminate the PHSA Agreement at any time, but such termination will not be effective until the later of (a) October 16, 2023, and (b) the date we have paid PHSA total aggregate fees equal to the upfront fee plus five years of annual license fees totaling \$750,000. PHSA may terminate the PHSA Agreement upon giving us two separate written notices at least 30 days apart if: (i) we or any of our affiliates challenge the validity, enforceability or scope of any of the patents licensed to us under the PHSA Agreement; (ii) we owe unpaid fees due under the PHSA Agreement in excess of \$100,000; or (iii) we breach material terms of the PHSA Agreement regarding sublicense restrictions (such as failing to pay the sublicense fee or sublicensing PHSA technology on a standalone basis) or our obligation to indemnify PHSA for damages resulting from our research or commercialization of PHSA's patent rights and, in each case described above, such termination will be effective only if we fail to cure such breach after receiving PHSA's two separate notices.

Royalty Agreement

In connection with our incorporation in April 2018, we entered into a royalty agreement with one of our founders. We amended and restated this royalty agreement in June 2018 and our founder assigned his rights and obligations under the royalty agreement to one of his affiliated entities in January 2021. Pursuant to the royalty agreement, we are required to pay him a royalty of 1% of net sales (as defined in the royalty agreement) of any product sold by us or by any of our direct or indirect licensees for use in the treatment of any disease or disorder covered by a pending patent application or issued patent held or controlled by us as of the last date that the founder was providing services to us as a director or consultant under a written agreement. Royalties are payable with respect to each applicable product on a country-by-country and product-by-product basis, beginning on the first commercial sale of the first royalty-bearing product and ending on the later of (i) the date on which the exploitation of such royalty-bearing product is no longer covered by such patent in such country or (ii) the 15th anniversary of the first commercial sale of the first royalty-bearing product in such country. We may not assign our rights and obligations under the royalty agreement except in the event of a change in control relating to our company. The term of the royalty agreement continues until expiration of the last applicable royalty term.

Manufacturing

We are building in-house cell therapy manufacturing capabilities as one of the key components of our platform. The manufacturing of cell therapies requires the integration of several distinct components. Primary human blood cells are the source of T cells, along with a vector that delivers the desired genetic elements into these T cells. As a more operationally flexible and cost-efficient alternative to lentivirus, we have developed a manufacturing platform to genetically engineer T cells using a transposon/transposase system, which we refer to as T-Integrate.

We are designing our programs to use a transposon vector and corresponding transposase enzyme, which is derived from *sFR* fall armyworm, to deliver our TCRs into the genome of T cells. Our transposon/transposase

[Table of Contents](#)

system effectively inserts our TCRs and other exogenous genes, such as CD8, at random locations in the genome. The transposon will be delivered as a Nanoplasmid, which was developed by Nature Technology and has no antibiotic selection element, reducing the risk of inadvertent transmission of antibiotic resistance into T cells. The transposase will be delivered as mRNA. mRNA is transiently expressed in the cell, reducing exposure of cells to prolonged transposase activity, which could result in multiple transposition events where the transposon would be moved around the genome. Aldevron has a license from Nature Technology to manufacture research-grade and GMP-grade transposon and transposase. The initial batch of research-grade and GMP-grade transposon and transposase which we intend to use in connection with our near-term pre-clinical studies and clinical trials will be manufactured by Aldevron pursuant to a non-exclusive, fee-for-service supply arrangement pursuant to which we may purchase materials from time-to-time, subject to normal market pricing.

We are developing our manufacturing process using industry standard instrumentation to enable direct transfer of methods from process development to manufacturing. These devices also allow for functionally closed processes in a small footprint. For product manufacturing, we use single-use bag and tubing kits, supplies, and process reagents that are available from well-established vendors who specialize in supplying clinical grade reagents for the cell and gene therapy industry. Our TCR-T therapies will be characterized and released using well-developed analytic methods. The final product will be cryopreserved, simplifying logistics and reducing risk of delivery failures. We plan to have controls and safeguards throughout the entire process to ensure product identity, integrity, and chain of custody. A clearly defined and documented manufacturing process, performed by trained operators using specialized instrumentation in an appropriately designed, commissioned, and operated manufacturing facility, are all critical for the manufacturing of safe, effective, and well-characterized cell therapies.

Our cell product manufacturing facility in Waltham, MA was designed and built to support multiple programs through Phase 1 and Phase 2 clinical development, with a projected capacity to support treating over 200 patients per year. We believe internalizing our manufacturing process enables us to better control this key aspect of clinical development and reduces the risk of program delay due to third party reliance. We expect to revisit our manufacturing process prior to commencing registrational trials and may use third-party CMOs to manufacture product candidates for our registrational trials.

Competition

We believe our novel and proprietary platform technologies, TargetScan and ReceptorScan, and our in-house cell therapy expertise constitute a meaningful competitive advantage in successfully developing novel and highly effective treatments for cancer. However, the biopharmaceutical industry in general, and the cell therapy field in particular, is characterized by rapidly advancing and changing technologies, intense competition, and a strong emphasis on intellectual property. We face substantial and increasing competition from many different sources, including large and specialty biopharmaceutical companies, academic research institutions, governmental agencies, and public and private research institutions. Competitors may compete with us in hiring scientific and management personnel, establishing clinical study sites, recruiting patients to participate in clinical trials, and acquiring technologies complementary to, or necessary for, our programs.

We face competition from segments of the pharmaceutical, biotechnology and other related markets that pursue the development of TCR-T or other cell therapies for the treatment of cancer. We expect to compete with a number of other T-cell therapy companies, including those with target discovery platforms, such as Adaptive Therapeutics, Inc., Immatics N.V., Enara Bio Ltd. and 3T Biosciences Inc. In addition, we may face competition from other TCR companies such as Adaptimmune Therapeutics, Plc., Medigene AG, and Ziopharm Oncology, Inc., as well as TCR² Therapeutics Inc. We may also face competition from companies focused on CAR-T, TIL and other cell therapies, such as Kite Pharma, Inc., a subsidiary of Gilead, Inc., Juno Therapeutics, Inc., a subsidiary of Bristol-Myers Squibb, Inc., Iovance Biotherapeutics, Inc., Instil Bio, Inc., Achilles Therapeutics plc, Geneos Therapeutics, Inc., and PACT Pharma, Inc. There are also companies utilizing other cell-based approaches that may be competitive to our product candidates. For example, companies such as Celyad, S.A., Fate Therapeutics, Inc., and Nkarta, Inc. are developing therapies that target and/or engineer natural killer, or NK, cells. In addition, for our lead liquid tumor programs, TSC-100 and TSC-101, we may face

competition from HighPass Bio, Inc. and Kiadis Pharma U.S. Corporation, who are also developing cell therapies in the post-HCT setting.

Furthermore, we also face competition more broadly across the oncology market for cost-effective and reimbursable cancer treatments. The most common methods of treating patients with cancer are surgery, radiation, and drug therapy, including chemotherapy, hormone therapy, biologic therapy, such as monoclonal and bispecific antibodies, immunotherapy, cell-based therapy, and targeted therapy, or a combination of any such treatments. There are a variety of available drug therapies marketed for cancer. In many cases, these drugs are administered in combination to enhance efficacy. While our TCR-T therapy candidates, if any are approved, may compete with these existing drugs and other therapies, to the extent they are ultimately used in combination with or as an adjunct to these therapies, our TCR-T therapies may not be competitive with them. Some of these drugs are branded and subject to patent protection, and others are available on a generic basis. Insurers and other third party payors may also encourage the use of generic products or specific branded products. As a result, obtaining market acceptance of, and gaining significant share of the market for, any of our TCR-T therapies that we successfully introduce to the market may pose challenges. In addition, many companies are developing new oncology therapeutics, and we cannot predict what the standard of care will be as our product candidates progress through clinical development.

We could see a reduction or elimination in our commercial opportunity if our competitors develop and commercialize drugs that are safer, more effective, have fewer or less severe side effects, are more convenient to administer, are less expensive, or receive a more favorable label than our TCR-T therapy candidates. Our competitors also may obtain FDA or other regulatory approval for their drugs more rapidly than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we are able to enter the market. The key competitive factors affecting the success of all of our TCR-T therapy candidates, if approved, are likely to be their efficacy, safety, convenience, price, and the availability of reimbursement from government and other third party payors.

Intellectual Property

Our success depends in part on our ability to obtain, maintain and protect our proprietary technology and intellectual property and proprietary rights and operate our business without infringing, misappropriating and otherwise violating the intellectual property and proprietary rights of third parties. We rely on a combination of patent applications, trademarks, trade secrets, and other intellectual property rights and measures to protect the intellectual property rights that we consider important to our business. We also rely on know-how and continuing technological innovation to develop and maintain our competitive position. We also seek to protect our proprietary rights by entering into confidentiality agreements and proprietary information agreements with suppliers, employees, consultants and others who may have access to our proprietary information. The steps we have taken to protect our trade secrets, trademarks, patent applications and other intellectual property and proprietary rights may not be adequate, and third parties could infringe, misappropriate or misuse our intellectual property. If this were to occur, it could harm our reputation and adversely affect our business, competitive position, financial condition or results of operations.

As of April 16, 2021, we do not own or exclusively in-license any issued patents and all of our owned patent applications are provisional patent applications. In addition, although we plan to file patent applications with respect to TSC-102, TSC-200, TSC-202 and TSC-203, as of April 16, 2021, we have not filed any patent applications with respect to these product candidates. As of April 16, 2021, we have filed sixteen U.S. provisional patent applications, nine of which are jointly owned by us and AHS Hospital Corporation (“AHS”). AHS has exclusively licensed their interest to us in such patent applications. Conversion of such patent applications to utility patent applications is expected to occur between June 2021 and April 2022.

As set forth in detail below, our provisional patent applications are drawn to subject matter in the following main technology areas: certain compositions of matter directed to SARS-CoV-2 immunodominant antigens, anti-SARS-CoV-2 TCRs, anti-SARS-CoV-2 vaccines, anti-HA-1 TCRs (including the TSC-100 TCR-T therapy candidate, anti-HA-2 TCRs (including the TSC-101 TCR-T therapy candidate), TCRs targeting the antigen of

[Table of Contents](#)

TSC-201, and certain therapeutic and diagnostic uses thereof, as well as a phospholipid scrambling reporter-based T cell antigen screening platform and certain screening methods thereof.

SARS-CoV-2 technology

We filed four U.S. provisional patent applications (U.S. patent application serial number 63/040,267, filed June 17, 2020; U.S. patent application serial number 63/050,930, filed July 13, 2020; U.S. patent application serial number 63/056,462, filed July 24, 2020; and U.S. patent application serial number 63/056,849, filed July 27, 2020) drawn to SARS-CoV-2 immunodominant peptide compositions of matter and certain therapeutic and diagnostic uses thereof. Any patents issuing from these applications are expected to expire in 2041 (absent any adjustments or extensions of term). We also filed a U.S. provisional patent application (U.S. patent application serial number 63/113,024, filed November 12, 2020) drawn to anti-SARS-CoV-2 vaccine compositions of matter and certain therapeutic and diagnostic uses thereof. Any patents issuing from this application are expected to expire in 2041 (absent any adjustments or extensions of term). Each of these five U.S. provisional patent applications is jointly owned by us and AHS. AHS has exclusively licensed their interest to us in such patent applications.

HA-1 technology

We filed four U.S. provisional patent applications (U.S. patent application serial number 63/110,851, filed November 6, 2020; U.S. patent application serial number 63/111,462, filed November 9, 2020; U.S. patent application serial number 63/129,804, filed December 23, 2020; and U.S. patent application serial number 63/175,350, filed April 15, 2021) drawn to anti-HA-1 TCR compositions of matter (including the TSC-100 TCRT therapy candidate) and certain therapeutic and diagnostic uses thereof. Any patents issuing from these applications are expected to expire in 2041 (absent any adjustments or extensions of term).

HA-2 technology

We filed a U.S. provisional patent application (U.S. patent application serial number 63/174,818, filed April 14, 2021) drawn to anti-HA-2 TCR compositions of matter (including the TSC-101 TCR-T therapy candidate) and certain therapeutic and diagnostic uses thereof. Any patents issuing from this application are expected to expire in 2042 (absent any adjustments or extensions of term).

Screening technology

We filed a U.S. provisional patent application (U.S. patent application serial number 63/055,766, filed July 22, 2020) drawn to a phospholipid scrambling reporter-based T cell antigen screening platform compositions of matter and certain screening methods thereof. Any patents issuing from this application are expected to expire in 2041 (absent any adjustments or extensions of term).

Our provisional patent applications may not result in issued patents and we can give no assurance that any patents that might issue in the future will protect our future products or provide us with any competitive advantage. Moreover, U.S. provisional patent applications are not eligible to become issued patents until, among other things, we file a non-provisional patent application within 12 months of filing of one or more of our related provisional patent applications. With regard to such U.S. provisional patent applications, if we do not timely file any non-provisional patent applications, we may lose our priority date with respect to our provisional patent applications and any patent protection on the inventions disclosed in our provisional patent applications. While we intend to timely file non-provisional patent applications relating to our provisional patent applications, we cannot predict whether any such patent applications will result in the issuance of patents that provide us with any competitive advantage. For more information regarding the risks related to our intellectual property, please see “Risk Factors—Risks Related to Our Intellectual Property”. We rely on certain technology and intellectual property rights that we in-license from third parties.

We have an exclusive patent license from The Brigham and Women’s Hospital, Inc. (BWH) to a patent family directed to a granzyme B (GzB)-based antigen screening technologyplatform compositions of matter and certain screening methods thereof (consisting of one pending U.S. patent application (U.S. patent application

[Table of Contents](#)

serial number 16/619,859, filed December 5, 2019) and six pending foreign patent applications in Australia (patent application serial number 2018279728, filed December 5, 2019), Canada (patent application serial number 3,066,645, filed December 6, 2019), China (patent application serial number 201880051295.1, filed February 6, 2020), Europe (patent application serial number 18812782.3, filed January 7, 2020), Hong Kong (patent application serial number 62020017383.4, filed October 9, 2020), and Japan (patent application serial number 2019-567577, filed December 6, 2019)). Any patents issuing from the U.S. and foreign patent applications are expected to expire in 2038 (absent any adjustments or extensions of term). We also have a non-exclusive, perpetual, non-transferable patent license from the Provincial Health Services Authority of British Columbia (PHSA) to a patent family directed to granzyme-based antigen screening methods (consisting of one issued U.S. patent (patent number 10,627,411, granted on April 21, 2020 and expected to expire August 4, 2035), one pending U.S. patent application (U.S. patent application serial number 16/841,943, filed April 7, 2020), and one issued foreign patent in Canada (patent number 2,943,569, granted on February 23, 2021 and expected to expire March 25, 2035)). Any patent issuing from the U.S. patent application is expected to expire in 2035 (absent any adjustments or extensions of term). We do not have any additional material licenses to any technology or intellectual property rights.

As of April 16, 2021, we own or have rights to two pending U.S. trademark applications, 14 foreign trademark registrations, and three pending foreign trademark applications.

Government Regulation

The FDA and other regulatory authorities at federal, state, and local levels, as well as in foreign countries, extensively regulate, among other things, the research, development, testing, manufacture, quality control, import, export, safety, effectiveness, labeling, packaging, storage, distribution, record keeping, approval, advertising, promotion, marketing, post-approval monitoring, and post-approval reporting of biologics such as those we are developing. We, along with third party contractors, will be required to navigate the various preclinical, clinical and commercial approval requirements of the governing regulatory agencies of the countries in which we wish to conduct studies or seek approval or licensure of our product candidates.

The process required by the FDA before biologic product candidates may be marketed in the United States generally involves the following:

- completion of preclinical laboratory tests and animal studies performed in accordance with the FDA's current Good Laboratory Practices regulation;
- submission to the FDA of an IND, which must become effective before clinical trials may begin and must be updated annually or when significant changes are made;
- approval by an independent Institutional Review Board, or IRB, or ethics committee at each treatment site before the trial is commenced;
- performance of adequate and well-controlled human clinical trials to establish the safety, purity and potency of the proposed biologic product candidate for its intended purpose;
- preparation of and submission to the FDA of a BLA after completion of all pivotal clinical trials;
- satisfactory completion of an FDA Advisory Committee review, if applicable;
- a determination by the FDA within 60 days of its receipt of a BLA to file the application for review;
- satisfactory completion of an FDA pre-approval inspection of the manufacturing facility or facilities at which the proposed product is produced to assess compliance with cGMP and to assure that the facilities, methods and controls are adequate to preserve the biological product's continued safety, purity and potency, and of selected clinical investigation sites to assess compliance with Good Clinical Practices, or GCP; and
- FDA review and approval of the BLA to permit commercial marketing of the product for particular indications for use in the United States.

Preclinical and Clinical Development

Prior to beginning the first clinical trial with a product candidate, we must submit an IND to the FDA. An IND is a request for authorization from the FDA to administer an investigational new drug product to humans. The central focus of an IND submission is on the general investigational plan and the protocol(s) for clinical studies. The IND also includes results of animal and in vitro studies assessing the toxicology, pharmacokinetics, pharmacology, and pharmacodynamic characteristics of the product; chemistry, manufacturing, and controls information; and any available human data or literature to support the use of the investigational product. An IND must become effective before human clinical trials may begin. The IND automatically becomes effective 30 days after receipt by the FDA, unless the FDA, within the 30-day time period, raises safety concerns or questions about the proposed clinical trial. In such a case, the IND may be placed on clinical hold and the IND sponsor and the FDA must resolve any outstanding concerns or questions before the clinical trial can begin. Submission of an IND therefore may or may not result in FDA authorization to begin a clinical trial. In addition to the submission of an IND to the FDA before initiation of a clinical trial in the United States, certain human clinical trials involving recombinant or synthetic nucleic acid molecules had historically been subject to review by the Recombinant DNA Advisory Committee, or RAC, of the NIH Office of Biotechnology Activities, or OBA, pursuant to the NIH Guidelines for Research Involving Recombinant DNA Molecules, or NIH Guidelines. On August 17, 2018, the NIH issued a notice in the Federal Register and issued a public statement proposing changes to the oversight framework for gene therapy trials, including changes to the applicable NIH Guidelines to modify the roles and responsibilities of the RAC with respect to human clinical trials of gene therapy products, and requesting public comment on its proposed modifications. During the public comment period, which closed October 16, 2018, the NIH announced that it would no longer accept new human gene transfer protocols for review as part of the protocol registration process or convene the RAC to review individual clinical protocols. These trials will remain subject to the FDA's oversight and other clinical trial regulations, and oversight at the local level will continue as set forth in the NIH Guidelines. Specifically, under the NIH Guidelines, supervision of human gene transfer trials includes evaluation and assessment by an IBC, a local institutional committee that reviews and oversees research utilizing recombinant or synthetic nucleic acid molecules at that institution. The IBC assesses the safety of the research and identifies any potential risk to public health or the environment, and such review may result in some delay before initiation of a clinical trial. While the NIH Guidelines are not mandatory unless the research in question is being conducted at or sponsored by institutions receiving NIH funding of recombinant or synthetic nucleic acid molecule research, many companies and other institutions not otherwise subject to the NIH Guidelines voluntarily follow them.

Clinical trials involve the administration of the investigational product to human subjects under the supervision of qualified investigators in accordance with GCPs, which include the requirement that all research subjects provide their informed consent for their participation in any clinical study. Clinical trials are conducted under protocols detailing, among other things, the objectives of the study, the parameters to be used in monitoring safety and the effectiveness criteria to be evaluated. A separate submission to the existing IND must be made for each successive clinical trial conducted during product development and for any subsequent protocol amendments. Furthermore, an independent IRB for each site proposing to conduct the clinical trial must review and approve the plan for any clinical trial and its informed consent form before the clinical trial begins at that site and must monitor the study until completed. Regulatory authorities, the IRB or the sponsor may suspend a clinical trial at any time on various grounds, including a finding that the subjects are being exposed to an unacceptable health risk or that the trial is unlikely to meet its stated objectives. Some studies also include oversight by an independent group of qualified experts organized by the clinical study sponsor, known as a data safety monitoring board, which provides authorization for whether or not a study may move forward at designated check points based on access to certain data from the study and may halt the clinical trial if it determines that there is an unacceptable safety risk for subjects or other grounds, such as no demonstration of efficacy. There are also requirements governing the reporting of ongoing clinical studies and clinical study results to public registries.

For purposes of BLA approval, human clinical trials are typically conducted in three sequential phases that may overlap.

Table of Contents

- Phase 1—The investigational product is initially introduced into healthy human subjects or patients with the target disease or condition. These studies are designed to test the safety, dosage tolerance, absorption, metabolism and distribution of the investigational product in humans, the side effects associated with increasing doses, and, if possible, to gain early evidence on effectiveness.
- Phase 2—The investigational product is administered to a limited patient population with a specified disease or condition to evaluate the preliminary efficacy, optimal dosages and dosing schedule and to identify possible adverse side effects and safety risks. Multiple Phase 2 clinical trials may be conducted to obtain information prior to beginning larger and more expensive Phase 3 clinical trials.
- Phase 3—The investigational product is administered to an expanded patient population to further evaluate dosage, to provide statistically significant evidence of clinical efficacy and to further test for safety, generally at multiple geographically dispersed clinical trial sites. These clinical trials are intended to establish the overall risk/benefit ratio of the investigational product and to provide an adequate basis for product approval.

In some cases, the FDA may require, or companies may voluntarily pursue, additional clinical trials after a product is approved to gain more information about the product. These so-called Phase 4 studies may be made a condition to approval of the BLA. Concurrent with clinical trials, companies may complete additional animal studies and develop additional information about the biological characteristics of the product candidate and must finalize a process for manufacturing the product in commercial quantities in accordance with cGMP requirements. The manufacturing process must be capable of consistently producing quality batches of the product candidate and, among other things, must develop methods for testing the identity, strength, quality and purity of the final product, or for biologics, the safety, purity and potency. Additionally, appropriate packaging must be selected and tested, and stability studies must be conducted to demonstrate that the product candidate does not undergo unacceptable deterioration over its shelf life.

BLA Submission and Review

Assuming successful completion of all required testing in accordance with all applicable regulatory requirements, the results of product development, nonclinical studies and clinical trials are submitted to the FDA as part of a BLA requesting approval to market the product for one or more indications. The BLA must include all relevant data available from pertinent preclinical and clinical studies, including negative or ambiguous results as well as positive findings, together with detailed information relating to the product's chemistry, manufacturing, controls, and proposed labeling, among other things. The submission of a BLA requires payment of a substantial application user fee to FDA, unless a waiver or exemption applies, and the sponsor of an approved BLA is also subject to an annual program fee.

Once a BLA has been submitted, the FDA's goal is to review standard applications within ten months after it accepts the application for filing, or, if the application qualifies for priority review, six months after the FDA accepts the application for filing. In both standard and priority reviews, the review process is often significantly extended by FDA requests for additional information or clarification. The FDA reviews a BLA to determine, among other things, whether a product is safe, pure and potent and the facility in which it is manufactured, processed, packed, or held meets standards designed to assure the product's continued safety, purity and potency. The FDA may convene an advisory committee to provide clinical insight on application review questions. Before approving a BLA, the FDA will typically inspect the facility or facilities where the product is manufactured. The FDA will not approve an application unless it determines that the manufacturing processes and facilities are in compliance with cGMP requirements and adequate to assure consistent production of the product within required specifications. Additionally, before approving a BLA, the FDA will typically inspect one or more treatment sites to assure compliance with GCP. If the FDA determines that the application, manufacturing process or manufacturing facilities are not acceptable, it will outline the deficiencies in the submission and often will request additional testing or information. Notwithstanding the submission of any requested additional information, the FDA ultimately may decide that the application does not satisfy the regulatory criteria for approval.

[Table of Contents](#)

After the FDA evaluates a BLA and conducts inspections of manufacturing facilities where the investigational product and/or its drug substance will be produced, the FDA may issue an approval letter or a Complete Response letter. An approval letter authorizes commercial marketing of the product with specific prescribing information for specific indications. A Complete Response letter will describe all of the deficiencies that the FDA has identified in the BLA, except that where the FDA determines that the data supporting the application are inadequate to support approval, the FDA may issue the Complete Response letter without first conducting required inspections, testing submitted product lots, and/or reviewing proposed labeling. In issuing the Complete Response letter, the FDA may recommend actions that the applicant might take to place the BLA in condition for approval, including requests for additional information or clarification. The FDA may delay or refuse approval of a BLA if applicable regulatory criteria are not satisfied, require additional testing or information and/or require post-marketing testing and surveillance to monitor safety or efficacy of a product.

If regulatory approval of a product is granted, such approval will be granted for particular indications and may entail limitations on the indicated uses for which such product may be marketed. For example, the FDA may approve the BLA with a Risk Evaluation and Mitigation Strategy, or REMS, to ensure the benefits of the product outweigh its risks. A REMS is a safety strategy to manage a known or potential serious risk associated with a product and to enable patients to have continued access to such medicines by managing their safe use, and could include medication guides, physician communication plans, or elements to assure safe use, such as restricted distribution methods, patient registries and other risk minimization tools. The FDA also may condition approval on, among other things, changes to proposed labeling or the development of adequate controls and specifications. Once approved, the FDA may withdraw the product approval if compliance with pre- and post-marketing requirements is not maintained or if problems occur after the product reaches the marketplace. The FDA may require one or more Phase 4 post market studies and surveillance to further assess and monitor the product's safety and effectiveness after commercialization and may limit further marketing of the product based on the results of these post-marketing studies.

Expedited Development and Review Programs

The FDA offers a number of expedited development and review programs for qualifying product candidates. The fast track program is intended to expedite or facilitate the process for reviewing new products that meet certain criteria. Specifically, new products are eligible for fast track designation if they are intended to treat a serious or life-threatening disease or condition and demonstrate the potential to address unmet medical needs for the disease or condition. Fast track designation applies to the combination of the product and the specific indication for which it is being studied. The sponsor of a fast track product has opportunities for frequent interactions with the review team during product development and, once a BLA is submitted, the product may be eligible for priority review. A fast track product may also be eligible for rolling review, where the FDA may consider for review sections of the BLA on a rolling basis before the complete application is submitted, if the sponsor provides a schedule for the submission of the sections of the BLA, the FDA agrees to accept sections of the BLA and determines that the schedule is acceptable, and the sponsor pays any required user fees upon submission of the first section of the BLA.

A product intended to treat a serious or life-threatening disease or condition may also be eligible for breakthrough therapy designation to expedite its development and review. A product can receive breakthrough therapy designation if preliminary clinical evidence indicates that the product may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. The designation includes all of the fast track program features, as well as more intensive FDA interaction and guidance beginning as early as Phase 1 and an organizational commitment to expedite the development and review of the product, including involvement of senior managers.

Any marketing application for a biologic submitted to the FDA for approval, including a product with a fast track designation and/or breakthrough therapy designation, may be eligible for other types of FDA programs

[Table of Contents](#)

intended to expedite the FDA review and approval process, such as priority review and accelerated approval. A product is eligible for priority review if it has the potential to provide a significant improvement in the treatment, diagnosis or prevention of a serious disease or condition compared to marketed products. For products containing new molecular entities, priority review designation means the FDA's goal is to take action on the marketing application within six months of the 60-day filing date (compared with ten months under standard review).

Additionally, products studied for their safety and effectiveness in treating serious or life-threatening diseases or conditions may receive accelerated approval upon a determination that the product has an effect on a surrogate endpoint that is reasonably likely to predict clinical benefit, or on a clinical endpoint that can be measured earlier than irreversible morbidity or mortality, that is reasonably likely to predict an effect on irreversible morbidity or mortality or other clinical benefit, taking into account the severity, rarity, or prevalence of the condition and the availability or lack of alternative treatments. As a condition of accelerated approval, the FDA will generally require the sponsor to perform adequate and well-controlled post-marketing clinical studies to verify and describe the anticipated effect on irreversible morbidity or mortality or other clinical benefit. In addition, the FDA currently requires as a condition for accelerated approval pre-approval of promotional materials, which could adversely impact the timing of the commercial launch of the product.

In 2017, FDA established a new regenerative medicine advanced therapy, or RMAT, designation as part of its implementation of the 21st Century Cures Act. The RMAT designation is intended to fulfill the 21st Century Cures Act requirement that FDA facilitate an efficient development program for, and expedite review of, any drug that meets the following criteria: (1) it qualifies as a RMAT, which is defined as a cell therapy, therapeutic tissue engineering product, human cell and tissue product, or any combination product using such therapies or products, with limited exceptions; (2) it is intended to treat, modify, reverse, or cure a serious or life-threatening disease or condition; and (3) preliminary clinical evidence indicates that the drug has the potential to address unmet medical needs for such a disease or condition. Like breakthrough therapy designation, RMAT designation provides potential benefits that include more frequent meetings with FDA to discuss the development plan for the product candidate and eligibility for rolling review and priority review. Products granted RMAT designation may also be eligible for accelerated approval on the basis of a surrogate or intermediate endpoint reasonably likely to predict long-term clinical benefit, or reliance upon data obtained from a meaningful number of sites, including through expansion to additional sites. Once approved, when appropriate, the FDA can permit fulfillment of post-approval requirements under accelerated approval through the submission of clinical evidence, clinical studies, patient registries, or other sources of real world evidence such as electronic health records; through the collection of larger confirmatory datasets; or through post-approval monitoring of all patients treated with the therapy prior to approval.

Fast track designation, breakthrough therapy designation, priority review, accelerated approval, and RMAT designation do not change the standards for approval but may expedite the development or approval process.

Orphan Drug Designation

Under the Orphan Drug Act, the FDA may grant orphan designation to a drug or biologic intended to treat a rare disease or condition, which is a disease or condition that affects fewer than 200,000 individuals in the United States, or more than 200,000 individuals in the United States for which there is no reasonable expectation that the cost of developing and making available in the United States a drug or biologic for this type of disease or condition will be recovered from sales in the United States for that drug or biologic. Orphan drug designation must be requested before submitting a BLA. After the FDA grants orphan drug designation, the generic identity of the therapeutic agent and its potential orphan use are disclosed publicly by the FDA. The orphan drug designation does not convey any advantage in, or shorten the duration of, the regulatory review or approval process.

If a product that has orphan drug designation subsequently receives the first FDA approval for the disease for which it has such designation, the product is entitled to orphan drug exclusive approval (or exclusivity),

[Table of Contents](#)

which means that the FDA may not approve any other applications, including a full BLA, to market the same biologic for the same indication for seven years, except in limited circumstances, such as a showing of clinical superiority to the product with orphan drug exclusivity. Orphan drug exclusivity does not prevent FDA from approving a different drug or biologic for the same disease or condition, or the same drug or biologic for a different disease or condition. Among the other benefits of orphan drug designation are tax credits for certain research and a waiver of the BLA application fee.

A designated orphan drug may not receive orphan drug exclusivity if it is approved for a use that is broader than the indication for which it received orphan designation. In addition, exclusive marketing rights in the United States may be lost if the FDA later determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantities of the product to meet the needs of patients with the rare disease or condition.

Post-Approval Requirements

Any products manufactured or distributed by us pursuant to FDA approvals are subject to pervasive and continuing regulation by the FDA, including, among other things, requirements relating to record-keeping, reporting of adverse experiences, periodic reporting, product sampling and distribution, and advertising and promotion of the product. After approval, most changes to the approved product, such as adding new indications or other labeling claims, are subject to prior FDA review and approval. There also are continuing user fee requirements, under which FDA assesses an annual program fee for each product identified in an approved BLA. Biologic manufacturers and their subcontractors are required to register their establishments with the FDA and certain state agencies, and are subject to periodic unannounced inspections by the FDA and certain state agencies for compliance with cGMP, which impose certain procedural and documentation requirements upon us and our third party manufacturers. Changes to the manufacturing process are strictly regulated, and, depending on the significance of the change, may require prior FDA approval before being implemented. FDA regulations also require investigation and correction of any deviations from cGMP and impose reporting requirements upon us and any third party manufacturers that we may decide to use. Accordingly, manufacturers must continue to expend time, money and effort in the area of production and quality control to maintain compliance with cGMP and other aspects of regulatory compliance.

The FDA may withdraw approval if compliance with regulatory requirements and standards is not maintained or if problems occur after the product reaches the market.

Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or with manufacturing processes, or failure to comply with regulatory requirements, may result in revisions to the approved labeling to add new safety information; imposition of post-market studies or clinical studies to assess new safety risks; or imposition of distribution restrictions or other restrictions under a REMS program. Other potential consequences include, among other things:

- restrictions on the marketing or manufacturing of a product, complete withdrawal of the product from the market or product recalls;
- fines, warning letters or holds on post-approval clinical studies;
- refusal of the FDA to approve pending applications or supplements to approved applications, or suspension or revocation of existing product approvals;
- product seizure or detention, or refusal of the FDA to permit the import or export of products;
- consent decrees, corporate integrity agreements, debarment or exclusion from federal healthcare programs;
- mandated modification of promotional materials and labeling and the issuance of corrective information;

[Table of Contents](#)

- the issuance of safety alerts, Dear Healthcare Provider letters, press releases and other communications containing warnings or other safety information about the product; or
- injunctions or the imposition of civil or criminal penalties.

The FDA closely regulates the marketing, labeling, advertising and promotion of biologics. A company can make only those claims relating to safety and efficacy, purity and potency that are approved by the FDA and in accordance with the provisions of the approved label. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off label uses. Failure to comply with these requirements can result in, among other things, adverse publicity, warning letters, corrective advertising and potential civil and criminal penalties. Physicians may prescribe legally available products for uses that are not described in the product's labeling and that differ from those tested by us and approved by the FDA. Such off-label uses are common across medical specialties. Physicians may believe that such off-label uses are the best treatment for many patients in varied circumstances. The FDA does not regulate the behavior of physicians in their choice of treatments. The FDA does, however, restrict manufacturer's communications on the subject of off-label use of their products.

Biosimilars and Reference Product Exclusivity

The Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, or collectively, the ACA, signed into law in 2010, includes a subtitle called the Biologics Price Competition and Innovation Act of 2009, or BPCIA, which created an abbreviated approval pathway for biological products that are biosimilar to or interchangeable with an FDA-approved reference biological product. To date, a number of biosimilars have been licensed under the BPCIA, and numerous biosimilars have been approved in Europe. The FDA has issued several guidance documents outlining an approach to review and approval of biosimilars.

Biosimilarity, which requires that there be no clinically meaningful differences between the biological product and the reference product in terms of safety, purity, and potency, can be shown through analytical studies, animal studies, and a clinical study or studies. Interchangeability requires that a product is biosimilar to the reference product and the product must demonstrate that it can be expected to produce the same clinical results as the reference product in any given patient and, for products that are administered multiple times to an individual, the biologic and the reference biologic may be alternated or switched after one has been previously administered without increasing safety risks or risks of diminished efficacy relative to exclusive use of the reference biologic. Complexities associated with the larger, and often more complex, structures of biological products, as well as the processes by which such products are manufactured, pose significant hurdles to implementation of the abbreviated approval pathway that are still being worked out by the FDA.

Under the BPCIA, an application for a biosimilar product may not be submitted to the FDA until four years following the date that the reference product was first licensed by the FDA. In addition, the approval of a biosimilar product may not be made effective by the FDA until 12 years from the date on which the reference product was first licensed. During this 12-year period of exclusivity, another company may still market a competing version of the reference product if the FDA approves a full BLA for the competing product containing that applicant's own preclinical data and data from adequate and well-controlled clinical trials to demonstrate the safety, purity and potency of its product. The BPCIA also created certain exclusivity periods for biosimilars approved as interchangeable products. At this juncture, it is unclear whether products deemed "interchangeable" by the FDA will, in fact, be readily substituted by pharmacies, which are governed by state pharmacy law.

A biological product can also obtain pediatric market exclusivity in the United States. Pediatric exclusivity, if granted, adds six months to existing exclusivity periods and patent terms. This six-month exclusivity, which runs from the end of other exclusivity protection or patent term, may be granted based on the voluntary completion of a pediatric study in accordance with an FDA-issued "Written Request" for such a study.

The BPCIA is complex and continues to be interpreted and implemented by the FDA. In addition, recent government proposals have sought to reduce the 12-year reference product exclusivity period. Other aspects of the BPCIA, some of which may impact the BPCIA exclusivity provisions, have also been the subject of recent litigation. As a result, the ultimate impact, implementation, and impact of the BPCIA is subject to significant uncertainty.

Other U.S. Healthcare Laws and Compliance Requirements

In the United States, our activities are potentially subject to regulation by various federal, state and local authorities in addition to the FDA, including but not limited to, the Centers for Medicare and Medicaid Services, or CMS, other divisions of the U.S. Department of Health and Human Services (such as the Office of Inspector General and the Health Resources and Service Administration), the Department of Justice, or the DOJ, and individual U.S. Attorney offices within the DOJ, and state and local governments. For example, sales, marketing and scientific/educational grant programs may have to comply with the anti-fraud and abuse provisions of the Social Security Act, the false claims laws, the privacy and security provisions of the Health Insurance Portability and Accountability Act, or HIPAA, and similar state laws, each as amended, as applicable.

The federal Anti-Kickback Statute prohibits, among other things, any person or entity, from knowingly and willfully offering, paying, soliciting or receiving any remuneration, directly or indirectly, overtly or covertly, in cash or in kind, to induce or in return for purchasing, leasing, ordering or arranging for the purchase, lease or order of any item or service reimbursable, in whole or in part, under Medicare, Medicaid or other federal healthcare programs. The term remuneration has been interpreted broadly to include anything of value. The federal Anti-Kickback Statute has been interpreted to apply to arrangements between therapeutic product manufacturers on one hand and prescribers and purchasers on the other. There are a number of statutory exceptions and regulatory safe harbors protecting some common activities from prosecution. The exceptions and safe harbors are drawn narrowly and practices that involve remuneration that may be alleged to be intended to induce prescribing, purchasing or recommending may be subject to scrutiny if they do not qualify for an exception or safe harbor. Failure to meet all of the requirements of a particular applicable statutory exception or regulatory safe harbor does not make the conduct per se illegal under the federal Anti-Kickback Statute. Instead, the legality of the arrangement will be evaluated on a case-by-case basis based on a cumulative review of all of its facts and circumstances. Our practices, including our arrangements with physicians, may not in all cases meet all of the criteria for protection under a statutory exception or regulatory safe harbor.

Additionally, the intent standard under the federal Anti-Kickback Statute was amended by the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010, or collectively, ACA, to a stricter standard such that a person or entity no longer needs to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation. In addition, the ACA codified case law that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the federal False Claims Act, or FCA.

The federal false claims and civil monetary penalty laws, including the FCA, which can be enforced by private citizens through civil qui tam actions, prohibit any person or entity from, among other things, knowingly presenting, or causing to be presented, a false or fraudulent claim for payment to, or approval by, the federal healthcare programs, including Medicare and Medicaid, or knowingly making, using, or causing to be made or used a false record or statement material to a false or fraudulent claim to the federal government. A claim includes "any request or demand" for money or property presented to the U.S. government. For instance, historically, pharmaceutical and other healthcare companies have been prosecuted under these laws for allegedly providing free product to customers with the expectation that the customers would bill federal programs for the product. Other companies have been prosecuted for causing false claims to be submitted because of the companies' marketing of the product for unapproved, off-label, and thus generally non-reimbursable, uses.

HIPAA created additional federal criminal statutes that prohibit, among other things, knowingly and willfully executing, or attempting to execute, a scheme to defraud or to obtain, by means of false or fraudulent

[Table of Contents](#)

pretenses, representations or promises, any money or property owned by, or under the control or custody of, any healthcare benefit program, including private third party payors, willfully obstructing a criminal investigation of a healthcare offense, and knowingly and willfully falsifying, concealing or covering up by trick, scheme or device, a material fact or making any materially false, fictitious or fraudulent statement in connection with the delivery of or payment for healthcare benefits, items or services. Like the federal Anti-Kickback Statute, the ACA amended the intent standard for certain healthcare fraud statutes under HIPAA such that a person or entity no longer needs to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation.

Also, many states have similar, and typically more prohibitive, fraud and abuse statutes or regulations that apply to items and services reimbursed under Medicaid and other state programs, or, in several states, apply regardless of the payor. Additionally, to the extent that our product is sold in a foreign country, we may be subject to similar foreign laws.

We may be subject to data privacy and security regulations by both the federal government and the states in which we conduct our business. HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act, or HITECH, and their implementing regulations, impose requirements relating to the privacy, security and transmission of individually identifiable health information on certain healthcare providers, healthcare clearinghouses, and health plans, known as covered entities, as well as independent contractors, or agents of covered entities that receive or obtain individually identifiable health information in connection with providing a service on behalf of a covered entity, known as a business associates. Among other things, HITECH makes HIPAA's privacy and security standards directly applicable to business associates. HITECH also created four new tiers of civil monetary penalties, amended HIPAA to make civil and criminal penalties directly applicable to business associates, and gave state attorneys general new authority to file civil actions for damages or injunctions in federal courts to enforce HIPAA and seek attorneys' fees and costs associated with pursuing federal civil actions. In addition, many state laws govern the privacy and security of health information in specified circumstances, many of which differ from each other in significant ways, are often not pre-empted by HIPAA, and may have a more prohibitive effect than HIPAA, thus complicating compliance efforts.

In addition, many pharmaceutical manufacturers must calculate and report certain price reporting metrics to the government, such as average sales price and best price. Further, these prices for drugs may be reduced by mandatory discounts or rebates required by government healthcare programs or private payors and by any future relaxation of laws that presently restrict imports of drugs from countries where they may be sold at lower prices than in the United States. It is difficult to predict how Medicare coverage and reimbursement policies will be applied to our products in the future and coverage and reimbursement under different federal healthcare programs are not always consistent. Medicare reimbursement rates may also reflect budgetary constraints placed on the Medicare program.

Additionally, the federal Physician Payments Sunshine Act, or the Sunshine Act, within the ACA, and its implementing regulations, require that certain manufacturers of drugs, devices, biological and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program (with certain exceptions) report annually to CMS information related to certain payments or other transfers of value made or distributed to physicians and teaching hospitals, or to entities or individuals at the request of, or designated on behalf of, the physicians and teaching hospitals and to report annually certain ownership and investment interests held by physicians and their immediate family members. In addition, many states also govern the reporting of payments or other transfers of value, many of which differ from each other in significant ways, are often not pre-empted, and may have a more prohibitive effect than the Sunshine Act, thus further complicating compliance efforts.

In order to distribute products commercially, we must comply with state laws that require the registration of manufacturers and wholesale distributors of drug and biological products in a state, including, in certain states, manufacturers and distributors who ship products into the state even if such manufacturers or distributors have no

place of business within the state. Some states also impose requirements on manufacturers and distributors to establish the pedigree of product in the chain of distribution, including some states that require manufacturers and others to adopt new technology capable of tracking and tracing product as it moves through the distribution chain. Several states have enacted legislation requiring pharmaceutical and biotechnology companies to establish marketing compliance programs, file periodic reports with the state, make periodic public disclosures on sales, marketing, pricing, clinical trials and other activities, and/or register their sales representatives, as well as to prohibit pharmacies and other healthcare entities from providing certain physician prescribing data to pharmaceutical and biotechnology companies for use in sales and marketing, and to prohibit certain other sales and marketing practices. All of our activities are potentially subject to federal and state consumer protection and unfair competition laws.

Ensuring business arrangements with third parties comply with applicable healthcare laws and regulations is a costly endeavor. If our operations are found to be in violation of any of the federal and state healthcare laws described above or any other current or future governmental regulations that apply to us, we may be subject to penalties, including without limitation, civil, criminal and/or administrative penalties, damages, fines, disgorgement, individual imprisonment, exclusion from participation in government programs, such as Medicare and Medicaid, injunctions, private “qui tam” actions brought by individual whistleblowers in the name of the government, or refusal to allow us to enter into government contracts, contractual damages, reputational harm, administrative burdens, diminished profits and future earnings, additional reporting obligations and oversight if we become subject to a corporate integrity agreement or other agreement to resolve allegations of non-compliance with these laws, and the curtailment or restructuring of our operations, any of which could adversely affect our ability to operate our business and our results of operations.

Coverage, Pricing and Reimbursement

Significant uncertainty exists as to the coverage and reimbursement status of any product candidates for which we may obtain regulatory approval. In the United States and in foreign markets, sales of any products for which we receive regulatory approval for commercial sale will depend, in part, on the extent to which third party payors provide coverage and establish adequate reimbursement levels for such products. In the United States, third party payors include federal and state healthcare programs, private managed care providers, health insurers and other organizations. Coverage and adequate reimbursement from governmental healthcare programs, such as Medicare and Medicaid in the United States, and commercial payors are critical to new product acceptance.

Third party payors decide which therapeutics they will pay for and establish reimbursement levels. Coverage and reimbursement by a third party payor may depend upon a number of factors, including the third party payor’s determination that use of a therapeutic is:

- a covered benefit under its health plan;
- safe, effective and medically necessary;
- appropriate for the specific patient;
- cost-effective; and
- neither experimental nor investigational.

We cannot be sure that reimbursement will be available for any product that we commercialize and, if coverage and reimbursement are available, we cannot be sure that the level of reimbursement will be adequate. Coverage may also be more limited than the purposes for which the product is approved by the FDA or comparable foreign regulatory authorities. Limited coverage and less than adequate reimbursement may reduce the demand for, or the price of, any product for which we obtain regulatory approval.

Third party payors are increasingly challenging the price, examining the medical necessity, and reviewing the cost-effectiveness of medical products, therapies and services, in addition to questioning their safety and

efficacy. Obtaining reimbursement for our products may be particularly difficult because of the higher prices often associated with branded drugs and drugs administered under the supervision of a physician. We may need to conduct expensive pharmacoeconomic studies in order to demonstrate the medical necessity and cost-effectiveness of our products, in addition to the costs required to obtain FDA approvals. Our product candidates may not be considered medically necessary or cost-effective. Obtaining coverage and reimbursement approval of a product from a third party payor is a time-consuming and costly process that could require us to provide to each payor supporting scientific, clinical and cost-effectiveness data for the use of our product on a payor-by-payor basis, with no assurance that coverage and adequate reimbursement will be obtained. A third party payor's decision to provide coverage for a product does not imply that an adequate reimbursement rate will be approved. Additionally, in the United States there is no uniform policy among third party payors for coverage or reimbursement. Third party payors often rely upon Medicare coverage policy and payment limitations in setting their own coverage and reimbursement policies, but also have their own methods and approval processes. Therefore, one third party payor's determination to provide coverage for a product does not assure that other payors will also provide coverage for the product. Adequate third party payor reimbursement may not be available to enable us to maintain price levels sufficient to realize an appropriate return on our investment in product development. If reimbursement is not available or is available only at limited levels, we may not be able to successfully commercialize any product candidate that we successfully develop.

Certain of our products, once approved, may be administered by a physician. Under currently applicable U.S. law, certain products not usually self-administered (including injectable drugs) may be eligible for coverage under Medicare through Medicare Part B. Medicare Part B is part of original Medicare, the federal health care program that provides health care benefits to the aged and disabled, and covers outpatient services and supplies, including certain pharmaceutical products, that are medically necessary to treat a beneficiary's health condition. As a condition of receiving Medicare Part B reimbursement for a manufacturer's eligible drugs or biologicals, the manufacturer is required to participate in other government healthcare programs, including the Medicaid Drug Rebate Program and the 340B Drug Pricing Program. The Medicaid Drug Rebate Program requires pharmaceutical manufacturers to enter into and have in effect a national rebate agreement with the Secretary of the Department of Health and Human Services as a condition for states to receive federal matching funds for the manufacturer's outpatient drugs furnished to Medicaid patients. Under the 340B Drug Pricing Program, the manufacturer must extend discounts to entities that participate in the program.

Different pricing and reimbursement schemes exist in other countries. In the European Union, governments influence the price of pharmaceutical products through their pricing and reimbursement rules and control of national health care systems that fund a large part of the cost of those products to consumers. Some jurisdictions operate positive and negative list systems under which products may only be marketed once a reimbursement price has been agreed. To obtain reimbursement or pricing approval, some of these countries may require the completion of clinical trials that compare the cost effectiveness of a particular product candidate to currently available therapies. Other member states allow companies to fix their own prices for medicines but monitor and control company profits. The downward pressure on health care costs has become intense. As a result, increasingly high barriers are being erected to the entry of new products. In addition, in some countries, cross-border imports from low-priced markets exert a commercial pressure on pricing within a country.

The marketability of any product candidates for which we receive regulatory approval for commercial sale may suffer if the government and third party payors fail to provide coverage and adequate reimbursement. In addition, emphasis on managed care, the increasing influence of health maintenance organizations, and additional legislative changes in the United States has increased, and we expect will continue to increase, the pressure on healthcare pricing. The downward pressure on the rise in healthcare costs in general, particularly prescription medicines, medical devices and surgical procedures and other treatments, has become very intense. Coverage policies and third party reimbursement rates may change at any time. Even if favorable coverage and reimbursement status is attained for one or more products for which we receive regulatory approval, less favorable coverage policies and reimbursement rates may be implemented in the future.

Healthcare Reform

In the United States and some foreign jurisdictions, there have been, and continue to be, several legislative and regulatory changes and proposed changes regarding the healthcare system that could prevent or delay marketing approval of product candidates, restrict or regulate post-approval activities, and affect the ability to profitably sell product candidates for which marketing approval is obtained. Among policy makers and payors in the United States and elsewhere, there is significant interest in promoting changes in healthcare systems with the stated goals of containing healthcare costs, improving quality and/or expanding access. In the United States, the pharmaceutical industry has been a particular focus of these efforts and has been significantly affected by major legislative initiatives.

For example, the ACA has substantially changed healthcare financing and delivery by both governmental and private insurers. Among the ACA provisions of importance to the pharmaceutical and biotechnology industries, in addition to those otherwise described above, are the following:

- an annual, nondeductible fee on any entity that manufactures or imports certain specified branded prescription drugs and biologic agents apportioned among these entities according to their market share in some government healthcare programs that began in 2011;
- an increase in the statutory minimum rebates a manufacturer must pay under the Medicaid Drug Rebate Program, retroactive to January 1, 2010, to 23.1% and 13% of the average manufacturer price for most branded and generic drugs, respectively, and capped the total rebate amount for innovator drugs at 100% of the average manufacturer price;
- a new Medicare Part D coverage gap discount program, in which manufacturers must agree to offer 50% (and 70% starting on January 1, 2019) point-of-sale discounts off negotiated prices of applicable brand drugs to eligible beneficiaries during their coverage gap period, as a condition for the manufacturers' outpatient drugs to be covered under Medicare Part D;
- extension of manufacturers' Medicaid rebate liability to covered drugs dispensed to individuals who are enrolled in Medicaid managed care organizations;
- expansion of eligibility criteria for Medicaid programs by, among other things, allowing states to offer Medicaid coverage to additional individuals and by adding new mandatory eligibility categories for individuals with income at or below 133% of the federal poverty level, thereby potentially increasing manufacturers' Medicaid rebate liability;
- expansion of the entities eligible for discounts under the 340B Drug Discount Program;
- a new Patient-Centered Outcomes Research Institute to oversee, identify priorities in, and conduct comparative clinical effectiveness research, along with funding for such research;
- expansion of healthcare fraud and abuse laws, including the FCA and the federal Anti-Kickback Statute, new government investigative powers, and enhanced penalties for noncompliance;
- a new methodology by which rebates owed by manufacturers under the Medicaid Drug Rebate Program are calculated for drugs that are inhaled, infused, instilled, implanted, or injected;
- requirements to report certain financial arrangements with physicians and teaching hospitals;
- a requirement to annually report certain information regarding drug samples that manufacturers and distributors provide to physicians;
- establishment of a Center for Medicare Innovation at CMS to test innovative payment and service delivery models to lower Medicare and Medicaid spending, potentially including prescription drug spending; and
- a licensure framework for follow on biologic products.

Some of the provisions of the ACA have yet to be implemented, and there have been legal and political challenges to certain aspects of the ACA. Since January 2017, President Trump has signed two executive orders and other directives designed to delay, circumvent, or loosen certain requirements mandated by the ACA. Concurrently, Congress has considered legislation that would repeal or repeal and replace all or part of the ACA. While Congress has not passed comprehensive repeal legislation, two bills affecting the implementation of certain taxes under the ACA have been signed into law. In December 2017, the Tax Cuts and Jobs Act of 2017 was enacted which repeals, effective January 1, 2019, the tax penalty for an individual's failure to maintain ACA-mandated health insurance, commonly referred to as the "individual mandate." Additionally, on January 22, 2018, President Trump signed a continuing resolution on appropriations for fiscal year 2018 that delayed the implementation of certain ACA-mandated fees, including the so-called "Cadillac" tax on certain high cost employer-sponsored insurance plans, the annual fee imposed on certain health insurance providers based on market share, and the medical device excise tax on non-exempt medical devices. Further, the Bipartisan Budget Act of 2018, or the BBA, among other things, amends the ACA, effective January 1, 2019, to close the coverage gap in most Medicare drug plans, commonly referred to as the "donut hole." More recently, in July 2018, CMS published a final rule permitting further collections and payments to and from certain ACA qualified health plans and health insurance issuers under the ACA risk adjustment program in response to the outcome of federal district court litigation regarding the method CMS uses to determine this risk adjustment.

Other legislative changes have been proposed and adopted since the ACA was enacted. In August 2011, President Obama signed into law the Budget Control Act of 2011, which, among other things, included aggregate reductions to Medicare payments to providers of up to 2% per fiscal year, which went into effect beginning on April 1, 2013 and, due to subsequent legislative amendments to the statute, including the BBA, will stay in effect through 2027 unless additional Congressional action is taken. In January 2013, the American Taxpayer Relief Act of 2012 was signed into law, which, among other things, reduced Medicare payments to several providers, including hospitals, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years.

Further, there has been increasing legislative and enforcement interest in the United States with respect to specialty drug pricing practices. Specifically, there have been several recent U.S. Congressional inquiries and proposed and enacted federal and state legislation designed to, among other things, bring more transparency to drug pricing, reduce the cost of prescription drugs under Medicare, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for drugs. At the federal level, the Trump administration's budget proposal for fiscal year 2019 contains further drug price control measures that could be enacted during the 2019 budget process or in other future legislation, including, for example, measures to permit Medicare Part D plans to negotiate the price of certain drugs under Medicare Part B, to allow some states to negotiate drug prices under Medicaid, and to eliminate cost sharing for generic drugs for low-income patients. Additionally, the Trump administration released a "Blueprint" to lower drug prices and reduce out of pocket costs of drugs that contains additional proposals to increase manufacturer competition, increase the negotiating power of certain federal healthcare programs, incentivize manufacturers to lower the list price of their products and reduce the out of pocket costs of drug products paid by consumers. The U.S. Department of Health and Human Services has already started the process of soliciting feedback on some of these measures and, at the same, is immediately implementing others under its existing authority. For example, in September 2018, CMS announced that it will allow Medicare Advantage Plans the option to use step therapy for Part B drugs beginning January 1, 2019, and in October 2018, CMS proposed a new rule that would require direct-to-consumer television advertisements of prescription drugs and biological products, for which payment is available through or under Medicare or Medicaid, to include in the advertisement the Wholesale Acquisition Cost, or list price, of that drug or biological product. Although a number of these, and other proposed measures will require authorization through additional legislation to become effective, Congress and the Trump administration have each indicated that it will continue to seek new legislative and/or administrative measures to control drug costs. At the states level, legislatures have increasingly passed legislation and implemented regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures.

[Table of Contents](#)

Additionally, on May 30, 2018, the Trickett Wendler, Frank Mongiello, Jordan McLinn, and Matthew Bellina Right to Try Act of 2017, or the Right to Try Act, was signed into law. The law, among other things, provides a federal framework for certain patients to access certain investigational new drug products that have completed a Phase I clinical trial and that are undergoing investigation for FDA approval. Under certain circumstances, eligible patients can seek treatment without enrolling in clinical trials and without obtaining FDA permission under the FDA expanded access program. There is no obligation for a drug manufacturer to make its drug products available to eligible patients as a result of the Right to Try Act.

The Foreign Corrupt Practices Act

The Foreign Corrupt Practices Act, or the FCPA, prohibits any U.S. individual or business from paying, offering, or authorizing payment or offering of anything of value, directly or indirectly, to any foreign official, political party or candidate for the purpose of influencing any act or decision of the foreign entity in order to assist the individual or business in obtaining or retaining business. The FCPA also obligates companies whose securities are listed in the United States to comply with accounting provisions requiring us to maintain books and records that accurately and fairly reflect all transactions of the corporation, including international subsidiaries, and to devise and maintain an adequate system of internal accounting controls for international operations.

Additional Regulation

In addition to the foregoing, state and federal laws regarding environmental protection and hazardous substances, including the Occupational Safety and Health Act, the Resource Conservancy and Recovery Act and the Toxic Substances Control Act, affect our business. These and other laws govern our use, handling and disposal of various biological, chemical and radioactive substances used in, and wastes generated by, our operations. If our operations result in contamination of the environment or expose individuals to hazardous substances, we could be liable for damages and governmental fines. We believe that we are in material compliance with applicable environmental laws and that continued compliance therewith will not have a material adverse effect on our business. We cannot predict, however, how changes in these laws may affect our future operations.

Other Regulations

We are also subject to numerous federal, state and local laws relating to such matters as safe working conditions, manufacturing practices, environmental protection, fire hazard control, and disposal of hazardous or potentially hazardous substances. We may incur significant costs to comply with such laws and regulations now or in the future.

Employees and Human Capital

As of March 11, 2021, we had 60 full-time employees and 1 part-time employees, 25 of whom have Ph.D. or M.D. degrees. Of these full-time employees, 50 employees are engaged in research and development activities and 10 are engaged in finance, business development and other general and administrative functions. None of our employees are represented by labor unions or covered by collective bargaining agreements, and we have not experienced any work stoppages. We consider our relations with our employees to be good.

We recognize that attracting, motivating and retaining talent at all levels is vital to our continued success. Our employees are a significant asset and we aim to create an equitable, inclusive and empowering environment in which our employees can grow and advance their careers, with the overall goal of developing, expanding and retaining our workforce to support our current pipeline and future business goals. By focusing on employee retention and engagement, we also improve our ability to support our clinical trials, our pipeline, our platform technologies, business and operations, and also protect the long-term interests of our securityholders.

[Table of Contents](#)

Our success also depends on our ability to attract, engage and retain a diverse group of employees. Our efforts to recruit and retain a diverse and passionate workforce include providing competitive compensation and benefits packages and ensuring we listen to our employees.

We value innovation, passion, data-driven decision making, persistence and honesty, and are building a diverse environment where our employees can thrive and be inspired to make exceptional contributions to bring novel and more effective therapies to cancer patients.

Our human capital resources objectives include, as applicable, identifying, recruiting, retaining, motivating and integrating our existing and future employees. The principal purposes of our equity incentive plans are to attract, retain and motivate selected employees, consultants and directors through grants of stock-based compensation awards and payments of cash-based performance bonus awards, in order to increase stockholder value and the success of our company by motivating our employees to perform to the best of their abilities and achieve our objectives. We are committed to providing a competitive and comprehensive benefits package to our employees. Our benefits package provides a balance of protection along with the flexibility to meet the individual health and wellness needs of our employees. We plan to continue to refine our efforts related to optimizing our use of human capital as we grow, including improvements in the way we hire, develop, motivate and retain employees.

Facilities

Our facilities are located at two adjacent leased sites, both located at 830 Winter Street, Waltham, Massachusetts, 02451. The first site consists of 25,472 square feet of office and laboratory space and is primarily used for research, clinical, manufacturing, and corporate activities. Our lease expires September 30, 2024, with an option to extend three years. The second site consists of 14,447 square feet of office and laboratory space and is primarily used for preclinical and clinical research. Our lease on this facility expires in March 31, 2026. We believe that our facilities are adequate to meet our needs for the immediate future, and that, should it be needed, suitable additional space will be available to accommodate any such expansion of our operations.

Legal Proceedings

We are not currently a party to any material legal proceedings. From time to time, we may become involved in legal proceedings arising in the ordinary course of our business. Regardless of outcome, litigation can have an adverse impact on us due to defense and settlement costs, diversion of management resources, negative publicity, reputational harm and other factors.

MANAGEMENT

Executive Officers, Directors and Key Employees

Executive Officers

The following table sets forth the names and positions of our executive officers, including their ages, as of March 1, 2021:

<u>Name</u>	<u>Age</u>	<u>Position</u>
David Southwell	60	President, Chief Executive Officer and Director
Gavin MacBeath, Ph.D.	51	Chief Scientific Officer
William Desmarais, Ph.D., MBA.	51	Chief Business Officer

The following is a biographical summary of the experience of our executive officers.

David Southwell has served as our President, Chief Executive Officer and as a member of our board of directors since October 2018. Prior to joining us, Mr. Southwell was President, Chief Executive Officer and a member of the board of directors of Inotek Pharmaceuticals Corporation from June 2014 until Inotek's merger with Rocket Pharmaceuticals, Inc. in January 2018. Previously, Mr. Southwell served as Executive Vice President, Chief Financial Officer of Human Genome Sciences, Inc. from 2010 until its merger with GlaxoSmithKline plc. in 2012. Prior to Human Genome Sciences, Mr. Southwell served as Executive Vice President and Chief Financial Officer of Sepracor, Inc from 1994 to 2008. Mr. Southwell is a member of the Board of Directors of PTC Therapeutics, Inc., and Rocket Pharmaceuticals. He previously has served on the boards of Spero Therapeutics from 2017 to 2019; Inventiv Health, Inc. in 2016; THL Credit Inc. from 2007 to 2015; Human Genome Sciences Inc. from 2008 until his appointment as Chief Financial Officer in 2010; and Biosphere Medical Inc. as Chairman from 2005 to 2010. Mr. Southwell received a B.A. from Rice University and an M.B.A. from the Tuck School at Dartmouth College, where he has served as head of the M.B.A. Advisory Board from 2008 to 2011, and served on the Board of Advisors from 2011 until 2020. We believe that Mr. Southwell is qualified to serve on our board of directors because of the perspective and experience he provides as our President and Chief Executive Officer as well as his broad experience within the life sciences industry, together with his historical perspective on our operations.

Gavin MacBeath, Ph.D. has served as our Chief Scientific Officer since December 2018. He has two decades of experience in academia and industry, founding companies and driving research from early-stage discovery through drug approval. Prior to joining us, Dr. MacBeath served as the Chief Scientific Officer at Abpro Corporation from March 2017 to July 2018, where he advanced T cell-engaging bispecific antibodies through pre-clinical development. Previously, Dr. MacBeath served as Co-founder and SVP of Discovery at Merrimack Pharmaceuticals, Inc. from February 2014 to October 2016. Dr. MacBeath began his career in academia, where he served as the first fellow at Harvard's Bauer Center for Genomics Research, as an Assistant Professor and later Associate Professor in the Department of Chemistry & Chemical Biology at Harvard University, and as Lecturer and Principal Investigator at Harvard Medical School. Dr. MacBeath received his undergraduate degree from the University of Manitoba, his Ph.D. from The Scripps Research Institute, and postdoctoral training with Dr. Stuart Schreiber at Harvard University.

William Desmarais, Ph.D., MBA has served as our Chief Business Officer since March 2021. Prior to joining TScan, Dr. Desmarais served as Vice President of Business Development of Momenta Pharmaceuticals, Inc. from September 2017 until Momenta's acquisition by Johnson & Johnson in February 2021. Before Momenta, Dr. Desmarais spent 11 years in roles of increasing responsibility within business development and research and development at Eli Lilly & Co. Dr. Desmarais received his Ph.D. in Biophysics and Structural Biology from Brandeis University, an MBA from Massachusetts Institute of Technology and a B.S. in Cell and Developmental Biology from Purdue University.

[Table of Contents](#)

Non-Employee Directors

The following table sets forth the names and positions of our non-employee directors, including their ages, as of March 1, 2021:

<u>Name</u>	<u>Age</u>	<u>Position</u>
Timothy Barberich ^{(1),(2),(3)}	73	Chairperson of the Board
Stephen Biggar, M.D., Ph.D. ^{(2),(3)}	50	Director
Katina Dorton ^{(1),(2)}	63	Director
Ittai Harel ^{(1),(3)}	53	Director
Andrew Hedin ⁽⁴⁾	35	Director
Nandita Shangari, Ph.D. ⁽⁴⁾	40	Director
Brian Silver ⁽⁵⁾	52	Director
Christoph Westphal, M.D., Ph.D. ⁽⁶⁾	52	Director

(1) Member of the audit committee

(2) Member of the compensation committee

(3) Member of the nominating and corporate governance

(4) Resigning as a director immediately prior to the effectiveness of the registration statement of which this prospectus forms a part.

(5) As of May 3, 2021, Mr. Silver plans to resign as a member of our board of directors and become our Chief Financial Officer.

(6) Resigning as a director immediately after the pricing of this offering.

The following is a biographical summary of the experience of our non-employee directors.

Timothy Barberich has served as a member of our board of directors since March 2019 and as the Chair of our board of directors since March 2021. Mr. Barberich is founder and former Chairman and Chief Executive Officer of Sepracor Inc., a publicly traded, research-based, pharmaceutical company based in Marlborough, Massachusetts, which was acquired by Dainippon Sumitomo Pharma Co., Ltd. in 2009. He founded Sepracor in 1984 and served as Chief Executive Officer from 1984 to May 2007 and as Chairman of the Board from 1990 to 2009. Mr. Barberich has been Chairman of BioNevia Pharmaceuticals since June 2008 and Chief Executive Officer since 2014. He currently serves on the board of directors of Frequency Therapeutics, Inc. and Verastem, Inc. He also previously served on the boards of directors of Neurovance Inc, Inotek Pharmaceuticals, Inc., HeartWare, International, Inc., Tokai Pharmaceuticals, BioSphere Medical, Inc. and GeminX Pharmaceuticals until each company was acquired. Mr. Barberich has also served on the board of trustees of Boston Medical Centre and the board of the Pharmaceutical Research and Manufacturers' Association (PhRMA). Prior to founding Sepracor, Mr. Barberich spent 10 years as a senior executive at Bedford, Massachusetts-based Millipore Corporation. Mr. Barberich is a graduate of Kings College and holds a Bachelor's of Science degree in Chemistry. The Board of Directors believes that Mr. Barberich's qualifications to sit on the Board include his significant experience in the development and commercialization of pharmaceutical products, his leadership experience at other pharmaceutical companies and his service on other boards of directors.

Stephen Biggar, M.D., Ph.D. has served as a member of our board of directors since March 2021. Dr. Biggar is a partner at Baker Bros. Advisors LP, a biotechnology-focused investment advisor to fund partnerships whose investors are primarily endowments and foundations, Dr. Biggar joined in April 2000. Dr. Biggar serves on the boards of Kiniksa Pharmaceuticals, Ltd., and Acadia Pharmaceuticals Inc. Dr. Biggar received an M.D. and a Ph.D. in Immunology from Stanford University and received a B.S. in Genetics from the University of Rochester. We believe that Dr. Biggar is qualified to serve as a member of our board of directors due to his extensive experience in the life sciences industry.

[Table of Contents](#)

Katina Dorton, J.D., M.B.A. has served on our board of directors since March 2021. She currently serves as Chief Financial Officer of Nodthera Limited, a company developing medicines to inhibit the NLRP3 inflammasome. She also serves on the board of directors for Fulcrum Therapeutics, Inc., Pandion Therapeutics, Inc., and US Ecology, Inc.. Previously Ms. Dorton has held CFO positions at several biotechnology companies, including Repare Therapeutics Inc., a synthetic lethality and DNA repair-focused oncology company from 2019 through 2020, and AVROBIO, Inc., a lentiviral gene therapy company from 2017 through 2018 and Immatics GmbH, a biotechnology company from 2015 through 2017. Earlier in her career, Ms. Dorton served as a Managing Director in investment banking for Morgan Stanley and Needham & Company and as an attorney at Sullivan & Cromwell. Ms. Dorton received her J.D. from the University of Virginia School of Law, her M.B.A. from George Washington University and her B.A. from Duke University. We believe that Ms. Dorton is qualified to serve on our board of directors due to her extensive leadership experience in multiple publicly-traded and privately-held pharmaceutical and biotechnology companies, and expertise in developing, financing and providing executive leadership in numerous biopharmaceutical companies.

Ittai Harel has served as a member of our board of directors since August 2019. Mr. Harel has served as the Managing General Partner of Pitango Venture Capital since 2006 and has extensive investment experience in the biotechnology and healthcare industry, including digital health, medical devices, diagnostics, and specialty pharma. Before joining Pitango, Mr. Harel headed up Corporate Development at Nektar Therapeutics (Nasdaq: NKTR) and served as Executive Vice President at IDGene Pharmaceuticals, Inc. He also served as head of business development at IDEXX Laboratories, Inc. Mr. Harel currently serves on the board of directors of DouxMatok, Intensix Ltd., LifeBond Ltd., EarlySense, Medisafe, Vertos Medical Inc., and Click Therapeutics, Inc. and serves as Chairman of the Board at LifeBond Ltd. and EarlySense. Mr. Harel holds a B.Sc. in Chemical Engineering and Biotechnology from Ben Gurion University, and an M.B.A. from the Sloan School of Management. We believe that Mr. Harel is qualified to serve as a member of our board of directors due to his extensive experience in the life sciences industry as a venture capitalist.

Andrew Hedin has served as a member of our board of directors since July 2020. Mr. Hedin has served as an investment professional at Bessemer Venture Partners, a venture capital firm, since 2015 and has been a partner since 2021. Mr. Hedin serves as a director or observer of the board of directors of several privately held life sciences and healthcare companies. Mr. Hedin holds an M.B.A. with Honors from The Wharton School and a B.A. from the University of Pennsylvania.

Nandita Shangari, Ph.D. has served as a member of our board of directors since September 2020. Dr. Shangari has served as a Principal at the Novartis Venture Fund since 2018. Prior to joining NVF, she was part of the Novartis Oncology Business Development and Licensing team from 2017 to 2018 where she managed key alliances for the Oncology Portfolio. Before that, Dr. Shangari held the Global Program Team Director position as part of the Kymriah® Global Program Team from 2015 to 2017 where she helped bring this novel cell therapy to market, for two indications, in the US and EU. Dr. Shangari has also held strategic and group head roles in the Novartis Preclinical Investigative Toxicology organization. Dr. Shangari received her B.Sc. in Biochemistry and Ph.D. in Pharmaceutical Sciences from the University of Toronto, Canada.

Brian Silver has served as a member of our board of directors since December 2020. Mr. Silver has served as the Chief Financial Officer and Head of Corporate Development of Freeline Therapeutics Holdings plc (Freeline), a systemic gene therapy company focused on inherited rare disorders, since November 2018. Before joining Freeline, Mr. Silver was a partner in the healthcare group of Perella Weinberg Partners, a leading independent global advisory firm, from August 2013 to November 2018. Prior to that, Mr. Silver held a variety of positions in Morgan Stanley's investment banking division, most recently as a managing director in the healthcare group, from March 1998 to July 2013. Before that Mr. Silver was an investment banking associate at Salomon Brothers from August 1997 to March 1998 and a corporate associate at Sullivan & Cromwell LLP from

[Table of Contents](#)

August 1994 through July 1997. Mr. Silver received an A.B. with honors from Harvard College and a J.D. with honors from the University of Chicago Law School. We believe that Mr. Silver is qualified to serve as a member of our board of directors due to his extensive experience in the pharmaceutical and biotechnology industry, combined with his deep expertise in finance, accounting, business development, and legal affairs. Freeline has announced Mr. Silver's resignation as CFO effective April 30, 2021, and as of May 3, 2021, Mr. Silver plans to step down as a member of our board of directors and become our Chief Financial Officer.

Christoph Westphal, M.D., Ph.D. has served as a member of our board of directors since our founding. Dr. Westphal is one of our co-founders and served as our Chief Executive Officer from our founding through October 2018, at which point Dr. Westphal transitioned to our Chair. Dr. Westphal has been a partner of Longwood Fund, LP, a venture capital investment fund, since 2010. Dr. Westphal co-founded Verastem, Inc. in August 2010, served as Verastem's Chairman since March 2011, and Executive Chairman since July 2013, and was Verastem's Chief Executive Officer from September 2011 to July 2013 and its President from September 2011 until January 2013. Dr. Westphal served as the President of SR One, the corporate venture capital arm of GlaxoSmithKline plc, from 2010 until 2011. Dr. Westphal co-founded Sirtris Pharmaceuticals, Inc., which was acquired by GlaxoSmithKline plc in 2008, and served as its Chief Executive Officer from 2004 to 2010. He also co-founded Alnara Pharmaceuticals, Inc., Concert Pharmaceuticals, Inc., Acceleron Pharma, Inc., serving as its Chief Executive Officer in 2003, Alnylam Pharmaceuticals, Inc., serving as its Chief Executive Officer in 2002, and Momenta Pharmaceuticals, Inc. serving as its Chief Executive Officer in 2001. Dr. Westphal is also co-founder of Longwood portfolio companies, including Immunitas Therapeutics, Inc. serving as its Chief Executive Officer and also as Chairman of the board, ImmuneID serving as executive chair and Pyxis Oncology, Inc. Dr. Westphal has served or currently serves as a member or director of the Boston Commercial Club, the Biotechnology Industry organization's (BIO) Emerging Companies Section Governing Board, the Board of Fellows of Harvard Medical School, and the Board of Trustees of the Boston Symphony Orchestra. He earned his M.D. from Harvard Medical School, his Ph.D. in Genetics from Harvard University and his B.A. from Columbia University.

Board Composition

Our board of directors currently consists of nine members, who were elected pursuant to the amended and restated voting agreement that we entered into with certain holders of our common stock and certain holders of our preferred stock and the related provisions of our amended and restated certificate of incorporation, as currently in effect.

The provisions of this voting agreement will terminate upon the completion of this offering, after which there will be no further contractual obligations regarding the election of our directors, except as described below. Our directors hold office until their successors have been elected and qualified or appointed, or the earlier of their death, resignation or removal.

In connection with our Series C convertible preferred stock financing described in the "Certain relationships and related party transactions" section of this prospectus, we entered into a nominating agreement with Baker Brothers Life Sciences, L.P. and 667, L.P. (collectively, the BBA Funds) which was subsequently amended and restated on April 22, 2021, pursuant to which, among other things, we agreed to support the nomination of, and cause our board of directors (or the nominating committee thereof) to include in the slate of nominees recommended to our stockholders for election as directors at each annual or special meeting of our stockholders at which directors are to be elected, one person designated from time to time by the BBA Funds, subject to the requirements of fiduciary duties under applicable law and the terms and conditions of such nominating agreement. The agreement only applies during the period beginning at the closing of our initial public offering and for the three years thereafter, as long as (1) the BBA Funds and their affiliates, collectively, beneficially own at least 75% of the Series C convertible preferred stock purchased by the BBA Funds in such Series C convertible preferred stock financing, or such number of shares of our common stock issued upon conversion of such number of shares of Series C convertible preferred stock (in either case, as adjusted for any stock split, stock dividend, combination, or other

[Table of Contents](#)

recapitalization or reclassification or similar transaction), and (2) the BBA Funds and their affiliates, collectively, beneficially own at least 2% of our then outstanding voting common stock.

In accordance with the terms of our amended and restated certificate of incorporation and amended and restated bylaws that will be in effect upon the completion of this offering, our board of directors will be divided into three classes with staggered three-year terms. At each annual meeting of stockholders, the successors to directors whose terms then expire will be elected to serve from the time of election and qualification until the third annual meeting following election. Our directors will be divided among the three classes as follows:

- the Class I directors will be Timothy Barberich and Stephen Biggar, M.D., Ph.D. and their terms will expire at the first annual meeting of stockholders to be held after the closing of this offering;
- the Class II directors will be Ittai Harel and Katina Dorton and their terms will expire at the second annual meeting of stockholders to be held after the closing of this offering; and
- the Class III director will be David Southwell and his term will expire at the third annual meeting of stockholders to be held after the closing of this offering.

Directors in a particular class will be elected for three-year terms at the annual meeting of stockholders in the year in which their terms expire. As a result, only one class of directors will be elected at each annual meeting of our stockholders, with the other classes continuing for the remainder of their respective three-year terms. Each director's term continues until the election and qualification of his or her successor, or the earlier of his or her death, resignation or removal.

Our amended and restated certificate of incorporation and amended and restated bylaws that will be in effect upon the completion of this offering provide that only our board of directors can fill vacant directorships, including newly-created seats. Any additional directorships resulting from an increase in the authorized number of directors would be distributed pro rata among the three classes so that, as nearly as possible, each class would consist of one-third of the authorized number of directors.

The classification of our board of directors may have the effect of delaying or preventing changes in our control or management. See the section titled "Description of capital stock—Anti-takeover provisions—Certificate of incorporation and bylaw provisions" elsewhere in this prospectus.

Director Independence

Upon the completion of this offering, we anticipate that our common stock will be listed on Nasdaq. Under the rules of Nasdaq, independent directors must comprise a majority of a listed company's board of directors. In addition, the rules of Nasdaq require that, subject to specified exceptions, each member of a listed company's audit, compensation and nominating and corporate governance committees be independent. Audit committee members and compensation committee members must also satisfy the independence criteria set forth in Rule 10A-3 and Rule 10C-1, respectively, under the Securities Exchange Act of 1934, as amended, or the Exchange Act. Under the rules of Nasdaq, a director will only qualify as an "independent director" if, in the opinion of that company's board of directors, that person does not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director.

To be considered to be independent for purposes of Rule 10A-3 under the Exchange Act and under the rules of Nasdaq, a member of an audit committee of a listed company may not, other than in his or her capacity as a member of the audit committee, the board of directors or any other board committee: (1) accept, directly or indirectly, any consulting, advisory or other compensatory fee from the listed company or any of its subsidiaries or (2) be an affiliated person of the listed company or any of its subsidiaries.

To be considered independent for purposes of Rule 10C-1 under the Exchange Act and under the rules of Nasdaq, the board of directors must affirmatively determine that each member of the compensation committee is independent, including a consideration of all factors specifically relevant to determining whether the director has

[Table of Contents](#)

a relationship to the company which is material to that director's ability to be independent from management in connection with the duties of a compensation committee member, including, but not limited to: (i) the source of compensation of such director, including any consulting, advisory or other compensatory fee paid by the company to such director and (ii) whether such director is affiliated with the company, a subsidiary of the company or an affiliate of a subsidiary of the company.

Our board of directors undertook a review of its composition, the composition of its committees and the independence of our directors and considered whether any director has a material relationship with us that could compromise his or her ability to exercise independent judgment in carrying out his or her responsibilities. Based upon information requested from and provided by each director concerning his or her background, employment and affiliations, including family relationships, our board of directors has determined that, other than Mr. Southwell, our Chief Executive Officer, all of our directors, do not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director and that each of these directors is "independent" as that term is defined under the rules of Nasdaq, including in the case of all the members of our audit committee, the independence criteria set forth in Rule 10A-3 under the Exchange Act, and in the case of all the members of our compensation committee, the independence criteria set forth in Rule 10C-1 under the Exchange Act.

In making these determinations, our board of directors considered the current and prior relationships that each non-employee director has with our company and all other facts and circumstances our board of directors deemed relevant in determining his or her independence, including the beneficial ownership of our capital stock by each non-employee director, and the transactions involving them described in the section titled "Certain relationships and related party transactions" elsewhere in this prospectus. There are no family relationships among any of our directors or executive officers.

Board Leadership Structure

Our board of directors is currently chaired by Mr. Barberich. As a general policy, our board of directors believes that separation of the positions of chairperson of our board of directors and Chief Executive Officer reinforces the independence of our board of directors from management, creates an environment that encourages objective oversight of management's performance and enhances the effectiveness of our board of directors as a whole. As such, Mr. Southwell serves as our President and Chief Executive Officer while Mr. Barberich serves as the chairperson of our board of directors but is not one of our executive officers. We currently expect and intend the positions of chairperson of our board of directors and Chief Executive Officer to continue to be held by two individuals in the future.

Role of the Board in Risk Oversight

One of the key functions of our board of directors is informed oversight of our risk management process. In particular, our board of directors is responsible for monitoring and assessing strategic risk exposure. Our executive officers are responsible for the day-to-day management of the material risks we face. Our board of directors administers its oversight function directly as a whole. Our board of directors will also administer its oversight through various standing committees, which will be constituted prior to the completion of this offering, that address risks inherent in their respective areas of oversight. For example, our audit committee will be responsible for overseeing the management of risks associated with our financial reporting, accounting and auditing matters; our compensation committee will oversee the management of risks associated with our compensation policies and programs; and our nominating and corporate governance committee will oversee the management of risks associated with director independence, conflicts of interest, composition and organization of our board of directors and director succession planning.

Board Committees

Our board of directors has previously established an audit committee, a compensation committee and a nominating and corporate governance committee. Prior to the completion of this offering, our board of directors

[Table of Contents](#)

may establish other committees to facilitate the management of our business. Our board of directors and its committees will set schedules for meeting throughout the year and can also hold special meetings and act by written consent from time to time, as appropriate. Our board of directors expects to delegate various responsibilities and authority to committees as generally described below. The committees will regularly report on their activities and actions to the full board of directors. Each member of each committee of our board of directors will qualify as an independent director in accordance with the listing standards of Nasdaq. We plan to amend and restate the existing charters for each committee of our board of directors prior to the completion of this offering. Upon the completion of this offering, copies of each charter will be posted on the investor relations portion of our website, www.tscan.com. The inclusion of our website address in this prospectus does not include or incorporate by reference the information on our website into this prospectus. Members will serve on these committees until their resignation or until otherwise determined by our board of directors.

Audit Committee

The members of our audit committee are Katina Dorton, Ittai Harel and Timothy Barberich. Ms. Dorton is the chair of the audit committee. Each member of our audit committee can read and understand fundamental financial statements. Each member of our audit committee is independent under the rules and regulations of the SEC and the listing standards of Nasdaq applicable to audit committee members. Our board of directors has determined that Ms. Dorton qualifies as an audit committee financial expert within the meaning of SEC regulations and meets the financial sophistication requirements of Nasdaq.

Effective at the time of the offering, our audit committee will assist our board of directors with its oversight of the integrity of our financial statements; our compliance with legal and regulatory requirements; the qualifications, independence and performance of the independent registered public accounting firm; the design and implementation of our risk assessment and risk management. Among other things, our audit committee is responsible for reviewing and discussing with our management the adequacy and effectiveness of our disclosure controls and procedures. The audit committee also will discuss with our management and independent registered public accounting firm the annual audit plan and scope of audit activities, scope and timing of the annual audit of our financial statements, and the results of the audit, quarterly reviews of our financial statements and, as appropriate, initiates inquiries into certain aspects of our financial affairs. Our audit committee is responsible for establishing and overseeing procedures for the receipt, retention and treatment of any complaints regarding accounting, internal accounting controls or auditing matters, as well as for the confidential and anonymous submissions by our employees of concerns regarding questionable accounting or auditing matters. In addition, our audit committee has direct responsibility for the appointment, compensation, retention and oversight of the work of our independent registered public accounting firm. Our audit committee has sole authority to approve the hiring and discharging of our independent registered public accounting firm, all audit engagement terms and fees and all permissible non-audit engagements with the independent auditor. Our audit committee will review and oversee all related person transactions in accordance with our policies and procedures.

Our audit committee operates under a written charter that satisfies the applicable rules of the SEC and the listing standards of Nasdaq. We believe that the composition of our audit committee will meet the requirements for independence under current Nasdaq and SEC rules and regulations.

Compensation Committee

The members of our compensation committee are Stephen Biggar, Timothy Barberich and Katina Dorton. Dr. Biggar is the chair of the compensation committee. Each member of our compensation committee is independent under the rules and regulations of the SEC and the listing standards of Nasdaq applicable to compensation committee members. Effective at the time of the offering, our compensation committee will assist our board of directors with its oversight of the forms and amount of compensation for our executive officers (including officers reporting under Section 16 of the Exchange Act), the administration of our equity and non-equity incentive plans for employees and other service providers and certain other matters related to our compensation programs. Our compensation committee, among other responsibilities, evaluates the performance

[Table of Contents](#)

of our chief executive officer and, in consultation with him, evaluates the performance of our other executive officers (including officers reporting under Section 16 of the Exchange Act).

Effective at the time of the offering, our compensation committee will operate under a written charter that satisfies the applicable rules of the SEC and the listing standards of Nasdaq. We believe that the composition of our compensation committee will meet the requirements for independence under current Nasdaq and SEC rules and regulations.

Nominating and Corporate Governance Committee

The members of our nominating and corporate governance committee are Timothy Barberich, Stephen Biggar and Ittai Harel. Each member of our nominating and corporate governance committee is independent under the rules and regulations of the SEC and the listing standards of Nasdaq applicable to nominating and corporate governance committee members. Mr. Barberich is the chair of the nominating and corporate governance committee. Effective at the time of the offering, our nominating and corporate governance committee will assist our board of directors with its oversight of and identification of individuals qualified to become members of our board of directors, consistent with criteria approved by our board of directors, and selects, or recommends that our board of directors selects, director nominees; develops and recommends to our board of directors a set of corporate governance guidelines and oversees the evaluation of our board of directors.

Compensation Committee Interlocks and Insider Participation

No member of our compensation committee is currently or has at any time during the past year been an officer or employee of our company. None of our executive officers currently serves, or in the past fiscal year has served, as a member of the board of directors or compensation committee (or other board committee performing equivalent functions or, in the absence of any such committee, the entire board of directors) of any entity that has one or more executive officers serving on our board of directors or compensation committee.

Code of Conduct

Our board of directors will adopt a Code of Conduct prior to the completion of this offering. The Code of Conduct will apply to all of our employees, officers, directors, contractors, consultants, suppliers and agents. Upon the completion of this offering, the full text of the Code of Conduct will be posted on the investor relation portion of our website, www.tscan.com. We intend to disclose future amendments to, or waivers of, the Code of Conduct, as and to the extent required by SEC regulations, at the same location on our website identified above or in public filings. Information contained on our website is not incorporated by reference into this prospectus, and you should not consider information contained on our website to be part of this prospectus or in deciding whether to purchase shares of our common stock. We have included our website address in this prospectus solely as an inactive textual reference.

Director Compensation

Director Compensation Table for the Year Ended December 31, 2020

The following table sets forth information regarding the compensation of our non-employee directors who served as a director during our year ended December 31, 2020. Other than as set forth in the table and described more fully below, during our year ended December 31, 2020, we did not pay any fees to, make any equity awards or non-equity awards to or pay any other compensation to the non-employee members of our board of directors. David Southwell, our President and Chief Executive Officer, receives no compensation for his service as a director, and is not included in the table below. The compensation of Mr. Southwell as a named executive officer is set forth below in the subsection above entitled “—Executive compensation—Summary Compensation Table.”

[Table of Contents](#)

Katina Dorton and Stephen Biggar, M.D., Ph.D. are not included in the table below since these directors were appointed to our board of directors in 2021.

<u>Name</u>	<u>Fees earned or paid in cash (\$)</u>	<u>Stock awards (\$)</u>	<u>Option awards (\$)(1)(2)</u>	<u>All other compensation (\$)</u>	<u>Total (\$)</u>
Christoph Westphal, M.D., Ph.D.	—	—	—	—	—
Andrew Hedin	—	—	—	—	—
Nandita Shangari, Ph.D.	—	—	—	—	—
Ittai Harel	—	—	—	—	—
Timothy Barberich	—	—	—	—	—
Douglas Fambrough, Ph.D.(3)	—	—	117,810(6)	—	117,810
Brian Silver	—	—	—	—	—
Hannes Smarason(4)	—	—	—	—	—
Lea Hachigian, Ph.D.(5)	—	—	—	—	—

- (1) The amounts in this column represent the aggregate grant date fair value of option awards granted to the non-employee director in the applicable fiscal year computed in accordance with FASB ASC Topic 718. See Note 7 of the notes to our audited financial statements included elsewhere in this prospectus for a discussion of our assumptions made in determining the grant date fair value of our equity awards.
- (2) As of December 31, 2020, our non-employee directors held outstanding stock options as follows: Mr. Barberich (options to purchase 392,700 shares) and Dr. Fambrough (options to purchase 392,700 shares)
- (3) Dr. Fambrough resigned from our board of directors on March 1, 2021.
- (4) Mr. Smarason resigned from our board of directors on January 15, 2021.
- (5) Dr. Hachigian resigned from our board of directors on January 21, 2021.
- (6) On February 26, 2020, Dr. Fambrough was granted an option to purchase 392,700 shares of our common stock, with an exercise price of \$0.30 per share. Such option vested over four years, with 25% of the shares vesting on the first anniversary of February 26, 2020, and 1/48th of the shares vesting upon the completion of each month of continuous service with us thereafter. At the time of Dr. Fambrough's resignation, he was vested in 98,175 shares subject to this stock option. The 294,525 unvested shares subject to this option were forfeited in connection with Dr. Fambrough's resignation. On March 3, 2021, Dr. Fambrough exercised the vested portion of this option for 98,175 shares of our common stock.

On January 27, 2021, Mr. Silver was granted an option to purchase 400,000 shares of our common stock, with an exercise price of \$0.71 per share. Such option vests over four years, with 25% of the shares vesting on December 14, 2021, and 1/48th of the shares vesting upon the completion of each month of continuous service with us thereafter.

On March 16, 2021, in connection with her appointment to our board of directors, Ms. Dorton was granted an option to purchase 400,000 shares of our common stock, with an exercise price of \$1.41 per share. Such option vests over four years, with 25% of the shares vesting on March 1, 2021, and 1/48th of the shares vesting upon the completion of each month of continuous service with us thereafter.

We entered into a services agreement with Dr. Westphal on October 9, 2018, which was amended in June 2019. Pursuant to the terms of the services agreement, as amended, Dr. Westphal received cash compensation at a monthly rate of \$15,000 per month from October 2018 through October 2019. Following October 31, 2019, Dr. Westphal's service to us has been provided for no cash compensation. Dr. Westphal currently directly owns 7,500,000 shares of our common stock.

Prior to this offering, other than as discussed below, we had not implemented a formal policy or agreements with respect to compensation payable to our non-employee directors.

We reimburse our directors for expenses associated with attending meetings of our board of directors and its committees.

Director Compensation

Our board of directors adopted the following compensation program in March 2021 for our non-employee directors following completion of this offering.

[Table of Contents](#)

Each non-employee director will be paid an annual cash retainer of \$40,000. The chair of the audit committee will be paid an additional \$7,500 annually, the chair of the compensation committee will be paid an additional \$6,000 annually and the chair of the nominating and corporate governance committee will be paid an additional \$4,000 annually. In addition to any fees received as chair of our committees, members of the audit committee will be paid an additional \$7,500 annually, members of the compensation committee will be paid an additional \$6,000 annually and members of the nominating and corporate governance committee will be paid an additional \$4,000 annually. All retainers will be paid in quarterly installments.

In addition, the compensation program for our non-employee directors will include both an initial equity award upon joining our board of directors and an annual equity award in connection with each annual meeting of our stockholders.

- **Annual Equity Award**—Following the conclusion of each regular annual meeting of stockholders, each continuing non-employee director will receive an option to purchase 75,000 shares of our common stock under our 2021 Equity Incentive Plan. The option will vest in twelve equal monthly installments following the date of grant, subject to the non-employee director’s continuous service. All non-employee directors as of the offering will be granted this annual equity award.
- **Initial Equity Award**—Our board of directors intends to provide for an initial option grant to purchase our common stock for any new employee directors following this offering. It is expected that such initial equity award will vest in three equal annual installments on each anniversary of the date of grant, subject to the non-employee director’s continuous service.
- Any non-employee director equity awards will also vest in full in the event of our “change in control” (as defined in our 2021 Equity Incentive Plan) or a director’s death or disability.

EXECUTIVE COMPENSATION

The following discussion relates to the compensation of our Chief Executive Officer, David Southwell, our Chief Scientific Officer, Gavin MacBeath, Ph.D., and our former Chief Business Officer, Henry Rath for the fiscal year ended December 31, 2020. Mr. Southwell, Dr. MacBeath and Mr. Rath are collectively referred to in this prospectus as our named executive officers.

Summary compensation table

The following table shows information regarding the compensation of our named executive officers for the fiscal year ended December 31, 2020.

<u>Name and principal position</u>	<u>Year</u>	<u>Salary (\$)</u>	<u>Bonus (\$)</u>	<u>Option Awards (\$)</u>	<u>All Other Compensation (\$)</u>	<u>Total (\$)</u>
David Southwell <i>Chief Executive Officer</i>	2020	466,700	275,353 ⁽²⁾	—	8,185 ⁽³⁾	750,238
Gavin MacBeath, Ph.D. <i>Chief Scientific Officer</i>	2020	350,200	171,598 ⁽²⁾	—	11,170 ⁽³⁾	532,968
Henry Rath <i>former Chief Business Officer⁽¹⁾</i>	2020	355,350	—	—	12,166 ⁽³⁾	367,516

(1) Mr. Rath's employment with us terminated as of January 31, 2021.

(2) Represents bonuses earned in 2020 and paid in 2021.

(3) This amount represents certain benefits paid to the named executive officers, including reimbursement for long term disability insurance, payment of domestic partner medical benefits, and Company matching contributions to 401(k) plan in the amounts of \$10,404 and \$11,400 to Dr. MacBeath and Mr. Rath, respectively.

Narrative explanation of compensation arrangements with our named executive officers

Base salaries and annual incentive opportunities.

The base salaries of all of our named executive officers are reviewed from time to time and adjusted when our board of directors or its compensation committee determines an adjustment is appropriate. For our 2020 fiscal year, the base salary for Mr. Southwell was \$466,700, Dr. MacBeath was \$350,200 and Mr. Rath was \$355,350. For our 2021 fiscal year, Mr. Southwell's base salary is \$550,000 and Dr. MacBeath's base salary is \$400,000.

Each of our named executive officers is eligible to earn an incentive bonus each fiscal year, with such bonus awarded based on individual performance goals, as well as achievement of corporate goals related to our product development and advancement of pre-clinical studies established by our chief executive officer and approved by our board of directors. During our fiscal year ended December 31, 2020, our named executive officers were eligible to earn cash incentive bonuses based on a combination of corporate and individual goals. We require that participants continue to be employed through the payment date to receive a bonus. For our 2021 fiscal year, Mr. Southwell's annual bonus target is 55% of his base salary and Dr. MacBeath's annual bonus target is 40% of his base salary.

Pursuant to agreements with us, Mr. Southwell and Dr. MacBeath are each eligible to receive certain acceleration benefits in the event of our change in control, as described in the footnotes to the "Outstanding equity awards at the year ended December 31, 2020" table and under the "Agreements with Our Named Executive Officers and Potential Payments upon Termination or Change of Control" section below.

[Table of Contents](#)

Equity compensation.

We offer stock options to our employees, including our named executive officers, as the long-term incentive component of our compensation program. Our stock options allow our employees to purchase shares of our common stock at a price equal to the fair market value of our common stock on the date of grant. In the past, our board of directors or compensation committee has determined the fair market value of our common stock based on inputs including valuation reports prepared by third party valuation firms. Generally, our stock options granted to new hires have vested as to 25% of the total number of option shares on the first anniversary of the award and in equal monthly installments over the following 36 months.

Employee benefits and perquisites.

Our named executive officers are eligible to participate in our health and welfare plans to the same extent as are full-time employees generally. We generally do not provide our named executive officers with perquisites or other personal benefits.

Retirement benefits.

We have established a 401(k) tax-deferred savings plan, which permits participants, including our named executive officers, to make contributions by salary deduction pursuant to Section 401(k) of the Internal Revenue Code. We are responsible for administrative costs of the 401(k) plan. We match 100% of every dollar contributed up to 4% of salary, subject to certain limitations under the Internal Revenue Code. In fiscal year 2020, Dr. MacBeath and Mr. Rath received a Company matching contribution of \$10,404 and \$11,400, respectively.

Outstanding equity awards at the year ended December 31, 2020

The following table sets forth information regarding each unexercised option and all unvested stock held by each of our named executive officers as of December 31, 2020.

The vesting schedule applicable to each outstanding award is described in the footnotes to the table below.

Name	Number of securities underlying unexercised options exercisable (#)	Number of securities underlying unexercised options unexercisable (#)	Option exercise price (\$)	Option expiration date
David Southwell	331,689(1),(2),(3)	663,377	\$ 0.24	10/8/2028
David Southwell	190,872(1),(2),(3)	381,744	\$ 0.24	2/4/2029
David Southwell	411,686(1),(4)	1,235,058	\$ 0.30	12/17/2029
Gavin MacBeath, Ph.D.	155,789(1),(2),(5)	315,790	\$ 0.24	1/23/2029
Gavin MacBeath, Ph.D.	114,027(1),(4)	342,082	\$ 0.30	12/17/2029
Henry Rath	228,026(1),(2),(6)	319,237(7)	\$ 0.24	5/7/2029
Henry Rath	60,380(1),(4)	181,142(8)	\$ 0.30	12/17/2029

(1) 25% of the shares vest on the first anniversary of the vesting commencement date, and 1/48th of the shares vest upon the completion of each month of continuous service thereafter.

(2) If we are subject to a change of control, then 100% of any unvested shares subject to this option shall immediately vest.

(3) The vesting commencement date is October 9, 2018.

(4) The vesting commencement date is December 5, 2019.

(5) The vesting commencement date is December 3, 2018.

(6) The vesting commencement date is April 22, 2019.

(7) Mr. Rath's employment with us terminated as of January 31, 2021. As a result of this termination, 307,836 of such unexercisable options expired as of such date.

[Table of Contents](#)

(8) Mr. Rath's employment with us terminated as of January 31, 2021. As a result of this termination, 176,110 of such unexercisable options expired as of such date.

On January 27, 2021, Mr. Southwell was granted an option to purchase 4,251,733 shares of our common stock, and Dr. MacBeath was granted an option to purchase 1,365,934 shares of our common stock, each with an exercise price of \$0.71 per share. The option shares vest over four years, with 25% of the shares vesting on the first anniversary of January 25, 2021, and 1/48th of the shares vesting upon the completion of each month of continuous service thereafter.

Employment agreements

Agreements with Our Named Executive Officers and Potential Payments upon Termination or Change of Control

We currently maintain employment agreements with each of Mr. Southwell and Dr. MacBeath, as summarized below. The employment agreements provide for at-will employment and, other than in the context of a termination without cause or a resignation for good reason (as such terms are defined in the employment agreements), may be terminated at any time. The severance benefits that Messrs. Southwell and Rath and Dr. MacBeath are entitled to and the acceleration benefits that Mr. Southwell and Dr. MacBeath are entitled to, each pursuant to their offer letters and award agreements, are summarized below.

Agreements with David Southwell

We entered into an employment agreement with Mr. Southwell on October 9, 2018, which was amended in December 2019 and then replaced with a new employment agreement effective as of April 23, 2021. Pursuant to the terms of the new employment agreement, Mr. Southwell receives a base salary at annual rate of \$581,532 per year. He is also eligible to receive an annual performance bonus of up to 55% of his annual base salary, subject to his achievement of certain performance metrics to be approved and updated by our board of directors on an annual basis.

The employment agreement also provides Mr. Southwell with severance benefits if the Company terminates his employment without cause or if Mr. Southwell resigns for good reason, equal to (i) salary continuation at his then current base salary for eighteen months following the separation and (ii) payment of the employer share of COBRA premiums for up to eighteen months. If such separation without cause or for good reason occurs within the 3 months prior or 12 months following a change of control, then Mr. Southwell will be entitled to a lump sum payment equal to 1.5 times his base salary plus annual target bonus, plus his pro-rata target bonus and payment COBRA premiums for up to eighteen months. Such severance payments are conditioned upon Mr. Southwell executing a general release of all claims that he may have against the Company. The Company's obligation to make severance payments during the applicable severance period will cease immediately upon Mr. Southwell's (i) breach of his restrictive covenants (described below) or (ii) acceptance of any paid employment or consulting engagement during any period in which the Company is obligated to make such payments. Mr. Southwell is obligated to inform the Company in the event that he has accepted any such paid employment or consulting engagement. If the Company is subject to a change of control and in the three months prior to or twelve months following Mr. Southwell is terminated without cause or resigns for good reason, then 100% of any unvested shares or equity awards shall immediately vest and be non-forfeitable.

"Cause" is defined in the offer letter as (a) any material breach by Mr. Southwell of any agreement to which he and the Company are both parties to and that is injurious to the Company; (b) substantial negligence in the performance of, or substantial failure to perform, his services to the Company, which breach, negligence or failure, as applicable, is not cured within 30 days following written notice by the Company; (c) commission by Mr. Southwell of a felony or other crime involving moral turpitude; or (d) willful misconduct by Mr. Southwell which has, or could reasonably be expected to have, a material adverse effect upon the business, interests or reputation of the Company,

Table of Contents

“Resignation for Good Reason” is defined in the offer letter as a separation as a result of Mr. Southwell’s resignation after one of the following conditions has come into existence without Mr. Southwell’s consent: (a) a material diminution in his compensation (except for across-the-board reductions affecting the Company’s similarly situated employees generally), (b) a material diminution in Mr. Southwell’s title (it being understood that the removal of the President title shall not in and of itself constitute “Good Reason”), duties, authority and responsibilities within the Company, or (c) a material breach of the Company’s obligations under any agreement between the Company and Mr. Southwell; provided in each case that “Good Reason” shall not exist unless Mr. Southwell has given written notice to the Company within 60 days of the initial existence of the event(s) giving rise to such Good Reason, including specific details regarding such event(s), and unless the Company has thereafter failed to cure such event(s) within 30 days after delivery of such written notice.

Mr. Southwell also entered into our standard Non-Disclosure, Non-Competition and Assignment of Intellectual Property Agreement, which contains 12-month post-termination non-solicitation and non-competition provisions, provided that such 12-month period will automatically be extended for the amount of time, if any, during which Mr. Southwell engages in any activity in violation of such provisions. In the event of Mr. Southwell’s termination without cause or resignation for good reason in the 3 months prior to or 12 months following a change in control, then the restrictive covenants are no longer enforceable.

Agreements with Gavin MacBeath, Ph.D.

We entered into an offer letter with Dr. MacBeath on November 28, 2018 that was replaced with a new employment agreement effective as of April 23, 2021. Pursuant to the terms of the offer letter, Dr. MacBeath joined the Company as its Chief Scientific Officer. Dr. MacBeath received a one-time signing bonus equal to \$10,000. The Company entered a new employment agreement with Dr. MacBeath in April 2021 that provides for current base salary of \$400,000 per year. He is also eligible to receive an incentive performance bonus of up to 40% of his annual base salary, which bonus amount shall be determined by our board of directors and dependent on the achievement of specific company, team and individual performance objectives.

The employment agreement also provides Dr. MacBeath with severance benefits if the Company terminates his employment without cause or resigns for good reason, equal to (i) salary continuation at his then current base salary for twelve months following the separation and (ii) payment of the employer share of COBRA premiums for up to twelve months, subject to Dr. MacBeath executing a general release of claims against the Company. If such separation without cause or for good reason occurs within the 3 months prior or 12 months following a change of control, then Mr. Southwell will be entitled to a lump sum payment equal to one (1) times his base salary plus annual target bonus, plus pro-rata target bonus and payment COBRA premiums for up to twelve months. If the Company is subject to a change of control and in the three months prior or twelve months following Dr. MacBeath is terminated without cause or resigns for good reason, then 100% of any unvested shares or equity awards shall immediately vest and be non- forfeitable. The Company’s obligation to make severance payments during the applicable severance period will cease immediately upon Dr. MacBeath’s (i) breach of his restrictive covenants (described below) or (ii) acceptance of any paid employment or consulting engagement during any period in which the Company is obligated to make such payments.

“Cause” is defined in the offer letter as (a) any material breach by Dr. MacBeath of any agreement to which he and the Company are both parties to and that is injurious to the Company; (b) substantial negligence in the performance of, or substantial failure to perform, his services to the Company, which breach, negligence or failure, as applicable, is not cured within 30 days following written notice by the Company; (c) commission by Dr. MacBeath of a felony or other crime involving moral turpitude; or (d) willful misconduct by Dr. MacBeath which has, or could reasonably be expected to have, a material adverse effect upon the business, interests or reputation of the Company.

“Resignation for Good Reason” is defined in the offer letter as a separation as a result of Dr. MacBeath’s resignation after one of the following conditions has come into existence without Dr. MacBeath’s consent: (a) a

material diminution in his compensation (except for across-the-board reductions affecting the Company's similarly situated employees generally), (b) a material diminution in Dr. MacBeath's title, duties, authority and responsibilities within the Company, or (c) a material breach of the Company's obligations under any agreement between the Company and Dr. MacBeath; provided in each case that "Good Reason" shall not exist unless Dr. MacBeath has given written notice to the Company within 60 days of the initial existence of the event(s) giving rise to such Good Reason, including specific details regarding such event(s), and unless the Company has thereafter failed to cure such event(s) within 30 days after delivery of such written notice.

In addition, on December 31, 2018, Dr. MacBeath entered into our standard Proprietary Information and Inventions Agreement, which contains one-year post-termination non-solicitation and non-competition provisions, provided that such one-year period will automatically be extended for an additional year following the separation date if Dr. MacBeath breaches a fiduciary duty to the Company or unlawfully takes, physically or electronically, any property belonging to the Company. In the event of Dr. MacBeath's termination without cause or resignation for good reason in the 3 months prior to or 12 months following a change in control, then the restrictive covenants are no longer enforceable.

Agreements with William Desmarais

We entered into an offer letter with Mr. Desmarais on March 16, 2021 that was replaced with a new employment agreement effective as of April 23, 2021. Pursuant to the terms of the offer letter, Mr. Desmarais joined the Company as its Chief Business Officer on March 2, 2021. Mr. Desmarais' current base salary is \$360,000 per year. He is also eligible to receive an incentive performance bonus of up to 40% of his annual base salary, which bonus amount shall be determined by our board of directors and dependent on the achievement of specific company, team and individual performance objectives.

The employment agreement also provides Mr. Desmarais with severance benefits if the Company terminates his employment without cause or resigns for good reason, equal to (i) salary continuation at his then current base salary for twelve months following the separation and (ii) payment of the employer share COBRA premiums for up to twelve months, subject to Mr. Desmarais executing a general release of claims against the Company. If such separation without cause or for good reason occurs within the 3 months prior or 12 months following a change of control, then Mr. Southwell will be entitled to a lump sum payment equal to one (1) times his base salary plus annual target bonus, plus pro-rata target bonus and payment COBRA premiums for up to twelve months. If the Company is subject to a change of control and in the three months prior or twelve months following Mr. Desmarais is terminated without cause or resigns for good reason, then 100% of any unvested shares or equity awards shall immediately vest and be non- forfeitable. The Company's obligation to make severance payments during the applicable severance period will cease immediately upon Mr. Desmarais' (i) breach of his restrictive covenants (described below) or (ii) acceptance of any paid employment or consulting engagement during any period in which the Company is obligated to make such payments.

Mr. Desmarais was granted an option to purchase 981,448 shares of our common stock with an exercise price of \$1.70. The option shares vest over four years, with 25% of the shares vesting on the first anniversary of March 22, 2021, and 1/48th of the shares vesting upon the completion of each month of continuous service thereafter.

"Cause" is defined in the offer letter as (a) any material breach by Mr. Desmarais of any agreement to which he and the Company are both parties to and that is injurious to the Company; (b) substantial negligence in the performance of, or substantial failure to perform, his services to the Company, which breach, negligence or failure, as applicable, is not cured within 30 days following written notice by the Company; (c) commission by Mr. Desmarais of a felony or other crime involving moral turpitude; or (d) willful misconduct by Mr. Desmarais which has, or could reasonably be expected to have, a material adverse effect upon the business, interests or reputation of the Company.

[Table of Contents](#)

“Resignation for Good Reason” is defined in the offer letter as a separation as a result of Mr. Desmarais’ resignation after one of the following conditions has come into existence without Mr. Desmarais’ consent: (a) a material diminution in his compensation (except for across-the-board reductions affecting the Company’s similarly situated employees generally), (b) a material diminution in Mr. Desmarais’ title, duties, authority and responsibilities within the Company, or (c) a material breach of the Company’s obligations under any agreement between the Company and Mr. Desmarais; provided in each case that “Good Reason” shall not exist unless Mr. Desmarais has given written notice to the Company within 60 days of the initial existence of the event(s) giving rise to such Good Reason, including specific details regarding such event(s), and unless the Company has thereafter failed to cure such event(s) within 30 days after delivery of such written notice.

In addition, Mr. Desmarais entered into our standard Proprietary Information and Inventions Agreement, which contains one-year post-termination non-solicitation and non-competition provisions, provided that such one-year period will automatically be extended for an additional year following the separation date if Mr. Desmarais breaches a fiduciary duty to the Company or unlawfully takes, physically or electronically, any property belonging to the Company. In the event of Mr. Desmarais’ termination without cause or resignation for good reason in the 3 months prior to or 12 months following a change in control, then the restrictive covenants are no longer enforceable.

Agreements with Henry Rath

We entered into an offer letter with Mr. Rath on April 8, 2019. Pursuant to the terms of the offer letter, Mr. Rath joined the Company as its Chief Business Officer on April 23, 2019. Mr. Rath received a base salary at an initial annual rate of \$345,000 per year. He was also eligible to receive an incentive performance bonus of up to 35% of his annual base salary, which bonus amount shall be determined by our board of directors and dependent on the achievement of specific company, team and individual performance objectives.

The offer letter also provides Mr. Rath with severance benefits if the Company terminates his employment without cause, equal to salary continuation at his then current base salary for six months following the separation, subject to Mr. Rath executing a general release of claims against the Company. “Cause” is defined in the offer letter as (a) a material breach by Mr. Rath of any agreement to which he and the Company are both parties to and that is injurious to the Company; (b) negligence in the performance of, or substantial failure to perform, his services to the Company, which breach, negligence or failure, as applicable, is not cured within 30 days following written notice by the Company; (c) commission by Mr. Rath of a felony or other crime involving moral turpitude; or (d) willful misconduct by Mr. Rath which has, or could reasonably be expected to have, a material adverse effect upon the business, interests or reputation of the Company

In addition, on April 23, 2019, Mr. Rath entered into our standard Proprietary Information and Inventions Agreement, which contains one-year post-termination non-solicitation and non-competition provisions, provided that such one-year period will automatically be extended for an additional year following the separation date if Mr. Rath breaches a fiduciary duty to the Company or unlawfully takes, physically or electronically, any property belonging to the Company. As noted above, however, the non-competition restrictions were waived by the Company upon Mr. Rath’s execution and non-revocation of his separation agreement.

On January 26, 2021, we entered into a separation agreement with Mr. Rath. Such agreement was amended on February 3, 2021, and, subject to the terms and conditions thereof, provides for (i) the continuation of his base salary for six months, equal to an aggregate amount of \$172,500 and (ii) a transition bonus in the amount of \$32,000, to be paid in two installments, each subject to Mr. Rath’s full cooperation and support of his transition and compliance with the separation agreement. The first installment of the transition bonus in the amount of \$15,000 was paid on February 28, 2021, and the second in the amount of \$17,000 shall be paid on March 31, 2021. Further, the Company waived the post-termination non-compete restrictions contained in Mr. Rath’s Proprietary Information and Inventions Agreement with the Company. The separation agreement contains a one-year non-solicitation covenant. In addition, the Company agreed to use its best efforts to seek the approval of

[Table of Contents](#)

the Company's board of directors to allow Mr. Rath to exercise the options that were vested as of his termination date to be exercised on a cashless net exercise basis at any time before the expiration date of the applicable option.

Equity plans

2021 Equity Incentive Plan

Our board of directors intends to adopt our 2021 Equity Incentive Plan, or the 2021 Plan, prior to the offering, and it will be submitted to our stockholders for approval. We expect that our 2021 Plan will become effective upon the effectiveness of the registration statement of which this prospectus is a part. Our 2021 Plan is intended to replace our 2018 Stock Plan, or the 2018 Plan. However, awards outstanding under our 2018 Plan will continue to be governed by their existing terms. Although not yet adopted, we expect that our 2021 Plan will have the features described below.

Share Reserve. The number of shares of our common stock available for issuance under our 2021 Plan will equal the sum of 26,880,000 shares plus up to 23,802,549 shares remaining available for issuance under, or issued pursuant to or subject to awards granted under, our 2018 Plan. The number of shares reserved for issuance under our 2021 Plan will be increased automatically on the first business day of each of our fiscal years, commencing in 2021 and ending in 2031, by a number equal to the smallest of:

- 4% of the shares of common stock outstanding on the last business day of the prior fiscal year; or
- the number of shares determined by our board of directors.

In general, to the extent that any awards under our 2021 Plan or our 2018 Plan are forfeited, terminate, expire or lapse without the issuance of shares, or if we repurchase the shares subject to awards granted under our 2021 Plan, those shares will again become available for issuance under our 2021 Plan or our 2018 Plan, as will shares applied to pay the exercise or purchase price of an award or to satisfy tax withholding obligations related to any award.

Administration. The compensation committee of our board of directors will administer our 2021 Plan. The compensation committee will have complete discretion to make all decisions relating to our 2021 Plan and outstanding awards, including repricing outstanding options and modifying outstanding awards in other ways.

Eligibility. Employees, non-employee directors, consultants and advisors will be eligible to participate in our 2021 Plan.

Under our 2021 Plan, the aggregate grant date fair value of awards granted to our non-employee directors may not exceed \$750,000 in any one fiscal year, except that the grant date fair value of awards granted to newly appointed non-employee directors may not exceed \$1,500,000 in the fiscal year in which such non-employee director is initially appointed to our board of directors.

Types of awards. Our 2021 Plan will provide for the following types of awards:

- incentive and nonstatutory stock options;
- stock appreciation rights;
- restricted shares; and
- stock units.

Options and Stock Appreciation Rights. The exercise price for options granted under our 2021 Plan may not be less than 100% of the fair market value of our common stock on the grant date. Optionees will be permitted to pay the exercise price in cash or, with the consent of the compensation committee:

- with shares of common stock that the optionee already owns;

[Table of Contents](#)

- by an immediate sale of shares through a broker approved by us;
- by instructing us to withhold a number of shares having an aggregate fair market value that does not exceed the exercise price; or
- by other methods permitted by applicable law.

An optionee who exercises a stock appreciation right receives the increase in value of our common stock over the base price. The base price for stock appreciation rights may not be less than 100% of the fair market value of our common stock on the grant date. The settlement value of a stock appreciation right may be paid in cash, shares of our common stock or a combination.

Options and stock appreciation rights vest as determined by the compensation committee. In general, they will vest over a four-year period following the date of grant. Options and stock appreciation rights expire at the time determined by the compensation committee but in no event more than ten years after they are granted. These awards generally expire earlier if the participant's service terminates earlier.

Restricted Shares and Stock Units. Restricted shares and stock units may be awarded under our 2021 Plan in return for any lawful consideration, and participants who receive restricted shares or stock units generally are not required to pay cash for their awards. In general, these awards will be subject to vesting. Vesting may be based on length of service, the attainment of performance-based milestones or a combination of both, as determined by the compensation committee.

Corporate Transactions. In the event we are a party to a merger, consolidation or certain change in control transactions, outstanding awards granted under our 2021 Plan, and all shares acquired under our 2021 Plan, will be subject to the terms of the definitive transaction agreement (or, if there is no such agreement, as determined by our compensation committee). Unless an award agreement provides otherwise, such treatment may include any of the following with respect to each outstanding award:

- the continuation, assumption or substitution of an award by a surviving entity or its parent;
- the cancellation of an award without payment of any consideration;
- the cancellation of the vested portion of an award (and any portion that becomes vested as of the effective time of the transaction) in exchange for a payment equal to the excess, if any, of the value that the holder of each share of our common stock receives in the transaction over (if applicable) the exercise price otherwise payable in connection with the award; or
- the assignment of any reacquisition or repurchase rights held by us in respect of an award of restricted shares to the surviving entity or its parent (with proportionate adjustments made to the price per share to be paid upon exercise of such rights).

The compensation committee is not required to treat all awards, or portions thereof, in the same manner.

The vesting of an outstanding award may be accelerated by the administrator upon the occurrence of a change in control, whether or not the award is to be assumed or replaced in the transaction, or in connection with a termination of service following a change in control transaction.

A change in control includes:

- any person acquiring beneficial ownership of more than 50% of our total voting power;
- the sale or other disposition of all or substantially all of our assets; or
- our merger or consolidation after which our voting securities represent 50% or less of the total voting power of the surviving or acquiring entity.

[Table of Contents](#)

Changes in Capitalization. In the event of certain changes in our capital structure without our receipt of consideration, such as a stock split, reverse stock split or dividend paid in common stock, proportionate adjustments will automatically be made to:

- the maximum number and kind of shares available for issuance under our 2021 Plan, including the maximum number and kind of shares that may be issued upon the exercise of incentive stock options;
- the maximum number and kind of shares covered by, and exercise price, base price or purchase price, if any, applicable to each outstanding stock award; and
- the maximum number and kind of shares by which the share reserve may increase automatically each year.

In the event that there is a declaration of an extraordinary dividend payable in a form other than our common stock in an amount that has a material effect on the price of our common stock, a recapitalization, a spin-off or a similar occurrence, the compensation committee may make such adjustments to any of the foregoing as it deems appropriate, in its sole discretion.

Amendments or Termination. Our board of directors may amend, suspend or terminate our 2021 Plan at any time. If our board of directors amends our 2021 Plan, it does not need stockholder approval of the amendment unless required by applicable law, regulation or rules. Our 2021 Plan will terminate automatically 10 years after the later of the date when our board of directors adopted our 2021 Plan or approved the latest share increase that was also approved by our stockholders.

2018 Stock Plan

Our board of directors adopted and our stockholder approved our 2018 Stock Plan, or the 2018 Plan, in April 2018. No further awards will be made under our 2018 Plan after this offering; however, awards outstanding under our 2018 Plan will continue to be governed by their existing terms.

Share Reserve. As of December 31, 2020, we have reserved 13,282,049 shares of our common stock for issuance under our 2018 Plan, all of which may be issued as incentive stock options. As of December 31, 2020, options to purchase 11,852,840 shares of our common stock, at exercise prices ranging from \$0.24 to \$0.64 per share, or a weighted-average exercise price of \$0.32 per share were outstanding under our 2018 Plan, and 240,026 shares of our common stock remained available for future issuance. Unissued shares subject to awards that expire, are forfeited, or are cancelled, shares reacquired by us and shares withheld in payment of the purchase price or exercise price of an award or in satisfaction of withholding taxes will again become available for issuance under our 2018 Plan or, following consummation of this offering, under our 2021 Plan.

Administration. Our board of directors, or a committee thereof, has administered our 2018 Plan since its adoption; however, following this offering, the compensation committee of our board of directors will generally administer our 2018 Plan. The administrator has complete discretion to make all decisions relating to our 2018 Plan and outstanding awards.

Eligibility. Employees, non-employee members of our board of directors and consultants are eligible to participate in our 2018 Plan. However, only employees are eligible to receive incentive stock options.

Types of Awards. Our 2018 Plan provides for the following types of awards granted with respect to shares of our common stock:

- incentive and nonstatutory stock options to purchase shares of our common stock;
- direct award or sale of shares of our common stock, including restricted shares; and
- restricted stock units.

[Table of Contents](#)

Options. The exercise price for options granted under our 2018 Plan is determined by our board of directors, but may not be less than 100% of the fair market value of our common stock on the grant date. Optionees may pay the exercise price in cash or cash equivalents or by one, or any combination of, the following forms of payment, as permitted by the administrator in its sole discretion:

- Surrender of shares of common stock that the optionee already owns;
- Delivery of a full-recourse promissory note, with the option shares pledged as security against the principal and accrued interest on the note;
- An immediate sale of the option shares through a company-approved broker, if the shares of our common stock are publicly traded;
- Surrendering a number of vested shares subject to the option having an aggregate fair market value no greater than the aggregate exercise price, or the sum of such exercise price plus all or a portion of the minimum amount required to be withheld under applicable law; or
- Other methods permitted by the Delaware General Corporation Law, as amended.

Options vest as determined by the administrator. In general, we have granted options that vest over a four-year period. Options expire at the time determined by the administrator, but in no event more than ten years after they are granted, and generally expire earlier if the optionee's service terminates.

Restricted Shares. Restricted shares may be awarded or sold under our 2018 Plan in return for cash or cash equivalents or, as permitted by the administrator in its sole discretion, in exchange for services rendered to us, by delivery of a full-recourse promissory note or through any other means permitted by applicable law. Restricted shares vest as determined by the administrator.

Restricted Stock Units. Restricted stock units may be awarded or sold under our 2018 Plan. No cash consideration shall be required of the recipient in connection with the grant of restricted stock units. Settlement of vested restricted stock units may be made in the form of (i) cash, (ii) shares of our common stock, or (iii) any combination of both, as determined by the administrator. Restricted stock units vest as determined by the administrator.

Corporate Transactions. In the event that we are a party to a merger or consolidation or in the event of a sale of all or substantially all of our stock or assets, awards granted under our 2018 Plan will be subject to the agreement governing such transaction or, in the absence of such agreement, in the manner determined by the administrator. Such treatment may include, without limitation, one or more of the following with respect to outstanding awards:

- The continuation, assumption or substitution of an award by the surviving entity or its parent;
- Cancellation of the vested portion of the award in exchange for a payment equal to the excess, if any, of the value of the shares subject to the award over any exercise price per share applicable to the award;
- Cancellation of the award without payment of any consideration;
- Suspension of the optionee's right to exercise the option during a limited period of time preceding the completion of the transaction; or
- Termination of any right the optionee has to exercise the option prior to vesting in the shares subject to the option.

The administrator is not obligated to treat all awards in the same manner. The administrator has the discretion, at any time, to provide that an award under our 2018 Plan will vest on an accelerated basis in connection with a corporate transaction or to amend or modify an award so long as such amendment or modification is not inconsistent with the terms of the 2018 Plan or would not result in the impairment of a participant's rights without the participant's consent.

[Table of Contents](#)

Changes in Capitalization. In the event of certain specified changes in the capital structure of our common stock, such as a stock split, reverse stock split, stock dividend, reclassification or any other increase or decrease in the number of issued shares of stock effective without receipt of consideration by us, proportionate adjustments will automatically be made in (i) each of the number and kind of shares available for future grants under our 2018 Plan, (ii) the number and kind of shares covered by each outstanding option and all restricted shares, (iii) the exercise price per share subject to each outstanding option and (iv) any repurchase price applicable to shares granted under our 2018 Plan. In the event of an extraordinary cash dividend that has a material effect on the fair market value of our common stock, a recapitalization, spin-off or other similar occurrence, the administrator at its sole discretion may make appropriate adjustments to one or more of the items described above.

Amendments or Termination. The administrator may at any time amend, suspend or terminate our 2018 Plan, subject to stockholder approval in the case of an amendment if the amendment increases the number of shares available for issuance or materially changes the class of persons eligible to receive incentive stock options. Our 2018 Plan will terminate automatically ten years after the later of the date when our board of directors adopted the plan or the date when our board of directors most recently approved an increase in the number of shares reserved thereunder which was also approved by our stockholders, provided, however, that in any event, it will terminate upon the completion of this offering, but as noted above, awards outstanding under our 2018 Plan will remain outstanding and will continue to be governed by their existing terms.

2021 Employee Stock Purchase Plan

General. Our board of directors intends to adopt our 2021 Employee Stock Purchase Plan, or 2021 ESPP. Our 2021 ESPP will become effective as of the effective date of the registration statement of which this prospectus is a part. Our 2021 ESPP is intended to qualify under Section 423 of the Internal Revenue Code. Our 2021 ESPP has the features described below.

Share Reserve. 2,086,000 shares of our common stock have been reserved for issuance under our 2021 ESPP. The number of shares reserved for issuance under our 2021 ESPP will automatically be increased on the first business day of each of our fiscal years, commencing in 2022 and ending in 2041, by a number equal to the least of:

- 1% of the shares of common stock issued and outstanding on the last business day of the prior fiscal year; or
- the number of shares determined by our board of directors.

The number of shares reserved under our 2021 ESPP will automatically be adjusted in the event of a stock split, stock dividend or a reverse stock split (including an adjustment to the per-purchase period share limit).

Administration. The compensation committee of our board of directors will administer our 2021 ESPP.

Eligibility. All of our employees will be eligible to participate in our ESPP, although the administrator may exclude certain categories of employees from an offering period, as permitted by applicable law, including employees employed for less than two years, working less than 20 hours per week, who are employed less than five months per year, or are highly compensated employees. Eligible employees may begin participating in our 2021 ESPP at the start of any offering period.

Offering Periods. Each offering period will last a number of months determined by the compensation committee, not to exceed 27 months. A new offering period will begin periodically, as determined by the compensation committee. Offering periods may overlap or may be consecutive.

[Table of Contents](#)

Amount of Contributions. Our 2021 ESPP will permit each eligible employee to purchase common stock through payroll deductions. Each employee's payroll deductions may not exceed 15% of the employee's cash compensation. Each participant may purchase up to the number of shares determined by our board of directors on any purchase date, not to exceed 7,500 shares. The value of the shares purchased in any calendar year may not exceed \$25,000. Participants may withdraw their contributions at any time before stock is purchased.

Purchase Price. The price of each share of common stock purchased under our 2021 ESPP will not be less than 85% of the lower of the fair market value per share of common stock on the first day of the applicable offering period or the fair market value per share of common stock on the purchase date.

Other Provisions. Employees may end their participation in our 2021 ESPP at any time. Participation ends automatically upon termination of employment with us. If we experience a change in control, our 2021 ESPP will end and shares will be purchased with the payroll deductions accumulated to date by participating employees, unless the rights to purchase our common stock under the 2021 ESPP for an offering period then in progress are continued, assumed or substituted by the surviving entity. Our board of directors or our compensation committee may amend or terminate our 2021 ESPP at any time.

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

The following is a description of transactions since our incorporation on April 17, 2018 to which we have been a party in which the amount involved exceeded the lesser of (i) \$120,000 or (ii) one percent of the average of our total assets at year end for the last two completed fiscal years; and in which any of our executive officers, directors or beneficial holders of more than 5% of our capital stock (or any immediate family member of, or person sharing the household with, any of these individuals or entities), which we collectively refer to as a related person, had or will have a direct or indirect material interest, other than compensation arrangements which are described in “Management—Director compensation” and “Executive compensation.” We believe that all of these transactions were on terms as favorable as could have been obtained from unrelated third parties.

Sales of Securities***Series A Convertible Preferred Stock Financing***

In June 2018 and December 2018, we issued and sold an aggregate of 26,315,790 shares of our Series A convertible preferred stock at a cash purchase price of \$0.95 per share for an aggregate purchase price of approximately \$25 million. Each share of Series A convertible preferred stock will convert into one share of common stock upon the completion of this offering. The table below sets forth the number of shares of Series A convertible preferred stock sold to our directors, executive officers and holders of more than 5% of our capital stock:

<u>Investor⁽¹⁾</u>	<u>Shares of Series A convertible preferred stock</u>	<u>Total purchase price</u>
Entities affiliated with 6 Dimensions Capital	5,263,158	\$ 5,000,000
Entities affiliated with Bessemer Venture Partners	5,263,158	5,000,000
Entities affiliated with GV	5,263,158	5,000,000
Longwood Fund IV, L.P.	5,263,158	5,000,000
Novartis Bioventures Ltd.	5,263,158	5,000,000

(1) See “Principal stockholders” for additional information about shares held by these entities and individuals.

Series B Convertible Preferred Stock Financing

In July and August 2019, we issued and sold an aggregate of 27,272,728 shares of our Series B convertible preferred stock at a cash purchase price of \$1.10 per share for an aggregate purchase price of approximately \$30 million. Then, in November 2019, we issued and sold an aggregate of 4,329,004 shares of our Series B convertible preferred stock at a cash purchase price of \$1.155 per share for an aggregate purchase price of approximately \$5 million. Each share of Series B convertible preferred stock will convert into one share of common stock upon the completion of this offering. The table below sets forth the number of shares of Series B convertible preferred stock sold to our directors, executive officers and holders of more than 5% of our capital stock:

<u>Investor⁽¹⁾</u>	<u>Shares of Series B convertible preferred stock</u>	<u>Total purchase price</u>
Entities affiliated with 6 Dimensions Capital	5,454,545	\$ 6,000,000
Entities affiliated with Bessemer Venture Partners	2,727,273	3,000,000
Entities affiliated with GV	2,727,273	3,000,000
Longwood Fund IV, L.P.	2,727,273	3,000,000
Novartis Bioventures Ltd.	2,727,273	3,000,000
Novartis Institutes for Biomedical Research, Inc.	4,545,455	5,000,000
Astellas Venture Management LLC	4,329,004	5,000,000
Entities affiliated with Pitango Healthtech	5,931,819	6,525,001

(1) See “Principal stockholders” for additional information about shares held by these entities.

[Table of Contents](#)

Series C Convertible Preferred Stock Financing

In January 2021, we issued and sold an aggregate of 70,136,064 shares of our Series C convertible preferred stock at a cash purchase price of \$1.4258 per share for an aggregate purchase price of approximately \$100 million. Each share of Series C convertible preferred stock will convert into one share of common stock upon the completion of this offering. The table below sets forth the number of shares of Series C convertible preferred stock sold to our directors, executive officers and holders of more than 5% of our capital stock:

Investor⁽¹⁾	Shares of Series C convertible preferred stock	Total purchase price
Entities affiliated with 6 Dimensions Capital	2,104,082	\$ 3,000,000
Entities affiliated with Bessemer Venture Partners	1,402,721	2,000,000
Entities affiliated with GV	841,633	1,200,000
Longwood Fund IV, L.P.	1,402,721	2,000,000
Novartis Bioventures Ltd.	2,244,354	3,200,000
Entities affiliated with Pitango Healthtech	2,104,082	3,000,000
Entities affiliated with Baker Bros. Advisors LP	32,478,654	46,308,065
JMD III Holdings Limited	10,520,410	15,000,000

(1) See “Principal Stockholders” for additional information about shares held by these entities.

Agreements With Stockholders

Investors’ Rights Agreement

In connection with the sale of our Series C convertible preferred stock, we entered into an amended and restated investors’ rights agreement with certain investors, including entities affiliated with 6 Dimensions Capital, Bessemer Venture Partners, entities affiliated with GV, Longwood Fund IV, L.P., Novartis Bioventures Ltd., Pitango Healthtech, entities affiliated with Baker Bros. Advisors LP, and JMD III Holdings Limited and including entities with which certain of our directors are affiliated. Under our investors’ rights agreement, certain holders of our capital stock have the right to demand that we file a registration statement or request that their shares of our capital stock be covered by a registration statement that we are otherwise filing. See the section titled “Description of capital stock—Registration rights” elsewhere in this prospectus for additional information regarding these registration rights. Other customary investor rights under this agreement, including rights of information, observation and first refusal, will terminate immediately before the consummation of this offering.

Voting Agreement

In connection with the sale of our Series C convertible preferred stock, we entered into an amended and restated voting agreement with certain investors, including entities affiliated with 6 Dimensions Capital, Bessemer Venture Partners, entities affiliated with GV, Longwood Fund IV, L.P., Novartis Bioventures Ltd., Pitango Healthtech, entities affiliated with Baker Bros Advisors LP, and JMD III Holdings Limited and including entities with which certain of our directors are affiliated. Under our voting agreement, certain holders of our capital stock have agreed as to the manner in which they will vote their shares of our capital stock on certain matters, including with respect to the election of directors. The voting agreement will terminate upon the completion of this offering, at which time there will be no further contractual obligations regarding the manner in which shares are voted with respect to the election of our directors.

Right of First Refusal and Co-Sale Agreement

In connection with the sale of our Series C convertible preferred stock, we entered into an amended and restated first refusal and co-sale agreement with certain investors, including entities affiliated with 6 Dimensions Capital, Bessemer Venture Partners, entities affiliated with GV, Longwood Fund IV, L.P., Novartis Bioventures Ltd., Pitango Healthtech, entities affiliated with Baker Bros Advisors LP, and JMD III Holdings Limited and including entities with which certain of our directors are affiliated. Under our first refusal and co-sale agreement, certain holders of our capital stock have the right of first refusal and co-sale relating to the shares of our common

stock held by the parties to the agreement. Upon the consummation of this offering our first refusal and co-sale agreement will terminate.

License Agreements

Collaboration and License Agreement with Novartis

On March 27, 2020, we entered into a Collaboration and License Agreement, or the Novartis Agreement, with Novartis Institutes for BioMedical Research, Inc., or Novartis. Pursuant to the Novartis Agreement, we have received an aggregate of \$20.0 million of cash representing the one-time, non-refundable, non-contingent and non-creditable upfront payment and have receivables for reimbursement of expenditures under the arrangement of \$0.3 million as of December 31, 2020. We granted Novartis options to obtain exclusive, worldwide licenses to certain target antigens identified in performance of the Novartis Agreement and corresponding T-cell receptors for such target antigens. Novartis can exercise each option by paying us \$10.0 million and can exercise up to three options (each target antigen for which Novartis exercises an option, or the Optioned Program).

For each Optioned Program, as between the parties Novartis is solely responsible for the clinical development of such Option Program. Novartis is required to pay us up to an aggregate of \$230.0 million upon achievement of certain clinical milestones and milestones for the first commercial sale in certain countries with respect to products directed to the corresponding target antigen for each Optioned Program. Novartis is also required to pay us up to an aggregate of \$260.0 million upon achievement of certain annual net sales milestones for products directed to the corresponding target antigen for each Optioned Program. In addition, for each Optioned Program, Novartis is required to pay us, on a product-by-product and country-by-country basis, tiered royalties in the low-single-digit to mid-single-digit percentage on Novartis', its affiliates' and sublicensees' net sales of certain products directed to target antigens for each Optioned Program and a percentage in the mid-single-digits to low-teens on Novartis' net sales of products directed to such antigens and containing a T-cell receptor we identified to Novartis in our performance of the Novartis Agreement, subject to certain customary reductions. Royalties will be payable on a product-by-product and country-by-country basis during the period of time commencing on the first commercial sale of an applicable product in a country and ending upon the later of: (a) 10 years from the date of first commercial sale of such product in such country; (b) expiration of the last-to-expire valid claim of patents licensed by us to Novartis under the Novartis Agreement covering the manufacture, use or sale of such product in such country; or (c) the expiration of any regulatory or marketing exclusivity in such country with respect to such product. Novartis may terminate the Novartis Agreement entirely or on a program-by-program basis at any time for convenience upon 90 days' notice, but Novartis will be required to pay any payment obligations incurred prior to termination.

Royalty Agreement

In connection with our incorporation in April 2018 we entered into a royalty agreement with Christoph Westphal, M.D., Ph.D. who is one of our founders. We amended and restated this royalty agreement in June 2018 and our founder assigned his rights and obligations under the royalty agreement to one of his affiliated entities in January 2021. At the time the original royalty agreement and the amended and restated version were executed, Dr. Westphal was our chief executive officer and the chairman of our board of directors. Pursuant to the royalty agreement, we are required to pay the aforementioned affiliated entity a royalty of 1% of net sales (as defined in the royalty agreement) of any product sold by us or by any of our direct or indirect licensees for use in the treatment of any disease or disorder covered by a pending patent application or issued patent held or controlled by us as of the last date that the founder was providing services to us as a director or consultant under a written agreement. Royalties are payable with respect to each applicable product for a defined period of time set forth in the royalty agreement. We may not assign our rights and obligations under the royalty agreement except in the event of a change in control relating to our company. The term of the royalty agreement continues until expiration of the last applicable royalty term.

Nominating Rights and Registration Rights Agreements with BBA Funds

In connection with our Series C convertible preferred stock financing, we entered into a nominating agreement with Baker Brothers Life Sciences, L.P. and 667, L.P. (collectively, the “BBA Funds”) which was subsequently amended and restated on April 22, 2021, pursuant to which, among other things, we agreed to support the nomination of, and cause our board of directors (or the nominating committee thereof) to include in the slate of nominees recommended to our stockholders for election as directors at each annual or special meeting of our stockholders at which directors are to be elected, one person designated from time to time by the BBA Funds, subject to the requirements of fiduciary duties under applicable law and the terms and conditions of such nominating agreement. The agreement only applies during the period beginning at the closing of our initial public offering and for the three years thereafter, as long as (1) the BBA Funds and their affiliates, collectively, beneficially own at least 75% of the Series C convertible preferred stock purchased by the BBA Funds in such Series C convertible preferred stock financing, or such number of shares of our common stock issued upon conversion of such number of shares of Series C convertible preferred stock (in either case, as adjusted for any stock split, stock dividend, combination, or other recapitalization or reclassification or similar transaction), and (2) the BBA Funds and their affiliates, collectively, beneficially own at least 2% of our then outstanding voting common stock.

Also in connection with our Series C convertible preferred stock financing, we entered into a Registration Rights Agreement with the BBA Funds, pursuant to which, among other things, we agreed to provide the BBA Funds with certain “resale” registration rights and related “piggy-back” rights.

Additionally, we agreed to use commercially reasonable efforts to cause the underwriters of this offering to provide the BBA Funds the opportunity to participate in this offering in an amount equal to such the BBA Funds’ pro rata share of an aggregate of at least 25% of the total number shares of common stock being offered by us, excluding in such calculation any shares offered for sale pursuant to the underwriters’ option to purchase additional shares in connection with this offering. Despite our commercially reasonable efforts, the underwriters may, in their sole discretion, determine that the BBA Funds’ participation in such proportion is not advisable and designate a reduced number of, or no, shares for purchase by the BBA Funds.

Equity Grants to Executive Officers and Directors

We have agreements with and have granted stock options to certain of our executive officers and non-employee directors, as more fully described in “Executive compensation.”

Indemnification Agreements

We have entered, and intend to continue to enter, into separate indemnification agreements with each of our directors and executive officers, in addition to the indemnification provided for in our restated certificate of incorporation and amended and restated bylaws. The indemnification agreements and our restated certificate of incorporation and amended and restated bylaws that will be in effect upon the completion of this offering require us to indemnify our directors, executive officers and certain controlling persons to the fullest extent permitted by Delaware law.

Employment Agreements

We have entered into employment agreements with our executive officers. For more information regarding these agreements, see the section entitled “Executive compensation—Employment agreements.”

Consulting and Other Agreements With Our Directors

We have entered into consulting and other agreements with certain of our directors. For more information regarding these agreements, see the section entitled “Management—Director compensation.”

Directed Share Program

At our request, the underwriters have reserved up to _____ shares, or up to _____ % of the shares offered by this prospectus, for sale at the initial public offering price through a directed share program to certain of our directors, officers, employees and business associates and other parties related to us. If purchased by these persons, these shares will be subject to a 180-day lock-up restriction. Morgan Stanley & Co. LLC will administer our directed share program. See the section titled “Underwriters—Directed Share Program.”

Related Party Transaction Policy

Effective upon the completion of this offering, we intend to adopt a formal written policy providing that we are not permitted to enter into any transaction that exceeds \$120,000 and in which any related person has a direct or indirect material interest without the consent of our audit committee. Our audit committee will have the primary responsibility for reviewing and approving or disapproving such “related party transactions.” The charter of our audit committee will provide that our audit committee shall review and approve in advance any related party transaction. In approving or rejecting any such transaction, our audit committee is to consider the relevant facts and circumstances available and deemed relevant to our audit committee, including whether the transaction is on terms no less favorable than terms generally available to an unaffiliated third party under the same or similar circumstances and the extent of the related person’s interest in the transaction.

All of the transactions described in this section were entered into prior to the adoption of this policy. Although we have not had a written policy for the review and approval of transactions with related persons, our board of directors has historically reviewed and approved any transaction where a director or officer had a financial interest, including the transactions described above. Prior to approving such a transaction, the material facts as to relationship or interest of the relevant director, officer or holder of 5% or more of any class of our voting securities in the agreement or transaction was disclosed to our board of directors. Our board of directors took this information into account when evaluating the transaction and in determining whether such transaction was fair to us and in the best interest of all our stockholders.

PRINCIPAL STOCKHOLDERS

The following table sets forth information with respect to the beneficial ownership of our capital stock as of April 15, 2021 and as adjusted to reflect the sale of common stock offered by us in this offering, for:

- each of the named executive officers;
- each of our directors;
- all of current our executive officers and directors as a group; and
- each person, or group of affiliated persons, who is known by us to beneficially own more than 5% of our common stock.

We have determined beneficial ownership in accordance with the rules of the SEC. Except as indicated in the footnotes below, we believe, based on the information furnished to us, that the persons and entities named in the table below have sole voting and investment power with respect to all shares of common stock that they beneficially own, subject to applicable community property laws.

Applicable percentage ownership is based on 141,792,162 shares of common stock outstanding as of April 15, 2021, after giving effect to the conversion of all outstanding shares of preferred stock as of that date into an aggregate of 128,053,586 shares of our common stock (including shares of our non-voting common stock). For purposes of computing percentage ownership after this offering, we have assumed that (i) shares of common stock will be issued by us in this offering (including shares of non-voting common stock); (ii) the underwriters will not exercise their option to purchase up to additional shares of common stock and (iii) none of our executive officers, directors or stockholders who beneficially own more than five percent of our common stock will participate in this offering. In computing the number of shares of common stock beneficially owned by a person or entity and the percentage ownership of that person or entity, we deemed to be outstanding all shares of common stock subject to options held by that person or entity that are currently exercisable or that will become exercisable within 60 days of April 15, 2021. We did not deem these shares outstanding, however, such shares were included for the purpose of computing the percentage ownership of any other person or entity.

The following table does not reflect any shares of common stock that may be purchased in this offering pursuant to our directed share program described under “Underwriters—Directed Share Program.” If any shares are purchased by our existing principal shareholders, directors, executive officers or their affiliated entities, the number and percentage of shares beneficially owned by them after this offering will differ from those set forth in the following table.

Upon the closing of this offering, each outstanding share of our Series A convertible preferred stock Series B convertible preferred stock and Series C convertible preferred stock, will automatically convert into shares of voting common stock in accordance with the provisions of our amended and restated certificate of incorporation, or our current charter, with the exception of certain outstanding shares of our preferred stock owned by entities affiliated with or managed by Baker Brothers Life Sciences, L.P., 667, L.P., and , which shares will automatically convert into an aggregate of shares of non-voting common stock.

[Table of Contents](#)

Unless otherwise indicated, the address of each beneficial owner listed in the table below is c/o TScan Therapeutics, Inc., 830 Winter Street, Waltham, Massachusetts 02451.

NAME OF BENEFICIAL OWNER	SHARES BENEFICIALLY OWNED PRIOR TO THIS OFFERING					BENEFICIAL OWNERSHIP AFTER THE OFFERING				
	VOTING COMMON STOCK		NON-VOTING COMMON STOCK		% OF TOTAL OUTSTANDING CAPITAL STOCK BEFORE THE OFFERING	VOTING COMMON STOCK		NON-VOTING COMMON STOCK		% OF TOTAL OUTSTANDING CAPITAL STOCK AFTER THE OFFERING
	SHARES	%	SHARES	%		SHARES	%	SHARES	%	
5% or Greater Stockholders										
Entities affiliated with Baker Bros. Advisors LP(1)	35,068,032	24.7%	—	—	24.7%		%			
Entities affiliated with 6 Dimensions Capital(2)	12,821,785	9.0%	—	—	9.0%		%	—	—	
Entities affiliated with Bessemer Venture Partners(3)	9,393,152	6.6%	—	—	6.6%		%	—	—	
Longwood Fund IV, L.P.(4)	9,393,152	6.6%	—	—	6.6%		%	—	—	
Novartis Bioventures Ltd.(5)	14,780,240	10.4%	—	—	10.4%		%	—	—	
JMD III Holdings Limited(6)	10,520,410	7.4%	—	—	7.4%		%	—	—	
Entities affiliated with GV(7)	8,832,064	6.2%	—	—	6.2%		%	—	—	
Entities affiliated with Pitango Healthtech Fund(8)	8,035,901	5.7%			5.7%		%			
Named Executive Officers, Other Officers, and Directors:										
David Southwell(9)	2,288,335	1.6%	—	—	1.6%		%	—	—	
Gavin MacBeath, Ph.D.(10)	565,776	*	—	—	*			—	—	
William Desmarais Ph.D., MBA	—	*	—	—	*			—	—	
Henry Rath	259,495	*	—	—	*			—	—	
Timothy Barberich(11)	467,494	*	—	—	*			—	—	
Andrew Hedin	—	*	—	—	*			—	—	
Nandita Shangari, Ph.D.	—	*	—	—	*			—	—	
Ittai Harel	—	*	—	—	*			—	—	
Christoph Westphal, M.D., Ph.D.(12)	17,893,152	12.6%	—	—	12.6%		%	—	—	
Brian Silver	—	*	—	—	*		*	—	—	

Table of Contents

NAME OF BENEFICIAL OWNER	SHARES BENEFICIALLY OWNED PRIOR TO THIS OFFERING					BENEFICIAL OWNERSHIP AFTER THE OFFERING				
	VOTING COMMON STOCK		NON-VOTING COMMON STOCK		% OF TOTAL OUTSTANDING CAPITAL STOCK BEFORE THE OFFERING	VOTING COMMON STOCK		NON-VOTING COMMON STOCK		% OF TOTAL OUTSTANDING CAPITAL STOCK AFTER THE OFFERING
	SHARES	%	SHARES	%		SHARES	%	SHARES	%	
Katina Dorton	—	*	—	—	*	—	*	—	—	*
Stephen Biggar, M.D., Ph.D.	—	*	—	—	*	—	*	—	—	*
All executive officers and directors as a group (11 persons)(13)	21,214,757	14.8%	—	—	14.8%	—	—	—	—	—

* Represents beneficial ownership of less than one percent.

- (1) Consists of (i) shares of common stock held by 667, L.P. (667) and (ii) shares of common stock held by Baker Brothers Life Sciences, L.P. (Baker Life Sciences and together with 667, the BBA Funds). Baker Bros. Advisors LP, or BBA, is the management company and investment adviser to the BBA Funds and has complete and unlimited discretion and authority with respect to the BBA Funds investments and voting power over investments. Baker Bros. Advisors (GP) LLC, or BBA-GP, is the sole general partner of BBA. The managing members of BBA-GP are Julian C. Baker and Felix J. Baker. BBA-GP, Felix J. Baker, Julian C. Baker and BBA may be deemed to be beneficial owners of the securities directly held by the BBA Funds. The address for the above referenced entities is 860 Washington Street, 3rd Floor, New York, NY 10014.
- (2) Consists of (i) shares of common stock held by 6 Dimensions Capital, L.P. and (ii) shares of common stock held by 6 Dimension Affiliates Fund, L.P. The general partner of each of 6 Dimensions Capital, L.P. and 6 Dimensions Affiliates Fund, L.P. is 6 Dimensions Capital GP, LLC, which is in turn ultimately controlled by Dr. Chen Lian Yong (Leon). Wei Li, Ph.D., is an affiliate of 6 Dimensions Capital GP, LLC and a member of our board of directors. The address of 6 Dimensions Capital, L.P. and 6 Dimensions Affiliates Fund, L.P., is Unit 6706, 67/F, The Center, 99 Queen's Road Central, Central, Hong Kong.
- (3) Consists of (i) shares of common stock held by Bessemer Venture Partners IX L.P. (BVP IX) and (ii) shares of common stock held by Bessemer Venture Partners IX Institutional L.P. (BVP IX Institutional, and together with BVP IX, the BVP Entities). Deer IX & Co. L.P. (Deer IX L.P.) is the general partner of the BVP Entities. Deer IX & Co. Ltd. (Deer IX Ltd.) is the general partner of Deer IX L.P. Robert P. Goodman, David J. Cowan, Byron B. Deeter, Jeremy S. Levine, Robert M. Stavis and Adam Fisher are the directors of Deer IX Ltd. and hold the voting and dispositive power for the BVP Entities. Investment and voting decisions with respect to the shares held by the BVP Entities are made by the directors of Deer IX Ltd. acting as an investment committee. Andrew Hedin disclaims beneficial ownership of the securities held by the BVP Entities, except to the extent of his pecuniary interest, if any, in such securities by virtue of his interest in the BVP Entities. The address of each of these entities is c/o Bessemer Venture Partners, 1865 Palmer Ave., Suite 104, Larchmont, NY 10538.
- (4) These shares of common stock are held by Longwood Fund IV, L.P. (Longwood). The general partner of Longwood is Longwood Fund IV GP, LLC (Longwood GP). Longwood GP may be deemed to have sole voting and dispositive power over the shares held by Longwood. Each of Richard Aldrich and Christoph Westphal, M.D., Ph.D. are managers of Longwood GP and may be deemed to share voting and dispositive power over of the shares held by Longwood. The address of Longwood and Longwood GP is 800 Boylston St., Suite 1555, Boston, MA 02199.
- (5) Consists of shares of common stock held by Novartis Bioventures Ltd. and shares of common stock held by Novartis Institutes for BioMedical Research, Inc. (referred to as "NIBR") (collectively referred to as the "Novartis Entities"). Novartis Bioventures Ltd. is a Swiss corporation and an indirect wholly owned subsidiary of Novartis AG. NIBR is an indirect wholly owned subsidiary of, and controlled by, Novartis AG. As a result, Novartis Bioventures Ltd. and Novartis AG may be deemed to have shared voting and investment power over the securities held by Novartis Bioventures Ltd. and NIBR and Novartis AG may be deemed to have shared voting and investment power over the securities held by NIBR. The address for each of Novartis Bioventures Ltd. and Novartis AG is Lichtstrasse 35, CH-4056 Basel, Switzerland. The address for NIBR is 250 Massachusetts Avenue, Cambridge, MA 02139.
- (6) These shares of common stock are held by JMD III Holdings Limited. JMD III Holdings Limited is incorporated in the Cayman Islands and is wholly owned by Hillhouse Venture Fund V, L.P. Hillhouse Capital Management, Ltd. ("HCM") acts as the sole management company of Hillhouse Venture Fund V, L.P. Mr. Lei Zhang may be deemed to have controlling power over HCM. Mr. Lei Zhang disclaims beneficial ownership of all of the shares held by JMD III Holdings Limited, except to the extent of his pecuniary interest therein. The registered address of JMD III Holdings Limited is 89 Nexus Way, Camana Bay, P.O. Box 31106, Grand Cayman KY1-1205, Cayman Islands.
- (7) Consists of (i) shares of common stock held by GV 2017, L.P. and (ii) shares of common stock held by GV 2019, L.P. GV 2017 GP, L.P. (the general partner of GV 2017, L.P.), GV 2017 GP, L.L.C. (the general partner of GV 2017 GP, L.P.), Alphabet Holdings LLC (the managing member of GV 2017 GP, L.L.C.), XXVI Holdings Inc. (the managing member of Alphabet Holdings LLC) and Alphabet Inc. (the controlling stockholder of XXVI Holdings Inc.) may each be deemed to have sole power to vote or dispose of the

Table of Contents

shares held directly by GV 2017, L.P. GV 2019 GP, L.P. (the general partner of GV 2019, L.P.), GV 2019 GP, L.L.C. (the general partner of GV 2019 GP, L.P.), Alphabet Holdings LLC (the managing member of GV 2019 GP, L.L.C.), XXVI Holdings Inc. (the managing member of Alphabet Holdings LLC) and Alphabet Inc. (the controlling stockholder of XXVI Holdings Inc.) may each be deemed to have sole power to vote or dispose of the shares held directly by GV 2019, L.P. The principal business address of GV 2017, L.P., GV 2017 GP, L.P., GV 2017 GP, L.L.C., GV 2019, L.P., GV 2019 GP, L.P., GV 2019 GP, L.L.C., Alphabet Holdings LLC, XXVI Holdings Inc. and Alphabet Inc. is 1600 Amphitheatre Parkway, Mountain View, CA 94043.

- (8) Consists of (i) shares are held of record by Pitango HealthTech Fund I, L.P., and (ii) shares held of record by Pitango HealthTech Principals Fund I, L.P.; and (iii) shares held of record by Pitango HealthTech Fund I – Israel, L.P (collectively, the Pitango Entities). The Pitango Principals (as defined below) possess shared voting and dispositive power with respect to all shares of common stock held by all Pitango Entities. The general partner of the Pitango Entities is Pitango HT Fund I, L.P (the GP). The general partner of the GP is Pitango GP Health Holdings Ltd. (the GP of The GP). The partners in the GP are, either directly or via holding companies and intermediary entities formed for tax purposes, the following individuals: Guy Ezekiel, Ittai Harel, Aaron Mankovski, Zeev Binman, Isaac Hillel, Eyal Nic, Nechemia (Chemi) Peres, Ayal Itzkovits and Rami Kalish (the Pitango Principals). The shareholder of the GP of the GP is the Pitango Entities' management company, Pitango HealthTech Management 2019 Ltd. (the Management Company). The Pitango Principals are the shareholders of the Management Company . The Pitango Principals therefore possess shared voting and dispositive power with respect to all shares of common stock held by all Pitango reporting persons. The address for the above listed entities is 11 HaMenofim Street, Building B, Herzeliya 4672562, Israel.
- (9) Consists of (i) 712,581 shares of common stock held by Mr. Southwell and (ii) 1,575,754 shares of common stock issuable upon exercise of outstanding stock options held by Mr. Southwell, which are exercisable within 60 days of April 15, 2021.
- (10) Consists of (i) 367,105 shares of common stock held by Dr. MacBeath and (ii) 198,671 shares of common stock issuable upon exercise of outstanding stock options held by Dr. MacBeath, which are exercisable within 60 days of April 15, 2021.
- (11) Consists of (i) 272,727 shares of common stock held by Mr. Barberich and (ii) 194,767 shares of common stock issuable upon exercise of outstanding stock options held by Mr. Barberich, which are exercisable within 60 days of April 15, 2021.
- (12) Consists of (i) 7,500,000 shares of common stock held by Dr. Westphal, (ii) 1,000,000 shares of common stock held by Dr. Sylvia Westphal and (iii) the securities held by Longwood as set forth in footnote 4 above, for which Dr. Westphal may be deemed to share voting and investment power.
- (13) Consists of (i) 19,245,565 shares of common stock and (ii) 1,969,192 shares of common stock issuable upon exercise of outstanding stock options held by our current directors and executive officers, which are exercisable within 60 days of April 15, 2021.

DESCRIPTION OF CAPITAL STOCK

The following descriptions of our capital stock and certain provisions of our amended and restated certificate of incorporation and amended and restated bylaws are summaries and are qualified by reference to the amended and restated certificate of incorporation and the amended and restated bylaws that will be in effect upon completion of this offering. A description of our capital stock and the material terms and provisions of our amended and restated certificate of incorporation and amended and restated bylaws that will be in effect upon the completion of this offering and affecting the rights of holders of our capital stock is set forth below. The forms of our amended and restated certificate of incorporation and our amended and restated bylaws to be adopted in connection with this offering will be filed as exhibits to the registration statement relating to this prospectus.

Upon the completion of this offering, our amended and restated certificate of incorporation will authorize shares of undesignated preferred stock, the rights, preferences and privileges of which may be designated from time to time by our board of directors.

Upon the completion of this offering, our authorized capital stock will consist of _____ shares, all with a par value of \$0.0001 per share, of which:

- 300,000,000 shares are designated common stock;
- 10,000,000 shares are designated non-voting common stock; and
- 10,000,000 shares are designated preferred stock.

As of December 31, 2020, after giving effect to (i) the issuance of 70,136,064 shares of Series C convertible preferred stock issued in January 2021 and (ii) the conversion of all outstanding shares of preferred stock, including the shares of Series C convertible preferred stock into an aggregate of 128,053,586 shares of our common stock (including _____ shares of our non-voting common stock), there were outstanding:

- 140,961,519 shares of our common stock held of record by 45 stockholders; and
- 11,852,840 shares of our common stock issuable upon exercise of outstanding stock options.

Common Stock and Non-Voting Common Stock

The holders of our common stock and non-voting common stock have identical rights, provided that, (i) except as otherwise expressly provided in our amended and restated certificate of incorporation or as required by applicable law, on any matter that is submitted to a vote by our stockholders, holders of our common stock are entitled to one vote per share of common stock, and holders of our non-voting common stock are not entitled to any votes per share of non-voting common stock, including for the election of directors, and (ii) holders of our common stock have no conversion rights, while holders of our non-voting common stock shall have the right to convert each share of our non-voting common stock into one share of common stock at such holder's election, provided that as a result of such conversion, such holder, together with its affiliates and any members of a Schedule 13(d) group with such holder, would not beneficially own in excess of 4.99% of our common stock immediately prior to and following such conversion, unless otherwise as expressly provided for in our amended and restated certificate of incorporation. However, this ownership limitation may be increased or decreased to any other percentage designated by such holder of non-voting common stock upon 61 days' notice to us.

Dividend Rights

Subject to preferences that may apply to shares of preferred stock outstanding at the time, the holders of outstanding shares of our common stock and non-voting common stock are entitled to receive dividends out of funds legally available if our board of directors, in its discretion, determines to issue dividends and only then at the times and in the amounts that our board of directors may determine. See "Dividend policy" for more information.

[Table of Contents](#)

Voting Rights

The holders of our common stock are entitled to one vote per share. Stockholders do not have the ability to cumulate votes for the election of directors. Our amended and restated certificate of incorporation and amended and restated bylaws that will be in effect upon the completion of this offering will provide for a classified board of directors consisting of three classes of approximately equal size, each serving staggered three-year terms. Only one class of directors will be elected at each annual meeting of our stockholders, with the other classes continuing for the remainder of their respective three-year terms.

No Preemptive or Similar Rights

Our common stock and non-voting common stock are not entitled to preemptive rights and are not subject to conversion, redemption or sinking fund provisions.

Right to Receive Liquidation Distributions

Upon our dissolution, liquidation or winding-up, the assets legally available for distribution to our stockholders are distributable ratably among the holders of our common stock and non-voting common stock, subject to prior satisfaction of all outstanding debt and liabilities and the preferential rights and payment of liquidation preferences, if any, on any outstanding shares of preferred stock.

Preferred Stock

Upon the completion of this offering, no shares of preferred stock will be outstanding, but we will be authorized, subject to limitations prescribed by Delaware law, to issue preferred stock in one or more series, to establish from time to time the number of shares to be included in each series and to fix the designation, powers, preferences and rights of the shares of each series and any associated qualifications, limitations or restrictions. Our board of directors also can increase or decrease the number of shares of any series, but not below the number of shares of that series then outstanding, without any further vote or action by our stockholders. Our board of directors may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of the common stock. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions and other corporate purposes, could, among other things, have the effect of delaying, deferring or preventing a change in control of our company and may adversely affect the market price of our common stock and the voting and other rights of the holders of common stock. We have no current plan to issue any shares of preferred stock.

Options

As of December 31, 2020, there were options to purchase 11,852,840 shares of our common stock outstanding, at a weighted average exercise price of \$0.32 per share, of which 2,973,359 were vested and exercisable as of that date. All of such options were granted under our 2018 Plan.

Registration Rights

Following the completion of this offering, the holders of _____ shares of our common stock (including _____ shares of non-voting common stock) issued upon the conversion of our preferred stock will be entitled to contractual rights to require us to register those shares under the Securities Act. These registration rights are provided under the terms of our amended and restated investors' rights agreement between us and the holders of these shares, which we entered into on January 15, 2021.

We will pay all expenses relating to any demand or piggyback registration described below, other than underwriting discounts and commissions. The registration rights terminate upon the earliest to occur of: (i) the

[Table of Contents](#)

fifth anniversary of the completion of this offering; (ii) a liquidation event; or (iii) with respect to the registration rights of an individual holder, such time after consummation of this offering as Rule 144 or another similar exemption under the Securities Act is available for the sale of all of such holder's shares without limitation during a three-month period.

Demand Registration Rights

The holders of the registrable securities will be entitled to certain demand registration rights. At any time beginning 180 days following the effectiveness of this offering, the holders of 35% or more of the registrable securities then outstanding may make a written request that we register at least 35% of the registrable securities (or a lesser percent if the anticipated aggregate offering price, net of selling expenses, would exceed \$10 million) some or all of their registrable securities, subject to certain specified conditions and exceptions. We are required to use commercially reasonable efforts to effect the registration and will pay all registration expenses, other than underwriting discounts and commissions, related to any demand registration. We are not obligated to effect more than two of these registrations.

Piggyback Registration Rights

In connection with this offering, holders of our registrable securities were entitled to, and the necessary percentage of holders waived, their rights to notice of this offering and to include their registrable securities in this offering. If we propose to register any of our securities under the Securities Act either for our own account or for the account of other stockholders in another offering, the holders of shares having registration rights will, subject to certain exceptions, be entitled to include their shares in our registration statement, provided that the underwriters of any such offering have the right to limit the number of shares included in the registration. These registration rights are subject to specified other conditions and limitations as set forth in our amended and restated investors' rights agreement.

Form S-3 Registration Rights

At any time after we are qualified to file a registration statement on Form S-3, and subject to limitations and conditions specified in the amended and restated investors' rights agreement, the holders of registrable securities then outstanding may make a written request that we prepare and file a registration statement on Form S-3 under the Securities Act covering their shares, so long as the aggregate price to the public is at least \$3,000,000. We are not obligated to effect more than two of these Form S-3 registrations in any 12-month period. Such holders will pay pro rata all expenses related to filing a registration statement on Form S-3.

Anti-Takeover Provisions

Delaware Law

Upon the completion of this offering, we will be governed by the provisions of Section 203 of the Delaware General Corporation Law regulating corporate takeovers. This section prevents some Delaware corporations from engaging, under some circumstances, in a business combination, which includes a merger or sale of at least 10% of the corporation's assets with any interested stockholder, meaning a stockholder who, together with affiliates and associates, owns or, within three years prior to the determination of interested stockholder status, did own 15% or more of the corporation's outstanding voting stock, unless:

- the transaction is approved by the board of directors prior to the time that the interested stockholder became an interested stockholder;
- upon closing of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the

[Table of Contents](#)

transaction began, excluding for purposes of determining the voting stock outstanding those shares owned (i) by persons who are directors and also officers and (ii) employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or

- subsequent to such time that the stockholder became an interested stockholder the business combination is approved by the board of directors and authorized at an annual or special meeting of stockholders by at least two-thirds of the outstanding voting stock which is not owned by the interested stockholder.

A Delaware corporation may “opt out” of these provisions with an express provision in its original certificate of incorporation or an express provision in its certificate of incorporation or amended and restated bylaws resulting from a stockholders’ amendment approved by at least a majority of the outstanding voting shares. We have not opted out of these provisions. As a result, mergers or other takeover or change in control attempts of us may be discouraged or prevented.

Certificate of Incorporation and Bylaw Provisions

Upon the completion of this offering, our amended and restated certificate of incorporation and our amended and restated bylaws will include a number of provisions that may have the effect of deterring hostile takeovers or delaying or preventing changes in control of our management team, including the following:

- *Board of Directors Vacancies.* Our amended and restated certificate of incorporation and amended and restated bylaws will authorize our board of directors to fill vacant directorships, including newly-created seats. In addition, the number of directors constituting our board of directors will be set only by resolution adopted by a majority vote of our entire board of directors. These provisions will prevent a stockholder from increasing the size of our board of directors and gaining control of our board of directors by filling the resulting vacancies with its own nominees.
- *Classified Board.* Our amended and restated certificate of incorporation and amended and restated bylaws will provide that our board of directors will be classified into three classes of directors, each of which will hold office for a three-year term. In addition, directors may only be removed from the board of directors for cause and only by the approval of 66 2/3% of our then-outstanding shares of our common stock. A third party may be discouraged from making a tender offer or otherwise attempting to obtain control of us as it is more difficult and time consuming for stockholders to replace a majority of the directors on a classified board of directors.
- *Stockholder Action; Special Meeting of Stockholders.* Our amended and restated certificate of incorporation will provide that stockholders will not be able to take action by written consent, and will only be able to take action at annual or special meetings of our stockholders. Stockholders will not be permitted to cumulate their votes for the election of directors. Our amended and restated bylaws will further provide that special meetings of our stockholders may be called only by a majority vote of our entire board of directors, the chairman of our board of directors or our chief executive officer.
- *Advance Notice Requirements for Stockholder Proposals and Director Nominations.* Our amended and restated bylaws will provide advance notice procedures for stockholders seeking to bring business before our annual meeting of stockholders, or to nominate candidates for election as directors at any meeting of stockholders. Our amended and restated bylaws will also specify certain requirements regarding the form and content of a stockholder’s notice. These provisions may preclude our stockholders from bringing matters before our annual meeting of stockholders or from making nominations for directors at our meetings of stockholders.
- *Issuance of Undesignated Preferred Stock.* Our board of directors will have, the authority, without further action by the holders of common stock, to issue up to 10,000,000 shares of undesignated preferred stock with rights and preferences, including voting rights, designated from time to time by

[Table of Contents](#)

the board of directors. The existence of authorized but unissued shares of preferred stock will enable our board of directors to render more difficult or discourage an attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise.

Choice of Forum

Upon the completion of this offering, our amended and restated certificate of incorporation will provide that the Court of Chancery of the State of Delaware is the exclusive forum for any derivative action or proceeding brought on our behalf, any action asserting a breach of fiduciary duty, any action asserting a claim against us arising pursuant to the Delaware General Corporation Law, our amended and restated certificate of incorporation or our amended and restated bylaws or any action asserting a claim against us that is governed by the internal affairs doctrine. This provision would not apply to claims brought to enforce a duty or liability created by the Securities Act or Exchange Act or any other claim for which the federal courts have exclusive jurisdiction. Our amended and restated certificate of incorporation provides further that the federal district courts of the United States will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act or Exchange Act. These choices of forum provisions may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers or other employees and may discourage these types of lawsuits. Furthermore, the enforceability of similar choice of forum provisions in other companies' certificates of incorporation has been challenged in legal proceedings, and it is possible that a court could find these types of provisions to be inapplicable or unenforceable. While the Delaware courts have determined that such choice of forum provisions are facially valid, a stockholder may nevertheless seek to bring a claim in a venue other than those designated in the exclusive-forum provisions, and there can be no assurance that such provisions will be enforced by a court in those other jurisdictions. If a court were to find the exclusive-forum provision contained in our amended and restated certificate of incorporation to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could harm our business.

Transfer Agent and Registrar

Upon the completion of this offering, the transfer agent and registrar for our common stock will be Computershare Inc. The transfer agent's address is 150 Royall Street, Canton, Massachusetts 02021, and its telephone number is (800) 942-5909.

Listing

We have applied to list our common stock on The Nasdaq Global Market under the symbol "TCRX."

SHARES ELIGIBLE FOR FUTURE SALE

Before this offering, there has not been a public market for shares of our common stock and a liquid trading market for our common stock may not develop or be sustained after this offering. Future sales of substantial amounts of shares of our common stock, including shares issued upon the exercise of outstanding options, in the public market following this offering or the possibility of these sales occurring, could cause the prevailing market price for our common stock to fall or impair our ability to raise equity capital through sales of equity securities in the future.

Following this offering, we will have outstanding _____ shares of our common stock, based on the number of shares outstanding as of December 31, 2020, after giving effect to the automatic conversion of all outstanding shares of our preferred stock, including 70,136,064 shares of Series C convertible preferred stock issued in January 2021, into an aggregate of _____ shares of common stock (including _____ shares of our non-voting common stock) upon the completion of this offering. This includes _____ shares of common stock that we are selling in this offering, which shares may be resold in the public market immediately unless purchased by our affiliates and assuming no additional exercise of outstanding options other than as described elsewhere in this prospectus and the conversion of all outstanding shares of our preferred stock into an aggregate of _____ shares of our common stock upon the closing of this offering.

Of these shares, all shares sold in this offering will be freely tradable without restriction under the Securities Act, unless purchased by our “affiliates,” as that term is defined in Rule 144 under the Securities Act. The remaining shares of common stock that are not sold in this offering, will be “restricted securities,” as that term is defined in Rule 144 under the Securities Act, and we expect that substantially all of these restricted securities will be subject to the 180-day lock-up period under the lock-up agreements as described below. These restricted securities are eligible for public sale only if they are registered under the Securities Act or if they qualify for an exemption from registration under Rule 144 or Rule 701 under the Securities Act, which are summarized below.

In addition, we, our executive officers and directors, and substantially all of our security holders have entered into market standoff agreements with us or lock-up agreements with the underwriters under which they have agreed, subject to specific exceptions, not to sell any of our capital stock until at least 180 days after the date of this prospectus, as described below. As a result of these agreements and the provisions of our investors’ rights agreement disclosed in “Description of capital stock—Registration rights,” subject to the provisions of Rule 144 or Rule 701, _____ shares will be available for sale in the public market as follows:

- beginning on the date of this prospectus, the _____ shares sold in this offering will be immediately available for sale in the public market, unless purchased by our affiliates;
- beginning 181 days after the date of this prospectus, _____ additional shares will become eligible for sale in the public market, of which _____ shares will be held by affiliates and subject to the volume and other restrictions of Rule 144, as described below; and
- the remainder of the shares will be eligible for sale in the public market from time to time thereafter, subject in some cases to the volume and other restrictions of Rule 144, as described below.

We cannot estimate the number of shares of our common stock that our existing stockholders will elect to sell under Rule 144.

Rule 144

In general, under Rule 144 as currently in effect, a person who has beneficially owned shares of our restricted common stock for at least six months would be entitled to sell their securities provided that such person is not deemed to have been one of our affiliates at the time of, or at any time during the 90 days preceding, a sale, and we are subject to the periodic reporting requirements of the Exchange Act, for at least 90 days before the

[Table of Contents](#)

sale. In addition, under Rule 144, any person who is not an affiliate of ours and has held their shares for at least one year, including the holding period of any prior owner other than one of our affiliates, would be entitled to sell an unlimited number of shares immediately upon the completion of this offering without regard to whether current public information about us is available. Persons who have beneficially owned shares of our restricted common stock for at least six months but who are our affiliates at the time of, or any time during the 90 days preceding, a sale, would be subject to additional restrictions, by which such person would be entitled to sell within any three-month period only a number of securities that does not exceed the greater of either of the following:

- 1% of the number of shares of our capital stock then outstanding, which will equal _____ shares immediately after the completion of this offering, assuming no exercise by the underwriters of their option to purchase additional shares; or
- the average weekly trading volume of our common stock on Nasdaq during the four calendar weeks preceding the filing of a notice on Form 144 with respect to such sale.

provided, in each case, that we have been subject to the Exchange Act periodic reporting requirements for at least 90 days before the sale. Such sales both by affiliates and by non-affiliates must also comply with the manner of sale, current public information and notice provisions of Rule 144.

Rule 701

Any of our employees, directors, officers, consultants, advisors or service providers, other than a person who is deemed to have been one of our affiliates during the immediately preceding 90 days, who purchased shares under a written compensatory plan or contract prior to this offering may be entitled to rely on the resale provisions of Rule 701. Rule 701, as currently in effect, permits resales of shares, in reliance upon Rule 144 but without compliance with certain restrictions, including the holding period requirement, of Rule 144. Rule 701 further provides that non-affiliates may sell such shares in reliance on Rule 144 without having to comply with the public information, volume limitation or notice provisions of Rule 144. All holders of Rule 701 shares are required to wait until 90 days after the date of this prospectus before selling such shares if such resale is pursuant to Rule 701. All Rule 701 shares are, however, subject to lock-up agreements and will only become eligible for sale upon the expiration of these lock-up agreements.

Lock-Up Agreements

In connection with this offering, we and all directors and officers and the holders of substantially all of our outstanding stock and stock options have agreed with the underwriters, subject to certain exceptions, not to offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend, or otherwise transfer or dispose of, directly or indirectly, shares of our common stock or any securities convertible into or exchangeable for shares of our common stock or enter into any swap or other arrangement that transfers to another any of the economic consequences of ownership of our common stock during the period from the date of this prospectus continuing through the date 180 days after the date of this prospectus, except with the prior written consent of Morgan Stanley & Co. LLC, Jefferies LLC, Cowen and Company, LLC, and Barclays Capital Inc. These agreements are subject to certain exceptions, as set forth in “Underwriters.”

Certain of our employees, including our executive officers, and directors may enter into written trading plans that are intended to comply with Rule 10b5-1 under the Exchange Act. Sales under these trading plans would not be permitted until the expiration of the lock-up agreements relating to our initial public offering described above.

Registration Rights

Under our amended and restated investors' rights agreement, after the completion of this offering, the holders of up to _____ shares of our common stock (including shares of non-voting common stock) will, subject to the lock-up agreements referred to above, be entitled to certain rights, subject to certain conditions, to require us to file registration statements covering their shares or to include their shares in registration statements that we may file for ourselves or other stockholders. The registration of these shares of our common stock under the Securities Act would result in these shares becoming eligible for sale in the public market without restriction under the Securities Act immediately upon the effectiveness of such registration, subject to the Rule 144 limitations applicable to affiliates. See the section titled "Description of capital stock—Registration rights" for a description of these registration rights.

Equity Plans

As of December 31, 2020, we had outstanding options to purchase an aggregate of 11,852,840 shares of our common stock under the 2018 Plan. Following this offering, we intend to file a registration statement on Form S-8 under the Securities Act to register all of the shares of our common stock subject to options outstanding or reserved for issuance under our equity plans. We expect to file this registration statement as soon as practicable after the completion of this offering. This registration statement will become effective immediately upon filing, and shares covered by this registration statement will thereupon be eligible for sale in the public markets, subject to vesting restrictions, the lock-up agreements described above and Rule 144 limitations applicable to affiliates. For a more complete discussion of our stock plans, see "Executive compensation—Equity plans."

MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES FOR NON-U.S. HOLDERS OF OUR COMMON STOCK

The following is a general discussion of the material U.S. federal income tax considerations applicable to non-U.S. holders (as defined below) with respect to their ownership and disposition of shares of our common stock issued pursuant to this offering. For purposes of this discussion, a non-U.S. holder means a beneficial owner of our common stock (other than an entity or arrangement that is treated as a partnership for U.S. federal income tax purposes) that is not, for U.S. federal income tax purposes, any of the following:

- an individual citizen or resident of the United States;
- a corporation (or other entity treated as a corporation for U.S. federal income tax purposes) created or organized in the United States or under the laws of the United States, any state thereof or the District of Columbia;
- an estate, the income of which is includable in gross income for U.S. federal income tax purposes regardless of its source; or
- a trust if (i) a court within the United States is able to exercise primary supervision over the administration of the trust and one or more “U.S. persons,” as defined under the Code, have the authority to control all substantial decisions of the trust or (ii) such trust has made a valid election to be treated as a U.S. person for U.S. federal income tax purposes.

This discussion is based on current provisions of the Internal Revenue Code of 1986, as amended, or “Code”, existing, temporary and proposed Treasury Regulations promulgated thereunder, judicial opinions, published positions of the Internal Revenue Service, or “IRS”, and other applicable authorities, all of which are subject to change or to differing interpretation, possibly with retroactive effect. This discussion assumes that a non-U.S. holder holds shares of our common stock as a capital asset (generally, property held for investment) for U.S. federal income tax purposes. This discussion does not address all aspects of U.S. federal income taxation that may be important to a particular non-U.S. holder in light of that non-U.S. holder’s individual circumstances, nor does it address any aspects of the unearned income Medicare contribution tax pursuant to the Health Care and Education Reconciliation Act of 2010, any U.S. gift taxes, any U.S. alternative minimum taxes or any state, local or non-U.S. taxes. This discussion may not apply, in whole or in part, to particular non-U.S. holders in light of their individual circumstances or to holders subject to special treatment under the U.S. federal income tax laws (such as insurance companies, tax-exempt organizations, financial institutions, brokers or dealers in securities, “controlled foreign corporations,” “passive foreign investment companies,” non-U.S. holders that hold our common stock as part of a straddle, conversion transaction or other integrated investment, holders who own, actually or constructively, more than 5% of our common stock, and certain U.S. expatriates).

If a partnership (or other entity or arrangement treated as a partnership for U.S. federal income tax purposes) holds our common stock, the tax treatment of a partner therein will generally depend on the status of the partner and the activities of the partnership. Partners of a partnership holding our common stock should consult their tax advisor as to the particular U.S. federal income tax consequences applicable to them.

INVESTORS CONSIDERING THE PURCHASE OF OUR COMMON STOCK SHOULD CONSULT THEIR OWN TAX ADVISORS REGARDING THE APPLICATION OF THE U.S. FEDERAL INCOME AND ESTATE TAX LAWS TO THEIR PARTICULAR SITUATIONS AND THE CONSEQUENCES OF NON-U.S., STATE, OR LOCAL LAWS AND TAX TREATIES.

Dividends

We do not expect to declare or make any distributions on our common stock in the foreseeable future. If we do pay dividends on shares of our common stock, however, such distributions will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as

[Table of Contents](#)

determined under U.S. federal income tax principles. Distributions in excess of our current and accumulated earnings and profits will constitute a return of capital that is applied against and reduces, but not below zero, a non-U.S. holder's adjusted tax basis in shares of our common stock. Any excess will be treated as capital gain and such gain will be subject to the treatment described below under "—Gain on sale or other disposition of common stock." Any such distributions will also be subject to the discussion below under "—Backup withholding and information reporting" and "—Foreign account tax compliance act."

Any dividend paid to a non-U.S. holder on our common stock that is not effectively connected with a non-U.S. holder's conduct of a trade or business in the United States will generally be subject to U.S. withholding tax at a 30% rate. The withholding tax might apply at a reduced rate, however, under the terms of an applicable income tax treaty between the United States and the non-U.S. holder's country of residence. You should consult your own tax advisors regarding your entitlement to benefits under a relevant income tax treaty. Generally, in order for the applicable withholding agent to withhold tax at a lower treaty rate, a non-U.S. holder must certify its entitlement to treaty benefits. A non-U.S. holder generally can meet this certification requirement by providing an IRS Form W-8BEN, W-8BEN-E or other appropriate form (or any successor or substitute form thereof) to the applicable withholding agent. If the non-U.S. holder holds the stock through a financial institution or other agent acting on the holder's behalf, the holder will be required to provide appropriate documentation to the holder's agent. The holder's agent will then be required to provide certification to the applicable withholding agent, either directly or through other intermediaries. If you are eligible for a reduced rate of U.S. federal withholding tax under an income tax treaty, you may generally obtain a refund or credit of any excess amounts withheld by filing an appropriate claim for a refund with the IRS in a timely manner.

Dividends received by a non-U.S. holder that are effectively connected with a U.S. trade or business conducted by the non-U.S. holder, and if required by an applicable income tax treaty between the United States and the non-U.S. holder's country of residence, are attributable to a permanent establishment maintained by the non-U.S. holder in the United States, are not subject to U.S. withholding tax. To obtain this exemption, a non-U.S. holder must provide the applicable withholding agent with an IRS Form W-8ECI properly certifying such exemption. Such effectively connected dividends, although not subject to withholding tax, are taxed at the same U.S. federal income tax rates applicable to U.S. persons, net of certain deductions and credits. In addition to being taxed at U.S. federal income tax rates, dividends received by a corporate non-U.S. holder that are effectively connected with a U.S. trade or business of the corporate non-U.S. holder may also be subject to a branch profits tax at a rate of 30% or such lower rate as may be specified by an applicable tax treaty.

Gain on Sale or Other Disposition of Common Stock

Subject to the discussion below under "—Backup withholding and information reporting" and "—Foreign account tax compliance act," non-U.S. holders will generally not be subject to U.S. federal income tax on any gains realized on the sale, exchange or other disposition of our common stock unless:

- the gain (i) is effectively connected with the conduct by the non-U.S. holder of a U.S. trade or business and (ii) if required by an applicable income tax treaty between the United States and the non-U.S. holder's country of residence, is attributable to a permanent establishment maintained by the non-U.S. holder in the United States (in which case the special rules described below apply);
- the non-U.S. holder is an individual who is present in the United States for 183 days or more in the taxable year of the sale, exchange or other disposition of our common stock, and certain other requirements are met (in which case the gain would be subject to a flat 30% tax, or such reduced rate as may be specified by an applicable income tax treaty, which may be offset by U.S. source capital losses, even though the individual is not considered a resident of the United States); or
- the rules of the Foreign Investment in Real Property Tax Act, or FIRPTA, treat the gain as effectively connected with a U.S. trade or business.

[Table of Contents](#)

The FIRPTA rules may apply to a sale, exchange or other disposition of our common stock if we are, or were within the shorter of the five-year period preceding the disposition and the non-U.S. holder's holding period, a U.S. real property holding corporation, or USRPHC. In general, we would be a USRPHC if interests in U.S. real property comprised at least half of the value of our worldwide real property and our other assets held for use in a trade or business. We do not believe that we are a USRPHC and we do not anticipate becoming one in the future. Even if we are or were to become a USRPHC, gain arising from the sale or other taxable disposition by a non-U.S. holder will not be subject to U.S. federal income tax if our common stock is "regularly traded," as defined by applicable Treasury Regulations, on an established securities market, and such non-U.S. holder owned, actually and constructively, 5% or less of our common stock throughout the shorter of the five-year period ending on the date of the sale or other taxable disposition or the non-U.S. holder's holding period. If any gain from the sale, exchange or other disposition of our common stock, (i) is effectively connected with a U.S. trade or business conducted by a non-U.S. holder and (ii) if required by an applicable income tax treaty between the United States and the non-U.S. holder's country of residence, is attributable to a permanent establishment maintained by such non-U.S. holder in the United States, then the gain generally will be subject to U.S. federal income tax at the same rates applicable to U.S. persons, net of certain deductions and credits. If the non-U.S. holder is a corporation, under certain circumstances, that portion of its earnings and profits that is effectively connected with its U.S. trade or business, subject to certain adjustments, generally would be subject also to a "branch profits tax" at a rate of 30% or such lower rate as may be specified by an applicable income tax treaty.

Backup Withholding and Information Reporting

The applicable withholding agent must report annually to the IRS and to each non-U.S. holder the amount of dividends paid to, and the tax withheld with respect to, each non-U.S. holder. These reporting requirements apply regardless of whether withholding was reduced or eliminated by an applicable tax treaty. Copies of this information reporting may also be made available under the provisions of a specific tax treaty or agreement with the tax authorities in the country in which the non-U.S. holder resides or is established.

A non-U.S. holder will generally be subject to backup withholding for dividends on our common stock paid to such holder unless such holder certifies under penalties of perjury that, among other things, it is a non-U.S. holder (and the payer does not have actual knowledge or reason to know that such holder is a U.S. person) or otherwise establishes an exemption.

Information reporting and backup withholding generally are not required with respect to the amount of any proceeds from the sale or other disposition of our common stock by a non-U.S. holder outside the United States through a foreign office of a foreign broker that does not have certain specified connections to the United States. However, if a non-U.S. holder sells or otherwise disposes of its shares of common stock through a U.S. broker or the U.S. offices of a foreign broker, the broker will generally be required to report the amount of proceeds paid to the non-U.S. holder to the IRS and impose backup withholding on that amount unless such non-U.S. holder provides appropriate certification to the broker of its status as a non-U.S. holder (and the payer does not have actual knowledge or reason to know that such holder is a U.S. person) or otherwise establishes an exemption.

Backup withholding is not an additional income tax. Any amounts withheld under the backup withholding rules from a payment to a non-U.S. holder generally can be credited against the non-U.S. holder's U.S. federal income tax liability, if any, or refunded, provided that the required information is furnished to the IRS in a timely manner. Non-U.S. holders should consult their tax advisors regarding the application of the information reporting and backup withholding rules to them.

Foreign Account Tax Compliance Act

Under the Foreign Account Tax Compliance Act, or FATCA, withholding tax of 30% applies to certain payments to foreign financial institutions, investment funds and certain other non-U.S. persons that fail to comply with certain information reporting and certification requirements pertaining to their direct and indirect

[Table of Contents](#)

U.S. securityholders and/or U.S. accountholders and do not otherwise qualify for an exemption. Under applicable Treasury Regulations and IRS guidance, this withholding currently applies to payments of dividends, if any, on, and, subject to the proposed Treasury Regulations discussed below, gross proceeds from the sale or other disposition of, our common stock. An intergovernmental agreement between the United States and a foreign country may modify the requirements described in this paragraph.

While, beginning on January 1, 2019, withholding under FATCA would have applied also to payments of gross proceeds from the sale or other disposition of our common stock, proposed Treasury Regulations eliminate FATCA withholding on payments of gross proceeds entirely. Taxpayers generally may rely on these proposed Treasury Regulations until final Treasury Regulations are issued.

Prospective investors are encouraged to consult with their own tax advisors regarding the possible implications of FATCA on their investment in our common stock.

Federal Estate Tax

Common stock we have issued that is owned (or treated as owned) by an individual who is not a citizen or a resident of the United States (as defined for U.S. federal estate tax purposes) at the time of death will be included in the individual's gross estate for U.S. federal estate tax purposes unless an applicable estate or other tax treaty provides otherwise, and therefore may be subject to U.S. federal estate tax.

PROSPECTIVE INVESTORS SHOULD CONSULT THEIR OWN TAX ADVISORS REGARDING THE POTENTIAL APPLICATION OF WITHHOLDING UNDER FATCA TO THEIR INVESTMENT IN OUR COMMON STOCK. THE PRECEDING DISCUSSION OF U.S. FEDERAL TAX CONSIDERATIONS IS FOR GENERAL INFORMATION PURPOSES ONLY. EACH PROSPECTIVE INVESTOR SHOULD CONSULT ITS OWN TAX ADVISOR REGARDING THE PARTICULAR U.S. FEDERAL, GIFT, ESTATE, STATE, LOCAL, AND NON-U.S. TAX CONSEQUENCES OF PURCHASING, HOLDING, AND DISPOSING OF OUR COMMON STOCK, INCLUDING THE CONSEQUENCES OF ANY PROPOSED CHANGE IN APPLICABLE LAWS.

UNDERWRITERS

Under the terms and subject to the conditions in an underwriting agreement dated the date of this prospectus, the underwriters named below, for whom Morgan Stanley & Co. LLC, Jefferies LLC, Cowen and Company, LLC and Barclays Capital Inc. are acting as representatives, have severally agreed to purchase, and we have agreed to sell to them the number of shares indicated below:

<u>Name</u>	<u>Number of Shares</u>
Morgan Stanley & Co. LLC	
Jefferies LLC	
Cowen and Company, LLC	
Barclays Capital Inc.	
Total:	_____

The underwriters and the representatives are collectively referred to as the “underwriters” and the “representatives,” respectively. The underwriters are offering the shares of common stock subject to their acceptance of the shares from us and subject to prior sale. The underwriting agreement provides that the obligations of the several underwriters to pay for and accept delivery of the shares of common stock offered by this prospectus are subject to the approval of certain legal matters by their counsel and to certain other conditions. The underwriters are obligated to take and pay for all of the shares of common stock offered by this prospectus if any such shares are taken. However, the underwriters are not required to take or pay for the shares covered by the underwriters’ over-allotment option described below.

The underwriters initially propose to offer part of the shares of common stock directly to the public at the offering price listed on the cover page of this prospectus and part to certain dealers at a price that represents a concession not in excess of \$ _____ per share under the public offering price. After the initial offering of the shares of common stock, the offering price and other selling terms may from time to time be varied by the representatives.

We have granted to the underwriters an option, exercisable for 30 days from the date of this prospectus, to purchase up to _____ additional shares of common stock at the public offering price listed on the cover page of this prospectus, less underwriting discounts and commissions. The underwriters may exercise this option solely for the purpose of covering over-allotments, if any, made in connection with the offering of the shares of common stock offered by this prospectus. To the extent the option is exercised, each underwriter will become obligated, subject to certain conditions, to purchase about the same percentage of the additional shares of common stock as the number listed next to the underwriter’s name in the preceding table bears to the total number of shares of common stock listed next to the names of all underwriters in the preceding table.

The following table shows the per share and total public offering price, underwriting discounts and commissions, and proceeds before expenses to us. These amounts are shown assuming both no exercise and full exercise of the underwriters’ option to purchase up to an additional _____ shares of common stock.

	<u>Per Share</u>	<u>Total</u>	
		<u>No Exercise</u>	<u>Full Exercise</u>
Public offering price	\$	\$	\$
Underwriting discounts and commissions to be paid by us	\$	\$	\$
Proceeds, before expenses, to us	\$	\$	\$

The estimated offering expenses payable by us, exclusive of the underwriting discounts and commissions, are approximately \$ _____. We have agreed to reimburse the underwriters for expense relating to clearance of this offering with the Financial Industry Regulatory Authority up to \$ _____.

[Table of Contents](#)

The underwriters have informed us that they do not intend sales to discretionary accounts to exceed 5% of the total number of shares of common stock offered by them.

We have applied to list our common stock on The Nasdaq Global Market under the trading symbol "TCRX".

We, our directors and our executive officers and the holders of substantially all of our outstanding stock and stock options have agreed that, without the prior written consent of the representatives on behalf of the underwriters, we and they will not, and will not publicly disclose an intention to, during the period ending 180 days after the date of this prospectus (the restricted period):

- offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend or otherwise transfer or dispose of, directly or indirectly, any shares of common stock or any securities convertible into or exercisable or exchangeable for shares of common stock; or
- enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of the common stock, whether any such transaction described above is to be settled by delivery of common stock or such other securities, in cash or otherwise. In addition, we and each such person agrees that, without the prior written consent of the representatives on behalf of the underwriters, we or such other person will not, during the restricted period, make any demand for, or exercise any right with respect to, the registration of any shares of common stock or any security convertible into or exercisable or exchangeable for common stock.

In relation to the Company, the restrictions described above do not apply to:

- (a) the shares to be sold under the underwriting agreement;
- (b) the issuance by us of shares of common stock upon the exercise of an option or warrant, the settlement of restricted stock units or share value award, or the conversion of a convertible loan, note or other security outstanding on the date hereof as described herein;
- (c) the grant of options, restricted stock units, share value awards or any other type of equity award described herein pursuant to employee benefit plans in effect on the date hereof and described herein, or the issuance of shares of common stock by us to employees, officers, directors, advisors or consultants of us pursuant to employee benefit plans in effect on the date hereof and described herein; provided that each recipient shall execute and deliver to the representatives a lock-up letter in the form of this section;
- (d) the filing by us of a registration statement on Form S-8 relating to issuance, vesting, exercise or settlement of equity awards granted or to be granted pursuant to any employee benefit plan in effect on the date hereof and described herein;
- (e) the issuance of or entry into an agreement to issue shares of common stock or any securities convertible into or exercisable or exchangeable for common stock in connection with one or more mergers, acquisitions or securities, businesses, property or other assets, products or technologies, joint ventures, commercial relationships or other strategic corporate transactions or alliances; provided that the aggregate amount of common stock that we may issue or agree to issue pursuant to this paragraph shall not exceed 5% of the total number of shares of our common stock issued and outstanding immediately following the completion of the transactions contemplated by the underwriting agreement determined on a fully diluted basis, and provided further, that each recipient shall execute and deliver to the representatives a lock-up letter in the form of this section; or
- (f) facilitating the establishment of a trading plan on behalf of a shareholder, officer or director of ours pursuant to Rule 10b5-1 under the Exchange Act for the transfer of shares of common stock, provided that (i) such plan does not provide for the transfer of shares of common stock during the restricted

Table of Contents

period and (ii) to the extent a public announcement or filing under the Exchange Act, if any, is required of or voluntarily made by us regarding the establishment of such plan, such announcement or filing shall include a statement to the effect that no transfer of shares of common stock may be made under such plan during the restricted period.

In relation to our directors and our executive officers and the holders of substantially all of our outstanding stock and stock options, the restrictions described above do not apply to:

- (a) transactions relating to shares of common stock or other such securities acquired in the offering, if the holder is not an officer or director, or in open market transactions after the completion of the offering;
- (b) transfers as a bona fide gift;
- (c) transfers or distributions to (1) direct or indirect limited partners, members, stockholders, or holders of similar equity interests, (2) to affiliates (as defined in Rule 405 under the Securities Act), or (3) to any investment fund or other entity controlled or managed by certain holders and their affiliates;
- (d) transfers to any immediate family member (“immediate family” shall mean any relationship by blood, marriage or adoption, not more remote than first cousin);
- (e) transfers or dispositions by will or intestacy;
- (f) transfers or dispositions pursuant to a court order or a settlement agreement related to the distribution of assets in connection with the dissolution of a marriage or civil union;
- (g) transfers or dispositions to the Company in connection with the exercise or settlement of options, warrants or other rights to acquire shares of common stock or any security convertible into or exercisable for shares of common stock in accordance with their terms (including the vesting or settlement of restricted stock units and including, in each case, by way of net exercise and/or to cover withholding tax obligations in connection with such exercise, vesting or settlement) pursuant to an employee benefit plan, option, warrant or other right disclosed herein, provided that (i) any such shares issued upon exercise of such option, warrant, restricted stock unit or other right shall be subject to the restrictions set forth in the lock-up agreement, and (ii) any filing under the Exchange Act reporting a reduction in beneficial ownership shall indicate in the footnotes thereto that the filing relates to the applicable circumstances described in this clause, and no other public announcement shall be required or shall be made voluntarily in connection with such transfer;
- (h) the establishment of a trading plan pursuant to Rule 10b5-1 under the Exchange Act; provided that no sales or other transfers occur under such plan, provided that (i) such plan does not provide for the transfer of common stock during the restricted period and (ii) to the extent a public announcement or filing under the Exchange Act, if any, is required of or voluntarily made by or on behalf of the undersigned or the Company regarding the establishment of such plan, such announcement or filing shall include a statement to the effect that no transfer of common stock may be made under such plan during the restricted period;
- (i) any sale, disposal or transfer of shares of common stock to a bona fide third party pursuant to a tender offer for securities of the Company or any merger, consolidation or other business combination involving a Change of Control (as defined below) of the Company occurring after the settlement of the offering, that, in each case, has been approved by the board of directors of the Company; provided that (i) all of the shares of common stock subject to the lock-up agreement that are not so transferred, sold, tendered or otherwise disposed of remain subject to the agreement; and (ii) that it shall be a condition of transfer, sale, tender or other disposition that if such tender offer or other transaction is not completed, any of the shares of common stock subject to the lock-up agreement shall remain subject to the agreement. For the purposes of this paragraph, “Change of Control” means the consummation of any bona fide third party tender offer, merger, consolidation or other similar transaction, the result of which is that any “person” (as defined in Section 13(d)(3) of the Exchange Act), or group of persons, other than the Company or its subsidiaries, becomes the beneficial owner (as defined in Rules 13d-3

Table of Contents

and 13d-5 of the Exchange Act) of at least 75% of the total voting power of the voting share capital of the Company; or

- (j) in the case of each of our major investors, the placement of any charge, mortgage, lien, pledge, restriction, security interest or other encumbrance in respect of any shares of common stock or any securities convertible into or exercisable or exchangeable for shares of common stock in connection with bona fide margin loans entered into by the major investors or their affiliates in the ordinary course of business; provided, that (i) any beneficiary of such transaction that forecloses or enforces following a default shall sign and deliver a lock up letter substantially in the form of this section, and (ii) no filing under the Exchange Act or other public announcement shall be required or made voluntarily in connection with such pledge or subsequent foreclosure, enforcement or transfer of such shares or securities, subject to certain exceptions;

provided that in the case of any transfer or distribution pursuant to clauses (b), (c), (d), (e), or (f), each donee, transferee, heir, beneficiary or distributee shall execute and deliver to the representatives a lock-up letter in the form of this section; provided further that in the case of any transfer or distribution pursuant to clauses (a), (b), (c) or (d), no filing under the Exchange Act shall be required or shall be voluntarily made in connection with subsequent sales of shares of common stock or other securities acquired in such transactions; and provided further that in the case of any transfer or distribution pursuant to clauses (e) or (f), any filing required under the Exchange Act shall indicate in the footnotes thereto that the filing relates to the circumstances described in the relevant clause and no other public announcement shall be required or shall be made voluntarily in connection with such transfer, disposition or distribution.

The representatives, in their sole discretion, may release the common stock and other securities subject to the lock-up agreements described above in whole or in part at any time.

In order to facilitate the offering of the common stock, the underwriters may engage in transactions that stabilize, maintain or otherwise affect the price of the common stock. Specifically, the underwriters may sell more shares than they are obligated to purchase under the underwriting agreement, creating a short position. A short sale is covered if the short position is no greater than the number of shares available for purchase by the underwriters under the over-allotment option. The underwriters can close out a covered short sale by exercising the over-allotment option or purchasing shares in the open market. In determining the source of shares to close out a covered short sale, the underwriters will consider, among other things, the open market price of shares compared to the price available under the over-allotment option. The underwriters may also sell shares in excess of the over-allotment option, creating a naked short position. The underwriters must close out any naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of the common stock in the open market after pricing that could adversely affect investors who purchase in this offering. As an additional means of facilitating this offering, the underwriters may bid for, and purchase, shares of common stock in the open market to stabilize the price of the common stock. These activities may raise or maintain the market price of the common stock above independent market levels or prevent or retard a decline in the market price of the common stock. The underwriters are not required to engage in these activities and may end any of these activities at any time.

We and the underwriters have agreed to indemnify each other against certain liabilities, including liabilities under the Securities Act.

A prospectus in electronic format may be made available on websites maintained by one or more underwriters, or selling group members, if any, participating in this offering. The representatives may agree to allocate a number of shares of common stock to underwriters for sale to their online brokerage account holders. Internet distributions will be allocated by the representatives to underwriters that may make Internet distributions on the same basis as other allocations.

The underwriters and their respective affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory,

[Table of Contents](#)

investment management, investment research, principal investment, hedging, financing and brokerage activities. Certain of the underwriters and their respective affiliates have, from time to time, performed, and may in the future perform, various financial advisory and investment banking services for us, for which they received or will receive customary fees and expenses.

In addition, in the ordinary course of their various business activities, the underwriters and their respective affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers and may at any time hold long and short positions in such securities and instruments. Such investment and securities activities may involve our securities and instruments. The underwriters and their respective affiliates may also make investment recommendations or publish or express independent research views in respect of such securities or instruments and may at any time hold, or recommend to clients that they acquire, long or short positions in such securities and instruments.

Pricing of the Offering

Prior to this offering, there has been no public market for our common stock. The initial public offering price will be determined by negotiations between us and the representatives. Among the factors to be considered in determining the initial public offering price will be our future prospects and those of our industry in general, our sales, earnings and certain other financial and operating information in recent periods, and the price-earnings ratios, price-sales ratios, market prices of securities, and certain financial and operating information of companies engaged in activities similar to ours.

Directed Share Program

At our request, the underwriters have reserved up to _____ shares, or up to _____ % of the shares offered by this prospectus, for sale at the initial public offering price through a directed share program to certain of our directors, officers, employees and business associates and other parties related to us. If purchased by these persons, these shares will be subject to a 180-day lock-up restriction.

The number of shares available for sale to the general public will be reduced to the extent that such persons purchase such reserved shares. Any reserved shares not so purchased will be offered by the underwriters to the general public on the same basis as the other shares offered by this prospectus. Other than the underwriting discount described on the front cover of this prospectus, the underwriters will not be entitled to any commission with respect to shares sold pursuant to the directed share program. We will agree to indemnify Morgan Stanley & Co. LLC against certain liabilities and expenses, including liabilities under the Securities Act, in connection with sales of the shares reserved for the directed share program. Morgan Stanley & Co. LLC will administer our directed share program.

Selling Restrictions

Canada

The shares of our common stock may be sold only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 Prospectus Exemptions or subsection 73.3(1) of the Securities Act (Ontario), and are permitted clients, as defined in National Instrument 31-103 Registration Requirements, Exemptions and Ongoing Registrant Obligations. Any resale of the shares of our common stock must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable restrictions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

[Table of Contents](#)

Pursuant to section 3A.3 (or, in the case of securities issued or guaranteed by the government of a non-Canadian jurisdiction, section 3A.4) of National Instrument 33-105 Underwriting Conflicts (NI 33-105), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

European Economic Area

In relation to each Member State of the European Economic Area, each a Member State, no shares have been offered or will be offered pursuant to the offering to the public in that Member State prior to the publication of a prospectus in relation to the shares which has been approved by the competent authority in that Member State or, where appropriate, approved in another Member State and notified to the competent authority in that Member State, all in accordance with the Prospectus Regulation, except that offers of shares may be made to the public in that Member State at any time under the following exemptions under the Prospectus Regulation:

- a. to any legal entity which is a qualified investor as defined under the Prospectus Regulation;
- b. to fewer than 150 natural or legal persons (other than qualified investors as defined under the Prospectus Regulation), subject to obtaining the prior consent of the representatives; or
- c. in any other circumstances falling within Article 1(4) of the Prospectus Regulation,

provided that no such offer of shares shall require us or any underwriter to publish a prospectus pursuant to Article 3 of the Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the Prospectus Regulation and each person who initially acquires any shares or to whom any offer is made will be deemed to have represented, acknowledged and agreed to and with each of the underwriters and us that it is a “qualified investor” within the meaning of Article 2(e) of the Prospectus Regulation.

In the case of any shares being offered to a financial intermediary as that term is used in the Prospectus Regulation, each such financial intermediary will be deemed to have represented, acknowledged and agreed that the shares acquired by it in the offer have not been acquired on a non-discretionary basis on behalf of, nor have they been acquired with a view to their offer or resale to, persons in circumstances which may give rise to an offer of any shares to the public other than their offer or resale in a Member State to qualified investors as so defined or in circumstances in which the prior consent of the representatives has been obtained to each such proposed offer or resale.

For the purposes of this provision, the expression an “offer to the public” in relation to shares in any Member State means the communication in any form and by any means of sufficient information on the terms of the offer and any shares to be offered so as to enable an investor to decide to purchase or subscribe for any shares, and the expression “Prospectus Regulation” means Regulation (EU) 2017/1129 (as amended).

United Kingdom

In relation to the United Kingdom, no shares of common stock have been offered or will be offered pursuant to this offering to the public in the United Kingdom prior to the publication of a prospectus in relation to the shares that has been approved by the Financial Conduct Authority in the UK in accordance with the UK Prospectus Regulation and the Financial Services and Markets Act 2000 (FSMA), except that offers of shares may be made to the public in the United Kingdom at any time under the following exemptions under the UK Prospectus Regulation and the FSMA:

- a. to any legal entity which is a qualified investor as defined in Article 2 of the UK Prospectus Regulation;
- b. to fewer than 150 natural or legal persons (other than qualified investors as defined in Article 2 of the UK Prospectus Regulation), subject to obtaining the prior consent of the representatives; or
- c. in any other circumstances falling within Section 86 of the FSMA,

[Table of Contents](#)

provided that no such offer of shares shall require us or any of the underwriters to publish a prospectus pursuant to Section 85 of the FSMA or supplement a prospectus pursuant to Article 23 of the UK Prospectus Regulation. Each person in the United Kingdom who acquires any shares in the offering or to whom any offer is made will be deemed to have represented, acknowledged and agreed to and with us and the underwriters that it is a qualified investor within the meaning of the UK Prospectus Regulation.

For the purposes of this provision, the expression an “offer to the public” in relation to any shares in any relevant state means the communication in any form and by any means of sufficient information on the terms of the offer and any shares to be offered so as to enable an investor to decide to purchase or subscribe for any shares, and the expression “UK Prospectus Regulation” means Regulation (EU) 2017/1129 as it forms part of domestic law by virtue of the European Union (Withdrawal) Act 2018.

We have not authorized and do not authorize the making of any offer of shares through any financial intermediary on their behalf, other than offers made by the underwriters with a view to the final placement of the shares as contemplated in this prospectus. Accordingly, no purchaser of the shares, other than the underwriters, is authorized to make any further offer of the shares on behalf of us or the underwriters.

Any person in the United Kingdom that is not a relevant person should not act or rely on the information included in this document or use it as basis for taking any action. In the United Kingdom, any investment or investment activity that this document relates to may be made or taken exclusively by relevant persons.

Japan

No registration pursuant to Article 4, paragraph 1 of the Financial Instruments and Exchange Law of Japan (Law No. 25 of 1948, as amended) (the FIEL) has been made or will be made with respect to the solicitation of the application for the acquisition of the shares of common stock.

Accordingly, the shares of common stock have not been, directly or indirectly, offered or sold and will not be, directly or indirectly, offered or sold in Japan or to, or for the benefit of, any resident of Japan (which term as used herein means any person resident in Japan, including any corporation or other entity organized under the laws of Japan) or to others for re-offering or re-sale, directly or indirectly, in Japan or to, or for the benefit of, any resident of Japan except pursuant to an exemption from the registration requirements, and otherwise in compliance with, the FIEL and the other applicable laws and regulations of Japan.

For Qualified Institutional Investors (QII)

Please note that the solicitation for newly-issued or secondary securities (each as described in Paragraph 2, Article 4 of the FIEL) in relation to the shares of common stock constitutes either a “QII only private placement” or a “QII only secondary distribution” (each as described in Paragraph 1, Article 23-13 of the FIEL). Disclosure regarding any such solicitation, as is otherwise prescribed in Paragraph 1, Article 4 of the FIEL, has not been made in relation to the shares of common stock. The shares of common stock may only be transferred to QIIs.

For Non-QII Investors

Please note that the solicitation for newly-issued or secondary securities (each as described in Paragraph 2, Article 4 of the FIEL) in relation to the shares of common stock constitutes either a “small number private placement” or a “small number private secondary distribution” (each as is described in Paragraph 4, Article 23-13 of the FIEL). Disclosure regarding any such solicitation, as is otherwise prescribed in Paragraph 1, Article 4 of the FIEL, has not been made in relation to the shares of common stock. The shares of common stock may only be transferred en bloc without subdivision to a single investor.

Singapore

This prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this prospectus and any other document or material in connection with the offer or sale, or

Table of Contents

invitation for subscription or purchase, of the shares of common stock may not be circulated or distributed, nor may the shares of common stock be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor under Section 274 of the Securities and Futures Act, Chapter 289 of Singapore (the SFA), (ii) to a relevant person pursuant to Section 275(1), or any person pursuant to Section 275(1A), and in accordance with the conditions specified in Section 275, of the SFA, or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where the shares of common stock are subscribed or purchased under Section 275 of the SFA by a relevant person which is:

- (a) a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or
- (b) a trust (where the trustee is not an accredited investor) the sole purpose of which is to hold investments and each beneficiary of the trust is an individual who is an accredited investor, securities (as defined in Section 239(1) of the SFA) of that corporation or the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferred within six months after that corporation or that trust has acquired the shares of common stock pursuant to an offer made under Section 275 of the SFA except:
 - i. to an institutional investor or to a relevant person defined in Section 275(2) of the SFA, or to any person arising from an offer referred to in Section 275(1A) or Section 276(4)(i)(B) of the SFA;
 - ii. where no consideration is or will be given for the transfer;
 - iii. where the transfer is by operation of law;
 - iv. as specified in Section 276(7) of the SFA; or
 - v. as specified in Regulation 32 of the Securities and Futures (Offers of Investments) (Shares and Debentures) Regulations 2005 of Singapore.

Kuwait

Unless all necessary approvals from the Kuwait Ministry of Commerce and Industry required by Law No. 31/1990 "Regulating the Negotiation of Securities and Establishment of Investment Funds," its Executive Regulations and the various Ministerial Orders issued pursuant thereto or in connection therewith, have been given in relation to the marketing and sale of the shares, these may not be marketed, offered for sale, nor sold in the State of Kuwait. Neither this prospectus (including any related document), nor any of the information contained therein is intended to lead to the conclusion of any contract of whatsoever nature within Kuwait.

Dubai International Financial Center

This prospectus relates to an Exempt Offer in accordance with the Offered Securities Rules of the Dubai Financial Services Authority (DFSA). This prospectus is intended for distribution only to persons of a type specified in the Offered Securities Rules of the DFSA. It must not be delivered to, or relied on by, any other person. The DFSA has no responsibility for reviewing or verifying any documents in connection with Exempt Offers. The DFSA has not approved this prospectus nor taken steps to verify the information set forth herein and has no responsibility for the prospectus. The shares to which this prospectus relates may be illiquid and/or subject to restrictions on their resale. Prospective purchasers of the shares offered should conduct their own due diligence on the shares. If you do not understand the contents of this prospectus you should consult an authorized financial advisor.

China

This prospectus may not be circulated or distributed in the People's Republic of China (PRC) and the ADSs may not be offered or sold, and will not offer or sell to any person for re-offering or resale directly or indirectly to any resident of the PRC except pursuant to applicable laws and regulations of the PRC.

Saudi Arabia

This prospectus may not be distributed in the Kingdom of Saudi Arabia except to such persons as are permitted under the Offers of Securities Regulations issued by the Capital Market Authority. The Capital Market Authority does not make any representation as to the accuracy or completeness of this prospectus, and expressly disclaims any liability whatsoever for any loss arising from, or incurred in reliance upon, any part of this prospectus. Prospective purchasers of the securities offered hereby should conduct their own due diligence on the accuracy of the information relating to the securities. If you do not understand the contents of this prospectus you should consult an authorized financial adviser.

Qatar

In the State of Qatar, the offer contained herein is made on an exclusive basis to the specifically intended recipient thereof, upon that person's request and initiative, for personal use only and shall in no way be construed as a general offer for the sale of securities to the public or an attempt to do business as a bank, an investment company or otherwise in the State of Qatar. This prospectus and the underlying securities have not been approved or licensed by the Qatar Central Bank or the Qatar Financial Center Regulatory Authority or any other regulator in the State of Qatar. The information contained in this prospectus shall only be shared with any third parties in Qatar on a need to know basis for the purpose of evaluating the contained offer. Any distribution of this prospectus by the recipient to third parties in Qatar beyond the terms hereof is not permitted and shall be at the liability of such recipient.

Israel

The shares of our common stock have not been approved or disapproved by the Israel Securities Authority (the ISA), nor have such shares been registered for sale in Israel. The shares of our common stock may not be offered or sold, directly or indirectly, to the public in Israel, absent the publication of a prospectus that has been approved by the ISA. The ISA has not issued permits, approvals or licenses in connection with this offering or publishing this prospectus, nor has it authenticated the details included herein, confirmed their reliability or completeness, or rendered an opinion as to the quality of the shares of common stock being offered. This document does not constitute a prospectus under the Israeli Securities Law and has not been filed with or approved by the ISA. In the State of Israel, this document may be distributed only to, and may be directed only at, and any offer of the shares common stock may be directed only at, (i) to the extent applicable, a limited number of persons in accordance with the Israeli Securities Law and (ii) investors listed in the first addendum to the Israeli Securities Law, or the Addendum, consisting primarily of joint investment in trust funds, provident funds, insurance companies, banks, portfolio managers, investment advisors, members of the Tel Aviv Stock Exchange Ltd., underwriters, venture capital funds, entities with equity in excess of NIS 50 million and "qualified individuals," each as defined in the Addendum (as it may be amended from time to time), collectively referred to as qualified investors (in each case purchasing for their own account or, where permitted under the Addendum, for the accounts of their clients who are investors listed in the Addendum). Qualified investors will be required to submit written confirmation that they fall within the scope of the Addendum, are aware of the meaning of same and agree to it.

Hong Kong

No securities have been offered or sold, and no securities may be offered or sold, in Hong Kong, by means of any document, other than to persons whose ordinary business is to buy or sell shares or debentures, whether as principal or agent; or to "professional investors" as defined in the Securities and Futures Ordinance (Cap. 571) of Hong Kong (SFO) and any rules made under that Ordinance; or in other circumstances which do not result in the document being a "prospectus" as defined in the Companies Ordinance (Cap. 32) of Hong Kong (CO) or which do not constitute an offer or invitation to the public for the purpose of the CO or the SFO. No document, invitation or advertisement relating to the securities has been issued or may be issued or may be in the possession of any person for the purpose of issue (in each case whether in Hong Kong or elsewhere), which is directed at, or the contents of which are likely to be accessed

[Table of Contents](#)

or read by, the public of Hong Kong (except if permitted under the securities laws of Hong Kong) other than with respect to securities which are or are intended to be disposed of only to persons outside Hong Kong or only to “professional investors” as defined in the SFO and any rules made under that Ordinance.

This prospectus has not been registered with the Registrar of Companies in Hong Kong. Accordingly, this prospectus may not be issued, circulated or distributed in Hong Kong, and the securities may not be offered for subscription to members of the public in Hong Kong. Each person acquiring the securities will be required, and is deemed by the acquisition of the securities, to confirm that he is aware of the restriction on offers of the securities described in this prospectus and the relevant offering documents and that he is not acquiring, and has not been offered any securities in circumstances that contravene any such restrictions.

Switzerland

The shares may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange (SIX) or on any other stock exchange or regulated trading facility in Switzerland. This prospectus has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this prospectus nor any other offering or marketing material relating to the securities or the offering may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this prospectus nor any other offering or marketing material relating to the offering, the Company or the securities have been or will be filed with or approved by any Swiss regulatory authority. In particular, this prospectus will not be filed with, and the offer of securities will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA, and the offer of securities has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes (CISA). The investor protection afforded to acquirers of interests in collective investment schemes under the CISA does not extend to acquirers of securities.

LEGAL MATTERS

The validity of the shares of our common stock offered in this prospectus will be passed upon for us by Gunderson Dettmer Stough Villeneuve Franklin & Hachigian, LLP, Boston, Massachusetts. Certain investment partnerships comprised of partners of Gunderson Dettmer Stough Villeneuve Franklin & Hachigian, LLP, own an interest representing less than one percent of the shares of our common stock. Davis Polk & Wardwell LLP, New York, New York, has acted as counsel for the underwriters in connection with this offering.

EXPERTS

The financial statements as of December 31, 2020 and 2019 and for the years then ended included in this prospectus have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report appearing herein. Such financial statements have been so included in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act, with respect to the shares of common stock offered by this prospectus. This prospectus, which constitutes a part of the registration statement, does not contain all of the information set forth in the registration statement or the exhibits, schedules and amendments to the registration statement. Please refer to the registration statement and to the exhibits and schedules for further information with respect to the common stock offered by this prospectus. Statements contained in this prospectus regarding the contents of any contract, agreement or other document are only summaries. With respect to any contract, agreement or document that is filed as an exhibit to the registration statement, you should refer to the exhibit for a copy of the contract, agreement or document, and each statement in this prospectus regarding that contract, agreement or document is qualified by reference to the exhibit. The SEC maintains an Internet website that contains the registration statement of which this prospectus forms a part, as well as the exhibits thereto. These documents, along with future reports, proxy statements and other information about us, are available at the SEC's website, www.sec.gov. The information on the SEC's web site is not part of this prospectus, and any references to this web site or any other web site are inactive textual references only.

Upon completion of this offering, we will become subject to the information and reporting requirements of the Exchange Act, and, in accordance with this law, will be required to file periodic reports, proxy statements and other information with the SEC. These periodic reports, proxy statements and other information will be available on the SEC's website referred to above. We also maintain a website at www.tscan.com, at which you may access these materials free of charge as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. The information contained on, or that can be accessed through, our website is not a part of this prospectus. Investors should not rely on any such information in deciding whether to purchase our common stock. We have included our website address in this prospectus solely as an inactive textual reference.

[Table of Contents](#)

TSCAN THERAPEUTICS, INC.

INDEX TO THE CONSOLIDATED FINANCIAL STATEMENTS

Report of Independent Registered Public Accounting Firm	F-2
Consolidated Balance Sheets	F-3
Consolidated Statements of Operations	F-4
Consolidated Statements of Convertible Preferred Stock and Stockholders' Deficit	F-5
Consolidated Statements of Cash Flows	F-6
Notes to Consolidated Financial Statements	F-7

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the stockholders and Board of Directors of TScan Therapeutics, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of TScan Therapeutics, Inc. and its subsidiary (the Company) as of December 31, 2019 and 2020, the related consolidated statements of operations, convertible preferred stock and stockholders' deficit, and cash flows, for the years then ended, and the related notes (collectively referred to as the financial statements). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2020, and the results of its operations and its cash flows for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulation of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits, we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Deloitte & Touche LLP

Boston, Massachusetts
March 19, 2021

We have served as the Company's auditor since 2020.

TScan Therapeutics, Inc.

Consolidated Balance Sheets

(in thousands, except share and per share data)

	December 31,	
	2019	2020
Assets		
Current assets:		
Cash and cash equivalents	\$ 41,764	\$ 34,791
Prepaid expenses and other current assets	615	1,654
Total current assets	42,379	36,445
Property and equipment, net	1,640	5,659
Right-of-use assets	4,769	6,873
Restricted cash	595	595
Long-term deposit	—	166
Total assets	<u>\$ 49,383</u>	<u>\$ 49,738</u>
Liabilities, Convertible Preferred Stock and Stockholders' Deficit		
Current liabilities:		
Accounts payable	\$ 1,010	\$ 2,910
Accrued expenses and other current liabilities	943	2,494
Operating lease liability, current portion	443	1,415
Deferred revenue, current portion	—	10,627
Total current liabilities	2,396	17,446
Deferred revenue, net of current portion	—	8,816
Operating lease liability, net of current portion	4,444	6,019
Other long-term liabilities	—	238
Total liabilities	<u>6,840</u>	<u>32,519</u>
Commitments and contingencies (Note 10)		
Convertible preferred stock (Note 6)	59,681	59,681
Stockholders' deficit:		
Common stock, \$0.0001 par value; 86,000,000 shares authorized; 12,021,875 and 12,907,933 shares issued; and 5,271,875 and 9,314,183 shares outstanding as of December 31, 2019 and 2020, respectively	—	1
Additional paid-in-capital	268	1,070
Accumulated deficit	(17,406)	(43,533)
Total stockholders' deficit	<u>(17,138)</u>	<u>(42,462)</u>
Total liabilities, convertible preferred stock and stockholders' deficit	<u>\$ 49,383</u>	<u>\$ 49,738</u>

The accompanying notes are an integral part of these consolidated financial statements

TScan Therapeutics, Inc.

Consolidated Statements of Operations

(in thousands, except share and per share data)

	Year Ended December 31,	
	2019	2020
Revenue:		
Collaboration and license revenue	\$ —	\$ 1,085
Operating expenses:		
Research and development	9,442	20,577
General and administrative	4,768	6,741
Total operating expenses	14,210	27,318
Loss from operations	(14,210)	(26,233)
Other income:		
Interest income	552	106
Net loss	\$ (13,658)	\$ (26,127)
Net loss per share, basic and diluted	\$ (4.33)	\$ (3.48)
Weighted average common shares outstanding, basic and diluted	3,157,800	7,511,378

The accompanying notes are an integral part of these consolidated financial statements

TScan Therapeutics, Inc.

Consolidated Statements of Convertible Preferred Stock and Stockholders' Deficit

(in thousands, except share and per share data)

	Convertible Preferred Stock		Common Stock		Additional Paid-In Capital	Accumulated Deficit	Total Stockholders' Deficit
	Shares	Amount	Shares	Amount			
Balance at January 1, 2019	26,315,790	\$24,874	562,500	\$ —	\$ 23	\$ (3,748)	\$ (3,725)
Issuance of Series B Preferred Stock (net of issuance costs of \$193)	31,601,732	34,807	—	—	—	—	—
Issuance of common stock upon exercise of stock options	—	—	21,875	—	5	—	5
Vesting of restricted common stock	—	—	4,687,500	—	—	—	—
Stock-based compensation expense	—	—	—	—	240	—	240
Net loss	—	—	—	—	—	(13,658)	(13,658)
Balances at December 31, 2019	57,917,522	59,681	5,271,875	—	268	(17,406)	(17,138)
Issuance of common stock upon exercise of stock options	—	—	1,167,308	1	287	—	288
Vesting of restricted common stock	—	—	2,875,000	—	—	—	—
Stock-based compensation expense	—	—	—	—	515	—	515
Net loss	—	—	—	—	—	(26,127)	(26,127)
Balances at December 31, 2020	57,917,522	\$59,681	9,314,183	\$ 1	\$ 1,070	\$ (43,533)	\$ (42,462)

The accompanying notes are an integral part of these consolidated financial statements

TScan Therapeutics, Inc.
Consolidated Statements of Cash Flows
(in thousands)

	Year Ended December 31,	
	2019	2020
Cash flows from operating activities:		
Net loss	(13,658)	(26,127)
Adjustment to reconcile net loss to net cash used in operating activities:		
Depreciation expense	519	1,230
Stock-based compensation expense	240	515
Loss on sale of property and equipment	78	2
Changes in current assets and liabilities:		
Prepaid expenses and other assets	(459)	(1,205)
Right-of-use assets and lease liabilities, net	115	442
Accounts payable	161	1,127
Accrued expense and other liabilities	482	1,550
Deferred revenue	—	19,443
Net cash used in operating activities	<u>(12,522)</u>	<u>(3,023)</u>
Cash flows from investing activities:		
Purchases of property and equipment	(1,247)	(4,238)
Net cash used in investing activities	<u>(1,247)</u>	<u>(4,238)</u>
Cash flows from financing activities:		
Proceeds from issuance of convertible preferred stock, net of issuance costs	34,807	—
Proceeds from exercise of stock options	5	288
Net cash provided by financing activities	<u>34,812</u>	<u>288</u>
Net increase (decrease) in cash, cash equivalents and restricted cash	21,043	(6,973)
Cash, cash equivalents, and restricted cash—beginning of year	21,316	42,359
Cash, cash equivalents, and restricted cash—end of year	<u>\$ 42,359</u>	<u>\$ 35,386</u>
Supplemental cash flow information:		
Purchase of property and equipment in accounts payable and accrued liabilities	\$ 323	\$ 1,335
Right-of-use-assets obtained in exchange for operating lease liabilities	\$ 4,981	\$ 3,199

The accompanying notes are an integral part of these consolidated financial statements

TSCAN THERAPEUTICS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Nature of Business and Basis of Presentation

Nature of Business

TScan Therapeutics, Inc. and subsidiary (the Company) is a biotechnology company that was incorporated in Delaware on April 17, 2018 and has a principal place of business in Waltham, Massachusetts. The Company is a biopharmaceutical company focused on developing a pipeline of T cell receptor-engineered T cell (TCR-T), therapies for the treatment of patients with cancer.

Risks, Uncertainties and Going Concern

The Company is subject to risks common to companies in the biotechnology industry, including, but not limited to, successful development of technology, obtaining additional funding, protection of proprietary technology, compliance with government regulations, risks of failure of preclinical studies, clinical studies and clinical trials, the need to obtain marketing approval for its product candidates and the ability to successfully market its therapies any products that receive approval, fluctuations in operating results, economic pressure impacting therapeutic pricing, dependence on key personnel, risks associated with changes in technologies, development by competitors of technological innovations and the ability to scale manufacturing to large scale production. Product candidates currently under development will require significant additional research and development efforts, including preclinical and clinical testing and regulatory approval prior to commercialization. These efforts require significant amounts of additional capital, adequate personnel and infrastructure and extensive compliance-reporting capabilities. Even if the Company's development efforts are successful, it is uncertain when, if ever, the Company will realize significant revenue from therapy sales.

The accompanying consolidated financial statements have been prepared on a going concern basis, which contemplates the realization of assets and the satisfaction of liabilities and commitments in the ordinary course of business. The Company has primarily funded its operations with proceeds from sales of convertible preferred stock and with payments received under its license and collaboration agreements. Since its inception, the Company has incurred recurring losses, including net losses of \$13.7 million and \$26.1 million for the years ended December 31, 2019 and 2020, respectively. As of December 31, 2020, the Company had an accumulated deficit of \$43.5 million. The Company expects to continue to incur additional losses and negative operating cash flows in the foreseeable future. The Company expects that its cash and cash equivalents as of December 31, 2020, along with the net cash proceeds from the sale of shares of its convertible preferred stock in January 2021 (see Note 14) will be sufficient to fund the Company's operations for at least the next twelve months from the date of the issuance of the accompanying financial statements.

The Company is seeking to complete an initial public offering (IPO) of its common stock. Upon completion of a qualified public offering on specified terms, the Company's outstanding convertible preferred stock will automatically convert into shares of common stock (see Note 7). In the event the Company does not complete an IPO, the Company expects to seek additional funding through private equity financings, debt financings, strategic alliances and marketing, distribution, or licensing arrangements. The Company may not be able to obtain financing on acceptable terms, or at all, and may not be able to enter into collaborations or other arrangements. The terms of any financing may adversely affect the holdings or the rights of the Company's stockholders. If the Company is unable to secure funding, it could be forced to delay, reduce, or eliminate some or all of its research development programs, therapy portfolio expansion or commercialization efforts, which could adversely affect its business prospects. Although management continues to pursue these plans, there is no assurance that the Company will be successful in obtaining sufficient funding on terms acceptable to the Company to fund continuing operations, if at all.

Impact of COVID-19

In December 2019, a novel strain of coronavirus, which causes the disease known as COVID-19, was reported to have surfaced in Wuhan, China. Since then, COVID-19 coronavirus has spread globally. In March 2020, the World Health Organization declared the COVID-19 outbreak a pandemic. The ongoing COVID-19 global and national health emergency has caused significant disruption in the international and United States economies and financial markets. The spread of COVID-19 has caused illness, quarantines, cancellation of events and travel, business and school shutdowns, reduction in business activity and financial transactions, labor shortages, supply chain interruptions and overall economic and financial market instability and business disruptions for the Company and many of the Company's vendors.

In response to public health directives and orders and to help minimize the risk of the virus to employees, the Company has taken a series of actions aimed at safeguarding the Company's employees and business associates, including implementing a flexible work-at-home policy. These disruptions could result in increased costs of execution of development plans or may negatively impact the quality, quantity, timing and regulatory usability of data that the Company would otherwise be able to collect. While these disruptions are currently expected to be temporary, there is considerable uncertainty around the duration of these disruptions. Therefore, the related financial impact and duration cannot be reasonably estimated at this time.

2. Summary of Significant Accounting Policies

Basis of Presentation

The Company's consolidated financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America (US GAAP). Any reference in these notes to applicable guidance is meant to refer to the authoritative U.S. GAAP as found in the Accounting Standards Codification (ASC) and Accounting Standards Updates (ASUs) issued by the Financial Accounting Standards Board (FASB).

Principles of Consolidation

The accompanying consolidated financial statements include the accounts of the Company and its wholly owned subsidiary. All intercompany accounts and transactions have been eliminated in consolidation.

Use of Estimates

The preparation of the consolidated financial statements in accordance with US GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of expenses during the reporting period. The Company bases its estimates on historical experience, known trends and other market-specific or relevant factors that it believes to be reasonable under the circumstances. On an ongoing basis, management evaluates its estimates as there are changes in circumstances, facts and experience. Actual results may differ from those estimates or assumptions.

Cash and Cash Equivalents

Cash includes cash in readily available checking and money market accounts. Cash equivalents include all highly liquid investments maturing within 90 days from the date of purchase. The cash equivalents consisted of money market funds.

Restricted Cash

In connection with the Company's facility lease agreement, the Company is required to provide a letter of credit of \$0.6 million for the benefit of the landlord to serve as a security deposit. As of December 31, 2019 and

[Table of Contents](#)

2020, the cash securing the letter of credit was classified as restricted cash (non-current) on the consolidated balance sheets.

Concentrations of Credit Risk

Financial instruments that subject the Company to significant concentrations of credit risk consist primarily of cash and cash equivalents. The Company's cash deposits on hand at one financial institution often exceed federally insured limits. The Company places its cash in a financial institution that management believes to be of high credit quality. The Company does not believe that it is subject to unusual credit risk beyond the normal credit risk associated with commercial banking relationships.

Deferred offering costs

The Company capitalizes certain legal, professional accounting and other third party fees that are directly associated with the proposed IPO as deferred offering costs. The deferred offering costs will be offset against the IPO proceeds upon the consummation of the IPO. In the event the IPO is abandoned, the deferred offering costs will be expensed immediately as a charge to operating expenses in the consolidated statements of operations. The Company had no deferred costs capitalized for the year ended on December 31, 2019 and an immaterial amount of deferred offering costs as of December 31, 2020.

Property and Equipment

Property and equipment are stated at cost and depreciated using the straight-line method over the estimated useful lives of the respective assets as follows:

	<u>Estimated useful life</u>
Laboratory equipment	3 — 5 years
Furniture and fixtures	3 — 5 years
Office and computer equipment	3 — 5 years
Leasehold improvements	Shorter of the asset's estimated useful life or the remaining lease term

Major additions and betterments are capitalized; expenditures for repairs and maintenance, which do not improve or extend the life of the respective assets, are charged to operating expense as incurred. Upon retirement or sale, the cost of assets disposed of and the related accumulated depreciation and amortization are removed from the accounts and any resulting gain or loss is included in loss from operations.

Impairment of Long-Lived Assets

Long-lived assets to be held and used, including property and equipment, are tested for impairment whenever events or changes in circumstances indicate that the carrying amount of the asset may not be fully recoverable. Evaluation of the recoverability of the asset or asset group is based on an estimate of undiscounted future cash flows resulting from the use of the asset or asset group and its eventual disposition. In the event that such cash flows are not expected to be sufficient to recover the carrying amount of the asset or asset group, an impairment loss would be based on the excess of the carrying value of the impaired asset over its fair value. The Company did not record any impairment losses on long-lived assets during the periods presented.

Fair Value Measurements

Certain assets and liabilities are carried at fair value under US GAAP. Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the

[Table of Contents](#)

measurement date. Valuation techniques used to measure fair value must maximize the user of observable inputs and minimize the use of unobservable inputs. Financial assets and liabilities carried at fair value are to be classified and disclosed in one of the following three levels of the fair value hierarchy, of which the first two are considered observable and the last is considered unobservable:

- **Level 1**—Unadjusted quoted prices in active markets that are accessible to the reporting entity at the measurement date for identical assets and liabilities.
- **Level 2**—Inputs other than quoted prices in active markets for identical assets and liabilities that are observable either directly or indirectly for substantially the full term of the asset or liability. Level 2 inputs include the following:
 - quoted prices for similar assets and liabilities in active markets
 - quoted prices for identical or similar assets or liabilities in markets that are not active
 - observable inputs other than quoted prices that are used in the valuation of the asset or liabilities (e.g., interest rate and yield curve quotes at commonly quoted intervals)
 - inputs that are derived principally from or corroborated by observable market data by correlation or other means
- **Level 3**—Unobservable inputs for the assets or liability (i.e., supported by little or no market activity). Level 3 inputs include management's own assumptions about the assumptions that market participants would use in pricing the asset or liability (including assumptions about risk).

Lease Agreements

The Company records leases under ASU No. 2016-02 Leases (Topic 842) whereby the Company determines if an arrangement is or contains a lease at inception. For leases with a term of 12 months or less, the Company has elected to not recognize a right-of-use asset or lease liability. The Company's operating leases are recognized on the consolidated balance sheets as other noncurrent assets, other current liabilities, and other noncurrent liabilities. The Company does not have any finance leases.

Right-of-use assets represent the Company's right to use an underlying asset for the lease term and lease liabilities represent the Company's obligation to make lease payments arising from the lease. Operating lease right-of-use assets and lease liabilities are recognized at the lease commencement date based on the present value of lease payments over the lease term. As the rate implicit on the Company's leases are not readily determination, the Company uses an estimate of its incremental borrowing rate for secured borrowings with terms similar to the lease term based on the information available at the lease commencement date in determining the present value of lease payments. Operating lease right-of-use assets also include the effect of any lease payments made and excludes lease incentives. The lease terms may include options to extend or terminate the lease when it is reasonably certain that the Company will exercise that option. Lease expense is recognized on a straight-line basis over the lease term.

Research and Development Costs

Research and development costs are expensed as incurred. Research and development costs that are paid in advance of performance (if any) are capitalized as a prepaid expense and amortized over the service period as the services are provided.

Accrued Research and Manufacturing Contract Costs

The Company has entered into various research and development and manufacturing contracts. These agreements are generally cancelable, and related payments are recorded as the corresponding expenses are incurred. When evaluating the adequacy of the accrued liabilities, the Company analyzes progress of the research

[Table of Contents](#)

studies or clinical trials and manufacturing activities, including the phase or completion of events, invoices received and contracted costs. Significant judgments and estimates are made in determining the accrued balances at the end of any reporting period. Actual results could differ from the Company's estimates. The Company's historical accrual estimates have not been materially different from the actual costs.

Patent Costs

All patent-related costs incurred in connection with filing and prosecuting patent applications are expensed as incurred due to the uncertainty about the recovery of the expenditure. Amounts incurred are classified as general and administrative expenses.

Revenue Recognition

The Company accounts for revenue under ASU No. 2014-19, *Revenue from Contracts with Customers* (ASC 606). ASC 606 applies to all contracts with customers, except for contracts that are within the scope of other standards, such as leases, insurance, certain collaboration arrangements and financial instruments. ASC 606 provides a five-step framework whereby revenue is recognized when control of promised goods or services is transferred to a customer at an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. To determine revenue recognition for arrangements that the Company determines are within the scope of ASC 606, the Company performs the following five steps:

- (i) identify the contract(s) with a customer;
- (ii) identify the performance obligations in the contract;
- (iii) determine the transaction price;
- (iv) allocate the transaction price to the performance obligations in the contract; and
- (v) recognize revenue when (or as) the performance obligations are satisfied.

The Company only applies the five-step model to contracts when it is probable that the Company will collect the consideration that it is entitled to in exchange for the goods or services the Company transfers to the customer. At contract inception, once the contract is determined to be within the scope of ASC 606, the Company assesses whether the goods or services promised within each contract are distinct and, therefore, represent a separate performance obligation. Goods and services that are determined not to be distinct are combined with other promised goods and services until a distinct combined performance obligation is identified.

The Company then allocates the transaction price (that is, the amount of consideration the Company expects to be entitled to from a customer in exchange for the promised goods or services) to each performance obligation and recognizes the associated revenue when (or as) each performance obligation is satisfied. The allocation is based upon standalone selling price. The standalone selling price is the price at which an entity would sell a promised good or service separately to a customer. Because the Company have not sold the same goods or services in our contracts separately to any customers on a standalone basis, the Company estimated the standalone selling price of each combined performance obligation by taking into consideration internal estimates of research and development personnel needed to perform the research and development services, estimates of expected cash outflows to third parties for services and supplies and typical gross profit margins.

The Company enters into collaboration and licensing arrangements that are within the scope of ASC 606, under which the Company may exclusively license to third parties' rights to develop, manufacture and commercialize its product candidates as well as options to acquire additional rights. The terms of these arrangements typically include payment to the Company of one or more of the following: nonrefundable, upfront license fees; development, regulatory and sales milestone payments; and royalties on net sales of licensed products.

[Table of Contents](#)

Revenue is typically recognized using a cost-to-cost input model as the measure of progress. Significant management judgment is required in determining the level of effort required under an arrangement and the period over which the Company is expected to complete the Company's performance obligations under an arrangement. The Company evaluates the measure of progress each reporting period and, if necessary, adjusts the measure of performance and related revenue recognition. The measure of progress, and thereby periods over which revenue should be recognized, are subject to estimates by management and may change over the course of the research and development and licensing agreement. Such a change could have a material impact on the amount of revenue the Company records in future periods.

Amounts received prior to revenue recognition are recorded as deferred revenue in the balance sheets. Amounts expected to be recognized as revenue within the 12 months following the balance sheet date are classified as the current portion of deferred revenue in the balance sheets. Amounts not expected to be recognized as revenue within the 12 months following the balance sheet date are classified as deferred revenue, net of current portion in the balance sheets.

Customer Options

If an arrangement is determined to contain customer options that allow the customer to acquire additional goods or services, the goods and services underlying the customer options that are not determined to be material rights are not considered to be performance obligations at the outset of the arrangement, as they are contingent upon option exercise. The Company evaluates the customer options for material rights, or options to acquire additional goods or services for free or at a discount. If the customer options are determined to represent a material right, the material right is recognized as a separate performance obligation at the outset of the arrangement. To date, none of our arrangements have included any material rights. The transaction price is allocated to each performance obligation on a relative standalone selling price basis. The observable price of a good or service sold separately provides the best evidence of standalone selling price. However, when standalone selling prices are not readily available, the Company is required to estimate the standalone selling price of each performance obligation. Key assumptions to determine the standalone selling price. Amounts allocated to a material right are not recognized as revenue until the option is exercised or terminates.

Milestone Payments

For each arrangement that includes milestone payments upon the achievement of performance-based milestones, such as development and regulatory milestones, the Company evaluates whether the milestones are considered probable of being reached and estimates the amount to be included in the transaction price using the most likely amount method. If it is probable that a significant reversal of revenue would not occur, the associated milestone value is included in the transaction price. Milestone payments that are not within the Company's control, such as regulatory approvals, are not considered probable of being achieved until those approvals are received. Upfront and ongoing development milestones per the Company's collaboration and license agreement are not subject to refund if the development activities are not successful. The Company reevaluates the probability of achievement of such milestones and any related constraint at each reporting period, and any adjustments are recorded on a cumulative catch-up basis, which would affect revenues and earnings in the period of adjustment. To date, the Company has not recognized any milestone revenues.

Royalties

For arrangements that include sales-based royalties, including milestone payments based on the level of sales, and the license to the Company's intellectual property is deemed to be the predominant item to which the royalties relate as it is the primary driver of value, the Company recognizes revenue when the related sales occur in accordance with the sales-based royalty exception under ASC 606-10- 55-65. To date, the Company has not recognized any royalty revenue resulting from the Company's collaboration and licensing agreements.

[Table of Contents](#)

The estimate of deferred revenue also reflects management's estimate of the periods of the Company's involvement in its collaboration and license agreements. The Company's performance obligations generally consist of the performance of research and development services and sharing know-how through participation on steering committees. If these estimates and judgments change over the course of these agreements, it may affect the timing and amount of revenue that the Company recognizes and records in future periods.

Income Taxes

Deferred tax assets and liabilities are recognized for the expected future tax consequences of events that have been included in the consolidated financial statements or tax returns. Under this method, deferred tax assets and liabilities are determined based on the difference between the consolidated financial statement and tax basis of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to reverse. A valuation allowance is provided to reduce the deferred tax asset to an amount, which, more likely than not, will be realized.

The Company recognizes the tax benefit from any uncertain tax positions only if it is more likely than not that the tax position will be sustained on examination by the taxing authorities, based on the technical merits of the position. The tax benefits recognized in the consolidated financial statements from such a position are measured based on the largest benefit that has a greater than fifty percent likelihood of being realized upon ultimate settlement. Interest and penalties associated with uncertain tax positions are recorded as a component of income tax expense. As of December 31, 2019 and 2020, the Company has not identified any uncertain tax positions for which reserves would be required.

Segment Information

Operating segments are defined as components of an entity for which discrete information is available for evaluation by the chief operating decision maker, who is the CEO, in deciding how to allocate resources and in assessing performance. The Company manages its operations as a single segment for the purposes of assessing performance and making operating decisions. All of the Company's assets are held in the United States.

Convertible Preferred Stock

As the preferred stock contains redemption features in a deemed liquidation event that are not solely within the control of the Company, the outstanding preferred stock has been classified outside of stockholders' deficit. The Company's convertible preferred stock is subject to a dividend when and if declared by the Board. From inception through December 31, 2020, no dividend has been declared.

Stock-Based Compensation

The Company accounts for stock option awards at fair value, which is measured using the Black-Scholes option-pricing model. The measurement date is generally the date of grant.

The Company recognizes stock-based compensation expense over the requisite service period, which is generally the vesting period of the respective award. For awards that include performance-based vesting conditions, stock-based compensation expense is recognized using the accelerated attribution method when the performance condition is deemed to be probable. The Company accounts for forfeitures as they occur. The Company determines the fair value of restricted stock awards in reference to the fair value of its common stock less any applicable purchase price.

The Company classifies stock-based compensation expense in its consolidated statements of operations in the same manner in which the award recipient's salary and related costs are classified or in which the award recipient's service payments are classified.

[Table of Contents](#)

Comprehensive Loss

Comprehensive loss includes net loss as well as other changes in stockholders' deficit that result from transactions and economic events other than those with stockholders. For the years ended December 31, 2019 and 2020, there was no difference between net loss and comprehensive loss in the accompanying consolidated financial statements.

Net Loss Per Share

Basic net loss per share is calculated by dividing net loss by the weighted average common shares outstanding during the period. During periods of income, the Company allocates to participating securities a proportional share of income (the two class method). The Company's convertible preferred stock participates in any dividends declared by the Company and are therefore considered to be participating securities. Participating securities have the effect of diluting both basic and diluted earnings per share during periods of income. During periods of loss, the Company allocates no loss to participating securities because they have no contractual obligation to share in the losses of the Company.

Diluted net loss per share is calculated by adjusting weighted average common shares outstanding for the dilutive effect of common stock equivalents outstanding for the period, determined using the treasury-stock and if-converted methods. For purposes of the diluted net income (loss) per share calculation, convertible preferred stock and stock options are considered to be common stock equivalents. All common stock equivalents have been excluded from the calculation of diluted net loss per share as their effect would be anti-dilutive for all periods presented. Therefore, basic and diluted net loss per share were the same for all periods presented.

3. Property and Equipment

Property and equipment consist of the following (in thousands):

	December 31,	
	2019	2020
Laboratory equipment	\$1,836	\$ 5,615
Leasehold improvements	19	493
Office and computer equipment	87	202
Furniture and fixtures	224	326
Construction-in-progress	—	778
Property and equipment	2,166	7,414
Less: accumulated depreciation and amortization	(526)	(1,755)
Property and equipment, net	<u>\$1,640</u>	<u>\$ 5,659</u>

Depreciation and amortization expense for the years ended December 31, 2019 and 2020 was \$0.5 million and \$1.2 million, respectively.

[Table of Contents](#)

4. Fair Value Measurements

The following table sets forth by level, within the fair value hierarchy, the assets (liabilities) carried at fair value (in thousands):

	Fair value measurements at December 31, 2019 using:			
	Level 1	Level 2	Level 3	Total
Assets:				
Cash equivalents—money market funds	\$3,772	\$ —	\$ —	\$3,772
Total financial assets	<u>\$3,772</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$3,772</u>

The following table sets forth by level, within the fair value hierarchy, the assets (liabilities) carried at fair value (in thousands):

	Fair value measurements at December 31, 2020 using:			
	Level 1	Level 2	Level 3	Total
Cash equivalents—money market funds	\$33,748	\$ —	\$ —	\$33,748
Total of financial assets	<u>\$33,748</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$33,748</u>

The cash equivalents are comprised of funds held in an exchange traded money market fund and the fair value of the cash equivalents is determined based upon quoted market price for that fund. There were no transfers among Level 1, Level 2, or Level 3 categories in the periods presented.

The carrying value of accounts payable and accrued expenses that are reported on the consolidated balance sheets approximate their fair value due to the short-term nature of these assets and liabilities.

5. Accrued Expenses and Other Current Liabilities

Accrued expenses and other liabilities consisted of the following (in thousands):

	December 31,	
	2019	2020
Accrued employee compensation and benefits	\$840	\$1,535
Accrued consulting and professional services	8	189
Accrued legal services and license fee	64	578
Other	31	192
Total accrued expenses and other current liabilities	<u>\$943</u>	<u>\$2,494</u>

6. Convertible Preferred Stock

Series A Preferred Stock

In 2018, the Company entered into the Series A Preferred Stock Purchase Agreement with its founding investors providing \$25 million in Series A Preferred Stock equity financing and issued 26,315,790 shares of Series A Preferred Stock. Issuance costs associated with the transaction were \$0.1 million.

Series B Preferred Stock

In 2019, the Company entered into the Series B Preferred Stock Purchase Agreements providing \$35 million in Series B Preferred Stock equity financing and issued 31,601,732 shares of Series B Preferred Stock. Issuance costs associated with the transaction were \$0.2 million.

[Table of Contents](#)

As of each balance sheet date, the preferred stock consisted of the following (in thousands, except for share data):

	December 31, 2019				
	Preferred Stock Authorized	Preferred Stock Issued and Outstanding	Carrying Value	Liquidation Preference	Common stock issuable upon conversion
Series A Preferred Stock	26,315,790	26,315,790	\$ 24,874	\$ 27,622	26,315,790
Series B Preferred Stock	31,601,732	31,601,732	34,807	36,138	31,601,732
	<u>57,917,522</u>	<u>57,917,522</u>	<u>\$ 59,681</u>	<u>\$ 63,760</u>	<u>57,917,522</u>

	December 31, 2020				
	Preferred Stock Authorized	Preferred Stock Issued and Outstanding	Carrying Value	Liquidation Preference	Common stock issuable upon conversion
Series A Preferred Stock	26,315,790	26,315,790	\$ 24,874	\$ 29,838	26,315,790
Series B Preferred Stock	31,601,732	31,601,732	34,807	39,037	31,601,732
	<u>57,917,522</u>	<u>57,917,522</u>	<u>\$ 59,681</u>	<u>\$ 68,875</u>	<u>57,917,522</u>

The terms and conditions of the Series A Preferred Stock and Series B Preferred Stock (collectively the Preferred Stock) are as follows:

Dividends

Dividends shall accrue at the rate of 8% compounded annually and are cumulative in nature (Accruing Dividends). Dividends are payable only when and if declared by the Board. The Company shall not declare, pay, or set aside any dividends on shares of any class of common stock, unless the holders of the Preferred Stock shall first receive dividends on each outstanding share of Preferred Stock in the amount of the accrued dividends unpaid as of such date. No dividends have been declared or paid as of December 31, 2019 and 2020. The cumulative dividends at December 31, 2020 totaled \$8.9 million.

Liquidation

In the event of any liquidation, dissolution, or winding-up of the Company, which would include the sale of the Company, the holders of the Preferred Stock are entitled to a liquidation preference. The amount to be paid to the holders of Preferred Stock is an amount equal to the greater of (i) the original purchase price per share, plus all Accruing Dividends accrued but unpaid thereon applicable to the series of Preferred Stock (which Accruing Dividends shall be paid out in cash), whether or not declared, together with any other dividends declared but unpaid thereon or (ii) such amount per share as would have been payable had all shares of Preferred Stock been converted to common stock prior to such liquidation, dissolution, or winding up of the Company. The original issue purchase price per share of the Series A Preferred Stock was \$0.95 per share, and the original issue price of the Series B Preferred Stock was \$1.10 per share. The holders of the Series B Preferred Stock are entitled to receive their respective liquidation preference with respect to the Series B Preferred Stock in full before any liquidation preference is paid upon the shares of Series A Preferred Stock. Any assets remaining following the preferential distribution to the holders of Series A Preferred Stock and Series B Preferred Stock would be available for distribution ratably among the holders of common stock.

Voting

The holders of the Preferred Stock are entitled to the number of votes equal to the number of shares of common stock into which the shares of the Preferred Stock held by each holder are then convertible. The holders of Preferred Stock are entitled to vote together with the holders of the Company's common stock, as a single class, on all matters submitted to a vote of stockholders. In addition, the holders of Series A Preferred Stock are entitled to elect four (4) directors and holders of Series B Preferred Stock are entitled to elect two (2) directors.

Conversion

The holders of Preferred Stock shall have the right to convert, at the option of the holder, at any time, into shares of common stock by dividing the preferred stock original issuance price by the conversion price in effect at the time. The initial Series A Preferred Stock conversion price is \$0.95 and the initial Series B Preferred Stock conversion price is \$1.10, subject in each case to certain adjustments to reflect the issuance of common stock, options, warrants, or other rights to subscribe for or to purchase shares of the Company's common stock for a consideration per share less than the conversion price then in effect. In addition, each share of Series A Preferred Stock and Series B Preferred Stock will automatically convert into shares of common stock at the applicable conversion ratio in effect upon the earlier of (a) the closing of a Qualified IPO (as defined in the Company's certificate of incorporation) or (b) the date and time, or the occurrence of an event, specified by vote or written consent of the holders of at least fifty-nine percent (59%) of the then outstanding shares of Preferred Stock (voting together as a single class, and not as separate series, and on an as converted to common stock basis).

Redemption

The Preferred Stock is not redeemable at the option of the holder. However, upon certain change in control events that are outside of the Company's control, including liquidation, sale or transfer of control of the Company, holders of the Preferred Stock can cause redemption of the Preferred Stock. Shares of Preferred Stock must be redeemed by the Company in an amount equal to the liquidation preference for each series of Preferred Stock. The Company classifies its Preferred Stock outside of stockholders' deficit as certain change in control events are outside the Company's control. As there is no certain redemption date and the redemption feature can only be triggered in the event of a liquidation, sale, or transfer of control of the Company or similar event, the Company has concluded that it is not probable that the Preferred Stock will become redeemable and as such does not accrete the Preferred Stock to the redemption value.

7. Stock Based Compensation

On April 20, 2018, the Company adopted the 2018 Stock Plan (the 2018 Plan). The 2018 Plan, as amended, provides for the issuance of up to 12,089,548 shares of common stock to employees, officers, directors, consultants, and advisors in the form of nonqualified and incentive stock options, unvested stock awards, and other stock-based awards. At December 31, 2020, there were 236,708 shares of common stock available for issuance under the 2018 Plan.

Stock Options

In general, stock options typically vest over four years and have a maximum term is 10 years. Also, the Company typically grants stock options to employees and non-employees at exercise prices deemed by the Board to be equal to the fair value of the common stock at the time of grant. The fair value of the common stock has been determined by the Board at each measurement date based on a variety of different factors, including the results obtained from third party appraisals, the Company's financial position and historical financial performance, the status of development of the Company's services, the current climate in the marketplace, the illiquid nature of the common stock, the effect of the rights and preferences of the preferred stockholders, and the prospects of a liquidity event, among others.

The Company utilized the Black-Scholes option-pricing model to estimate the fair value of stock options awarded to employees. The Black-Scholes option-pricing model requires several key assumptions. The key

[Table of Contents](#)

assumptions used to apply this pricing model during the years ended December 31, 2019 and 2020, were as follows:

	<u>2019</u>	<u>2020</u>
Risk-free interest rate	2.07%	0.85%
Expected term (in years)	6.00	6.05
Expected dividend yield	0%	0%
Expected volatility of underlying common stock	62%	73%

The risk-free interest rate was based on rates associated with U.S. Treasury issues approximating the expected life of the stock options. The expected term of stock options granted to employees was determined using the simplified method, which represents the midpoint of the contractual term of the stock option and the weighted-average vesting period of the option. The Company uses the simplified method because it does not have sufficient historical stock option exercise data to provide a reasonable basis upon which to estimate the expected term. The expected dividend-yield assumption was based on the Company's expectation of no future dividend payments. The expected volatility of the underlying stock was based on the average historical volatility of comparable publicly traded companies based on weekly price returns as reported by a pricing service, as the Company does not have a trading history for its common stock.

The following table summarizes the stock option activity under the 2018 Plan:

	<u>Stock Options</u>	<u>Weighted Average Exercise Price</u>	<u>Weighted Average Remaining Life (in Years)</u>	<u>Intrinsic Value (in thousands)</u>
Outstanding January 1, 2020	10,585,801	\$ 0.27	9.45	\$ 301
Granted	2,979,200	0.46		
Exercised	(1,167,308)	0.25		
Canceled	(544,853)	0.29		
Outstanding December 31, 2020	<u>11,852,840</u>	\$ 0.32	8.74	\$ 3,799
Options vested or expected to vest as of December 31, 2020	11,852,840	\$ 0.32	8.74	\$ 3,799
Stock options exercisable as of December 31, 2019	1,341,863	\$ 0.25	8.87	\$ 71
Stock options exercisable as of December 31, 2020	2,973,359	\$ 0.27	8.42	\$ 1,103

The weighted average grant date calculated value of stock options granted for the years ended on December 31, 2019 and 2020 were \$0.16 and \$0.29 per share, respectively.

Restricted Common Stock

The Company has granted restricted common stock with service based vesting conditions. Unvested shares of restricted common stock may not be sold or transferred by the holder, except for transfers for estate planning purposes in which the transferee agrees to remain bound by all restrictions set forth in the original common stock purchase agreement. They are legally issued and outstanding but only accounted for as outstanding when vested.

[Table of Contents](#)

These restrictions lapse over the four year vesting term of each award. The purchase price of each share of restricted common stock was \$0.0001 per share. A summary of the activity for the year ended December 31, 2020 is as follows:

	Number of Shares	Weighted Average Grant Date Fair Value
Unvested restricted stock as of January 1, 2020	6,750,000	\$ 0.00
Granted	—	—
Vested	(2,875,000)	0.00
Forfeited	(281,250)	0.00
Unvested restricted stock as of December 31, 2020	<u>3,593,750</u>	<u>\$ 0.00</u>

The aggregate fair value of restricted stock awards that vested during the years ended December 31, 2019 and 2020 was nominal.

Stock-Based Compensation Expense

Stock-based compensation expense was as follows (in thousands):

	Year Ended December 31,	
	2019	2020
Research and development	\$110	\$248
General and administrative	130	267
	<u>\$240</u>	<u>\$515</u>

As of December 31, 2020, there was \$1.7 million of unrecognized stock-based compensation expense related to unvested stock options and restricted common stock, which is estimated to be recognized over a period of 2.76 years.

8. Income Taxes

During the years ended December 31, 2019 and 2020, the Company did not record an income tax provision due to the losses incurred and a full valuation allowance provided on the net deferred tax assets.

A reconciliation of the federal statutory income tax rate to the effective tax rate is as follows:

	December 31,	
	2019	2020
Tax at U.S. statutory rate	21.0%	21.0%
Changes from statutory rate:		
State taxes, net of federal benefit	6.3%	7.8%
Tax credits	5.7%	3.8%
Stock-based compensation	(0.3)%	(0.3)%
Change in valuation allowance	(32.5)%	(32.3)%
Other	(0.2)%	0.0%
Effective income tax rate	<u>0.0%</u>	<u>0.0%</u>

[Table of Contents](#)

Deferred tax assets and liabilities reflect the net tax effects of net operating loss carryovers and temporary differences between the carrying amount of assets and liabilities for financial reporting and the amounts used for income tax purposes. Significant components of the Company's deferred tax assets and liabilities were as follows (in thousands):

	December 31,	
	2019	2020
Deferred tax assets:		
Net operating loss carryforwards	\$ 3,760	\$ 4,755
Tax credits	715	2,087
Deferred revenue	—	5,312
Depreciation and amortization	20	105
Start up costs	520	617
Stock-based compensation	17	40
Lease liability	1,353	2,031
Other deferred tax assets	230	664
Total deferred tax assets	6,615	15,611
Deferred tax liabilities:		
Right-of-use assets	(1,320)	(1,878)
Valuation allowance	(5,295)	(13,733)
Net deferred tax asset & liabilities	\$ —	\$ —

In determining the need for a valuation allowance, the Company has given consideration to its cumulative losses. The Company has assessed the available means of recovering deferred tax assets, including the ability to carryback net operating losses, the existence of reversing taxable temporary differences, the availability of tax planning strategies and forecasted future taxable income. The Company maintains a full valuation allowance against its net deferred tax assets. The valuation allowance increased by \$4.3 and \$8.4 million during the years ended December 31, 2019 and 2020, respectively.

As of December 31, 2020, the Company had U.S. federal net operating loss carryforwards of approximately \$17.6 million. The U.S. federal net operating losses have an indefinite life carryforward. As of December 31, 2020, the Company had Massachusetts net operating loss carryforwards of approximately \$16.7 million that expire at various dates through 2040. As of December 31, 2020, the Company had U.S. R&D federal credit carryforwards of approximately \$1.5 million that expire at various dates through 2040. As of December 31, 2020, the Company had U.S. state R&D tax credit carryforwards of approximately \$0.8 million that expire at various dates through 2035.

Under Sections 382 and 383 of the U.S. Internal Revenue Code, if a corporation undergoes an ownership change, the corporation's ability to use its pre-change net operating loss carryforwards and other pre-change attributes, such as net operating losses and research tax credits, to offset its post-change income and taxes may be limited. In general, an ownership change generally occurs if there is a cumulative change in ownership by 5% stockholders that exceeds 50 percentage points over a rolling three-year period. Similar rules may apply under U.S. state tax laws. The Company may have experienced an ownership change in the past and may experience ownership changes in the future as a result of future transactions in its share capital, some of which may be outside the control of the Company. As a result, if the Company earns net taxable income, its ability to use its

[Table of Contents](#)

pre-change net operating loss carryforwards, or other pre-change tax attributes, to offset U.S. federal and state taxable income and taxes may be subject to significant limitations.

The Company accounted for uncertain tax positions using a more likely than not threshold for recognizing and resolving uncertain tax positions. The evaluation of uncertain tax positions is based on factors that include, but are not limited to, changes in tax law, the measurement of tax positions taken or expected to be taken in tax returns, the effective settlement of matters subject to audit, new audit activity and changes in facts or circumstances related to a tax position. The Company evaluates uncertain tax positions on an annual basis and adjusts the level of the liability to reflect any subsequent changes in the relevant facts surrounding the uncertain positions. The Company accounts for interest and penalties related to uncertain tax positions as part of its provision for income taxes. For the years ended December 31, 2019 and 2020, there were no accrued interest or penalties in the consolidated statements of operations.

The Company is subject to taxation for federal and Massachusetts purposes. At December 31, 2020, the Company is subject to examination by these taxing authorities for all years since inception.

9. Collaboration and License Agreements

Novartis

In March 2020, the Company entered into a Collaboration and License Agreement (the Novartis Agreement) with Novartis Institutes For Biomedical Research, Inc. (Novartis) to collaborate on their research efforts to discover and develop novel TCR-T. Under the Novartis Agreement, the Company will identify and characterize TCRs in accordance with a research plan, transfer data arising from the research plan, and Novartis will have the option to license and develop TCRs for up to three novel targets identified in performance of the collaboration during the collaboration period of the Novartis Agreement. Novartis will also have rights of first negotiation for certain additional targets and TCRs identified in performance of the collaboration during a defined collaboration period of the Novartis Agreement and for 180 days after such collaboration period ends (which collaboration period will end no later than March 2023). If during such 180-day right of first negotiation period, the Company notifies Novartis of the Company's intent to grant a third party a license to a target or TCR identified in the collaboration, then Novartis may obtain the exclusive right to negotiate a license to such target or TCR for an additional 270 days by providing the Company with a term sheet to license such target or TCR within 90 days of the Company's notice of such intent. The Novartis Agreement provides for payments of an upfront fee of \$20 million, research funding totaling \$10.0 million and potential milestone payments contingent on clinical, regulatory and sales success. In addition to payments upon achievement of certain clinical and regulatory milestones, Novartis will pay the Company mid-single to low double-digit royalties on net sales for each product directed to a target licensed by Novartis. After the end of the collaboration period and the expiration of Novartis' first right of negotiation, the Company is free to develop TCRs against targets not licensed by Novartis.

The Company concluded that Novartis meets the definition of a customer, as the Company is delivering research and development activities and know-how rights. The Company identified performance obligations for research and development activities, data reporting and participation in joint steering and research committees. The Company determined there is a single performance obligation due to the services being highly interrelated and are therefore not distinct in the context of the contract. The Company combined the pre-option research services and data reporting into a single performance obligation. Novartis has an exclusive option to obtain a commercial license for up to three Targets (as defined in the Novartis Agreement) to pursue further development and commercialization of the respective Target. Pursuant to the Novartis Agreement, the option for Novartis to license, develop, and commercialize Targets is not a performance obligation at the outset of the Novartis Agreement as it is a customer option that does not represent a material right.

The Company looked to the promises in the arrangement to determine the method of recognition that best coincides with the pattern of delivery. The Company concluded that the performance of the research services over the expected research term was the predominant promise within the performance obligation. The Company

[Table of Contents](#)

is recognizing the revenue associated with the performance obligation using the input method, according to the actual costs incurred as a percentage of total expected costs to complete the research services. As costs are incurred, the Company will recognize revenue over time. Any change in the estimated percentage complete due to a revised cost forecast will be adjusted in the period in which the change in estimate occurs and the revenue recognition will be updated accordingly. The Company expects the research term to last approximately three years, which is inclusive of the option to extend the arrangement.

As of December 31, 2020, the Company determined that the \$20.0 million upfront payment, together with the \$10.0 million of estimated research costs to be reimbursed by Novartis to be the entirety of the consideration to be included in the transaction price as of the outset of the arrangement. The potential milestone payments that the Company is eligible to receive were excluded from the transaction price, as all milestone amounts were fully constrained based on the assessed probability of achievement. The Company will re-evaluate the transaction price at the end of each reporting period and as uncertain events are resolved or other changes in circumstances occur, and, if necessary, adjust the estimate of the transaction price. During the year ended December 31, 2020, the Company recognized \$0.8 million of revenue associated with the Novartis Agreement based on performance completed during that period. Additionally, during the year ended December 31, 2020, the Company incurred \$0.2 million of costs associated with the Novartis Agreement that were recorded within research and development expenses in the statements of operations. Additionally, as of December 31, 2020, the Company had current and long-term deferred revenue of \$10.6 million and \$8.8 million, respectively due to Novartis Agreement.

Qiagen

On November 5, 2020, the Company entered into an Option and Exclusive License Agreement with QIAGEN Sciences, LLC (Qiagen), pursuant to which Company licensed to Qiagen intellectual property relating to specific, identified peptides to enable Qiagen to develop and commercialize diagnostics related to COVID-19. The Company has not identified any performance obligations under this agreement other than the delivery of certain intellectual property that was delivered at the inception of the agreement. Qiagen paid the Company a nominal upfront non-refundable payment of \$0.2 million with the potential for additional payments that become payable upon successful achievement of certain clinical and commercial milestones achieved by Qiagen. The initial payment is included in revenue for the period and the additional payments will not be recognized until the milestones are probable of being achieved.

Poseida Therapeutics

On October 19, 2020, the Company entered into an arrangement with Poseida Therapeutics, Inc. (Poseida), pursuant to which Poseida paid the Company a nominal fee in exchange for certain data. The Company does not have any remaining performance obligations under this arrangement and does not expect future revenues to be significant.

10. Commitments and Contingencies

Leases

The Company leases for laboratory and office space with a term that expires in September 30, 2024, subject to certain renewal options, which are not deemed highly probable of renewal. The Company provided a letter of credit in the amount of \$0.6 million as security for the lease which expires January 31, 2025.

Additional, laboratory and office space was secured through a sublease that commenced in June 2020 and will continue through March 2026. The Company provided a cash deposit of \$0.2 million in conjunction with the execution of the lease which is recorded as a long-term asset.

Summary of lease cost

The Company lease costs is \$0.6 million and \$1.3 million for the years ended December 31, 2019 and 2020, respectively. These amounts include short-term and variable lease costs, which were not significant in any period presented.

[Table of Contents](#)

Supplemental disclosure of cash flow information related to leases was as follows (in thousands):

	Year ended December 31,	
	2019	2020
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows for operating leases	\$679	\$1,478

The weighted-average remaining lease term and discount rate were as follows:

	Year ended December 31,	
	2019	2020
Weighted-average remaining lease term (in years)	4.5 years	4.4 years
Weighted-average discount rate	8.0%	8.0%

The following table represents the maturity of the Company's operating lease liabilities as of December 31, 2020 (in thousands):

<u>Year Ending December 31,</u>	<u>Operating</u>
2021	\$ 1,948
2022	2,075
2023	2,131
2024	1,812
2025	729
Thereafter	184
Total future minimum lease payments	8,879
Less: imputed interest	(1,445)
Present value of operating lease liability	<u>\$ 7,434</u>

Brigham and Women's License Agreement

The Company obtained the worldwide exclusive license to its foundational technology from The Brigham and Women's Hospital, Inc. (or "BWH"). The license grants worldwide exclusive use to the patent underlying the TargetScan technology in exchange for fees including development milestones and various royalties on product sales should they occur in the future. The Company is negotiating an amendment of the license agreement with BWH. The potential amendment would include an exclusive license to new technology and certain changes to the fee and royalty structure that the Company does not expect to have a material impact on the financial statements.

Royalty Agreement

In June 2018, the Company amended and restated an existing royalty agreement with one of its founders. Under the amended and restated royalty agreement, the Company agreed to pay the founder an aggregate royalty of 1% of net sales of any product sold by the Company or by any of its direct or indirect licensees for use in the treatment of any disease or disorder covered by a pending patent application or issued patent held or controlled by the Company as of the last date that the founder was providing services to the Company as a director or consultant under a written agreement in perpetuity. Royalties are payable with respect to each applicable product for a defined period of time set forth in the royalty agreement. The founder assigned his rights and obligations under the royalty agreement to one of his affiliated entities in January 2021.

[Table of Contents](#)

11. Retirement Plan

The Company initiated a defined contribution plan under Section 401(k) of the IRC (the Plan) covering all qualified employees effective January 1, 2019. Employee contributions are voluntary and are determined on an individual basis subject to the maximum allowable under federal tax regulations. The Company made contributions to the Plan of \$0.1 million and \$0.2 million were recorded for the years ended December 31, 2019 and 2020, respectively.

12. Net Loss Per Share

Net Loss Per Share

Basic and diluted net loss per share was calculated as follows (in thousands, except share and per share amounts):

	Year ended December 31,	
	2019	2020
Numerator:		
Net loss	\$ (13,658)	\$ (26,127)
Denominator:		
Weighted-average common shares outstanding, basic and diluted	3,157,800	7,511,378
Net loss per share, basic and diluted	\$ (4.33)	\$ (3.48)

The Company excluded the following potential common shares from the computation of diluted net loss per share for the periods indicated because including them would have had an anti-dilutive effect:

	Year ended December 31,	
	2019	2020
Series A Preferred Stock (as converted to common stock)	26,315,790	26,315,790
Series B Preferred Stock (as converted to common stock)	31,601,732	31,601,732
Unvested restricted common stock	6,750,000	3,593,750
Options to purchase common stock	10,585,801	11,852,840
	<u>75,253,323</u>	<u>73,364,112</u>

13. Related-Party Transactions

Certain employees of Longwood Fund, a stockholder of the Company, including board of directors member Christoph Westphal, provided management services to the Company. Personnel and consulting expenses of \$0.6 million were recognized in general and administrative expenses for year ended on December 31, 2019. No such expenses were incurred for year ended on December 31, 2020.

The Company has received professional services from founders of the Company. Consulting expenses of \$0.3 million and \$0.2 million were recognized in general and administrative expenses for the years ended December 31, 2019 and 2020, respectively.

Novartis and its affiliates held shares of the Preferred Stock and entered into the Novartis Agreement discussed in Note 9.

14. Subsequent Events

For the year ended December 31, 2020, the Company evaluated subsequent events as of March 19, 2021, the date the audited consolidated financial statements were issued.

Series C Preferred Stock financing

On January 15, 2021, the Company entered into the Series C Preferred Stock Purchase Agreement and completed the sale of \$100 million in Series C Preferred Stock. The Company authorized and sold 70,136,064 shares of Series C Preferred Stock with an issue price of \$1.43 per share. In connection with the issuance of Series C Preferred Stock, the Company increased the authorized number of shares of common stock, resulting in 165,210,543 authorized common shares as of January 15, 2021.

Increase in shares available for issuance under the 2018 Plan

On January 15, 2021, the number of shares of common stock authorized for issuance under the 2018 Plan was increased from 12,089,548 shares to 22,609,958 shares.

Grant of stock options under the 2018 Plan

On January 27, 2021, the Company granted options with service-based vesting criteria for the purchase of an aggregate of 8,410,509 shares of common stock, at an exercise price of \$0.71 per share.

On March 16, 2021, the Company granted options with service-based vesting criteria for the purchase of an aggregate of 635,000 shares of common stock, at an exercise price of \$1.41 per share.

PART II**Information not Required in Prospectus****Item 13. Other Expenses of Issuance and Distribution**

The following table presents the costs and expenses, other than underwriting discounts and commissions, payable in connection with this offering. All amounts are estimates except the SEC registration fee, the FINRA filing fee and listing fee.

SEC registration fee	\$ 10,910.00
FINRA filing fee	15,500.00
Exchange listing fee	25,000.00
Printing and engraving expenses	*
Legal fees and expenses	*
Accounting fees and expenses	*
Transfer agent and registrar fees	*
Miscellaneous fees and expenses	*
Total	\$ *

* To be completed by amendment.

Item 14. Indemnification of Directors and Officers

Section 145 of the Delaware General Corporation Law authorizes a court to award, or a corporation's board of directors to grant, indemnity to directors and officers under certain circumstances and subject to certain limitations. The terms of Section 145 of the Delaware General Corporation Law are sufficiently broad to permit indemnification under certain circumstances for liabilities, including reimbursement of expenses incurred, arising under the Securities Act of 1933, as amended, or the Securities Act.

As permitted by the Delaware General Corporation Law, the Registrant's amended and restated certificate of incorporation and amended and restated bylaws contain provisions relating to the limitation of liability and indemnification of directors and officers. The amended and restated certificate of incorporation provides that the Registrant's directors will not be personally liable to the Registrant or the Registrant's stockholders for monetary damages for any breach of fiduciary duty as a director, except for liability:

- for any breach of the director's duty of loyalty to the Registrant or the Registrant's stockholders;
- for acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law;
- in respect of unlawful payments of dividends or unlawful stock repurchases or redemptions as provided in Section 174 of the Delaware General Corporation Law; or
- for any transaction from which the director derives any improper personal benefit.

The Registrant's amended and restated certificate of incorporation also provides that if Delaware law is amended after the approval by the Registrant's stockholders of the certificate of incorporation to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of the Registrant's directors will be eliminated or limited to the fullest extent permitted by Delaware law.

The Registrant's amended and restated bylaws provide that the Registrant will indemnify its directors and officers to the fullest extent permitted by Delaware law, as it now exists or may in the future be amended, against

Table of Contents

all expenses and liabilities reasonably incurred in connection with their service for or on the Registrant's behalf. The Registrant's amended and restated bylaws provide that the Registrant shall advance the expenses incurred by a director or officer in advance of the final disposition of an action or proceeding, and permit the Registrant to secure insurance on behalf of any director, officer, employee, or other enterprise agent for any liability arising out of his or her action in that capacity, whether or not Delaware law would otherwise permit indemnification.

The Registrant intends to enter into indemnification agreements with each of its directors and executive officers and certain other key employees, a form of which is attached as Exhibit 10.1. The form of agreement provides that the Registrant will indemnify each of its directors, executive officers and such other key employees against any and all expenses incurred by that director, executive officer, or other key employee because of his or her status as one of the Registrant's directors, executive officers, or other key employees, to the fullest extent permitted by Delaware law, the Registrant's restated certificate of incorporation and the Registrant's amended and restated bylaws. In addition, the form agreement provides that, to the fullest extent permitted by Delaware law, the Registrant will advance all expenses incurred by its directors, executive officers and other key employees in connection with a legal proceeding.

Reference is made to the underwriting agreement contained in Exhibit 1.1 to this registration statement, indemnifying the Registrant's directors and officers against limited liabilities. In addition, Section 2.8 of the Registrant's fourth amended and restated investors' rights agreement, or the IRA, contained in Exhibit 4.2 to this registration statement provides for indemnification of certain of the Registrant's stockholders against liabilities described in the Registrant's IRA and Section 2.6 of the Registrant's registration rights agreement with the BBA Funds contained in Exhibit 4.3 to this registration statement provides for indemnification of the BBA Funds against liabilities described in such agreement.

The Registrant currently carries and intends to continue to carry liability insurance for its directors and officers.

Item 15. Recent sales of Unregistered Securities

The following list sets forth information regarding all unregistered securities sold by the Registrant in the three years preceding this registration statement. No underwriters were involved in the sales and the certificates representing the securities sold and issued contain legends restricting transfer of the securities without registration under the Securities Act or an applicable exemption from registration.

Stock Plan Related Issuances

(a) From April 23, 2018 through April 23, 2021, the Registrant granted to its directors, officers, employees, consultants and other service providers stock options to purchase an aggregate of 21,021,315 shares of common stock upon the exercise of options under the Registrant's 2018 Stock Plan at exercise prices per share ranging from \$0.24 to \$1.70, for an aggregate exercise price of approximately \$12.6 million.

(b) From April 23, 2018 through April 23, 2021, the Registrant issued an aggregate of 2,019,826 shares of common stock upon the exercise of options, at exercise prices ranging from \$0.24 to \$[0.30] per share, for an aggregate exercise price of approximately \$0.5 million.

Sales of Convertible Preferred Stock and Common Stock

(c) In June 2018 and December 2018, the Registrant issued and sold an aggregate of 26,315,790 shares of its Series A convertible preferred stock at a purchase price of \$0.95 per share for an aggregate purchase price of approximately \$25.0 million.

Table of Contents

(d) In July 2019, August 2019 and November 2019, the Registrant issued and sold an aggregate of 31,601,732 shares of its Series B convertible preferred stock at a purchase price of \$1.10 per share for an aggregate purchase price of approximately \$35.0 million.

(e) In January 2021, the Registrant issued and sold an aggregate of 70,136,064 shares of its Series C convertible preferred stock at a purchase price of \$1.4258 per share for an aggregate purchase price of approximately \$100.0 million.

No underwriters were involved in the foregoing issuances of securities. The offers, sales and issuances of the securities described in Items (a) and (b) above were exempt from registration under the Securities Act under either (1) Rule 701 in that the transactions were under compensatory benefit plans and contracts relating to compensation as provided under Rule 701 or (2) Section 4(a)(2) of the Securities Act or Regulation D promulgated thereunder as transactions by an issuer not involving any public offering. The recipients of such securities were the Registrant's directors, officers, employees, consultants or other service providers and received the securities under the Registrant's 2018 Stock Plan. The recipients of securities in each of these transactions represented their intention to acquire the securities for investment only and not with view to or for sale in connection with any distribution thereof and appropriate legends were affixed to the securities issued in these transactions.

The offers, sales and issuances of the securities described in Items (c), (d) and (e) above were exempt from registration under the Securities Act under Section 4(a)(2) of the Securities Act or Regulation D promulgated thereunder as transactions by an issuer not involving a public offering. The recipients of securities in each of these transactions acquired the securities for investment only and not with a view to or for sale in connection with any distribution thereof and appropriate legends were affixed to the securities issued in these transactions. Each of the recipients of securities in these transactions was an accredited person and had adequate access, through employment, business or other relationships, to information about the registrant.

Item 16. Exhibits and Financial Statement Schedules

(a) *Exhibits.* The following exhibits are included herein or incorporated herein by reference:

Exhibit Number	Description
1.1*	Form of Underwriting Agreement.
3.1	Fourth Amended and Restated Certificate of Incorporation of Registrant, as currently in effect.
3.2	Form of Amended and Restated Certificate of Incorporation of Registrant, to be effective upon completion of this offering.
3.3	Bylaws of Registrant, as currently in effect.
3.4	Form of Amended and Restated Bylaws of Registrant, to be effective upon completion of this offering.
4.1*	Form of Registrant's common stock certificate.
4.2	Fourth Amended and Restated Investors' Rights Agreement, dated January 15, 2021, by and among the Registrant and the other parties thereto.
4.3	Registration Rights Agreement made as of January 15, 2021 by and between the Registrant and the other parties thereto.
4.4	Amended and Restated Nominating Agreement, dated April 22, 2021, by and among the Registrant, Baker Brothers Life Sciences, L.P. and 667, L.P.
5.1*	Opinion of Gunderson Dettmer Stough Villeneuve Franklin & Hachigian, LLP.

Table of Contents

<u>Exhibit Number</u>	<u>Description</u>
10.1	<u>Form of Indemnification Agreement between the Registrant and each of its directors and executive officers.</u>
10.2	<u>2018 Stock Plan, as amended, and forms of agreements thereunder.</u>
10.3	<u>2021 Equity Incentive Plan and form of agreements thereunder.</u>
10.4	<u>2021 Employee Stock Purchase Plan.</u>
10.5#	<u>Amended and Restated Exclusive Patent License Agreement by and between the Registrant and The Brigham and Women's Hospital, Inc. dated April 20, 2021.</u>
10.6	<u>Lease by and between PPF OFF 828-830 Winter Street LLC and the Registrant, dated August 13, 2019.</u>
10.7#	<u>Option & Exclusive License Agreement by and between the Registrant and QIAGEN Sciences LLC, dated as of November 5, 2020.</u>
10.8#	<u>Collaboration and License Agreement by and between the Registrant and Novartis Institutes for Biomedical Research, dated as of March 27, 2020.</u>
10.9#	<u>Non-Exclusive License Agreement by and between the Registrant and Provincial Health Services Authority, dated as of October 15, 2020.</u>
10.10	<u>Amended and Restated Royalty Agreement, dated as of June 12, 2018.</u>
10.11	<u>Services Agreement by and between Christoph Westphal and the Registrant, dated October 9, 2018.</u>
10.12	<u>Amendment No. 1 to Services Agreement Services Agreement by and between Christoph Westphal and the Registrant, dated June 24, 2019.</u>
10.13	<u>Employment Agreement, dated April 23, 2021, by and between the Registrant and David Southwell.</u>
10.14	<u>Employment Letter Agreement, dated April 23, 2021, by and between the Registrant and Gavin MacBeath, Ph.D.</u>
10.15	<u>Employment Letter Agreement, dated April 8, 2019, by and between the Registrant and Henry Rath.</u>
10.16	<u>Separation Agreement, dated January 26, 2021, by and between the Registrant and Henry Rath.</u>
10.17	<u>Employment Letter Agreement, dated April 23, 2021, by and between the Registrant and William Desmarais.</u>
10.18	<u>Form of Management Cash Incentive Plan.</u>
23.1	<u>Consent of Deloitte & Touche LLP, Independent Registered Public Accounting Firm.</u>
23.2*	Consent of Gunderson Dettmer Stough Villeneuve Franklin & Hachigian, LLP (contained in Exhibit 5.1).
24.1	<u>Power of Attorney (included on signature page).</u>

* To be filed by amendment.

Certain portions of this agreement have been omitted because the omitted portions are both not material and consists of the type of information that the Registrant both customarily and actually treats as private and confidential.

[Table of Contents](#)

(b) *Financial Statement Schedules*. All schedules have been omitted because the information required to be presented in them is not applicable or is shown in the financial statements or related notes.

Item 17. Undertakings

The undersigned registrant hereby undertakes to provide to the underwriter at the closing specified in the underwriting agreements certificates in such denominations and registered in such names as required by the underwriter to permit prompt delivery to each purchaser.

Insofar as indemnification for liabilities arising under the Securities Act of 1933, as amended, may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

The undersigned registrant hereby undertakes that:

(1) For purposes of determining any liability under the Securities Act of 1933, as amended, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the Registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act of 1933, as amended, shall be deemed to be part of this registration statement as of the time it was declared effective.

(2) For the purpose of determining any liability under the Securities Act of 1933, as amended, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Waltham, Commonwealth of Massachusetts, on this 23rd day of April, 2021.

TScan Therapeutics, Inc.

/s/ David Southwell

David Southwell
Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints David Southwell, as his or her true and lawful attorney-in-fact and agent with full power of substitution, for him or her in any and all capacities, to sign any and all amendments to this registration statement (including post-effective amendments) and any registration statement related thereto filed pursuant to Rule 462(b) increasing the number of securities for which registration is sought, and to file the same, with all exhibits thereto and other documents in connection therewith, with the SEC, granting unto said attorney-in-fact and agent full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully for all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or his substitute, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ David Southwell</u> David Southwell	Chief Executive Officer and Director <i>(Principal Executive Officer and Principal Financial and Principal Accounting Officer)</i>	April 23, 2021
<u>/s/ Timothy Barberich</u> Timothy Barberich	Chairman	April 23, 2021
<u>/s/ Stephen Biggar, M.D., Ph.D.</u> Stephen Biggar, M.D., Ph.D.	Director	April 23, 2021
<u>/s/ Katina Dorton</u> Katina Dorton	Director	April 23, 2021
<u>/s/ Ittai Harel</u> Ittai Harel	Director	April 23, 2021
<u>/s/ Andrew Hedin</u> Andrew Hedin	Director	April 23, 2021

[Table of Contents](#)

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<hr/> /s/ Brian Silver Brian Silver	Director	April 23, 2021
<hr/> /s/ Nandita Shangari, Ph.D. Nandita Shangari, Ph.D.	Director	April 23, 2021
<hr/> /s/ Christoph Westphal, M.D., Ph.D. Christoph Westphal, M.D., Ph.D.	Director	April 23, 2021

**AMENDED AND RESTATED
CERTIFICATE OF INCORPORATION
OF
TSCAN THERAPEUTICS, INC.**

(Pursuant to Sections 242 and 245 of the
General Corporation Law of the State of Delaware)

TScan Therapeutics, Inc., a corporation organized and existing under and by virtue of the provisions of the General Corporation Law of the State of Delaware (the “**General Corporation Law**”),

DOES HEREBY CERTIFY:

1. That the name of this corporation is TScan Therapeutics, Inc., and that this corporation was originally incorporated pursuant to the General Corporation Law on April 17, 2018 under the name T-Scan Therapeutics, Inc.

2. That the Board of Directors of this corporation (the “**Board**”) duly adopted resolutions proposing to amend and restate the Certificate of Incorporation of this corporation, declaring said amendment and restatement to be advisable and in the best interests of this corporation and its stockholders, and authorizing the appropriate officers of this corporation to solicit the consent of the stockholders therefor, which resolution setting forth the proposed amendment and restatement is as follows:

RESOLVED, that the Certificate of Incorporation of this corporation be amended and restated in its entirety to read as follows:

FIRST: The name of this corporation is TScan Therapeutics, Inc. (the “**Corporation**”).

SECOND: The address of the registered office of the Corporation in the State of Delaware is 1209 Orange Street, in the City of Wilmington, County of New Castle, 19801. The name of its registered agent at such address is The Corporation Trust Company.

THIRD: The nature of the business or purposes to be conducted or promoted is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law.

FOURTH: The total number of shares of all classes of stock which the Corporation shall have authority to issue is (i) 165,210,543 shares of Common Stock, \$0.0001 par value per share (“**Common Stock**”) and (ii) 128,053,586 shares of Preferred Stock, \$0.0001 par value per share (“**Preferred Stock**”).

The following is a statement of the designations and the powers, privileges and rights, and the qualifications, limitations or restrictions thereof in respect of each class of capital stock of the Corporation.

A. COMMON STOCK

1. General. The voting, dividend and liquidation rights of the holders of the Common Stock are subject to and qualified by the rights, powers and preferences of the holders of the Preferred Stock set forth herein.

2. **Voting.** The holders of the Common Stock are entitled to one vote for each share of Common Stock held at all meetings of stockholders (and written actions in lieu of meetings); provided, however, that, except as otherwise required by law, holders of Common Stock, as such, shall not be entitled to vote on any amendment to this Amended and Restated Certificate of Incorporation that relates solely to the terms of one or more outstanding series of Preferred Stock if the holders of such affected series are entitled, either separately or together with the holders of one or more other such series, to vote thereon pursuant to this Amended and Restated Certificate of Incorporation or pursuant to the General Corporation Law. There shall be no cumulative voting. The number of authorized shares of Common Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by (in addition to any vote of the holders of one or more series of Preferred Stock that may be required by the terms of this Amended and Restated Certificate of Incorporation) the affirmative vote of the holders of shares of capital stock of the Corporation representing a majority of the votes represented by all outstanding shares of capital stock of the Corporation entitled to vote, irrespective of the provisions of Section 242(b)(2) of the General Corporation Law.

B. PREFERRED STOCK

26,315,790 shares of the authorized Preferred Stock of the Corporation are hereby designated “**Series A Preferred Stock**”, 31,601,732 shares of the authorized Preferred Stock of the Corporation are hereby designated “**Series B Preferred Stock**”, and 70,136,064 shares of the authorized and unissued Preferred Stock of the Corporation are hereby designated “**Series C Preferred Stock**”, each with the following rights, preferences, powers, privileges and restrictions, qualifications and limitations. The Series A Preferred Stock, the Series B Preferred Stock and the Series C Preferred Stock shall collectively be referred to herein as the “**Preferred Stock**”. As used herein, the applicable “**Original Issue Price**” shall mean (i) with respect to the Series A Preferred Stock, \$0.95 per share, (ii) with respect to the Series B Preferred Stock, \$1.10 per share, and (iii) with respect to the Series C Preferred Stock, \$1.4258 per share, in each case subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization. Unless otherwise indicated, references to “sections” or “subsections” in this Part B of this Article Fourth refer to sections and subsections of Part B of this Article Fourth.

1. Dividends.

1.1 From and after the date of the issuance of each share of Series A Preferred Stock, dividends at the rate of 8% per annum of the Original Issue Price applicable to the Series A Preferred Stock shall accrue on such share of Series A Preferred Stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series A Preferred Stock) (the “**Series A Accruing Dividends**”). From and after the date of the issuance of each share of Series B Preferred Stock, dividends at the rate of 8% per annum of the Original Issue Price applicable to the Series B Preferred Stock shall accrue on such share of Series B Preferred Stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series B Preferred Stock) (the “**Series B Accruing Dividends**”). From and after the date of the issuance of each share of Series C Preferred Stock, dividends at the rate of 8% per annum of the Original Issue Price applicable to the Series C Preferred Stock shall accrue on such share of Series C Preferred Stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series C Preferred Stock) (the “**Series C Accruing Dividends**” and, collectively with the Series A Accruing Dividends and the Series B Accruing Dividends, the “**Accruing Dividends**”). Accruing Dividends shall accrue from day to day, whether or not declared, and shall be cumulative and shall compound annually with respect to each share of Preferred Stock on each anniversary of the date of the original issuance of such share of Preferred Stock; provided, however, that except as set forth in the following sentence of this Subsection 1.1 or in Subsection 2.1, such Accruing Dividends shall be payable only when, as and if declared by the Board and the Corporation shall be under no obligation to pay such

Accruing Dividends. The Corporation shall not declare, pay or set aside any dividends on shares of any other class or series of capital stock of the Corporation (other than dividends on shares of Common Stock payable in shares of Common Stock) unless (in addition to the obtaining of any consents required elsewhere in this Amended and Restated Certificate of Incorporation) the holders of shares of Preferred Stock then outstanding shall first receive, or simultaneously receive, a dividend on each outstanding share of Preferred Stock in an amount at least equal to the sum of (i) the amount of the aggregate Accruing Dividends then accrued on such share of Preferred Stock and not previously paid and (ii) (A) in the case of a dividend on Common Stock or any class or series that is convertible into Common Stock, that dividend per share of Preferred Stock as would equal the product of (1) the dividend payable on each share of such class or series determined, if applicable, as if all shares of such class or series had been converted into Common Stock and (2) the number of shares of Common Stock issuable upon conversion of a share of Preferred Stock, in each case calculated on the record date for determination of holders entitled to receive such dividend or (B) in the case of a dividend on any class or series that is not convertible into Common Stock, at a rate per share of Preferred Stock determined by (1) dividing the amount of the dividend payable on each share of such class or series of capital stock by the original issuance price of such class or series of capital stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to such class or series) and (2) multiplying such quotient by an amount equal to the applicable Original Issue Price; provided that, if the Corporation declares, pays or sets aside, on the same date, a dividend on shares of more than one class or series of capital stock of the Corporation, the dividend payable to the holders of Preferred Stock pursuant to this Section 1.1 shall be calculated based upon the dividend on the class or series of capital stock that would result in the highest Preferred Stock dividend. The holders of the outstanding Series A Preferred Stock can waive any dividend preference that such holders shall be entitled to receive under this Subsection 1.1 upon the affirmative vote or written consent of the holders of at least fifty seven percent (57%) of the shares of Series A Preferred Stock then outstanding (voting as a separate series). The holders of the outstanding Series B Preferred Stock can waive any dividend preference that such holders shall be entitled to receive under this Subsection 1.1 upon the affirmative vote or written consent of the holders of at least sixty percent (60%) of the shares of Series B Preferred Stock then outstanding (voting as a separate series). The holders of the outstanding Series C Preferred Stock can waive any dividend preference that such holders shall be entitled to receive under this Subsection 1.1 upon the affirmative vote or written consent of the holders of at least sixty percent (60%) of the shares of Series C Preferred Stock then outstanding (voting as a separate series).

1.2 After payment in full of the Accruing Dividends to the holders of Preferred Stock in accordance with Subsection 1.1, the Corporation shall not declare, pay or set aside any dividends on shares of any other class or series of capital stock of the Corporation (other than dividends on shares of Common Stock payable in shares of Common Stock or Accruing Dividends to the holders of Preferred Stock in accordance with Subsection 1.1) unless (in addition to the obtaining of any consents required elsewhere in this Amended and Restated Certificate of Incorporation) the holders of each series of Preferred Stock then outstanding shall first receive, or simultaneously receive, a dividend on each outstanding share of such series of Preferred Stock in an amount at least equal to (i) in the case of a dividend on Common Stock or any class or series that is convertible into Common Stock, that dividend per share of such series of Preferred Stock as would equal the product of (A) the dividend payable on each share of such class or series determined, if applicable, as if all shares of such class or series had been converted into Common Stock and (B) the number of shares of Common Stock issuable upon conversion of a share of such series of Preferred Stock, in each case calculated on the record date for determination of holders entitled to receive such dividend or (ii) in the case of a dividend on any class or series that is not convertible into Common Stock, at a rate per share of such series of Preferred Stock determined by (A) dividing the amount of the dividend payable on each share of such class or series of capital stock by the original issuance price of such class or series of capital stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to such class or series) and (B) multiplying such fraction by an amount equal to the Original Issue Price

applicable to such series of Preferred Stock; provided that, if the Corporation declares, pays or sets aside, on the same date, a dividend on shares of more than one class or series of capital stock of the Corporation, the dividend payable to the holders of any series of Preferred Stock pursuant to this Section 1 shall be calculated based upon the dividend on the class or series of capital stock that would result in the highest dividend on such series of Preferred Stock.

2. Liquidation, Dissolution or Winding Up; Certain Mergers, Consolidations and Asset Sales.

2.1 Preferential Payments to Holders of Preferred Stock.

2.1.1 In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation, the holders of shares of Series C Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its stockholders, and in the event of a Deemed Liquidation Event (as defined below), the holders of shares of Series C Preferred Stock then outstanding shall be entitled to be paid out of the consideration payable to stockholders in such Deemed Liquidation Event or out of the Available Proceeds (as defined below), as applicable, before any payment shall be made to the holders of Series B Preferred Stock, Series A Preferred Stock or Common Stock by reason of their ownership thereof, an amount per share equal to the greater of (i) one times (1x) the Original Issue Price applicable to the Series C Preferred Stock, plus any Accruing Dividends accrued but unpaid thereon applicable to the Series C Preferred Stock (which Accruing Dividends shall be paid out in cash), whether or not declared, together with any other dividends declared but unpaid thereon, or (ii) such amount per share as would have been payable had all shares of Series C Preferred Stock been converted into Common Stock pursuant to Section 4 immediately prior to such liquidation, dissolution, winding up or Deemed Liquidation Event. If upon any such liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, the assets of the Corporation available for distribution to its stockholders shall be insufficient to pay the holders of shares of Series C Preferred Stock the full amount to which they shall be entitled under this Subsection 2.1.1, the holders of shares of Series C Preferred Stock shall share ratably in any distribution of the assets available for distribution in proportion to the respective amounts which would otherwise be payable in respect of the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full. The aggregate amount which a holder of a share of Series C Preferred Stock is entitled to receive under this Subsection 2.1.1 is hereinafter referred to as the “**Series C Liquidation Amount**”.

2.1.2 Following the payment in full of the Series C Liquidation Amount, in the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation, the holders of shares of Series B Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its stockholders, and in the event of a Deemed Liquidation Event (as defined below), the holders of shares of Series B Preferred Stock then outstanding shall be entitled to be paid out of the consideration payable to stockholders in such Deemed Liquidation Event or out of the Available Proceeds (as defined below), as applicable, before any payment shall be made to the holders of Series A Preferred Stock or Common Stock by reason of their ownership thereof, an amount per share equal to the greater of (i) one times (1x) the Original Issue Price applicable to the Series B Preferred Stock, plus any Accruing Dividends accrued but unpaid thereon applicable to the Series B Preferred Stock (which Accruing Dividends shall be paid out in cash), whether or not declared, together with any other dividends declared but unpaid thereon, or (ii) such amount per share as would have been payable had all shares of Series B Preferred Stock been converted into Common Stock pursuant to Section 4 immediately prior to such liquidation, dissolution, winding up or Deemed Liquidation Event. If upon any such liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, the assets of the Corporation available for distribution to its stockholders shall be insufficient to pay the holders of shares of Series B Preferred Stock the full amount to which they shall be entitled under this Subsection 2.1.2, the holders of shares of Series B Preferred Stock shall share ratably in any distribution of the assets available for distribution in proportion to the respective amounts

which would otherwise be payable in respect of the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full. The aggregate amount which a holder of a share of Series B Preferred Stock is entitled to receive under this Subsection 2.1.2 is hereinafter referred to as the “**Series B Liquidation Amount**”.

2.1.3 Following the payment in full of the Series C Liquidation Amount and the Series B Liquidation Amount, in the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation, the holders of shares of Series A Preferred Stock then outstanding shall be entitled to be paid out of the remaining assets of the Corporation available for distribution to its stockholders, and in the event of a Deemed Liquidation Event (as defined below), the holders of shares of Series A Preferred Stock then outstanding shall be entitled to be paid out of the remaining consideration payable to stockholders in such Deemed Liquidation Event or out of the Available Proceeds (as defined below), as applicable, before any payment shall be made to the holders of Common Stock by reason of their ownership thereof, an amount per share equal to the greater of (i) one times (1x) the Original Issue Price applicable to the Series A Preferred Stock, plus any Accruing Dividends accrued but unpaid thereon applicable to the Series A Preferred Stock (which Accruing Dividends shall be paid out in cash), whether or not declared, together with any other dividends declared but unpaid thereon, or (ii) such amount per share as would have been payable had all shares of Series A Preferred Stock been converted into Common Stock pursuant to Section 4 immediately prior to such liquidation, dissolution, winding up or Deemed Liquidation Event. If upon any such liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, the assets of the Corporation available for distribution to its stockholders shall be insufficient to pay the holders of shares of Series A Preferred Stock the full amount to which they shall be entitled under this Subsection 2.1.2, the holders of shares of Series A Preferred Stock shall share ratably in any distribution of the assets available for distribution in proportion to the respective amounts which would otherwise be payable in respect of the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full. The aggregate amount which a holder of a share of Series A Preferred Stock is entitled to receive under this Subsection 2.1.2 is hereinafter referred to as the “**Series A Liquidation Amount**”. The Series A Liquidation Amount, in the case of the Series A Preferred Stock, the Series B Liquidation Amount, in the case of the Series B Preferred Stock, and the Series C Liquidation Amount, in the case of the Series C Preferred Stock, are individually or collectively, as applicable, referred to herein as, the “**Applicable Liquidation Amount**”.

2.2 Payments to Holders of Common Stock. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation, after the payment in full of all Applicable Liquidation Amounts required to be paid to the holders of shares of Preferred Stock, the remaining assets of the Corporation available for distribution to its stockholders or, in the case of a Deemed Liquidation Event, the consideration not payable to the holders of shares of Preferred Stock pursuant to Subsections 2.1.1 and 2.1.2 or the remaining Available Proceeds, as the case may be, shall be distributed among the holders of shares of Common Stock, pro rata based on the number of shares held by each such holder.

2.3 Deemed Liquidation Events.

2.3.1 Definition. Each of the following events shall be considered a “**Deemed Liquidation Event**” unless the holders of each of (x) a majority of the then outstanding shares of Preferred Stock (voting together as a single class, and not as separate series, and on an as converted to Common Stock basis) (such holders, the “**Requisite Preferred Holders**”) and (y) at least sixty percent (60%) of the then outstanding shares of Series C Preferred Stock (voting separately as a series) elect otherwise by written notice sent to the Corporation at least five (5) days prior to the effective date of any such event:

- (a) a merger or consolidation in which
 - (i) the Corporation is a constituent party or

- (ii) a subsidiary of the Corporation is a constituent party and the Corporation issues shares of its capital stock pursuant to such merger or consolidation,

except any such merger or consolidation involving the Corporation or a subsidiary in which the shares of capital stock of the Corporation outstanding immediately prior to such merger or consolidation continue to represent, or are converted into or exchanged for shares of capital stock that represent, immediately following such merger or consolidation, a majority, by voting power, of the capital stock of (1) the surviving or resulting corporation; or (2) if the surviving or resulting corporation is a wholly owned subsidiary of another corporation immediately following such merger or consolidation, the parent corporation of such surviving or resulting corporation; or

(b) the sale, lease, transfer, exclusive license or other disposition, in a single transaction or series of related transactions, by the Corporation or any subsidiary of the Corporation of all or substantially all the assets of the Corporation and its subsidiaries taken as a whole, or the sale or disposition (whether by merger, consolidation or otherwise, and whether in a single transaction or a series of related transactions) of one or more subsidiaries of the Corporation if substantially all of the assets of the Corporation and its subsidiaries taken as a whole are held by such subsidiary or subsidiaries, except where such sale, lease, transfer, exclusive license or other disposition is to a wholly owned subsidiary of the Corporation.

2.3.2 Effecting a Deemed Liquidation Event.

(a) *Preservation of Preference.* The Corporation shall not have the power to effect a Deemed Liquidation Event referred to in Subsection 2.3.1(a)(i) unless the agreement or plan of merger or consolidation for such transaction (the “**Merger Agreement**”) provides that the consideration payable to the stockholders of the Corporation in such Deemed Liquidation Event shall be paid to the holders of capital stock of the Corporation in accordance with Subsections 2.1 and 2.2.

(b) *Redemption Request; Available Proceeds.* In the event of a Deemed Liquidation Event referred to in Subsection 2.3.1(a)(ii) or 2.3.1(b), if the Corporation does not effect a dissolution of the Corporation under the General Corporation Law within ninety (90) days after such Deemed Liquidation Event, then (i) the Corporation shall send a written notice to each holder of Preferred Stock no later than the ninetieth (90th) day after the Deemed Liquidation Event advising such holders of their right (and the requirements to be met to secure such right) pursuant to the terms of the following clause; (ii) to require the redemption of such shares of Preferred Stock, and (iii) if the Requisite Preferred Holders so request in a written instrument (the “**Redemption Request**”) delivered to the Corporation not later than one hundred twenty (120) days after such Deemed Liquidation Event, the Corporation shall use the consideration received by the Corporation for such Deemed Liquidation Event (net of any retained liabilities associated with the assets sold or technology licensed, as determined in good faith by the Board), together with any other assets of the Corporation available for distribution to its stockholders, all to the extent permitted by Delaware law governing distributions to stockholders (the “**Available Proceeds**”), on the one hundred fiftieth (150th) day after such Deemed Liquidation Event (such date, the “**Redemption Date**”), to redeem all outstanding shares of each series of Preferred Stock for the Applicable Liquidation Amount for such series. Notwithstanding the foregoing, in the event of a redemption pursuant to the preceding sentence, if the Available Proceeds are not sufficient to redeem all outstanding shares of Preferred Stock, the Corporation shall ratably redeem each holder’s shares of Preferred Stock to the fullest extent of such Available Proceeds in accordance with the preferences set forth in Subsection 2.1, and shall redeem the remaining shares as soon as it may lawfully do so under Delaware law governing distributions to stockholders. Prior to the distribution or redemption provided for in this Subsection 2.3.2, the Corporation shall not expend or dissipate the consideration received for such Deemed Liquidation Event, except to discharge expenses incurred in connection with such Deemed Liquidation Event or in the ordinary course of business.

(c) *Redemption Notice.* In the event the Corporation timely receives a Redemption Request pursuant to Subsection 2.3.2(b), the Corporation shall send written notice of the mandatory redemption (the “**Redemption Notice**”) to each holder of record of Preferred Stock subject to the Redemption Request not less than thirty (30) days prior to the Redemption Date, which Redemption Notices shall state: (i) the number and series of shares of Preferred Stock held by the holder that the Corporation shall redeem on the Redemption Date specified in the Redemption Notice; (ii) the Redemption Date and the redemption price; (iii) the date upon which the holder’s right to convert such shares terminates; and (iv) for holders of shares in certificated form, that the holder is to surrender to the Corporation, in the manner and at the place designated, his, her or its certificate or certificates representing the shares of Preferred Stock to be redeemed.

(d) *Surrender of Certificates; Payment.* On or before the applicable Redemption Date, each holder of shares of Preferred Stock to be redeemed on such Redemption Date, unless such holder has exercised his, her or its right to convert such shares as provided in Section 4, shall, if a holder of shares in certificated form, surrender the certificate or certificates representing such shares (or, if such registered holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate) to the Corporation, in the manner and at the place designated in the Redemption Notice, and thereupon the portion of Available Proceeds applicable for such shares shall be payable to the order of the person or entity whose name appears on such certificate or certificates as the owner thereof. In the event less than all of the shares of Preferred Stock represented by a certificate are redeemed, a new certificate representing the unredeemed shares of Preferred Stock shall promptly be issued to such holder or a new book entry shall be made representing the unredeemed shares of Preferred Stock, as applicable.

(e) *Rights Subsequent to Redemption.* If the Redemption Notice shall have been duly given, and if on the applicable Redemption Date the portion of Available Proceeds payable upon redemption of the shares of Preferred Stock to be redeemed on such Redemption Date is paid or tendered for payment or deposited with an independent payment agent so as to be available therefor in a timely manner, then notwithstanding that any certificates evidencing any of the shares of Preferred Stock so called for redemption shall not have been surrendered, all rights with respect to such shares shall forthwith after the Redemption Date terminate, except only the right of the holders to receive the portion of Available Proceeds applicable to such holders’ shares of Preferred Stock, without interest upon surrender of any such certificate or certificates therefor.

2.3.3 Amount Deemed Paid or Distributed. The amount deemed paid or distributed to the holders of capital stock of the Corporation upon any such merger, consolidation, sale, transfer, exclusive license, other disposition or redemption shall be the cash or the value of the property, rights or securities paid or distributed to such holders by the Corporation or the acquiring person, firm or other entity. If the amount deemed paid or distributed under this Subsection 2.3.3 is made in property other than in cash, the value of such distribution shall be the fair market value of such property, determined as follows:

(a) If the value of such property is established in the definitive documentation entered into in connection with such transaction (the “**Acquisition Agreement**”), then the fair market value shall be established using the method set forth in the Acquisition Agreement.

(b) If Subsection 2.3.3(a) is not applicable, then for securities not subject to investment letters or other similar restrictions on free marketability:

(i) if traded on a securities exchange, the value shall be deemed to be the average of the closing prices of the securities on such exchange or market over the thirty (30) day period ending three (3) days prior to the closing of such transaction;

(ii) if actively traded over-the-counter, the value shall be deemed to be the average of the closing bid prices over the thirty (30) day period ending three (3) days prior to the closing of such transaction; or

(iii) if there is no active public market, the value shall be the fair market value thereof, as determined in good faith by the Board, including the Requisite Investor Directors.

2.3.4 If Subsection 2.3.3(a) is not applicable, then the method of valuation of securities subject to investment letters or other similar restrictions on free marketability (other than restrictions arising solely by virtue of a stockholder's status as an affiliate or former affiliate) shall take into account an appropriate discount (as determined in good faith by the Board, including the Requisite Investor Directors) from the market value as determined pursuant to clause (b) above so as to reflect the approximate fair market value thereof.

2.3.5 Allocation of Escrow and Contingent Consideration. In the event of a Deemed Liquidation Event pursuant to Subsection 2.3.1(a)(i), if any portion of the consideration payable to the stockholders of the Corporation is payable only upon satisfaction of contingencies (the "**Additional Consideration**"), the Merger Agreement shall provide that (a) the portion of such consideration that is not Additional Consideration (such portion, the "**Initial Consideration**") shall be allocated among the holders of capital stock of the Corporation in accordance with Subsections 2.1 and 2.2 as if the Initial Consideration were the only consideration payable in connection with such Deemed Liquidation Event; and (b) any Additional Consideration which becomes payable to the stockholders of the Corporation upon satisfaction of such contingencies shall be allocated among the holders of capital stock of the Corporation in accordance with Subsections 2.1 and 2.2 after taking into account the previous payment of the Initial Consideration as part of the same transaction. For the purposes of this Subsection 2.3.4, consideration placed into escrow or retained as holdback to be available for satisfaction of indemnification or similar obligations in connection with such Deemed Liquidation Event shall be deemed to be Additional Consideration.

3. Voting.

3.1 General. On any matter presented to the stockholders of the Corporation for their action or consideration at any meeting of stockholders of the Corporation (or by written consent of stockholders in lieu of meeting), each holder of outstanding shares of Preferred Stock shall be entitled to cast the number of votes equal to the number of whole shares of Common Stock into which the shares of Preferred Stock held by such holder are convertible as of the record date for determining stockholders entitled to vote on such matter. Except as provided by law or by the other provisions of this Amended and Restated Certificate of Incorporation, holders of Preferred Stock shall vote together with the holders of Common Stock as a single class and on an as converted to Common Stock basis.

3.2 Election of Directors. The holders of record of the shares of Series A Preferred Stock, exclusively and as a separate series, shall be entitled to elect up to four (4) directors of the Corporation (the "**Series A Directors**"), the holders of record of the shares of Series B Preferred Stock, exclusively and as a separate series, shall be entitled to elect two (2) directors of the Corporation (the "**Series B Directors**") and the holders of record of the shares of Series C Preferred Stock, exclusively

and as a separate series, shall be entitled to elect one (1) director of the Corporation (the “**Series C Director**” and, collectively with the Series A Directors and the Series B Directors, the “**Preferred Directors**”). For administrative convenience, the initial Series C Director may also be appointed by the Board in connection with the approval of the initial issuance of Series C Preferred Stock without a separate action by the holders of record of the shares of the applicable series of Preferred Stock. Any director elected as provided in the first sentence of this Subsection 3.2 may be removed without cause by, and only by, the affirmative vote of the holders of the shares of the class or series of capital stock entitled to elect such director or directors, given either at a special meeting of such stockholders duly called for that purpose or pursuant to a written consent of stockholders. If the holders of shares of Series A Preferred Stock, Series B Preferred Stock or Series C Preferred Stock, as the case may be, fail to elect a sufficient number of directors to fill all directorships for which they are entitled to elect directors, voting exclusively and as a separate class, pursuant to the first sentence of this Subsection 3.2, then any directorship not so filled shall remain vacant until such time as the holders of the shares of Series A Preferred Stock, Series B Preferred Stock or Series C Preferred Stock, as the case may be, elect a person to fill such directorship by vote or written consent in lieu of a meeting; and no such directorship may be filled by stockholders of the Corporation other than by the stockholders of the Corporation that are entitled to elect a person to fill such directorship, voting exclusively and as a separate class. The holders of record of the shares of Common Stock and of any other class or series of voting stock (including the Preferred Stock), exclusively and voting together as a single class, shall be entitled to elect the balance of the total number of directors of the Corporation. At any meeting held for the purpose of electing a director, the presence in person or by proxy of the holders of a majority of the outstanding shares of the class or series entitled to elect such director shall constitute a quorum for the purpose of electing such director. Except as otherwise provided in this Subsection 3.2, a vacancy in any directorship filled by the holders of any class or series shall be filled only by vote or written consent in lieu of a meeting of the holders of such class or series or by any remaining director or directors elected by the holders of such class or series pursuant to this Subsection 3.2.

3.3 Preferred Stock Protective Provisions. At any time when any shares of Preferred Stock are outstanding (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Preferred Stock), the Corporation shall not, either directly or indirectly by amendment, merger, consolidation, recapitalization, reclassification or otherwise, do any of the following without (in addition to any other vote required by law or this Amended and Restated Certificate of Incorporation) the written consent or affirmative vote of the Requisite Preferred Holders, given in writing or by vote at a meeting, consenting or voting (as the case may be) separately as a class, and any such act or transaction entered into without such consent or vote shall be null and void *ab initio*, and of no force or effect.

3.3.1 liquidate, dissolve or wind-up the business and affairs of the Corporation, effect any merger or consolidation or any other Deemed Liquidation Event, or consent to any of the foregoing;

3.3.2 amend, alter or repeal any provision of this Amended and Restated Certificate of Incorporation or Bylaws of the Corporation;

3.3.3 create, or authorize the creation of, or issue or obligate itself to issue shares of, any additional class or series of capital stock unless the same ranks junior to each series of Preferred Stock with respect to the distribution of assets on the liquidation, dissolution or winding up of the Corporation, the payment of dividends and rights of redemption, or increase the authorized number of shares of any class or series of Preferred Stock or Common Stock;

3.3.4 (i) reclassify, alter or amend any existing security of the Corporation that is pari passu with any series of Preferred Stock in respect of the distribution of assets on the liquidation, dissolution or winding up of the Corporation, the payment of dividends or rights of redemption, if such reclassification, alteration or amendment would render such other security senior to such series of Preferred Stock in respect of any such right, preference, or privilege or (ii) reclassify, alter or amend any existing security of the Corporation that is junior to any series of Preferred Stock in respect of the distribution of assets on the liquidation, dissolution or winding up of the Corporation, the payment of dividends or rights of redemption, if such reclassification, alteration or amendment would render such other security senior to or pari passu with such series of Preferred Stock in respect of any such right, preference or privilege;

3.3.5 purchase or redeem (or permit any subsidiary to purchase or redeem) or pay or declare any dividend or make any distribution on, any shares of capital stock of the Corporation other than (i) redemptions of or dividends or distributions on the Preferred Stock as expressly authorized herein, including, without limitation, the Accruing Dividends, and (ii) repurchases of stock from former employees, officers, directors, consultants or other persons who performed services for the Corporation or any subsidiary in connection with the cessation of such employment or service at no greater than the original purchase price or then-current fair market value thereof;

3.3.6 create, or authorize the creation of, or issue, or authorize the issuance of any debt security or create any lien or security interest (except for purchase money liens or statutory liens of landlords, mechanics, materialmen, workmen, warehousemen and other similar persons arising or incurred in the ordinary course of business) or incur other indebtedness for borrowed money, including but not limited to obligations and contingent obligations under guarantees, or permit any subsidiary to take any such action with respect to any debt security lien, security interest or other indebtedness for borrowed money, if the aggregate indebtedness of the Corporation and its subsidiaries for borrowed money following such action would exceed \$250,000 other than equipment leases, bank lines of credit or trade payables incurred in the ordinary course;

3.3.7 adopt any new equity incentive or similar plan, or increase the number of shares of capital stock reserved for issuance under, or otherwise amend, the Corporation's 2018 Stock Plan or any other equity incentive or similar plan;

3.3.8 grant an exclusive license to any of the Corporation's material intellectual property rights;

3.3.9 create or hold any capital stock in any direct or indirect subsidiary of the Corporation that is not wholly-owned;

3.3.10 dispose of any of the Corporation's capital stock in any direct or indirect subsidiary of the Corporation or permit any direct or indirect subsidiary to sell, lease, transfer, exclusively license or otherwise dispose (in a single transaction or series of related transactions) of all or substantially all of the assets of such subsidiary;

3.3.11 issue any equity interest in any direct or indirect subsidiary of the Corporation (other than to the Corporation itself or one of the Corporation's wholly-owned subsidiaries);

3.3.12 sell, issue sponsor, create or distribute (or cause or permit any of the Corporation's subsidiaries to sell, issue, sponsor, create or distribute) any digital tokens, cryptocurrency or other block-chain based assets (collectively, "**Tokens**"), including through a pre-sale, initial coin offering, token distribution event or crowdfunding, or through the issuance of any instrument convertible into or exchangeable for Tokens;

3.3.13 enter into any joint venture, partnership or spinoff transaction;

3.3.14 acquire all or substantially all of the properties, assets or capital stock of any other company or entity (other than a subsidiary of the Corporation), in a single transaction or series of related transactions, if the consideration paid in such transaction or series of related transactions exceeds \$1,000,000;

3.3.15 increase or decrease the authorized number of directors constituting the Board;

3.3.16 enter into any royalty or similar agreement with any of the Company's scientific founders; or

3.3.17 take any action with respect to any direct or indirect subsidiary of the Corporation, that if taken by the Corporation, would require approval pursuant to this Subsection 3.3.

3.4 Series A Preferred Stock Special Protective Provision. At any time when any shares of Series A Preferred Stock are outstanding (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series A Preferred Stock), the Corporation shall not, either directly or indirectly by amendment, merger, consolidation, recapitalization, reclassification or otherwise, do any of the following without (in addition to any other vote required by law or this Amended and Restated Certificate of Incorporation) the written consent or affirmative vote of the holders of at least fifty seven percent (57%) of the shares of Series A Preferred Stock then outstanding, given in writing or by vote at a meeting, consenting or voting (as the case may be) separately as a series, and any such act or transaction entered into without such consent or vote shall be null and void ab initio, and of no force or effect.

3.4.1 amend, alter or repeal any provision of this Amended and Restated Certificate of Incorporation or Bylaws of the Corporation in a manner that adversely affects the powers, preferences or rights of the Series A Preferred Stock in a manner that is different and disproportionate related to any other series of Preferred Stock; provided, that, the Series A Preferred Stock shall not be deemed to be affected differently or disproportionately from other series of Preferred Stock due to proportional differences in the amounts of their respective liquidation preferences, conversion prices or other price-derived terms that arise as a result of differing original issue prices of the respective series of Preferred Stock; provided further, that, in no event shall the authorization or issuance of new securities in a future equity financing of the Company (including the adoption of any new liquidation preferences or lower valuations of such new series or additional class or series of securities), or the grant or provision of any new or additional rights to a new class or series of Preferred Stock (or the holders thereof) authorized or created in connection with such a financing, be deemed to affect the powers, preferences or rights of the Series A Preferred Stock in a manner that is different and disproportionate from the effect of such authorization or issuance on any such other series of Preferred Stock; or

3.4.2 amend, alter, waive or repeal this Subsection 3.4.

3.5 Series B Preferred Stock Special Protective Provision. At any time when any shares of Series B Preferred Stock are outstanding (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series B Preferred Stock), the Corporation shall not, either directly or indirectly by amendment, merger, consolidation, recapitalization, reclassification or otherwise, do any of the following without (in addition to any other vote required by law or this Amended and Restated Certificate of Incorporation) the written consent or affirmative vote of the holders of at least sixty percent (60%) of the then outstanding shares of Series B Preferred Stock, given in writing or by vote at a meeting, consenting or voting (as the case may be) separately as a series, and any such act or transaction entered into without such consent or vote shall be null and void ab initio, and of no force or effect.

3.5.1 amend, alter or repeal any provision of this Amended and Restated Certificate of Incorporation or Bylaws of the Corporation in a manner that adversely affects the powers, preferences or rights of the Series B Preferred Stock in a manner that is different and disproportionate related to any other series of Preferred Stock; provided, that, the Series B Preferred Stock shall not be deemed to be affected differently or disproportionately from other series of Preferred Stock due to proportional differences in the amounts of their respective liquidation preferences, conversion prices or other price-derived terms that arise as a result of differing original issue prices of the respective series of Preferred Stock; provided further, that, in no event shall the authorization or issuance of new securities in a future equity financing of the Company (including the adoption of any new liquidation preferences or lower valuations of such new series or additional class or series of securities), or the grant or provision of any new or additional rights to a new class or series of Preferred Stock (or the holders thereof) authorized or created in connection with such a financing, be deemed to affect the powers, preferences or rights of the Series B Preferred Stock in a manner that is different and disproportionate from the effect of such authorization or issuance on any such other series of Preferred Stock; or

3.5.2 amend, alter, waive or repeal this Subsection 3.5.

3.6 Series C Preferred Stock Special Protective Provision. At any time when any shares of Series C Preferred Stock are outstanding (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series C Preferred Stock), the Corporation shall not, either directly or indirectly by amendment, merger, consolidation, recapitalization, reclassification or otherwise, do any of the following without (in addition to any other vote required by law or this Amended and Restated Certificate of Incorporation) the written consent or affirmative vote of the holders of at least sixty percent (60%) of the then outstanding shares of Series C Preferred Stock, given in writing or by vote at a meeting, consenting or voting (as the case may be) separately as a series, and any such act or transaction entered into without such consent or vote shall be null and void ab initio, and of no force or effect.

3.6.1 amend, alter or repeal any provision of this Amended and Restated Certificate of Incorporation or Bylaws of the Corporation in a manner that adversely affects the powers, preferences or rights of the Series C Preferred Stock in a manner that is different and disproportionate related to any other series of Preferred Stock; provided, that, the Series C Preferred Stock shall not be deemed to be affected differently or disproportionately from other series of Preferred Stock due to proportional differences in the amounts of their respective liquidation preferences, conversion prices or other price-derived terms that arise as a result of differing original issue prices of the respective series of Preferred Stock; provided further, that, in no event shall the authorization or issuance of new securities in a future equity financing of the Company (including the adoption of any new liquidation preferences or lower valuations of such new series or additional class or series of securities), or the grant or provision of any new or additional rights to a new class or series of Preferred Stock (or the holders thereof) authorized or created in connection with such a financing, be deemed to affect the powers, preferences or rights of the Series C Preferred Stock in a manner that is different and disproportionate from the effect of such authorization or issuance on any such other series of Preferred Stock;

3.6.2 increase or decrease (other than by conversion) the total number of authorized shares of Series C Preferred Stock, or issue or sell any shares of Series C Preferred Stock other than pursuant to that certain Series C Preferred Stock Purchase Agreement by and among the Corporation and the other parties thereto dated on or about the date that this Amended and Restated Certificate of Incorporation was filed with the Secretary of State of the State of Delaware;

3.6.3 purchase or redeem (or permit any subsidiary to purchase or redeem) or pay or declare any dividend or make any distribution on, any shares of capital stock of the Corporation prior to the Series C Preferred Stock, other than repurchases of stock from former employees, officers, directors, consultants or other persons who performed services for the Corporation or any subsidiary in connection with the cessation of such employment or service at no greater than the original purchase price thereof;

3.6.4 reclassify, alter or amend any existing security of the Corporation that is pari passu with the Series C Preferred Stock in respect of the distribution of assets on the liquidation, dissolution or winding up of the Corporation, the payment of dividends or rights of redemption, if such reclassification, alteration or amendment would render such other security senior to the Series C Preferred Stock in respect of any such right, preference, or privilege or (ii) reclassify, alter or amend any existing security of the Corporation that is junior to the Series C Preferred Stock in respect of the distribution of assets on the liquidation, dissolution or winding up of the Corporation, the payment of dividends or rights of redemption, if such reclassification, alteration or amendment would render such other security senior to or pari passu with such the Series C Preferred Stock in respect of any such right, preference or privilege; or

3.6.5 amend, alter, waive or repeal this Subsection 3.6.

4. Optional Conversion.

The holders of the Preferred Stock shall have conversion rights as follows (the “**Conversion Rights**”):

4.1 Right to Convert.

4.1.1 Conversion Ratio. Each share of Preferred Stock shall be convertible, at the option of the holder thereof, at any time and from time to time, and without the payment of additional consideration by the holder thereof, into such number of fully paid and non-assessable shares of Common Stock as is determined by dividing the applicable Original Issue Price by the applicable Conversion Price (as defined below) in effect at the time of conversion. The applicable “**Conversion Price**” shall initially be equal to (i) with respect to the Series A Preferred Stock, \$0.95 per share, (ii) with respect to the Series B Preferred Stock, \$1.10 per share and (iii) with respect to the Series C Preferred Stock, \$1.4258 per share. Such initial applicable Conversion Price, and the rate at which shares of Preferred Stock may be converted into shares of Common Stock, shall be subject to adjustment as provided below.

4.1.2 Termination of Conversion Rights. In the event of a notice of redemption of any shares of Preferred Stock pursuant to Subsection 2.3.2, the Conversion Rights of the shares of Preferred Stock designated for redemption shall terminate at the close of business on the last full day preceding the date fixed for redemption, unless the redemption price is not fully paid on such redemption date, in which case the Conversion Rights for such shares shall continue until such price is paid in full. In the event of a liquidation, dissolution or winding up of the Corporation or a Deemed Liquidation Event, the Conversion Rights shall terminate at the close of business on the last full day preceding the date fixed for the payment of any such amounts distributable on such event to the holders of Preferred Stock; provided that the foregoing termination of Conversion Rights shall not affect the amount(s) others paid or payable in accordance with Section 2.1 to holder of Preferred Stock pursuant to such liquidation, dissolution, winding up of the Corporation or a Deemed Liquidation Event.

4.2 Fractional Shares. No fractional shares of Common Stock shall be issued upon conversion of the Preferred Stock. In lieu of any fractional shares to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the fair market value of a share of Common Stock as determined in good faith by the Board. Whether or not fractional shares would be issuable upon such conversion shall be determined on the basis of the total number of shares of Preferred Stock the holder is at the time converting into Common Stock and the aggregate number of shares of Common Stock issuable upon such conversion.

4.3 Mechanics of Conversion.

4.3.1 Notice of Conversion. In order for a holder of Preferred Stock to voluntarily convert shares of Preferred Stock into shares of Common Stock, such holder shall (a) provide written notice to the Corporation's transfer agent at the office of the transfer agent for the Preferred Stock (or at the principal office of the Corporation if the Corporation serves as its own transfer agent) that such holder elects to convert all or any number of such holder's shares of Preferred Stock and, if applicable, any event on which such conversion is contingent and (b), if such holder's shares are certificated, surrender the certificate or certificates for such shares of Preferred Stock (or, if such registered holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate), at the office of the transfer agent for the Preferred Stock (or at the principal office of the Corporation if the Corporation serves as its own transfer agent). Such notice shall state such holder's name or the names of the nominees in which such holder wishes the shares of Common Stock to be issued. If required by the Corporation, any certificates surrendered for conversion shall be endorsed or accompanied by a written instrument or instruments of transfer, in form satisfactory to the Corporation, duly executed by the registered holder or his, her or its attorney duly authorized in writing. The close of business on the date of receipt by the transfer agent (or by the Corporation if the Corporation serves as its own transfer agent) of such notice and, if applicable, certificates (or lost certificate affidavit and agreement) shall be the time of conversion (the "**Conversion Time**"), and the shares of Common Stock issuable upon conversion of the specified shares shall be deemed to be outstanding of record as of such date. The Corporation shall, as soon as practicable after the Conversion Time (i) issue and deliver to such holder of Preferred Stock, or to his, her or its nominees, a certificate or certificates for the number of full shares of Common Stock issuable upon such conversion in accordance with the provisions hereof and a certificate for the number (if any) of the shares of Preferred Stock represented by the surrendered certificate that were not converted into Common Stock, (ii) pay in cash such amount as provided in Subsection 4.2 in lieu of any fraction of a share of Common Stock otherwise issuable upon such conversion and (iii) pay all declared but unpaid dividends on the shares of Preferred Stock converted.

4.3.2 Reservation of Shares. The Corporation shall at all times when the Preferred Stock shall be outstanding, reserve and keep available out of its authorized but unissued capital stock, for the purpose of effecting the conversion of each series of Preferred Stock, such number of its duly authorized shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding shares of each series of Preferred Stock; and if at any time the number of authorized but unissued shares of Common Stock shall not be sufficient to effect the conversion of all then outstanding shares of the Preferred Stock, the Corporation shall take such corporate action as may be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purposes, including, without limitation, engaging in best efforts to obtain the requisite stockholder approval of any necessary amendment to this Amended and Restated Certificate of Incorporation. Before taking any action which would cause an adjustment reducing the applicable Conversion Price below the then par value of the shares of Common Stock issuable upon conversion of such series of Preferred Stock, the Corporation will take any corporate action which may, in the opinion of its counsel, be necessary in order that the Corporation may validly and legally issue fully paid and non-assessable shares of Common Stock at such adjusted applicable Conversion Price.

4.3.3 Effect of Conversion. All shares of Preferred Stock which shall have been surrendered for conversion as herein provided shall no longer be deemed to be outstanding and all rights with respect to such shares shall immediately cease and terminate at the Conversion Time, except only the right of the holders thereof to receive shares of Common Stock in exchange therefor, to receive payment in lieu of any fraction of a share otherwise issuable upon such conversion as provided in Subsection 4.2 and to receive payment of any dividends declared but unpaid thereon. Any shares of Preferred Stock so converted shall be retired and cancelled and may not be reissued as shares of such series, and the Corporation may thereafter take such appropriate action (without the need for stockholder action) as may be necessary to reduce the authorized number of shares of the applicable series of Preferred Stock accordingly.

4.3.4 No Further Adjustment. Upon any such conversion, no adjustment to the Conversion Price applicable to any series of Preferred Stock shall be made for any Accruing Dividends (if applicable to such series of Preferred Stock) or any declared but unpaid dividends on such series of Preferred Stock surrendered for conversion or on the Common Stock delivered upon conversion.

4.3.5 Taxes. The Corporation shall pay any and all issue and other similar taxes that may be payable in respect of any issuance or delivery of shares of Common Stock upon conversion of shares of Preferred Stock pursuant to this Section 4. The Corporation shall not, however, be required to pay any tax which may be payable in respect of any transfer involved in the issuance and delivery of shares of Common Stock in a name other than that in which the shares of Preferred Stock so converted were registered, and no such issuance or delivery shall be made unless and until the person or entity requesting such issuance has paid to the Corporation the amount of any such tax or has established, to the satisfaction of the Corporation, that such tax has been paid.

4.4 Adjustments to Conversion Price for Diluting Issues.

4.4.1 Special Definitions. For purposes of this Article Fourth, the following definitions shall apply:

(a) **“Option”** shall mean rights, options or warrants to subscribe for, purchase or otherwise acquire Common Stock or Convertible Securities.

(b) **“Original Issue Date”** shall mean the date on which the first share of Series C Preferred Stock was issued.

(c) **“Convertible Securities”** shall mean any evidences of indebtedness, shares or other securities directly or indirectly convertible into or exchangeable for Common Stock, but excluding Options.

(d) **“Additional Shares of Common Stock”** shall mean all shares of Common Stock issued (or, pursuant to Subsection 4.4.3 below, deemed to be issued) by the Corporation after the Original Issue Date, other than (1) the following shares of Common Stock and (2) shares of Common Stock deemed issued pursuant to the following Options and Convertible Securities (clauses (1) and (2), collectively, **“Exempted Securities”**):

- (i) as to any series of Preferred Stock, shares of Common Stock, Options or Convertible Securities issued as a dividend or distribution on such series of Preferred Stock;
- (ii) shares of Common Stock, Options or Convertible Securities issued by reason of a dividend, stock split, split-up or other distribution on shares of Common Stock that is covered by Subsection 4.5, 4.6, 4.7 or 4.8;

- (iii) shares of Common Stock or Options issued to employees or directors of, or consultants or advisors to, the Corporation or any of its subsidiaries pursuant to a plan, agreement or arrangement approved by the Board, including the Requisite Investor Directors (as defined in that certain Amended and Restated Investors' Rights Agreement by and among the Corporation and certain stockholders of the Corporation dated on or about the date that this Amended and Restated Certificate of Incorporation was filed with the Secretary of State of the State of Delaware);
- (iv) shares of Common Stock or Convertible Securities actually issued upon the exercise of Options or shares of Common Stock actually issued upon the conversion or exchange of Convertible Securities, in each case provided such issuance is pursuant to the terms of such Option or Convertible Security;
- (v) shares of Common Stock, Options or Convertible Securities issued to banks, equipment lessors or other financial institutions, or to real property lessors, pursuant to a debt financing, equipment leasing or real property leasing transaction that is not primarily for equity financing purposes and is approved by the Board, including the Requisite Investor Directors;
- (vi) shares of Common Stock, Options or Convertible Securities issued to suppliers or third party service providers or to individuals employed by or otherwise affiliated with such third party service providers in connection with the provision of goods or services pursuant to transactions that are not primarily for equity financing purposes and are approved by the Board, including the Requisite Investor Directors;
- (vii) shares of Common Stock, Options or Convertible Securities issued as acquisition consideration pursuant to the acquisition of another corporation by the Corporation by merger, purchase of substantially all of the assets or other reorganization or to a joint venture agreement, provided that such issuances are approved by the Board, including the Requisite Investor Directors; or

- (viii) shares of Common Stock, Options or Convertible Securities issued in connection with sponsored research, collaboration, technology license, development, OEM, marketing or other similar agreements or strategic partnerships approved by the Board, including the Requisite Investor Directors (and if applicable pursuant to Subsection 3.3, the Requisite Preferred Holders).

4.4.2 No Adjustment of Conversion Price. No adjustment in the Conversion Price applicable to the Series A Preferred Stock shall be made as the result of the issuance or deemed issuance of Additional Shares of Common Stock if the Corporation receives written notice from the holders of at least fifty-seven percent (57%) of the then outstanding shares of Series A Preferred Stock, voting as a separate class, agreeing that no such adjustment shall be made as the result of the issuance or deemed issuance of such Additional Shares of Common Stock. No adjustment in the Conversion Price applicable to the Series B Preferred Stock shall be made as the result of the issuance or deemed issuance of Additional Shares of Common Stock if the Corporation receives written notice from the holders of at least sixty percent (60%) of the then outstanding shares of Series B Preferred Stock, voting as a separate class, agreeing that no such adjustment shall be made as the result of the issuance or deemed issuance of such Additional Shares of Common Stock. No adjustment in the Conversion Price applicable to the Series C Preferred Stock shall be made as the result of the issuance or deemed issuance of Additional Shares of Common Stock if the Corporation receives written notice from the holders of at least sixty percent (60%) of the then outstanding shares of Series C Preferred Stock, voting as a separate class, agreeing that no such adjustment shall be made as the result of the issuance or deemed issuance of such Additional Shares of Common Stock.

4.4.3 Deemed Issue of Additional Shares of Common Stock.

(a) If the Corporation at any time or from time to time after the Original Issue Date shall issue any Options or Convertible Securities (excluding Options or Convertible Securities which are themselves Exempted Securities) or shall fix a record date for the determination of holders of any class of securities entitled to receive any such Options or Convertible Securities, then the maximum number of shares of Common Stock (as set forth in the instrument relating thereto, assuming the satisfaction of any conditions to exercisability, convertibility or exchangeability but without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities, shall be deemed to be Additional Shares of Common Stock issued as of the time of such issue or, in case such a record date shall have been fixed, as of the close of business on such record date.

(b) If the terms of any Option or Convertible Security, the issuance of which resulted in an adjustment to the applicable Conversion Price pursuant to the terms of Subsection 4.4.4, are revised as a result of an amendment to such terms or any other adjustment pursuant to the provisions of such Option or Convertible Security (but excluding automatic adjustments to such terms pursuant to anti-dilution or similar provisions of such Option or Convertible Security) to provide for either (1) any increase or decrease in the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any such Option or Convertible Security or (2) any increase or decrease in the consideration payable to the Corporation upon such exercise, conversion and/or exchange, then, effective upon such increase or decrease becoming effective, the applicable Conversion Price computed upon the original issue of such Option or Convertible Security (or upon the occurrence of a

record date with respect thereto) shall be readjusted to such Conversion Price as would have obtained had such revised terms been in effect upon the original date of issuance of such Option or Convertible Security. Notwithstanding the foregoing, no readjustment pursuant to this clause (b) shall have the effect of increasing the applicable Conversion Price to an amount which exceeds the lower of (i) such Conversion Price in effect immediately prior to the original adjustment made as a result of the issuance of such Option or Convertible Security, or (ii) such Conversion Price that would have resulted from any issuances of Additional Shares of Common Stock (other than deemed issuances of Additional Shares of Common Stock as a result of the issuance of such Option or Convertible Security) between the original adjustment date and such readjustment date.

(c) If the terms of any Option or Convertible Security (excluding Options or Convertible Securities which are themselves Exempted Securities), the issuance of which did not result in an adjustment to the applicable Conversion Price pursuant to the terms of Subsection 4.4.4 (either because the consideration per share (determined pursuant to Subsection 4.4.5) of the Additional Shares of Common Stock subject thereto was equal to or greater than the applicable Conversion Price then in effect, or because such Option or Convertible Security was issued before the Original Issue Date), are revised after the Original Issue Date as a result of an amendment to such terms or any other adjustment pursuant to the provisions of such Option or Convertible Security (but excluding automatic adjustments to such terms pursuant to anti-dilution or similar provisions of such Option or Convertible Security) to provide for either (1) any increase in the number of shares of Common Stock issuable upon the exercise, conversion or exchange of any such Option or Convertible Security or (2) any decrease in the consideration payable to the Corporation upon such exercise, conversion or exchange, then such Option or Convertible Security, as so amended or adjusted, and the Additional Shares of Common Stock subject thereto (determined in the manner provided in Subsection 4.4.3(a)) shall be deemed to have been issued effective upon such increase or decrease becoming effective.

(d) Upon the expiration or termination of any unexercised Option or unconverted or unexchanged Convertible Security (or portion thereof) which resulted (either upon its original issuance or upon a revision of its terms) in an adjustment to the applicable Conversion Price pursuant to the terms of Subsection 4.4.4, the applicable Conversion Price shall be readjusted to such Conversion Price as would have obtained had such Option or Convertible Security (or portion thereof) never been issued.

(e) If the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any Option or Convertible Security, or the consideration payable to the Corporation upon such exercise, conversion and/or exchange, is calculable at the time such Option or Convertible Security is issued or amended but is subject to adjustment based upon subsequent events, any adjustment to the applicable Conversion Price provided for in this Subsection 4.4.3 shall be effected at the time of such issuance or amendment based on such number of shares or amount of consideration without regard to any provisions for subsequent adjustments (and any subsequent adjustments shall be treated as provided in clauses (b) and (c) of this Subsection 4.4.3). If the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any Option or Convertible Security, or the consideration payable to the Corporation upon such exercise, conversion and/or exchange, cannot be calculated at all at the time such Option or Convertible Security is issued or amended, any adjustment to the applicable Conversion Price that would result under the terms of this Subsection 4.4.3 at the time of such issuance or amendment shall instead be effected at the time such number of shares and/or amount of consideration is first calculable (even if subject to subsequent adjustments), assuming for purposes of calculating such adjustment to the applicable Conversion Price that such issuance or amendment took place at the time such calculation can first be made.

4.4.4 Adjustment of Conversion Price Upon Issuance of Additional Shares of Common Stock. In the event the Corporation shall at any time after the Original Issue Date issue Additional Shares of Common Stock (including Additional Shares of Common Stock deemed to be issued pursuant to Subsection 4.4.3), without consideration or for a consideration per share less than the applicable Conversion Price in effect immediately prior to such issuance or deemed issuance, then the applicable Conversion Price shall be reduced, concurrently with such issue, to a price (calculated to the nearest one-hundredth of a cent) determined in accordance with the following formula:

$$CP_2 = CP_1 * (A + B) \div (A + C).$$

For purposes of the foregoing formula, the following definitions shall apply:

(a) "CP₂" shall mean the applicable Conversion Price in effect immediately after such issuance or deemed issuance of Additional Shares of Common Stock

(b) "CP₁" shall mean the applicable Conversion Price in effect immediately prior to such issuance or deemed issuance of Additional Shares of Common Stock;

(c) "A" shall mean the number of shares of Common Stock outstanding immediately prior to such issuance or deemed issuance of Additional Shares of Common Stock (treating for this purpose as outstanding all shares of Common Stock issuable upon exercise of Options outstanding immediately prior to such issuance or deemed issuance or upon conversion or exchange of Convertible Securities (including the Preferred Stock) outstanding (assuming exercise of any outstanding Options therefor) immediately prior to such issue);

(d) "B" shall mean the number of shares of Common Stock that would have been issued or deemed issued if such Additional Shares of Common Stock had been issuance or deemed at a price per share equal to CP₁ (determined by dividing the aggregate consideration received by the Corporation in respect of such issue by CP₁); and

(e) "C" shall mean the number of such Additional Shares of Common Stock issued in such transaction.

4.4.5 Determination of Consideration. For purposes of this Subsection 4.4, the consideration received by the Corporation for the issuance or deemed issuance of any Additional Shares of Common Stock shall be computed as follows:

(a) Cash and Property: Such consideration shall:

- (i) insofar as it consists of cash, be computed at the aggregate amount of cash received by the Corporation, excluding amounts paid or payable for accrued interest;
- (ii) insofar as it consists of property other than cash, be computed at the fair market value thereof at the time of such issue, as determined in good faith by the Board, including the Requisite Investor Directors; and
- (iii) in the event Additional Shares of Common Stock are issued together with other shares or securities or other assets of the Corporation for consideration which covers both, be the proportion of such consideration so received, computed as provided in clauses (i) and (ii) above, as determined in good faith by the Board, including the Requisite Investor Directors.

(b) Options and Convertible Securities. The consideration per share received by the Corporation for Additional Shares of Common Stock deemed to have been issued pursuant to Subsection 4.4.3, relating to Options and Convertible Securities, shall be determined by dividing:

- (i) the total amount, if any, received or receivable by the Corporation as consideration for the issue of such Options or Convertible Securities, plus the minimum aggregate amount of additional consideration (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such consideration) payable to the Corporation upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities, by
- (ii) the maximum number of shares of Common Stock (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities.

4.4.6 Multiple Closing Dates. In the event the Corporation shall issue on more than one date Additional Shares of Common Stock that are a part of one transaction or a series of related transactions and that would result in an adjustment to the applicable Conversion Price pursuant to the terms of Subsection 4.4.4, and such issuance dates occur within a period of no more than ninety (90) days from the first such issuance to the final such issuance, then upon the final such issuance, the applicable Conversion Price shall be readjusted to give effect to all such issuances as if they occurred on the date of the first such issuance (and without giving effect to any additional adjustments as a result of any such subsequent issuances within such period).

4.5 Adjustment for Stock Splits and Combinations. If the Corporation shall at any time or from time to time after the Original Issue Date effect a subdivision of the outstanding Common Stock, the applicable Conversion Price in effect immediately before that subdivision shall be proportionately decreased so that the number of shares of Common Stock issuable on conversion of each share of such series shall be increased in proportion to such increase in the aggregate number of shares of Common Stock outstanding. If the Corporation shall at any time or from time to time after the Original Issue Date combine the outstanding shares of Common Stock, the applicable Conversion Price in effect immediately before the combination shall be proportionately increased so that the number of shares of Common Stock issuable on conversion of each share of such series shall be decreased in proportion to such decrease in the aggregate number of shares of Common Stock outstanding. Any adjustment under this subsection shall become effective at the close of business on the date the subdivision or combination becomes effective.

4.6 Adjustment for Certain Dividends and Distributions. In the event the Corporation at any time or from time to time after the Original Issue Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable on the Common Stock in additional shares of Common Stock, then and in each such event the applicable Conversion Price in effect immediately before such event shall be decreased as of the time of such issuance or, in the event such a record date shall have been fixed, as of the close of business on such record date, by multiplying the applicable Conversion Price then in effect by a fraction:

(1) the numerator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date, and

(2) the denominator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date plus the number of shares of Common Stock issuable in payment of such dividend or distribution.

Notwithstanding the foregoing (a) if such record date shall have been fixed and such dividend is not fully paid or if such distribution is not fully made on the date fixed therefor, the applicable Conversion Price shall be recomputed accordingly as of the close of business on such record date and thereafter such applicable Conversion Price shall be adjusted pursuant to this subsection as of the time of actual payment of such dividends or distributions; and (b) that no such adjustment shall be made if the holders of each series of Preferred Stock simultaneously receive a dividend or other distribution of shares of Common Stock in a number equal to the number of shares of Common Stock as they would have received if all outstanding shares of such series of Preferred Stock had been converted into Common Stock on the date of such event.

4.7 Adjustments for Other Dividends and Distributions. In the event the Corporation at any time or from time to time after the Original Issue Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in securities of the Corporation (other than a distribution of shares of Common Stock in respect of outstanding shares of Common Stock) or in other property and the provisions of Section 1 do not apply to such dividend or distribution, then and in each such event the holders of Preferred Stock shall receive, simultaneously with the distribution to the holders of Common Stock, a dividend or other distribution of such securities or other property in an amount equal to the amount of such securities or other property as they would have received if all outstanding shares of Preferred Stock had been converted into Common Stock on the date of such event.

4.8 Adjustment for Merger or Reorganization, etc. Subject to the provisions of Subsection 2.3, if there shall occur any reorganization, recapitalization, reclassification, consolidation or merger involving the Corporation in which the Common Stock (but not the Preferred Stock) is converted into or exchanged for securities, cash or other property (other than a transaction covered by Subsections 4.4, 4.6 or 4.7), then, following any such reorganization, recapitalization, reclassification, consolidation or merger, each share of Preferred Stock shall thereafter be convertible in lieu of the Common Stock into which it was convertible prior to such event into the kind and amount of securities, cash or other property which a holder of the number of shares of Common Stock of the Corporation issuable upon conversion of one share of Preferred Stock immediately prior to such reorganization, recapitalization, reclassification, consolidation or merger would have been entitled to receive pursuant to

such transaction; and, in such case, appropriate adjustment (as determined in good faith by the Board) shall be made in the application of the provisions in this Section 4 with respect to the rights and interests thereafter of the holders of the Preferred Stock, to the end that the provisions set forth in this Section 4 (including provisions with respect to changes in and other adjustments of the applicable Conversion Price) shall thereafter be applicable, as nearly as reasonably may be, in relation to any securities or other property thereafter deliverable upon the conversion of the Preferred Stock.

4.9 Certificate as to Adjustments. Upon the occurrence of each adjustment or readjustment of the applicable Conversion Price of a series of Preferred Stock pursuant to this Section 4, the Corporation at its expense shall, as promptly as reasonably practicable but in any event not later than ten (10) days thereafter, compute such adjustment or readjustment in accordance with the terms hereof and furnish to each holder of such series of Preferred Stock a certificate setting forth such adjustment or readjustment (including the kind and amount of securities, cash or other property into which such series of Preferred Stock is convertible) and showing in detail the facts upon which such adjustment or readjustment is based. The Corporation shall, as promptly as reasonably practicable after the written request at any time of any holder of such series of Preferred Stock (but in any event not later than ten (10) days thereafter), furnish or cause to be furnished to such holder a certificate setting forth (i) the applicable Conversion Price then in effect, and (ii) the number of shares of Common Stock and the amount, if any, of other securities, cash or property which then would be received upon the conversion of the Preferred Stock.

4.10 Notice of Record Date. In the event:

(a) the Corporation shall take a record of the holders of its Common Stock (or other capital stock or securities at the time issuable upon conversion of the Preferred Stock) for the purpose of entitling or enabling them to receive any dividend or other distribution, or to receive any right to subscribe for or purchase any shares of capital stock of any class or any other securities, or to receive any other security; or

(b) of any capital reorganization of the Corporation, any reclassification of the Common Stock of the Corporation, or any Deemed Liquidation Event; or

(c) of the voluntary or involuntary dissolution, liquidation or winding-up of the Corporation,

then, and in each such case, the Corporation will send or cause to be sent to the holders of the Preferred Stock a notice specifying, as the case may be, (i) the record date for such dividend, distribution or right, and the amount and character of such dividend, distribution or right, or (ii) the effective date on which such reorganization, reclassification, consolidation, merger, transfer, dissolution, liquidation or winding-up is proposed to take place, and the time, if any is to be fixed, as of which the holders of record of Common Stock (or such other capital stock or securities at the time issuable upon the conversion of the Preferred Stock) shall be entitled to exchange their shares of Common Stock (or such other capital stock or securities) for securities or other property deliverable upon such reorganization, reclassification, consolidation, merger, transfer, dissolution, liquidation or winding-up, and the amount per share and character of such exchange applicable to the Preferred Stock and the Common Stock. Such notice shall be sent at least ten (10) days prior to the record date or effective date for the event specified in such notice unless approved otherwise, whether prospectively or retrospectively, by the written consent or affirmative vote of the Requisite Preferred Holders.

4.11 Certain Conversion Election Rights. The rights set forth in this Subsection 4.11 apply notwithstanding any other provision of this Amended and Restated Certificate of Incorporation. In the event of an Automatic Conversion (as defined below) in connection with the closing of the first firmly underwritten public offering of the Company's securities pursuant to an effective

registration statement under the Securities Act of 1933, as amended (the “**Securities Act**”) covering the offer and sale of Common Stock for the account of the Company (the “**IPO**”), each holder of the Company’s securities that would beneficially own (for purposes of Section 13(d) of the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder (collectively, the “**Exchange Act**”), when aggregated with affiliates with whom such holder is required to aggregate beneficial ownership for purposes of Section 13(d) of the Exchange Act, immediately following such Automatic Conversion, in excess of 4.99% of any class of securities of the Company registered or to be registered under the Exchange Act in connection with the IPO (each, a “**Qualifying Holder**”), may elect (the “**Non-Voting Common Election Right**”) in its sole discretion to convert in such Automatic Conversion any shares of Preferred Stock held by such Qualifying Holder into (i) shares of Common Stock or (ii) shares of a class of non-voting Common Stock (the “**Non-Voting Common Stock**”) to be newly created in connection with the IPO, subject to the Beneficial Ownership Limitation (as defined below). The “**Beneficial Ownership Limitation**” means that, in connection with the Non-Voting Common Election Right, a Qualifying Holder may elect to convert any shares of Preferred Stock held by such Qualifying Holder into Non-Voting Common Stock only if such conversion would not result in such Qualifying Holder beneficially owning (for purposes of Section 13(d) of the Exchange Act) less than 4.99% of the outstanding Common Stock immediately following the IPO; *provided* that, such percentage may be increased for each Qualifying Holder and/or its affiliates to such other percentage as such Qualifying Holder and/or its affiliates may designate in writing upon 61 days’ notice by such Qualifying Holder to the Company. The Non-Voting Common Stock shall be non-voting and convertible into Common Stock on a one (1) share to one (1) share basis (as adjusted for stock splits, combinations, reorganizations and the like following the IPO), and shall otherwise have the same terms, conditions, rights and obligations as the Common Stock.

5. Mandatory Conversion.

5.1 Trigger Events. Upon either (a) the closing of the sale of shares of Common Stock to the public at a price per share of at least \$1.7823 per share (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Common Stock), in a firm-commitment underwritten public offering pursuant to an effective registration statement under the Securities Act resulting in at least \$50,000,000 of gross proceeds to the Corporation and in connection with such offering the Common Stock is listed for trading on the Nasdaq Stock Market’s National Market or the New York Stock Exchange (a “**Qualified IPO**”) or (b) the date and time, or the occurrence of an event, specified by vote or written consent of the Requisite Preferred Holders, provided that such vote or written consent shall also include the holders of at least sixty percent (60%) of the shares of Series C Preferred Stock then outstanding, voting as a separate class thereon, (x) if such mandatory conversion under this clause (b) is in connection with an initial public offering that would result in a price to the public less than \$1.4258 (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series C Preferred Stock) or (y) if such mandatory conversion under this clause (b) is in connection with a Deemed Liquidation Event or any other event approved pursuant to this clause (b) and the amount distributable with respect to each outstanding share of Series C Preferred Stock upon the consummation of such event is less than \$1.4258 per share (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series C Preferred Stock) (the time of such closing or the date and time specified or the time of the event specified in such vote or written consent is referred to herein as the “**Mandatory Conversion Time**”), then (i) all outstanding shares of each series of Preferred Stock shall automatically be converted into shares of Common Stock, at the then effective conversion rate as calculated pursuant to Subsection 4.1.1. (an “**Automatic Conversion**”) and (ii) such shares may not be reissued by the Corporation.

5.2 Procedural Requirements. All holders of record of shares of Preferred Stock shall be sent by the Corporation written notice of the Mandatory Conversion Time and the place designated for mandatory conversion of all such shares of Preferred Stock pursuant to this Section 5. Such notice need not be sent in advance of the occurrence of the Mandatory Conversion Time. Upon receipt of such notice, each holder of shares of Preferred Stock in certificated form shall surrender his, her or its certificate or certificates for all such shares (or, if such holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate) to the Corporation at the place designated in such notice. If so required by the Corporation, any certificates surrendered for conversion shall be endorsed or accompanied by written instrument or instruments of transfer, in form satisfactory to the Corporation, duly executed by the registered holder or by his, her or its attorney duly authorized in writing. All rights with respect to the Preferred Stock converted pursuant to Subsection 5.1, including the rights, if any, to receive notices and vote (other than as a holder of Common Stock), will terminate at the Mandatory Conversion Time (notwithstanding the failure of the holder or holders thereof to surrender any certificates at or prior to such time), except only the rights of the holders thereof, upon surrender of any certificate or certificates of such holders (or lost certificate affidavit and agreement) therefor, to receive the items provided for in the next sentence of this Subsection 5.2. As soon as practicable after the Mandatory Conversion Time and, if applicable, the surrender of any certificate or certificates (or lost certificate affidavit and agreement) for Preferred Stock, the Corporation shall (a) issue and deliver to such holder, or to his, her or its nominees, a certificate or certificates for the number of full shares of Common Stock issuable on such conversion in accordance with the provisions hereof and (b) pay cash as provided in Subsection 4.2 in lieu of any fraction of a share of Common Stock otherwise issuable upon such conversion and the payment of any declared but unpaid dividends on the shares of Preferred Stock converted. Such converted Preferred Stock shall be retired and cancelled and may not be reissued as shares of such series, and the Corporation may thereafter take such appropriate action (without the need for stockholder action) as may be necessary to reduce the authorized number of shares of the applicable series of Preferred Stock accordingly.

6. Redemption. Subject to Subsection 2.3.2, the Preferred Stock is not mandatorily redeemable by the holders thereof.

7. Redeemed or Otherwise Acquired Shares. Any shares of Preferred Stock that are redeemed, converted or otherwise acquired by the Corporation or any of its subsidiaries shall be automatically and immediately cancelled and retired and shall not be reissued, sold or transferred. Neither the Corporation nor any of its subsidiaries may exercise any voting or other rights granted to the holders of Preferred Stock following redemption, conversion or acquisition.

8. Waiver. Except as otherwise set forth herein, any of the rights, powers, preferences and other terms of the Preferred Stock set forth herein may be waived on behalf of all holders of Preferred Stock by the affirmative written consent or vote of the Requisite Preferred Holders, provided that such waiver of any rights, powers, preferences and other terms of the Preferred Stock applies equally to each series of Preferred Stock then outstanding. For the sake of clarity, a separate waiver by a particular series of Preferred Stock shall be required to effect such waiver only if (i) such waiver is required by Section 242(b) of the General Corporation Law, (ii) such waiver applies only to such series of Preferred Stock or to a right, power, preference or other term that applies only to such series of Preferred Stock or (iii) such waiver does not apply equally to all series of Preferred Stock then outstanding, in which case, such waiver shall require the affirmative written consent or vote of (a) with respect to a waiver applicable to the Series A Preferred Stock, the holders of at least fifty-seven percent (57%) of the

shares of Series A Preferred Stock then outstanding, (b) with respect to a waiver applicable to the Series B Preferred Stock, the holders of at least sixty percent (60%) of the shares of Series B Preferred Stock then outstanding and (c) with respect to a waiver applicable to the Series C Preferred Stock, the holders of at least sixty percent (60%) of the shares of Series C Preferred Stock then outstanding.

9. **Notices.** Any notice required or permitted by the provisions of this Article Fourth to be given to a holder of shares of Preferred Stock shall be mailed, postage prepaid, to the post office address last shown on the records of the Corporation, or given by electronic communication in compliance with the provisions of the General Corporation Law, and shall be deemed sent upon such mailing or electronic transmission.

FIFTH: Subject to any additional vote required by this Amended and Restated Certificate of Incorporation or Bylaws, in furtherance and not in limitation of the powers conferred by statute, the Board is expressly authorized to make, repeal, alter, amend and rescind any or all of the Bylaws of the Corporation.

SIXTH: Subject to any additional vote required by this Amended and Restated Certificate of Incorporation, the number of directors of the Corporation shall be determined in the manner set forth in the Bylaws of the Corporation.

SEVENTH: Elections of directors need not be by written ballot unless the Bylaws of the Corporation shall so provide.

EIGHTH: Meetings of stockholders may be held within or without the State of Delaware, as the Bylaws of the Corporation may provide. The books of the Corporation may be kept outside the State of Delaware at such place or places as may be designated from time to time by the Board or in the Bylaws of the Corporation.

NINTH: To the fullest extent permitted by law, a director of the Corporation shall not be personally liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director. If the General Corporation Law or any other law of the State of Delaware is amended after approval by the stockholders of this Article Ninth to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director of the Corporation shall be eliminated or limited to the fullest extent permitted by the General Corporation Law as so amended.

Any repeal or modification of the foregoing provisions of this Article Ninth by the stockholders of the Corporation shall not adversely affect any right or protection of a director of the Corporation existing at the time of, or increase the liability of any director of the Corporation with respect to any acts or omissions of such director occurring prior to, such repeal or modification.

TENTH: The following indemnification provisions shall apply to the persons enumerated below.

1. **Right to Indemnification of Directors and Officers.** The Corporation shall indemnify and hold harmless, to the fullest extent permitted by applicable law as it presently exists or may hereafter be amended, any person (an "**Indemnified Person**") who was or is made or is threatened to be made a party or is otherwise involved in any action, suit or proceeding, whether civil, criminal, administrative or investigative (a "**Proceeding**"), by reason of the fact that such person, or a person for whom such person is the legal representative, is or was a director or officer of the Corporation or, while a director or officer of the Corporation, is or was serving at the request of the Corporation as a director, officer, employee or agent of another corporation or of a partnership, joint venture, limited liability company, trust, enterprise or nonprofit entity, including service with respect to employee benefit plans, against all liability and loss suffered and expenses (including attorneys' fees) reasonably incurred by such Indemnified Person in such

Proceeding. Notwithstanding the preceding sentence, except as otherwise provided in Section 3 of this Article Tenth the Corporation shall be required to indemnify an Indemnified Person in connection with a Proceeding (or part thereof) commenced by such Indemnified Person only if the commencement of such Proceeding (or part thereof) by the Indemnified Person was authorized in advance by the Board of Directors.

2. Prepayment of Expenses of Directors and Officers. The Corporation shall pay the expenses (including attorneys' fees) incurred by an Indemnified Person in defending any Proceeding in advance of its final disposition, provided, however, that, to the extent required by law, such payment of expenses in advance of the final disposition of the Proceeding shall be made only upon receipt of an undertaking by the Indemnified Person to repay all amounts advanced if it should be ultimately determined that the Indemnified Person is not entitled to be indemnified under this Article Tenth or otherwise.

3. Claims by Directors and Officers. If a claim for indemnification or advancement of expenses under this Article Tenth is not paid in full within thirty (30) days after a written claim therefor by the Indemnified Person has been received by the Corporation, the Indemnified Person may file suit to recover the unpaid amount of such claim and, if successful in whole or in part, shall be entitled to be paid the expense of prosecuting such claim. In any such action the Corporation shall have the burden of proving that the Indemnified Person is not entitled to the requested indemnification or advancement of expenses under applicable law.

4. Indemnification of Employees and Agents. The Corporation may indemnify and advance expenses to any person who was or is made or is threatened to be made or is otherwise involved in any Proceeding by reason of the fact that such person, or a person for whom such person is the legal representative, is or was an employee or agent of the Corporation or, while an employee or agent of the Corporation, is or was serving at the request of the Corporation as a director, officer, employee or agent of another corporation or of a partnership, joint venture, limited liability company, trust, enterprise or nonprofit entity, including service with respect to employee benefit plans, against all liability and loss suffered and expenses (including attorneys' fees) reasonably incurred by such person in connection with such Proceeding. The ultimate determination of entitlement to indemnification of persons who are non-director or officer employees or agents shall be made in such manner as is determined by the Board of Directors in its sole discretion. Notwithstanding the foregoing sentence, the Corporation shall not be required to indemnify a person in connection with a Proceeding initiated by such person if the Proceeding was not authorized in advance by the Board of Directors.

5. Advancement of Expenses of Employees and Agents. The Corporation may pay the expenses (including attorneys' fees) incurred by an employee or agent in defending any Proceeding in advance of its final disposition on such terms and conditions as may be determined by the Board of Directors.

6. Non-Exclusivity of Rights. The rights conferred on any person by this Article Tenth shall not be exclusive of any other rights which such person may have or hereafter acquire under any statute, provision of this Amended and Restated Certificate of Incorporation, the Bylaws of the Corporation, or any agreement, or pursuant to any vote of stockholders or disinterested directors or otherwise.

7. Other Indemnification. The Corporation's obligation, if any, to indemnify any person who was or is serving at its request as a director, officer or employee of another Corporation, partnership, limited liability company, joint venture, trust, organization or other enterprise shall be reduced by any amount such person may collect as indemnification from such other Corporation, partnership, limited liability company, joint venture, trust, organization or other enterprise.

8. Insurance. The Board of Directors may, to the full extent permitted by applicable law as it presently exists, or may hereafter be amended from time to time, authorize an appropriate officer or officers to purchase and maintain at the Corporation's expense insurance: (a) to indemnify the Corporation for any obligation which it incurs as a result of the indemnification of directors, officers and employees under the provisions of this Article Tenth; and (b) to indemnify or insure directors, officers and employees against liability in instances in which they may not otherwise be indemnified by the Corporation under the provisions of this Article Tenth.

9. Amendment or Repeal. Any repeal or modification of the foregoing provisions of this Article Tenth shall not adversely affect any right or protection hereunder of any person in respect of any act or omission occurring prior to the time of such repeal or modification. The rights provided hereunder shall inure to the benefit of any Indemnified Person and such person's heirs, executors and administrators.

ELEVENTH: The Corporation renounces, to the fullest extent permitted by law, any interest or expectancy of the Corporation in, or in being offered an opportunity to participate in, any Excluded Opportunity. An "**Excluded Opportunity**" is any matter, transaction or interest that is presented to, or acquired, created or developed by, or which otherwise comes into the possession of (i) any director of the Corporation who is not an employee of the Corporation or any of its subsidiaries, or (ii) any holder of Preferred Stock or any partner, member, director, stockholder, employee, affiliate or agent of any such holder, other than someone who is an employee of the Corporation or any of its subsidiaries (collectively, the persons referred to in clauses (i) and (ii) are "**Covered Persons**"), unless such matter, transaction or interest is presented to, or acquired, created or developed by, or otherwise comes into the possession of, a Covered Person expressly and solely in such Covered Person's capacity as a director of the Corporation while such Covered Person is performing services in such capacity. Any repeal or modification of this Article Eleventh will only be prospective and will not affect the rights under this Article Eleventh in effect at the time of the occurrence of any actions or omissions to act giving rise to liability. Notwithstanding anything to the contrary contained elsewhere in this Amended and Restated Certificate of Incorporation, the affirmative vote of the Requisite Preferred Holders will be required to amend or repeal, or to adopt any provisions inconsistent with this Article Eleventh.

TWELFTH: Unless the Corporation consents in writing to the selection of an alternative forum, the Court of Chancery in the State of Delaware shall be the sole and exclusive forum for any stockholder (including a beneficial owner) to bring (i) any derivative action or proceeding brought on behalf of the Corporation, (ii) any action asserting a claim of breach of fiduciary duty owed by any director, officer or other employee of the Corporation to the Corporation or the Corporation's stockholders, (iii) any action asserting a claim against the Corporation, its directors, officers or employees arising pursuant to any provision of the Delaware General Corporation Law or the Corporation's certificate of incorporation or bylaws or (iv) any action asserting a claim against the Corporation, its directors, officers or employees governed by the internal affairs doctrine, except for, as to each of (i) through (iv) above, any claim as to which the Court of Chancery determines that there is an indispensable party not subject to the jurisdiction of the Court of Chancery (and the indispensable party does not consent to the personal jurisdiction of the Court of Chancery within ten days following such determination), which is vested in the exclusive jurisdiction of a court or forum other than the Court of Chancery, or for which the Court of Chancery does not have subject matter jurisdiction. If any provision or provisions of this Article Twelfth shall be held to be invalid, illegal or unenforceable as applied to any person or entity or circumstance for any reason whatsoever, then, to the fullest extent permitted by law, the validity, legality and enforceability of such provisions in any other circumstance and of the remaining provisions of this Article Twelfth (including, without limitation, each portion of any sentence of this Article Twelfth containing any such provision held to be invalid, illegal or unenforceable that is not itself held to be invalid, illegal or unenforceable) and the application of such provision to other persons or entities and circumstances shall not in any way be affected or impaired thereby.

* * *

3. That the foregoing amendment and restatement was approved by the holders of the requisite number of shares of this corporation in accordance with Section 228 of the General Corporation Law.

4. That this Amended and Restated Certificate of Incorporation, which restates and integrates and further amends the provisions of this Corporation's Certificate of Incorporation, has been duly adopted in accordance with Sections 242 and 245 of the General Corporation Law.

IN WITNESS WHEREOF, this Amended and Restated Certificate of Incorporation has been executed by a duly authorized officer of this corporation on this 15th day of January, 2021.

By: /s/ David Southwell

Name: David Southwell

Title: Chief Executive Officer

TScan Therapeutics, Inc.
Amended and Restated Certificate of Incorporation

TScan Therapeutics, Inc., a corporation organized and existing under the laws of the State of Delaware, hereby certifies as follows:

1. The name of the corporation is TScan Therapeutics, Inc., and that the corporation was originally incorporated pursuant to the General Corporation Law of the State of Delaware on April 17, 2018 under the name T-Scan Therapeutics, Inc.

2. This Amended and Restated Certificate of Incorporation, which restates, integrates and further amends the certificate of incorporation of the corporation, has been duly adopted by the corporation in accordance with Sections 242 and 245 of the General Corporation Law of the State of Delaware and has been adopted by the requisite vote of the stockholders of the corporation, acting by written consent in lieu of a meeting in accordance with Section 228 of the General Corporation Law of the State of Delaware.

3. The certificate of incorporation of the corporation is hereby amended and restated in its entirety to read as follows:

FIRST: The name of the corporation is TScan Therapeutics, Inc. (hereinafter called the “**Corporation**”).

SECOND: The address of the registered office of the Corporation in the State of Delaware is 3500 South Dupont Highway, in the City of Dover, County of Kent, Delaware 19901. The name of the registered agent of the Corporation in the State of Delaware at such address is Incorporating Services, Ltd.

THIRD: The purpose of the Corporation is to engage in any lawful act or activity for which corporations may be organized and incorporated under the General Corporation Law of the State of Delaware or any applicable successor act thereto, as the same may be amended from time to time (the “**DGCL**”).

FOURTH: The total number of shares of all classes of capital stock that the Corporation is authorized to issue is three hundred twenty million (320,000,000) shares, of which (i) three hundred million (300,000,000) shares shall be a class designated as voting common stock, par value \$0.0001 per share (the “**Voting Common Stock**”), (ii) ten million (10,000,000) shares shall be a class designated as non-voting common stock, par value \$0.0001 per share (the “**Non-Voting Common Stock**”), and (iii) ten million (10,000,000) shares shall be a class designated as preferred stock, par value \$0.0001 per share (“**Preferred Stock**”). Any reference to “Common Stock” issued by the Corporation in any contract, agreement or otherwise to which the Corporation is a party, whether before or after the date of filing of this Certificate, shall refer to Voting Common Stock, unless specific reference is made to the Non-Voting Common Stock.

Subject to the rights of the holders of any series of Preferred Stock, the number of authorized shares of any of the Common Stock or Preferred Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by the affirmative vote of the holders of a majority in voting power of the capital stock of the Corporation entitled to vote thereon irrespective of the provisions of Section 242(b)(2) of the DGCL, and no vote of the holders of any of the Common Stock or Preferred Stock voting separately as a class shall be required therefor.

A. **Common Stock.** The powers, preferences and relative participating, optional or other special rights, and the qualifications, limitations and restrictions of the Common Stock are as follows:

1. **Ranking.** The voting, dividend and liquidation rights of the holders of the Voting Common Stock and Non-Voting Common Stock are subject to and qualified by the rights of the holders of the Preferred Stock of any series as may be designated by the Board of Directors of the Corporation (the “**Board**”) upon any issuance of the Preferred Stock of any series.

2. **Voting.** Except as otherwise provided by law or by this Amended and Restated Certificate of Incorporation (as amended from time to time, including the terms of any Preferred Stock Designation (as defined below), this “**Certificate of Incorporation**”), the holders of outstanding shares of Voting Common Stock shall have the exclusive right to vote for the election and removal of directors and for all other purposes. Each outstanding share of Voting Common Stock shall entitle the holder thereof to one vote on each matter properly submitted to the stockholders of the Corporation for their vote. Notwithstanding any other provision of this Certificate of Incorporation to the contrary, (i) the holders of Voting Common Stock shall not be entitled to vote on any amendment to this Certificate of Incorporation that relates solely to the terms of one or more outstanding series of Preferred Stock if the holders of such affected series are entitled, either separately or together as a class with the holders of one or more other such series, to vote thereon pursuant to this Certificate of Incorporation or the DGCL and (ii) the Non-Voting Common Stock shall be non-voting except as may be required by law and shall not entitle the holder thereof to vote on the election of directors at any time.

3. **Dividends.** Subject to the rights of the holders of one or more outstanding series of Preferred Stock, holders of shares of Voting Common Stock and Non-Voting Common Stock shall be entitled to receive on a pari passu basis such dividends and distributions and other distributions in cash, stock or property of the Corporation when, as and if declared thereon by the Board from time to time out of assets or funds of the Corporation legally available therefor.

4. **Liquidation.** Subject to the rights of the holders of one or more outstanding series of Preferred Stock, shares of Voting Common Stock and Non-Voting Common Stock shall be entitled to receive on a pari passu basis the assets and funds of the Corporation available for distribution in the event of any liquidation, dissolution or winding up of the affairs of the Corporation, whether voluntary or involuntary. A liquidation, dissolution or winding up of the affairs of the Corporation, as such terms are used in this Section A(4), shall not be deemed to be occasioned by or to include any consolidation or merger of the Corporation with or into any other person or a sale, lease, exchange, exclusive license, conveyance or other disposition of all or any part of its assets.

B. **Non-Voting Common Stock.** Each holder of shares of Non-Voting Common Stock shall have the right to convert each share of Non-Voting Common Stock held by such holder into one (1) share of Voting Common Stock at such holder’s election by providing written notice to the Corporation; provided, however, that such shares of Non-Voting Common Stock may only be converted into shares of Voting Common Stock during such time or times as immediately prior to or as a result of such conversion would not result in the holder(s) thereof beneficially owning (for purposes of Section 13(d) of the Securities Exchange Act of 1934, as amended and the rules and regulations promulgated thereunder (collectively, the “**Exchange Act**”), when aggregated with affiliates with whom such holder is required to aggregate beneficial ownership for purposes of Section 13(d) of the Exchange Act, in excess of the Beneficial Ownership Limitation. The “**Beneficial Ownership Limitation**” means initially 4.99% of the

Voting Common Stock. Any holder of Non-Voting Common Stock may increase the Beneficial Ownership Limitation with respect to such holder upon 61 days' prior written notice to the Corporation and may decrease the Beneficial Ownership Limitation at any time upon providing written notice of such election to the Corporation; provided, however, that no holder may make such an election to change the percentage with respect to such holder unless all holders managed by the same investment advisor as such electing holder make the same election.

The effectiveness of any conversion of any shares of Non-Voting Common Stock into shares of Voting Common Stock is subject to the expiration or early termination of any applicable premerger notification and waiting period requirements of the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended, and the rules and regulations promulgated thereunder.

C. Preferred Stock

Shares of Preferred Stock may be issued from time to time in one or more series. The Board is hereby authorized to provide by resolution or resolutions from time to time for the issuance, out of the authorized but unissued shares of Preferred Stock, of one or more series of Preferred Stock, without stockholder approval (except as otherwise expressly required by this Certificate of Incorporation), by filing a certificate of designation pursuant to the applicable law of the State of Delaware (any such certificate, a "**Preferred Stock Designation**"), setting forth such resolution and, with respect to each such series, establishing the number of shares to be included in such series, and fixing the voting powers, full or limited, or no voting power of the shares of such series, and the designation, preferences and relative, participating, optional or other special rights, and the qualifications, limitations or restrictions thereof, of the shares of each such series. The powers, designation, preferences and relative, participating, optional and other special rights, and the qualifications, limitations and restrictions thereof, of each series of Preferred Stock may differ from those of any and all other series at any time outstanding. The authority of the Board with respect to each series of Preferred Stock shall include, but not be limited to, the determination of the following:

(a) the designation of the series, which may be by distinguishing number, letter or title;

(b) the number of shares of the series, which number the Board may thereafter increase or decrease (but not below the number of shares thereof then outstanding) without any vote of stockholders (except as otherwise expressly required by this Certificate of Incorporation);

(c) the amounts or rates at which dividends will be payable on, and the preferences, if any, of shares of the series in respect of dividends, and whether such dividends, if any, shall be cumulative or noncumulative;

(d) the dates on which dividends, if any, shall be payable;

(e) the redemption rights and price or prices, if any, for shares of the series;

(f) the terms and amount of any sinking fund, if any, provided for the purchase or redemption of shares of the series;

(g) the amounts payable on, and the preferences, if any, of shares of the series in the event of any voluntary or involuntary liquidation, dissolution or winding up of the affairs of the Corporation;

(h) whether the shares of the series shall be convertible into or exchangeable for, shares of any other class or series, or any other security, of the Corporation or any other corporation, and, if so, the specification of such other class or series or such other security, the conversion or exchange price or prices or rate or rates, any adjustments thereof, the date or dates at which such shares shall be convertible or exchangeable and all other terms and conditions upon which such conversion or exchange may be made;

(i) restrictions on the issuance or reissuance of shares of the same series or any other class or series;

(j) the voting rights, if any, of the holders of shares of the series generally or upon specified events; and

(k) any other powers, preferences and relative, participating, optional or other special rights, and the qualifications, limitations or restrictions thereof, of each series of Preferred Stock,

all as may be determined from time to time by the Board and stated in the resolution or resolutions providing for the issuance of such Preferred Stock.

Without limiting the generality of the foregoing, subject to the rights of one or more series of Preferred Stock then outstanding, the resolutions providing for issuance of any series of Preferred Stock may provide that such series shall be superior or rank equally or be junior to any other series of Preferred Stock to the extent permitted by law.

FIFTH: This Article FIFTH is inserted for the management of the business and for the conduct of the affairs of the Corporation.

A. General Powers. The business and affairs of the Corporation shall be managed by or under the direction of the Board, except as otherwise provided by this Certificate of Incorporation or the DGCL.

B. Number of Directors; Election of Directors. Subject to the rights of holders of any series of Preferred Stock to elect directors, the number of directors of the Corporation shall be fixed from time to time by resolution of the majority of the Whole Board. For purposes of this Certificate of Incorporation, the term "**Whole Board**" will mean the total number of authorized directors, whether or not there exist any vacancies in previously authorized directorships. No decrease in the number of directors constituting the Board shall shorten the term of any incumbent director.

C. Classes of Directors. Subject to the special rights of holders of any series of Preferred Stock to elect directors, the Board shall be and is divided into three classes, designated Class I, Class II and Class III, and each class shall consist, as nearly as may be possible, of one third of the total number of directors so divided into classes. The Board is authorized to assign members of the Board already in office to Class I, Class II or Class III at the time such classification becomes effective.

D. Terms of Office. Subject to the special rights of holders of any series of Preferred Stock to elect directors, each director shall serve for a term ending on the date of the third annual meeting of stockholders following the annual meeting of stockholders at which such director was elected; provided that each director initially assigned to Class I shall serve for a term expiring at the Corporation's first annual meeting of stockholders held after the effectiveness of this Certificate of Incorporation; each

director initially assigned to Class II shall serve for a term expiring at the Corporation's second annual meeting of stockholders held after the effectiveness of this Certificate of Incorporation; and each director initially assigned to Class III shall serve for a term expiring at the Corporation's third annual meeting of stockholders held after the effectiveness of this Certificate of Incorporation; provided further, each director shall continue to serve as a director until his or her successor is duly elected and qualified, subject to his or her earlier death, disqualification, resignation or removal.

E. Newly Created Directorships and Vacancies. Subject to the special rights of holders of any series of Preferred Stock, any newly created directorship that results from an increase in the number of directors or any vacancy on the Board that results from the death, disability, resignation, disqualification or removal of any director or from any other cause shall be filled solely by the affirmative vote of a majority of the directors then in office, even if less than a quorum, or by a sole remaining director, and shall not be filled by the stockholders. Any director elected to fill a vacancy or newly created directorship shall hold office until the next election of the class to which such director shall have been appointed, and until his or her successor is duly elected and qualified, subject to his or her earlier death, disqualification, resignation or removal.

F. Preferred Directors. During any period when the holders of any series of Preferred Stock have the special right to elect additional directors, upon commencement and for the duration of such period during which such right continues: (i) the then otherwise total authorized number of directors of the Corporation shall automatically be increased by such specified number of additional directors, and the holders of such series of Preferred Stock shall be entitled to elect the additional directors so provided for or fixed pursuant to this Certificate of Incorporation; and (ii) each such additional director shall serve until such director's successor shall have been duly elected and qualified, or until such director's right to hold such office terminates pursuant to the Preferred Stock Designation establishing such series of Preferred Stock, whichever occurs earlier, subject to his or her earlier death, resignation, disqualification or removal. Except as otherwise provided by this Certificate of Incorporation, whenever the holders of any series of Preferred Stock having the special right to elect additional directors are divested of such right pursuant to this Certificate of Incorporation, the terms of office of all such additional directors elected by the holders of such series, or elected to fill any vacancies resulting from the death, resignation, disqualification or removal of such additional directors, shall forthwith terminate and the total authorized number of directors of the Corporation shall be reduced accordingly.

G. Removal. Subject to any special rights of the holders of one or more series of Preferred Stock to elect directors, any director or the entire Board may be removed from office at any time, but only for cause and only by the affirmative vote of the holders of at least 66 2/3% in voting power of the outstanding stock of the Corporation entitled to vote thereon, voting as a single class.

H. Committees. Pursuant to the Amended and Restated Bylaws of the Corporation (the "**Bylaws**"), the Board may establish one or more committees to which may be delegated any or all of the powers and duties of the Board to the full extent permitted by law.

I. Stockholder Nominations and Introduction of Business. Advance notice of stockholder nominations for election of directors and other business to be brought by stockholders before a meeting of stockholders shall be given in the manner provided by the Bylaws.

SIXTH: Unless and except to the extent that the Bylaws shall so require, the election of directors of the Corporation need not be by written ballot.

SEVENTH: To the fullest extent permitted by the DGCL as it now exists and as it may hereafter be amended, no director of the Corporation shall be personally liable to the Corporation or any of its stockholders for monetary damages for breach of fiduciary duty as a director. If the DGCL is hereafter amended to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director of the Corporation shall be eliminated or limited to the fullest extent permitted by the DGCL, as so amended. No amendment, modification or repeal of this Article SEVENTH shall apply to or have any adverse effect on any right or protection of, or any limitation of the liability of, a director of the Corporation with respect to actions or omissions occurring prior to the time of such amendment, modification or repeal.

EIGHTH: Subject to the terms of any series of Preferred Stock, any action required or permitted to be taken by the stockholders of the Corporation must be effected at an annual or special meeting of the stockholders called in accordance with the Bylaws and may not be effected by written consent in lieu of a meeting.

NINTH: Except as otherwise required by law and subject to the terms of any series of Preferred Stock, special meetings of stockholders for any purpose or purposes may be called at any time by the majority of the Whole Board, the Chairman of the Board or the Chief Executive Officer of the Corporation, and may not be called by stockholders or any other person or persons. Business transacted at any special meeting of stockholders shall be limited to matters relating to the purpose or purposes stated in the notice for such meeting.

TENTH: If any provision or provisions of this Certificate of Incorporation shall be held to be invalid, illegal or unenforceable as applied to any circumstance for any reason whatsoever: (i) the validity, legality and enforceability of such provisions in any other circumstance and of the remaining provisions of this Certificate of Incorporation (including, without limitation, each portion of any paragraph of this Certificate of Incorporation containing any such provision held to be invalid, illegal or unenforceable that is not itself held to be invalid, illegal or unenforceable) shall not in any way be affected or impaired thereby and (ii) to the fullest extent possible, the provisions of this Certificate of Incorporation (including, without limitation, each such portion of any paragraph of this Certificate of Incorporation containing any such provision held to be invalid, illegal or unenforceable) shall be construed so as to permit the Corporation to protect its directors, officers, employees and agents from personal liability in respect of their good faith service or for the benefit of the Corporation to the fullest extent permitted by law.

The Corporation reserves the right at any time from time to time to amend, alter, change or repeal any provision contained in this Certificate of Incorporation, and any other provisions authorized by the DGCL may be added or inserted, in the manner now or hereafter prescribed by law; and all rights, preferences and privileges of whatsoever nature conferred upon stockholders, directors or any other persons whomsoever by and pursuant to this Certificate of Incorporation in its present form or as hereafter amended are granted subject to the right reserved in this Article TENTH. Notwithstanding any other provision of this Certificate of Incorporation or any provision of law that might otherwise permit a lesser vote or no vote, but in addition to any affirmative vote of the holders of any series of Preferred Stock required by law or by this Certificate of Incorporation, the affirmative vote of the holders of at least 66 2/3% in voting power of the outstanding stock of the Corporation entitled to vote thereon, voting together as a single class, shall be required to amend, alter, change or repeal, or adopt any provision inconsistent with, any of Parts A. and B. of ARTICLE FOURTH, Article FIFTH, Article SEVENTH, Article EIGHTH, Article NINTH, Article ELEVENTH, Article TWELFTH, and this Article TENTH, and in each case, the definition of any capitalized terms used therein or any successor provision (including, without limitation, any such article or section as renumbered as a result of any amendment, alteration,

change, repeal or adoption of any other provision of this Certificate of Incorporation) (for clarification, the holders of Non-Voting Common Stock are not entitled to vote in the election of directors and should not be included in the calculation of such voting power). Any amendment, repeal or modification of any of Article SEVENTH, and this sentence shall not adversely affect any right or protection of any person existing thereunder with respect to any act or omission occurring prior to such repeal or modification.

ELEVENTH: In furtherance and not in limitation of the powers conferred upon it by law, the Board is expressly authorized and empowered to adopt, amend and repeal the Bylaws by the affirmative vote of a majority of the Whole Board. The stockholders shall also have power to adopt, amend or repeal the Bylaws; provided, however, that, notwithstanding any other provision of this Certificate of Incorporation or any provision of law that might otherwise permit a lesser or no vote, but in addition to any vote of the holders of any class or series of stock of the Corporation required by applicable law or by this Certificate of Incorporation or the Bylaws, the affirmative vote of the holders of at least 66 2/3% in voting power of the outstanding shares of the stock of the Corporation entitled to vote thereon, voting together as a single class, shall be required for the stockholders to adopt, amend or repeal any provision of the Bylaws.

TWELFTH:

A. Forum Selection.

(a) Unless the Corporation consents in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware (or, if the Court of Chancery does not have jurisdiction, the state or federal courts in the State of Delaware) shall, to the fullest extent permitted by law, be the sole and exclusive forum for (1) any derivative action or proceeding brought on behalf of the Corporation, (2) any action asserting a claim of breach of a fiduciary duty owed by any current or former director, officer, stockholder or other employee of the Corporation to the Corporation or the Corporation's stockholders, (3) any action arising pursuant to any provision of the DGCL or this Certificate of Incorporation or the Bylaws (as the foregoing may be amended, modified, supplemented and/or restated from time to time), or (4) any action asserting a claim governed by the internal affairs doctrine.

(b) Unless the Corporation consents in writing to the selection of an alternative forum, the federal district courts of the United States of America shall, to the fullest extent permitted by law, be the sole and exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Act of 1933, as amended.

(c) Any person or entity purchasing or otherwise acquiring or holding any interest in shares of capital stock of the Corporation shall be deemed to have notice of and consented to the provisions of this Article TWELFTH.

B. Personal Jurisdiction. If any action the subject matter of which is within the scope of Section A immediately above is filed in a court other than a court located within the State of Delaware (a "**Foreign Action**") in the name of any stockholder, such stockholder shall be deemed to have consented to (i) the personal jurisdiction of the applicable state and federal courts located within the State of Delaware in connection with any action brought in any such court to enforce Section A immediately above (an "**FSC Enforcement Action**") and (ii) having service of process made upon such stockholder in any such FSC Enforcement Action by service upon such stockholder's counsel in the Foreign Action as agent for such stockholder.

[Remainder of Page Intentionally Left Blank]

IN WITNESS WHEREOF, the undersigned has executed this Amended and Restated Certificate of Incorporation as of this ____ day of April, 2021.

By: /s/ David Southwell

Name: David Southwell

Title: Chief Executive Officer

**AMENDMENT NO. 1 TO THE BYLAWS
OF
T-SCAN THERAPEUTICS, INC.**

This Amendment No. 1 to the Bylaws (as amended, the “Bylaws”) of T-Scan Therapeutics, Inc., a Delaware corporation (the “Corporation”), is made as of this 12th day of June, 2018.

1. A new Article X is hereby added to the Bylaws to read in its entirety as follows:

**“ARTICLE X
TRANSFER RESTRICTIONS**

10.1 Transfer of Stock.

(a) No holder of any shares of Common Stock of the corporation (“Common Stock”) may sell, transfer, assign, pledge, or otherwise dispose of or encumber any of such shares of Common Stock, in whole or in part, or any right or interest therein (each, a “Transfer”), without the prior approval of a majority of the disinterested members of the Board of Directors who have no interest in the transaction or affiliation with any entity that (i) is a party to the Transfer or (ii) is affiliated with a party to the Transfer.

(b) If a holder of shares of Common Stock desires to Transfer any such shares, then such holder shall first give written notice thereof to the Corporation. The notice shall name the proposed transferee and state the number of shares to be transferred, the proposed consideration, and all other terms and conditions of the proposed transfer. Any shares proposed to be transferred to which Transfer the corporation has consented pursuant to paragraph (a) of this Section 10.1 will be subject to any applicable contractual right of first refusal of the corporation.

(c) Any Transfer, or purported Transfer, of shares not made in strict compliance with this Section 10.1 shall be null and void, shall not be recorded on the books of the corporation and shall not be recognized by the corporation.

(d) The foregoing restriction on Transfer shall not apply to the Transfer of shares of Preferred Stock (as defined in the certificate of incorporation) or to the Transfer of any shares of Common Stock issued or issuable upon the conversion of any shares of Preferred Stock.

(e) The foregoing restriction on Transfer shall terminate upon the date securities of the corporation are first offered to the public pursuant to a registration statement filed with, and declared effective by, the SEC under the Securities Act of 1933, as amended.

(f) The certificates representing shares of Common Stock of the corporation shall bear on their face the following legend so long as the foregoing Transfer restrictions are in effect:

“THE SHARES REPRESENTED BY THIS CERTIFICATE ARE SUBJECT TO A TRANSFER RESTRICTION, AS PROVIDED IN THE BYLAWS OF THE CORPORATION.”

(g) Notwithstanding anything to the contrary herein, the following Transfers shall be exempt from the provisions of this Bylaw:

(i) Any transfer by beneficiary designation, will or intestate succession or (ii) any transfer to one or more members of an applicable stockholder’s Immediate Family (as defined below) or to a trust established by such stockholder for the benefit of such stockholder and/or one or more members of such stockholder’s Immediate Family; provided, in either case, that this Bylaw shall apply to the transferee to the same extent as to such stockholder. For the purposes of this Bylaw, “Immediate Family” shall mean any child, stepchild, grandchild, parent, stepparent, grandparent, spouse, sibling, mother-in-law, father-in-law, son-in-law, daughter-in-law, brother-in-law or sister-in-law and shall include adoptive relationships.

2. Except as specifically amended herein, the Bylaws shall remain in full force and effect.

* * *

**CERTIFICATE OF SECRETARY OF
T-SCAN THERAPEUTICS, INC.**

The undersigned certifies:

1. That the undersigned is the duly elected and acting Secretary of T-Scan Therapeutics, Inc., a Delaware corporation (the "Corporation"); and
2. That the foregoing Amendment No. 1 to the Bylaws constitutes the entire amendment to the Bylaws of the Corporation as duly adopted by the Board of Directors of the Corporation by unanimous written consent on June 11, 2018.

IN WITNESS WHEREOF, I have hereunto subscribed my name as of this 12th day of June, 2018.

/s/ Lea Hachigian

Lea Hachigian, Secretary

**BYLAWS OF
T-SCAN THERAPEUTICS, INC.
(A DELAWARE CORPORATION)**

TABLE OF CONTENTS

	Page
ARTICLE I OFFICES	1
1.1 Registered Office	1
1.2 Offices	1
ARTICLE II MEETINGS OF STOCKHOLDERS	1
2.1 Location	1
2.2 Timing	1
2.3 Notice of Meeting	1
2.4 Stockholders' Records	1
2.5 Special Meetings	2
2.6 Notice of Meeting	2
2.7 Business Transacted at Special Meeting	2
2.8 Quorum; Meeting Adjournment; Presence by Remote Means	2
2.9 Voting Thresholds	3
2.10 Number of Votes Per Share	3
2.11 Action by Written Consent of Stockholders; Electronic Consent; Notice of Action	3
ARTICLE III DIRECTORS	4
3.1 Authorized Directors	4
3.2 Vacancies	4
3.3 Board Authority	5
3.4 Location of Meetings	5
3.5 First Meeting	5
3.6 Regular Meetings	5
3.7 Special Meetings	5
3.8 Quorum	6
3.9 Action Without a Meeting	6
3.10 Telephonic Meetings	6
3.11 Committees	6
3.12 Minutes of Meetings	7
3.13 Compensation of Directors	7
3.14 Removal of Directors	7
ARTICLE IV NOTICES	7
4.1 Notice	7
4.2 Waiver of Notice	7
4.3 Electronic Notice	7
ARTICLE V OFFICERS	8
5.1 Required and Permitted Officers	8
5.2 Appointment of Required Officers	8
5.3 Appointment of Permitted Officers	8

5.4	Officer Compensation	8
5.5	Term of Office; Vacancies	8
5.6	Chairman Presides	9
5.7	Absence of Chairman	9
5.8	Powers of Chief Executive Officer	9
5.9	Chief Executive Officer's Signature Authority	9
5.10	Absence of Chief Executive Officer	9
5.11	Powers of President	9
5.12	Absence of President	9
5.13	Duties of Secretary	10
5.14	Duties of Assistant Secretary	10
5.15	Duties of Treasurer	10
5.16	Disbursements and Financial Reports	10
5.17	Treasurer's Bond	10
5.18	Duties of Assistant Treasurer	10
ARTICLE VI CERTIFICATE OF STOCK		11
6.1	Stock Certificates	11
6.2	Facsimile Signatures	11
6.3	Lost Certificates	11
6.4	Transfer of Stock	12
6.5	Fixing a Record Date	12
6.6	Registered Stockholders	12
ARTICLE VII GENERAL PROVISIONS		12
7.1	Dividends	12
7.2	Reserve for Dividends	12
7.3	Checks	12
7.4	Fiscal Year	13
7.5	Corporate Seal	13
7.6	Indemnification	13
7.7	Conflicts with Certificate of Incorporation	14
ARTICLE VIII AMENDMENTS		14
ARTICLE IX LOANS TO OFFICERS		14

**BYLAWS
OF
T-SCAN THERAPEUTICS, INC.**

**ARTICLE I
OFFICES**

1.1 **Registered Office.** The registered office shall be in the City of Wilmington, County of New Castle, State of Delaware.

1.2 **Offices.** The corporation may also have offices at such other places both within and without the State of Delaware as the Board of Directors may from time to time determine or the business of the corporation may require.

**ARTICLE II
MEETINGS OF STOCKHOLDERS**

2.1 **Location.** All meetings of the stockholders for the election of directors shall be held at such place as may be fixed from time to time by the Board of Directors, or at such other place either within or without the State of Delaware as shall be designated from time to time by the Board of Directors and stated in the notice of the meeting; provided, however, that the Board of Directors may, in its sole discretion, determine that the meeting shall not be held at any place, but may instead be held solely by means of remote communication as authorized by Section 211 of the Delaware General Corporations Law ("DGCL"). Meetings of stockholders for any other purpose may be held at such time and place, if any, within or without the State of Delaware, as shall be stated in the notice of the meeting or in a duly executed waiver of notice thereof, or a waiver by electronic transmission by the person entitled to notice.

2.2 **Timing.** Annual meetings of stockholders, commencing with the year 2018, shall be held at such date and time as shall be designated from time to time by the Board of Directors and stated in the notice of the meeting, at which they shall elect by a plurality vote a Board of Directors, and transact such other business as may properly be brought before the meeting.

2.3 **Notice of Meeting.** Written notice of any stockholder meeting stating the place, if any, date and hour of the meeting, the means of remote communication, if any, by which stockholders and proxyholders may be deemed to be present in person and vote at such meeting, shall be given to each stockholder entitled to vote at such meeting not fewer than ten (10) nor more than sixty (60) days before the date of the meeting.

2.4 **Stockholders' Records.** The officer who has charge of the stock ledger of the corporation shall prepare and make, at least ten (10) days before every meeting of stockholders, a complete list of the stockholders entitled to vote at the meeting, arranged in alphabetical order, and showing the address (but not the electronic address or other electronic contact information) of each stockholder and the number of shares registered in the name of each stockholder. Such list shall be open to the examination of any stockholder, for any purpose

germane to the meeting for a period of at least 10 days prior to the meeting: (i) on a reasonably accessible electronic network, provided that the information required to gain access to such list is provided with the notice of the meeting, or (ii) during ordinary business hours, at the principal place of business of the corporation. In the event that the corporation determines to make the list available on an electronic network, the corporation may take reasonable steps to ensure that such information is available only to stockholders of the corporation. If the meeting is to be held at a place, then the list shall be produced and kept at the time and place of the meeting during the whole time thereof, and may be inspected by any stockholder who is present. If the meeting is to be held solely by means of remote communication, then the list shall also be open to the examination of any stockholder during the whole time of the meeting on a reasonably accessible electronic network, and the information required to access such list shall be provided with the notice of the meeting.

2.5 Special Meetings. Special meetings of the stockholders, for any purpose or purposes, unless otherwise prescribed by statute or by the certificate of incorporation, may be called by the Chief Executive Officer and shall be called by the Chief Executive Officer or secretary at the request in writing of a majority of the Board of Directors, or at the request in writing of stockholders owning at least fifty percent (50%) in amount of the entire capital stock of the corporation issued and outstanding and entitled to vote. Such request shall state the purpose or purposes of the proposed meeting.

2.6 Notice of Meeting. Written notice of a special meeting stating the place, date and hour of the meeting and the purpose or purposes for which the meeting is called, shall be given not fewer than ten (10) nor more than sixty (60) days before the date of the meeting, to each stockholder entitled to vote at such meeting. The means of remote communication, if any, by which stockholders and proxyholders may be deemed to be present in person and vote at such meeting shall also be provided in the notice.

2.7 Business Transacted at Special Meeting. Business transacted at any special meeting of stockholders shall be limited to the purposes stated in the notice.

2.8 Quorum; Meeting Adjournment; Presence by Remote Means.

(a) *Quorum; Meeting Adjournment.* The holders of a majority of the stock issued and outstanding and entitled to vote thereat, present in person or represented by proxy, shall constitute a quorum at all meetings of the stockholders for the transaction of business except as otherwise provided by statute or by the certificate of incorporation. If, however, such quorum shall not be present or represented at any meeting of the stockholders, the stockholders entitled to vote thereat, present in person or represented by proxy, shall have power to adjourn the meeting from time to time, without notice other than announcement at the meeting, until a quorum shall be present or represented. At such adjourned meeting at which a quorum shall be present or represented, any business may be transacted that might have been transacted at the meeting as originally notified. If the adjournment is for more than thirty (30) days, or if after the adjournment a new record date is fixed for the adjourned meeting, a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the meeting.

(b) *Presence by Remote Means*. If authorized by the Board of Directors in its sole discretion, and subject to such guidelines and procedures as the Board of Directors may adopt, stockholders and proxyholders not physically present at a meeting of stockholders may, by means of remote communication:

(1) participate in a meeting of stockholders; and

(2) be deemed present in person and vote at a meeting of stockholders whether such meeting is to be held at a designated place or solely by means of remote communication, provided that (i) the corporation shall implement reasonable measures to verify that each person deemed present and permitted to vote at the meeting by means of remote communication is a stockholder or proxyholder, (ii) the corporation shall implement reasonable measures to provide such stockholders and proxyholders a reasonable opportunity to participate in the meeting and to vote on matters submitted to the stockholders, including an opportunity to read or hear the proceedings of the meeting substantially concurrently with such proceedings, and (iii) if any stockholder or proxyholder votes or takes other action at the meeting by means of remote communication, a record of such vote or other action shall be maintained by the corporation.

2.9 Voting Thresholds. When a quorum is present at any meeting, the vote of the holders of a majority of the stock having voting power present in person or represented by proxy shall decide any question brought before such meeting, unless the question is one upon which by express provision of the statutes or of the certificate of incorporation, a different vote is required, in which case such express provision shall govern and control the decision of such question.

2.10 Number of Votes Per Share. Unless otherwise provided in the certificate of incorporation, each stockholder shall at every meeting of the stockholders be entitled to one vote by such stockholder or by proxy for each share of the capital stock having voting power held by such stockholder, but no proxy shall be voted on after three years from its date, unless the proxy provides for a longer period.

2.11 Action by Written Consent of Stockholders; Electronic Consent; Notice of Action.

(a) *Action by Written Consent of Stockholders.* Unless otherwise provided by the certificate of incorporation, any action required or permitted to be taken at any annual or special meeting of the stockholders may be taken without a meeting, without prior notice and without a vote, if a consent in writing setting forth the action so taken, is signed in a manner permitted by law by the holders of outstanding stock having not less than the number of votes that would be necessary to authorize or take such action at a meeting at which all shares entitled to vote thereon were present and voted. Written stockholder consents shall bear the date of signature of each stockholder who signs the consent in the manner permitted by law and shall be delivered to the corporation as provided in subsection (b) below. No written consent shall be effective to take the action set forth therein unless, within sixty (60) days of the earliest dated consent delivered to the corporation in the manner provided above, written consents signed by a sufficient number of stockholders to take the action set forth therein are delivered to the corporation in the manner provided above.

(b) *Electronic Consent.* A telegram, cablegram or other electronic transmission consenting to an action to be taken and transmitted by a stockholder or proxyholder, or a person or persons authorized to act for a stockholder or proxyholder, shall be deemed to be written, signed and dated for the purposes of this section, provided that any such telegram, cablegram or other electronic transmission sets forth or is delivered with information from which the corporation can determine (1) that the telegram, cablegram or other electronic transmission was transmitted by the stockholder or proxyholder or by a person or persons authorized to act for the stockholder or proxyholder and (2) the date on which such stockholder or proxyholder or authorized person or persons transmitted such telegram, cablegram or electronic transmission. The date on which such telegram, cablegram or electronic transmission is transmitted shall be deemed to be the date on which such consent was signed. No consent given by telegram, cablegram or other electronic transmission shall be deemed to have been delivered until such consent is reproduced in paper form and until such paper form is delivered to the corporation by delivery to its registered office in the State of Delaware, its principal place of business or an officer or agent of the corporation having custody of the book in which proceedings of meetings of stockholders are recorded. Delivery made to a corporation's registered office shall be made by hand or by certified or registered mail, return receipt requested. Notwithstanding the foregoing limitations on delivery, consents given by telegram, cablegram or other electronic transmission may be otherwise delivered to the principal place of business of the corporation or to an officer or agent of the corporation having custody of the book in which proceedings of meetings of stockholders are recorded if, to the extent and in the manner provided by resolution of the Board of Directors of the corporation.

(c) *Notice of Action.* Prompt notice of any action taken pursuant to this Section 2.11 shall be provided to the stockholders in accordance with Section 228(e) of the DGCL.

ARTICLE III DIRECTORS

3.1 Authorized Directors. The number of directors that shall constitute the whole Board of Directors shall be determined by resolution of the Board of Directors or by the stockholders at the annual meeting of the stockholders, except as provided in Section 3.2 of this Article, and each director elected shall hold office until his or her successor is elected and qualified. Directors need not be stockholders.

3.2 Vacancies. Unless otherwise provided in the corporation's certificate of incorporation, as it may be amended, vacancies and newly created directorships resulting from any increase in the authorized number of directors may be filled by a majority of the directors then in office, though less than a quorum, or by a sole remaining director, and the directors so chosen shall hold office until the next annual election and until their successors are duly elected and shall qualify, unless sooner displaced. If there are no directors in office, then an election of directors may be held in the manner provided by statute. If, at the time of filling any vacancy or any newly created directorship, the directors then in office shall constitute less than a majority of

the whole Board of Directors (as constituted immediately prior to any such increase), the Court of Chancery may, upon application of any stockholder or stockholders holding at least ten percent (10%) of the total number of the shares at the time outstanding having the right to vote for such directors, summarily order an election to be held to fill any such vacancies or newly created directorships, or to replace the directors chosen by the directors then in office.

3.3 Board Authority. The business of the corporation shall be managed by or under the direction of its Board of Directors, which may exercise all such powers of the corporation and do all such lawful acts and things as are not by statute or by the certificate of incorporation or by these bylaws directed or required to be exercised or done by the stockholders.

3.4 Location of Meetings. The Board of Directors of the corporation may hold meetings, both regular and special, either within or without the State of Delaware.

3.5 First Meeting. The first meeting of each newly elected Board of Directors shall be held at such time and place as shall be fixed by the vote of the stockholders at the annual meeting and no notice of such meeting shall be necessary to the newly elected directors in order to legally constitute the meeting, provided a quorum shall be present. In the event of the failure of the stockholders to fix the time or place of such first meeting of the newly elected Board of Directors, or in the event such meeting is not held at the time and place so fixed by the stockholders, the meeting may be held at such time and place as shall be specified in a notice given as hereinafter provided for special meetings of the Board of Directors, or as shall be specified in a written waiver signed by all of the directors.

3.6 Regular Meetings. Regular meetings of the Board of Directors may be held without notice at such time and at such place as shall from time to time be determined by the Board of Directors.

3.7 Special Meetings. Special meetings of the Board of Directors may be called by the Chief Executive Officer upon notice to each director; special meetings shall be called by the Chief Executive Officer or secretary in like manner and on like notice on the written request of two (2) directors unless the Board of Directors consists of only one director, in which case special meetings shall be called by the Chief Executive Officer or secretary in like manner and on like notice on the written request of the sole director. Notice of any special meeting shall be given to each director at his or her business or residence in writing, or by telegram, facsimile transmission, telephone communication or electronic transmission (provided, with respect to electronic transmission, that the director has consented to receive the form of transmission at the address to which it is directed). If mailed, such notice shall be deemed adequately delivered when deposited in the United States mails so addressed, with postage thereon prepaid, at least five (5) days before such meeting. If by telegram, such notice shall be deemed adequately delivered when the telegram is delivered to the telegraph company at least twenty-four (24) hours before such meeting. If by facsimile transmission or other electronic transmission, such notice shall be transmitted at least twenty-four (24) hours before such meeting. If by telephone, the notice shall be given at least twelve (12) hours prior to the time set for the meeting. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the Board of Directors need be specified in the notice of such meeting, except for amendments to these Bylaws as provided under Section 8.1 of Article VIII hereof. A meeting may be held at any time without notice if all the directors are present (except as otherwise provided by law) or if those not present waive notice of the meeting in writing, either before or after such meeting.

3.8 Quorum. At all meetings of the Board of Directors a majority of the total number of duly elected directors then in office shall constitute a quorum for the transaction of business and any act of a majority of the directors present at any meeting at which there is a quorum shall be an act of the Board of Directors, except as may be otherwise specifically provided by statute or by the certificate of incorporation. If a quorum is not present at any meeting of the Board of Directors, the directors present thereat may adjourn the meeting from time to time, without notice other than announcement at the meeting, until a quorum shall be present.

3.9 Action Without a Meeting. Unless otherwise restricted by the certificate of incorporation or these bylaws, any action required or permitted to be taken at any meeting of the Board of Directors or of any committee thereof may be taken without a meeting if all members of the Board of Directors or committee, as the case may be, consent thereto in writing or by electronic transmission, and the writing, writings, electronic transmission or transmissions are filed with the minutes of proceedings of the Board of Directors or committee.

3.10 Telephonic Meetings. Unless otherwise restricted by the certificate of incorporation or these bylaws, members of the Board of Directors or any committee designated by the Board of Directors may participate in a meeting of the Board of Directors or any committee, by means of conference telephone or other means of communication by which all persons participating in the meeting can hear each other, and such participation shall constitute presence in person at the meeting.

3.11 Committees. The Board of Directors may designate one or more committees, each committee to consist of one or more of the directors of the corporation. The Board of Directors may designate one or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee.

In the absence or disqualification of a member of a committee, the member or members thereof present at any meeting and not disqualified from voting, whether or not he or she or they constitute a quorum, may unanimously appoint another member of the Board of Directors to act at the meeting in the place of any such absent or disqualified member.

Any such committee, to the extent provided in the resolution of the Board of Directors, shall have and may exercise all the powers and authority of the Board of Directors in the management of the business and affairs of the corporation, and may authorize the seal of the corporation to be affixed to all papers which may require it, but no such committee shall have the power or authority in reference to the following matters: (i) approving or adopting, or recommending to the stockholders, any action or matter expressly required by the DGCL to be submitted to stockholders for approval or (ii) adopting, amending or repealing any provision of these bylaws.

3.12 **Minutes of Meetings.** Each committee shall keep regular minutes of its meetings and report the same to the Board of Directors when required.

3.13 **Compensation of Directors.** Unless otherwise restricted by the certificate of incorporation or these bylaws, the Board of Directors shall have the authority to fix the compensation of directors. The directors may be paid their expenses, if any, of attendance at each meeting of the Board of Directors and may be paid a fixed sum for attendance at each meeting of the Board of Directors or a stated salary as director. No such payment shall preclude any director from serving the corporation in any other capacity and receiving compensation therefor. Members of special or standing committees may be allowed like compensation for attending committee meetings.

3.14 **Removal of Directors.** Unless otherwise provided by the certificate of incorporation or these bylaws, any director or the entire Board of Directors may be removed, with or without cause, by the holders of a majority of shares entitled to vote at an election of directors.

ARTICLE IV NOTICES

4.1 **Notice.** Unless otherwise provided in these bylaws, whenever, under the provisions of the statutes or of the certificate of incorporation or of these bylaws, notice is required to be given to any director or stockholder, it shall not be construed to mean personal notice, but such notice may be given in writing, by mail, addressed to such director or stockholder, at his or her address as it appears on the records of the corporation, with postage thereon prepaid, and such notice shall be deemed to be given at the time when the same shall be deposited in the United States mail. Notice to directors may also be given by telegram.

4.2 **Waiver of Notice.** Whenever any notice is required to be given under the provisions of the statutes or of the certificate of incorporation or of these bylaws, a waiver thereof in writing, signed by the person or persons entitled to said notice, whether before or after the time stated therein, shall be deemed equivalent thereto.

4.3 Electronic Notice.

(a) *Electronic Transmission.* Without limiting the manner by which notice otherwise may be given effectively to stockholders and directors, any notice to stockholders or directors given by the corporation under any provision of the DGCL, the certificate of incorporation or these bylaws shall be effective if given by a form of electronic transmission consented to by the stockholder or director to whom the notice is given. Any such consent shall be revocable by the stockholder or director by written notice to the corporation. Any such consent shall be deemed revoked if (1) the corporation is unable to deliver by electronic transmission two consecutive notices given by the corporation in accordance with such consent and (2) such inability becomes known to the secretary or an assistant secretary of the corporation or to the transfer agent, or other person responsible for the giving of notice; provided, however, the inadvertent failure to treat such inability as a revocation shall not invalidate any meeting or other action.

(b) *Effective Date of Notice.* Notice given pursuant to subsection (a) of this section shall be deemed given: (1) if by facsimile telecommunication, when directed to a number at which the stockholder or director has consented to receive notice; (2) if by electronic mail, when directed to an electronic mail address at which the stockholder or director has consented to receive notice; (3) if by a posting on an electronic network together with separate notice to the stockholder or director of such specific posting, upon the later of (i) such posting and (ii) the giving of such separate notice; and (4) if by any other form of electronic transmission, when directed to the stockholder or director. An affidavit of the secretary or an assistant secretary or of the transfer agent or other agent of the corporation that the notice has been given by a form of electronic transmission shall, in the absence of fraud, be prima facie evidence of the facts stated therein.

(c) *Form of Electronic Transmission.* For purposes of these bylaws, "electronic transmission" means any form of communication, not directly involving the physical transmission of paper, that creates a record that may be retained, retrieved, and reviewed by a recipient thereof, and that may be directly reproduced in paper form by such a recipient through an automated process.

ARTICLE V OFFICERS

5.1 **Required and Permitted Officers.** The officers of the corporation shall be chosen by the Board of Directors and shall be a Chief Executive Officer and/or a president, a treasurer and a secretary. The Board of Directors may elect from among its members a Chairman of the Board and a Vice-Chairman of the Board. The Board of Directors may also choose one or more vice-presidents, assistant secretaries and assistant treasurers. Any number of offices may be held by the same person, unless the certificate of incorporation or these bylaws otherwise provide.

5.2 **Appointment of Required Officers.** The Board of Directors at its first meeting after each annual meeting of stockholders shall choose a Chief Executive Officer and/or a president, a treasurer, and a secretary and may choose vice-presidents.

5.3 **Appointment of Permitted Officers.** The Board of Directors may appoint such other officers and agents as it shall deem necessary who shall hold their offices for such terms and shall exercise such powers and perform such duties as shall be determined from time to time by the Board of Directors.

5.4 **Officer Compensation.** The salaries of all officers and agents of the corporation shall be fixed by the Board of Directors.

5.5 **Term of Office; Vacancies.** The officers of the corporation shall hold office until their successors are chosen and qualify. Any officer elected or appointed by the Board of Directors may be removed at any time by the affirmative vote of a majority of the Board of Directors. Any vacancy occurring in any office of the corporation shall be filled by the Board of Directors.

THE CHAIRMAN OF THE BOARD

5.6 **Chairman Presides.** Unless the Board of Directors appoints a Chairman of the Board, the Chief Executive Officer shall be the Chairman of the Board, so long as the Chief Executive Officer is a director of the corporation. The Chairman of the Board shall preside at all meetings of the Board of Directors and of the stockholders at which he or she shall be present. He or she shall have and may exercise such powers as are, from time to time, assigned to him or her by the Board of Directors and as may be provided by law.

5.7 **Absence of Chairman.** In the absence of the Chairman of the Board, the Vice-Chairman of the Board, if any, shall preside at all meetings of the Board of Directors and of the stockholders at which he or she shall be present. He or she shall have and may exercise such powers as are, from time to time, assigned to him or her by the Board of Directors and as may be provided by law.

THE CHIEF EXECUTIVE OFFICER

5.8 **Powers of Chief Executive Officer.** The Chief Executive Officer shall have general and active management of the business of the corporation and shall see that all orders and resolutions of the Board of Directors are carried into effect.

5.9 **Chief Executive Officer's Signature Authority.** The Chief Executive Officer shall execute bonds, mortgages and other contracts requiring a seal, under the seal of the corporation, except where required or permitted by law to be otherwise signed and executed and except where the signing and execution thereof shall be expressly delegated by the Board of Directors to some other officer or agent of the corporation. The Chief Executive Officer may sign certificates for shares of stock of the corporation.

5.10 **Absence of Chief Executive Officer.** In the absence of the Chief Executive Officer or in the event of his or her inability or refusal to act, the president shall perform the duties of the Chief Executive Officer, and when so acting, shall have all the powers of and be subject to all the restrictions upon the Chief Executive Officer.

THE PRESIDENT AND VICE-PRESIDENTS

5.11 **Powers of President.** Unless the Board of Directors appoints a president of the corporation, the Chief Executive Officer shall be the president of the corporation. The president of the corporation shall have such powers as required by law and shall perform such other duties and have such other powers as the Board of Directors may from time to time prescribe.

5.12 **Absence of President.** In the absence of the president or in the event of his or her inability or refusal to act, the vice-president, if any, (or in the event there be more than one vice-president, the vice-presidents in the order designated by the directors, or in the absence of any designation, then in the order of their election) shall perform the duties of the president, and when so acting, shall have all the powers of and be subject to all the restrictions upon the president. The vice-presidents shall perform such other duties and have such other powers as the Board of Directors may from time to time prescribe.

THE SECRETARY AND ASSISTANT SECRETARY

5.13 **Duties of Secretary.** The secretary shall attend all meetings of the Board of Directors and all meetings of the stockholders and record all the proceedings of the meetings of the corporation and of the Board of Directors in a book to be kept for that purpose and shall perform like duties for the standing committees when required. He or she shall give, or cause to be given, notice of all meetings of the stockholders and special meetings of the Board of Directors, and shall perform such other duties as may be prescribed by the Board of Directors or the Chief Executive Officer, under whose supervision he or she shall be. He or she shall have custody of the corporate seal of the corporation and he or she, or an assistant secretary, shall have authority to affix the same to any instrument requiring it and when so affixed, it may be attested by his or her signature or by the signature of such assistant secretary. The Board of Directors may give general authority to any other officer to affix the seal of the corporation and to attest the affixing by his or her signature.

5.14 **Duties of Assistant Secretary.** The assistant secretary, or if there be more than one, the assistant secretaries in the order determined by the Board of Directors (or if there be no such determination, then in the order of their election) shall, in the absence of the secretary or in the event of his or her inability or refusal to act, perform the duties and exercise the powers of the secretary and shall perform such other duties and have such other powers as the Board of Directors may from time to time prescribe.

THE TREASURER AND ASSISTANT TREASURERS

5.15 **Duties of Treasurer.** The treasurer shall have the custody of the corporate funds and securities and shall keep full and accurate accounts of receipts and disbursements in books belonging to the corporation and shall deposit all moneys and other valuable effects in the name and to the credit of the corporation in such depositories as may be designated by the Board of Directors.

5.16 **Disbursements and Financial Reports.** He or she shall disburse the funds of the corporation as may be ordered by the Board of Directors, taking proper vouchers for such disbursements, and shall render to the Chief Executive Officer and the Board of Directors, at its regular meetings or when the Board of Directors so requires, an account of all his or her transactions as treasurer and of the financial condition of the corporation.

5.17 **Treasurer's Bond.** If required by the Board of Directors, the treasurer shall give the corporation a bond (which shall be renewed every six years) in such sum and with such surety or sureties as shall be satisfactory to the Board of Directors for the faithful performance of the duties of his or her office and for the restoration to the corporation, in case of his or her death, resignation, retirement or removal from office, of all books, papers, vouchers, money and other property of whatever kind in his or her possession or under his or her control belonging to the corporation.

5.18 **Duties of Assistant Treasurer.** The assistant treasurer, or if there shall be more than one, the assistant treasurers in the order determined by the Board of Directors (or if there be no such determination, then in the order of their election) shall, in the absence of the treasurer or in the event of the treasurer's inability or refusal to act, perform the duties and exercise the powers of the treasurer and shall perform such other duties and have such other powers as the Board of Directors may from time to time prescribe.

**ARTICLE VI
CERTIFICATE OF STOCK**

6.1 Stock Certificates. Every holder of stock in the corporation shall be entitled to have a certificate, signed by or in the name of the corporation by, the Chairman or Vice-Chairman of the Board of Directors, or the president or a vice-president and the treasurer or an assistant treasurer, or the secretary or an assistant secretary of the corporation, certifying the number of shares owned by him or her in the corporation.

Certificates may be issued for partly paid shares and in such case upon the face or back of the certificates issued to represent any such partly paid shares, the total amount of the consideration to be paid therefor, and the amount paid thereon shall be specified.

If the corporation shall be authorized to issue more than one class of stock or more than one series of any class, the powers, designations, preferences and relative participating, optional or other special rights of each class of stock or series thereof and the qualification, limitations or restrictions of such preferences and/or rights shall be set forth in full or summarized on the face or back of the certificate which the corporation shall issue to represent such class or series of stock, provided that, except as otherwise provided in Section 202 of the DGCL, in lieu of the foregoing requirements, there may be set forth on the face or back of the certificate which the corporation shall issue to represent such class or series of stock, a statement that the corporation will furnish without charge to each stockholder who so requests the powers, designations, preferences and relative participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights.

6.2 Facsimile Signatures. Any or all of the signatures on the certificate may be facsimile. In the event that any officer, transfer agent or registrar who has signed or whose facsimile signature has been placed upon a certificate shall have ceased to be such officer, transfer agent or registrar before such certificate is issued, the certificate may be issued by the corporation with the same effect as if such officer, transfer agent or registrar were still acting as such at the date of issue.

6.3 Lost Certificates. The Board of Directors may direct a new certificate or certificates to be issued in place of any certificate or certificates theretofore issued by the corporation alleged to have been lost, stolen or destroyed upon the making of an affidavit of that fact by the person claiming the certificate to be lost, stolen or destroyed. When authorizing such issuance of a new certificate or certificates, the Board of Directors may, in its discretion and as a condition precedent to the issuance, require the owner of such lost, stolen or destroyed certificate or certificates, or his or her legal representative, to advertise the same in such manner as it shall require and/or to give the corporation a bond in such sum as it may direct as indemnity against any claim that may be made against the corporation with respect to the certificate alleged to have been lost, stolen or destroyed.

6.4 Transfer of Stock. Upon surrender to the corporation or the transfer agent of the corporation of a certificate for shares duly endorsed or accompanied by proper evidence of succession, assignation or authority to transfer, it shall be the duty of the corporation to issue a new certificate to the person entitled thereto, cancel the old certificate and record the transaction upon its books.

6.5 Fixing a Record Date. In order that the corporation may determine the stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof, or to express consent to corporate action in writing without a meeting, or entitled to receive payment of any dividend or other distribution or allotment of any rights, or entitled to exercise any rights in respect of any change, conversion or exchange of stock or for the purpose of any other lawful action, the Board of Directors may fix a record date which shall not be more than sixty (60) nor less than ten (10) days before the date of such meeting, nor more than sixty (60) days prior to any other action. A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting; provided, however, that the Board of Directors may fix a new record date for the adjourned meeting.

6.6 Registered Stockholders. The corporation shall be entitled to recognize the exclusive right of a person registered on its books as the owner of shares to receive dividends, to vote as such owner, to hold liable for calls and assessments a person registered on its books as the owner of shares and shall not be bound to recognize any equitable or other claim to or interest in such share or shares on the part of any other person, whether or not it shall have express or other notice thereof, except as otherwise provided by the laws of Delaware.

ARTICLE VII GENERAL PROVISIONS

7.1 Dividends. Dividends upon the capital stock of the corporation, if any, subject to the provisions of the certificate of incorporation, may be declared by the Board of Directors at any regular or special meeting, pursuant to law. Dividends may be paid in cash, in property or in shares of the capital stock, subject to the provisions of the certificate of incorporation.

7.2 Reserve for Dividends. Before payment of any dividend, there may be set aside out of any funds of the corporation available for dividends such sum or sums as the directors from time to time, in their sole discretion, think proper as a reserve or reserves to meet contingencies, or for equalizing dividends, or for repairing or maintaining any property of the corporation, or for such other purposes as the directors think conducive to the interests of the corporation, and the directors may modify or abolish any such reserve in the manner in which it was created.

7.3 Checks. All checks or demands for money and notes of the corporation shall be signed by such officer or officers or such other person or persons as the Board of Directors may from time to time designate.

7.4 **Fiscal Year.** The fiscal year of the corporation shall be fixed by resolution of the Board of Directors.

7.5 **Corporate Seal.** The Board of Directors may adopt a corporate seal having inscribed thereon the name of the corporation, the year of its organization and the words "Corporate Seal, Delaware." The seal may be used by causing it or a facsimile thereof to be impressed or affixed or otherwise reproduced.

7.6 **Indemnification.** The corporation shall, to the fullest extent authorized under the laws of the State of Delaware, as those laws may be amended and supplemented from time to time, indemnify any director made, or threatened to be made, a party to an action or proceeding, whether criminal, civil, administrative or investigative, by reason of being a director of the corporation or a predecessor corporation or a director or officer of another corporation, if such person served in such position at the request of the corporation; provided, however, that the corporation shall indemnify any such director or officer in connection with a proceeding initiated by such director or officer only if such proceeding was authorized by the Board of Directors of the corporation. The indemnification provided for in this Section 7.6 shall: (i) not be deemed exclusive of any other rights to which those indemnified may be entitled under these bylaws, agreement or vote of stockholders or disinterested directors or otherwise, both as to action in their official capacities and as to action in another capacity while holding such office, (ii) continue as to a person who has ceased to be a director, and (iii) inure to the benefit of the heirs, executors and administrators of a person who has ceased to be a director. The corporation's obligation to provide indemnification under this Section 7.6 shall be offset to the extent of any other source of indemnification or any otherwise applicable insurance coverage under a policy maintained by the corporation or any other person.

Expenses incurred by a director of the corporation in defending a civil or criminal action, suit or proceeding by reason of the fact that he or she is or was a director of the corporation (or was serving at the corporation's request as a director or officer of another corporation) shall be paid by the corporation in advance of the final disposition of such action, suit or proceeding upon receipt of an undertaking by or on behalf of such director to repay such amount if it shall ultimately be determined that he or she is not entitled to be indemnified by the corporation as authorized by relevant sections of the DGCL. Notwithstanding the foregoing, the corporation shall not be required to advance such expenses to an agent who is a party to an action, suit or proceeding brought by the corporation and approved by a majority of the Board of Directors of the corporation that alleges willful misappropriation of corporate assets by such agent, disclosure of confidential information in violation of such agent's fiduciary or contractual obligations to the corporation or any other willful and deliberate breach in bad faith of such agent's duty to the corporation or its stockholders.

The foregoing provisions of this Section 7.6 shall be deemed to be a contract between the corporation and each director who serves in such capacity at any time while this bylaw is in effect, and any repeal or modification thereof shall not affect any rights or obligations then existing with respect to any state of facts then or theretofore existing or any action, suit or proceeding theretofore or thereafter brought based in whole or in part upon any such state of facts.

The Board of Directors in its sole discretion shall have power on behalf of the corporation to indemnify any person, other than a director, made a party to any action, suit or proceeding by reason of the fact that he or she, his or her testator or intestate, is or was an officer or employee of the corporation.

To assure indemnification under this Section 7.6 of all directors, officers and employees who are determined by the corporation or otherwise to be or to have been “fiduciaries” of any employee benefit plan of the corporation that may exist from time to time, Section 145 of the DGCL shall, for the purposes of this Section 7.6, be interpreted as follows: an “other enterprise” shall be deemed to include such an employee benefit plan, including without limitation, any plan of the corporation that is governed by the Act of Congress entitled “Employee Retirement Income Security Act of 1974,” as amended from time to time; the corporation shall be deemed to have requested a person to serve the corporation for purposes of Section 145 of the DGCL, as administrator of an employee benefit plan where the performance by such person of his or her duties to the corporation also imposes duties on, or otherwise involves services by, such person to the plan or participants or beneficiaries of the plan; excise taxes assessed on a person with respect to an employee benefit plan pursuant to such Act of Congress shall be deemed “fines.”

CERTIFICATE OF INCORPORATION GOVERNS

7.7 Conflicts with Certificate of Incorporation. In the event of any conflict between the provisions of the corporation’s certificate of incorporation and these bylaws, the provisions of the certificate of incorporation shall govern.

ARTICLE VIII AMENDMENTS

8.1 These bylaws may be altered, amended or repealed, or new bylaws may be adopted by the stockholders or by the Board of Directors, when such power is conferred upon the Board of Directors by the certificate of incorporation at any regular meeting of the stockholders or of the Board of Directors or at any special meeting of the stockholders or of the Board of Directors if notice of such alteration, amendment, repeal or adoption of new bylaws be contained in the notice of such special meeting. If the power to adopt, amend or repeal bylaws is conferred upon the Board of Directors by the certificate of incorporation, it shall not divest or limit the power of the stockholders to adopt, amend or repeal bylaws.

ARTICLE IX LOANS TO OFFICERS

9.1 The corporation may lend money to, or guarantee any obligation of or otherwise assist any officer or other employee of the corporation or of its subsidiaries, including any officer or employee who is a director of the corporation or its subsidiaries, whenever, in the judgment of the Board of Directors, such loan, guarantee or assistance may reasonably be expected to benefit the corporation. The loan, guarantee or other assistance may be with or without interest and may be unsecured or secured in such manner as the Board of Directors shall approve, including, without limitation, a pledge of shares of stock of the corporation. Nothing in these bylaws shall be deemed to deny, limit or restrict the powers of guaranty or warranty of the corporation at common law or under any statute.

CERTIFICATE OF SECRETARY OF

T-SCAN THERAPEUTICS, INC.

The undersigned, Lea Hachigian, hereby certifies that she is the duly elected and acting Secretary of **T-SCAN THERAPEUTICS, INC.**, a Delaware corporation (the "Corporation"), and that the Bylaws attached hereto constitute the Bylaws of said Corporation as duly adopted by Action by Written Consent in Lieu of Organizational Meeting by the Directors on April 20, 2018.

IN WITNESS WHEREOF, the undersigned has hereunto subscribed her name this 20th day of April, 2018.

/s/ Lea Hachigian

Lea Hachigian

Secretary

**TScan Therapeutics, Inc.
Amended and Restated Bylaws**

(amended and restated on April 22, 2021 and effective as of the closing of this corporation's initial public offering)

Table of Contents

	Page
Article I Stockholders	1
1.1 Place of Meetings	1
1.2 Annual Meeting	1
1.3 Special Meetings	1
1.4 Notice of Meetings	1
1.5 Voting List	2
1.6 Quorum	2
1.7 Adjournments	3
1.8 Voting and Proxies	3
1.9 Action at Meeting	3
1.10 Nomination of Directors	4
1.11 Notice of Business at Annual Meetings	7
1.12 Conduct of Meetings	10
1.13 Delivery to the Corporation.	11
Article II Directors	12
2.1 General Powers	12
2.2 Number, Election and Qualification	12
2.3 Chairman of the Board; Vice Chairman of the Board	12
2.4 Classes of Directors	12
2.5 Terms of Office	12
2.6 Quorum	13
2.7 Action at Meeting	13
2.8 Removal	13
2.9 Vacancies	13
2.10 Resignation	13
2.11 Regular Meetings	13
2.12 Special Meetings	13
2.13 Notice of Special Meetings	13
2.14 Meetings by Conference Communications Equipment	14
2.15 Action by Consent	14
2.16 Committees	14
2.17 Compensation of Directors	15
Article III Officers	15
3.1 Titles	15
3.2 Appointment	15
3.3 Qualification	15
3.4 Tenure	15
3.5 Removal; Resignation	15
3.6 Vacancies	15
3.7 President; Chief Executive Officer	16

3.8	Chief Financial Officer	16
3.9	Vice Presidents	16
3.10	Secretary and Assistant Secretaries	16
3.11	Salaries	16
3.12	Delegation of Authority	16
3.13	Execution of Contracts	17
Article IV Capital Stock		17
4.1	Issuance of Stock	17
4.2	Stock Certificates; Uncertificated Shares	17
4.3	Transfers	17
4.4	Lost, Stolen or Destroyed Certificates	18
4.5	Record Date	18
4.6	Regulations	18
4.7	Dividends	18
Article V General Provisions		19
5.1	Fiscal Year	19
5.2	Corporate Seal	19
5.3	Waiver of Notice	19
5.4	Voting of Securities	19
5.5	Evidence of Authority	19
5.6	Certificate of Incorporation	19
5.7	Severability	19
5.8	Pronouns	19
5.9	Electronic Transmission	19
Article VI Amendments		20
Article VII Indemnification and Advancement		20
7.1	Power to Indemnify in Actions, Suits or Proceedings other than Those by or in the Right of the Corporation	20
7.2	Power to Indemnify in Actions, Suits or Proceedings by or in the Right of the Corporation	20
7.3	Authorization of Indemnification	21
7.4	Good Faith Defined	21
7.5	Right of Claimant to Bring Suit	21
7.6	Expenses Payable in Advance	22
7.7	Nonexclusivity of Indemnification and Advancement of Expenses	22
7.8	Insurance	22
7.9	Certain Definitions	23
7.10	Survival of Indemnification and Advancement of Expenses	23
7.11	Limitation on Indemnification	23
7.12	Contract Rights	24

Article I Stockholders

1.1 Place of Meetings. All meetings of stockholders shall be held at such place, if any, as may be designated from time to time by the Board of Directors (the “**Board**”) of TScan Therapeutics, Inc. (the “**Corporation**”), the Chairman of the Board, the Chief Executive Officer or the President or, if not so designated, at the principal executive office of the Corporation. The Board may, in its sole discretion, determine that a meeting shall not be held at any place, but may instead be held solely by means of remote communication in accordance with Section 211(a) of the General Corporation Law of the State of Delaware or any applicable successor act thereto, as the same may be amended from time to time (the “**DGCL**”).

1.2 Annual Meeting. The annual meeting of stockholders for the election of directors and for the transaction of such other business as may properly be brought before the meeting shall be held on a date and at a time designated by the Board, the Chairman of the Board, the Chief Executive Officer or the President (which date shall not be a legal holiday in the place, if any, where the meeting is to be held) and stated in the notice of the meeting. The Board acting pursuant to a resolution adopted by the majority of the Whole Board may postpone, reschedule or cancel any previously scheduled annual meeting of stockholders, before or after the notice for such meeting has been sent to the stockholders. For purposes of these Amended and Restated Bylaws (the “**Bylaws**”), the term “**Whole Board**” will mean the total number of authorized directors whether or not there exist any vacancies in previously authorized directorships.

1.3 Special Meetings. Special meetings of stockholders for any purpose or purposes may be called at any time by a resolution adopted by the majority of the Whole Board, the Chairman of the Board or the Chief Executive Officer, and may not be called by any other person or persons. The Board acting pursuant to a resolution adopted by the majority of the Whole Board may postpone, reschedule or cancel any previously scheduled special meeting of stockholders, before or after the notice for such meeting has been sent to the stockholders. Business transacted at any special meeting of stockholders shall be limited to matters relating to the purpose or purposes stated in the notice of meeting.

1.4 Notice of Meetings. Except as otherwise provided by law, notice of each meeting of stockholders, whether annual or special, shall be given not less than ten (10) nor more than sixty (60) days before the date of the meeting to each stockholder entitled to vote at such meeting as of the record date for determining the stockholders entitled to notice of the meeting. Without limiting the manner by which notice otherwise may be given to stockholders, any notice shall be effective if given by a form of electronic transmission consented to (in a manner consistent with the DGCL) by the stockholder to whom the notice is given. The notices of all meetings shall state the place, if any, date and time of the meeting, the means of remote communications, if any, by which stockholders and proxyholders may be deemed to be present in person and vote at such meeting, and the record date for determining the stockholders entitled to vote at the meeting (if such date is different from the record date for stockholders entitled to notice of the meeting). The notice of a special meeting shall state, in addition to the foregoing, the purpose or purposes for which the meeting is called. If notice is given by mail, such notice

shall be deemed given when deposited in the United States mail, postage prepaid, directed to the stockholder at such stockholder's address as it appears on the records of the Corporation. If notice is given by overnight courier or by electronic transmission, such notice shall be deemed given at the time specified in Section 232 of the DGCL.

1.5 Voting List. The Corporation shall prepare, at least ten (10) days before every meeting of stockholders, a complete list of the stockholders entitled to vote at the meeting (provided, however, if the record date for determining the stockholders entitled to vote is less than ten (10) days before the date of the meeting, the list shall reflect the stockholders entitled to vote as of the tenth day before the meeting date), arranged in alphabetical order, and showing the address of each stockholder and the number of shares registered in the name of each stockholder. Such list shall be open to the examination of any stockholder, for any purpose germane to the meeting, for a period of at least ten (10) days prior to the meeting: (a) on a reasonably accessible electronic network, provided that the information required to gain access to such list is provided with the notice of the meeting, or (b) during ordinary business hours, at the principal place of business of the Corporation. The Corporation shall not be required to include electronic mail addresses or other electronic contact information on such list. If the meeting is to be held at a place, then the list shall also be produced and kept at the time and place of the meeting during the whole time thereof, and may be inspected by any stockholder who is present. If the meeting is to be held solely by means of remote communication, then the list shall also be open to the examination of any stockholder during the whole time of the meeting on a reasonably accessible electronic network, and the information required to access such list shall be provided with the notice of the meeting. Except as otherwise provided by law, the stock ledger shall be the only evidence as to who are the stockholders entitled to examine the list of stockholders required by this Section 1.5 or to vote in person or by proxy at any meeting of stockholders.

1.6 Quorum. Except as otherwise provided by law, the Certificate of Incorporation or these Bylaws, the holders of a majority in voting power of the shares of the capital stock of the Corporation issued and outstanding and entitled to vote at the meeting, present in person or represented by proxy, shall constitute a quorum for the transaction of business; provided, however, that where a separate vote by a class or classes or series of capital stock is required by law or the Certificate of Incorporation, the holders of a majority in voting power of the shares of such class or classes or series of the capital stock of the Corporation issued and outstanding and entitled to vote on such matter, present in person or represented by proxy, shall constitute a quorum entitled to take action with respect to the vote on such matter. A quorum, once established at a meeting, shall not be broken by the withdrawal of enough votes to leave less than a quorum.

If, however, such quorum is not present or represented at any meeting of the stockholders, then either (i) the chairperson of the meeting, or (ii) the stockholders so present may, by the affirmative vote of the holders of a majority in voting power of the shares of the corporation which are present in person or represented by proxy and entitled to vote thereat, shall have power to adjourn the meeting from time to time in the manner provided in Section 1.7 of these Bylaws, until a quorum shall attend. At any such adjourned meeting at which there is a quorum, any business may be transacted that might have been transacted at the meeting originally called.

1.7 Adjournments. The chairman of any meeting of stockholders, annual or special, shall have the power to recess and/or adjourn any such meeting from time to time to any other time and to any other place (or to means of remote communication). Notice of an adjourned meeting need not be given if the time, date and place (or means of remote communication) are announced at the meeting at which the adjournment is taken; provided, however, that if the adjournment is for more than thirty (30) days or if a new record date for determining stockholders entitled to vote is fixed for the adjourned meeting, a notice of the adjourned meeting shall be given. If after the adjournment a new record date for determination of stockholders entitled to vote is fixed for the adjourned meeting, the Board shall fix as the record date for determining stockholders entitled to notice of such adjourned meeting the same or an earlier date as that fixed for determination of stockholders entitled to vote at the adjourned meeting, and shall give notice of the adjourned meeting to each stockholder of record as of the record date so fixed for notice of such adjourned meeting. At the adjourned meeting, the Corporation may transact any business which might have been transacted at the original meeting.

1.8 Voting and Proxies. Except as otherwise provided by applicable law or pursuant to the provisions of the Certificate of Incorporation, each stockholder entitled to vote at any meeting of stockholders shall be entitled to one vote for each share of stock held by such stockholder that has voting power upon the matter in question. Each stockholder of record entitled to vote at a meeting of stockholders may vote in person (including by means of remote communications, if any, by which stockholders may be deemed to be present in person and vote at such meeting) or may authorize another person or persons to vote for such stockholder by a proxy executed or transmitted in a manner permitted by applicable law. The authorization of a person to act as proxy may be documented, signed and delivered in accordance with Section 116 of the DGCL, provided that such authorization shall set forth, or be delivered with, information enabling the corporation to determine the identity of the stockholder granting such authorization. No such proxy shall be voted upon after three years from the date of its execution, unless the proxy expressly provides for a longer period. A proxy shall be irrevocable if it states that it is irrevocable and if, and only as long as, it is coupled with an interest sufficient in law to support an irrevocable power. A stockholder may revoke any proxy which is not irrevocable by attending the meeting and voting in person or by delivering to the Secretary of the corporation a revocation of the proxy or a new proxy bearing a later date.

1.9 Action at Meeting. When a quorum is present at any meeting, any matter other than the election of directors to be voted upon by the stockholders at such meeting shall be decided by the vote of the holders of shares of stock having a majority in voting power of the votes cast by the holders of all of the shares of stock with the right to vote present in person or represented by proxy at the meeting and voting affirmatively or negatively on such matter, except when a different vote is required by applicable law, regulation applicable to the Corporation or its securities, the rules or regulations of any stock exchange applicable to the Corporation, the Certificate of Incorporation or these Bylaws. For the avoidance of doubt, neither abstentions nor broker non-votes will be counted as votes cast for or against such matter. Subject to any special rights of the holders of one or more outstanding series of Preferred Stock to elect directors, each director shall be elected by a plurality of the votes cast. Voting at meetings of stockholders need not be by written ballot.

1.10 Nomination of Directors.

(a) Except for (1) any director entitled to be elected pursuant to the special rights of the holders of one or more outstanding series of Preferred Stock, (2) any directors elected in accordance with Section 2.9 hereof by the Board to fill a vacancy or newly-created directorship or (3) as otherwise required by applicable law or stock exchange regulation, at any meeting of stockholders, only persons who are nominated in accordance with the procedures in this Section 1.10 shall be eligible for election or re-election as directors. Nomination for election to the Board at a meeting of stockholders may be made (i) by or at the direction of the Board (or any committee thereof) or (ii) by any stockholder of the Corporation who (x) timely complies with the notice procedures in Section 1.10(b), (y) is a stockholder of record on the date the stockholder gives notice provided for in Section 1.10(b) and on the record date for the determination of stockholders entitled to vote at such meeting and (z) is entitled to vote at such meeting.

(b) To be timely, a stockholder's notice must be received in writing by the Secretary at the principal executive offices of the Corporation as follows: (i) in the case of an election of directors at an annual meeting of stockholders, not less than ninety (90) days nor more than one hundred and twenty (120) days prior to the first anniversary of the preceding year's annual meeting (except in the case of the Corporation's first annual meeting following its initial public offering, for which such notice shall be timely if delivered in the same time period as if such meeting were for the election of directors at a special meeting governed by this Section 1.10(b)); provided, however, that in the event that the date of the annual meeting in any other year is advanced by more than thirty (30) days, or delayed by more than sixty (60) days, from the first anniversary of the preceding year's annual meeting, a stockholder's notice must be so received not earlier than the one hundred and twentieth (120th) day prior to such annual meeting and not later than the close of business on the later of (A) the ninetieth (90th) day prior to such annual meeting and (B) the tenth (10th) day following the day on which notice of the date of such annual meeting was mailed or public disclosure of the date of such annual meeting was made, whichever first occurs; or (ii) in the case of an election of directors at a special meeting of stockholders, provided that the majority of the Whole Board, the Chairman of the Board or the Chief Executive Officer has determined, in accordance with Section 1.3, that directors shall be elected at such special meeting and provided further that the nomination made by the stockholder is for one of the director positions that the Board, the Chairman of the Board or the Chief Executive Officer, as the case may be, has determined will be filled at such special meeting, not earlier than the one hundred and twentieth (120th) day prior to such special meeting and not later than the close of business on the later of (x) the ninetieth (90th) day prior to such special meeting and (y) the tenth (10th) day following the day on which notice of the date of such special meeting was mailed or public disclosure of the date of such special meeting was made, whichever first occurs. In no event shall the adjournment or postponement of a meeting (or the public disclosure thereof) commence a new time period (or extend any time period) for the giving of a stockholder's notice under this Section 1.10.

The stockholder's notice to the Secretary shall set forth:

(A) as to each proposed nominee (1) such person's name, age, business address and, if known, residence address, (2) such person's principal occupation or employment, (3) the class and series and number of shares of stock of the Corporation that are, directly or indirectly, owned, beneficially or of record, by such person, (4) a description of all direct and indirect compensation and other material monetary agreements, arrangements and understandings during the past three years, and any other material relationships, between or among (x) the stockholder, the beneficial owner, if any, on whose behalf the nomination is being made and the respective affiliates and associates of, or others acting in concert with, such stockholder and such beneficial owner, on the one hand, and (y) each proposed nominee, and his or her respective affiliates and associates, or others acting in concert with such nominee(s), on the other hand, including all information that would be required to be disclosed pursuant to Item 404 of Regulation S-K if the stockholder making the nomination and any beneficial owner on whose behalf the nomination is made or any affiliate or associate thereof or person acting in concert therewith were the "registrant" for purposes of such Item and the proposed nominee were a director or executive officer of such registrant, (5) a description of any agreement, arrangement or understanding (including any derivative or short positions, swaps, profit interests, options, warrants, convertible securities, stock appreciation or similar rights, hedging transactions, and borrowed or loaned shares) that has been entered into by, or on behalf of, such proposed nominee, the effect or intent of which is to mitigate loss to, manage risk or benefit of share price changes for, or increase or decrease the voting power of, such proposed nominee with respect to shares of stock of the Corporation, and (6) any other information concerning such person that must be disclosed as to nominees in proxy solicitations pursuant to Regulation 14A under the Securities Exchange Act of 1934, as amended (the "**Exchange Act**"); and

(B) as to the stockholder giving the notice and the beneficial owner, if any, on whose behalf the nomination is being made (1) the name and address of such stockholder as they appear on the Corporation's books, the name and address of such beneficial owner, and the name and address of any Stockholder Associated Person (as defined below), (2) the class and series and number of shares of stock of the Corporation that are directly or indirectly owned, beneficially or of record, by such stockholder, such beneficial owner and any Stockholder Associated Person, (3) a description of any agreement, arrangement or understanding between or among such stockholder, such beneficial owner and/or any Stockholder Associated Person and each proposed nominee and any other person or persons (including their names) pursuant to which the nomination(s) are being made or who may participate in the solicitation of proxies in favor of electing such nominee(s), (4) a description of any agreement, arrangement or understanding (including any derivative or short positions, swaps, profit interests, options, warrants, convertible securities, stock appreciation or similar rights, hedging transactions, and borrowed or loaned shares) that has been entered into by, or on behalf of, such stockholder, such beneficial owner or any Stockholder Associated Person, the effect or intent of which is to mitigate loss to, manage risk or benefit of share price changes for, or increase or decrease the voting power of, such stockholder, such beneficial owner or any Stockholder Associated Person with respect to shares of stock of the Corporation, (5) any other information relating to such stockholder, such beneficial owner and any Stockholder Associated Person that would be required to be disclosed in a proxy statement or other filings required to be made in connection with solicitations of proxies for the election of directors in a contested election pursuant to Section 14 of the

Exchange Act and the rules and regulations promulgated thereunder, (6) a representation that such stockholder intends to appear in person or by proxy at the meeting to nominate the person(s) named in its notice and (7) a representation whether such stockholder, such beneficial owner and/or such Stockholder Associated Person intends or is part of a group which intends (x) to deliver a proxy statement and/or form of proxy to holders of at least the percentage of the Corporation's outstanding capital stock reasonably believed by such stockholder, such beneficial owner or such Stockholder Associated Person to be sufficient to elect the nominee and/or (y) otherwise to solicit proxies or votes from stockholders in support of such nomination.

Such information provided and statements made as required by clauses (A) and (B) above or otherwise by this Section 1.10 are hereinafter referred to as a "**Nominee Solicitation Statement.**" Not later than ten (10) days after the record date for determining stockholders entitled to notice of the meeting, the information required by Items (A)(1)-(5) and (B)(1)-(5) of the prior sentence shall be supplemented by the stockholder giving the notice to provide updated information as of such record date. In addition, to be effective, the stockholder's notice must be accompanied by a written questionnaire with respect to the background and qualification of such proposed nominee (which questionnaire shall be provided by the Secretary upon written request) and the written consent of the proposed nominee to be named in the Corporation's proxy statement as a nominee and to serve as a director if elected and a written statement executed by the proposed nominee acknowledging that as a director of the Corporation, the nominee will owe fiduciary duties under Delaware law to the Corporation and its stockholders. The Corporation may require any proposed nominee to furnish such other information as the Corporation may reasonably require to determine the eligibility of such proposed nominee to serve as a director of the Corporation or that could be material to a reasonable stockholder's understanding of the independence, or lack thereof, of such nominee, or whether such nominee would be independent under applicable Securities and Exchange Commission and stock exchange rules and the Corporation's publicly disclosed corporate governance guidelines. A stockholder shall not have complied with this Section 1.10(b) if the stockholder (or beneficial owner, if any, on whose behalf the nomination is made) solicits or does not solicit, as the case may be, proxies or votes in support of such stockholder's nominee in contravention of the representations with respect thereto required by this Section 1.10. For purposes of these Bylaws, a "**Stockholder Associated Person**" of any stockholder shall mean (i) any person controlling, directly or indirectly, or acting in concert with, such stockholder, (ii) any beneficial owner of shares of stock of the corporation owned of record or beneficially by such stockholder and on whose behalf the proposal or nomination, as the case may be, is being made, or (iii) any person controlling, controlled by or under common control with such person referred to in the preceding clauses (i) and (ii).

(c) Without exception, no person shall be eligible for election or re-election as a director of the Corporation at a meeting of stockholders unless nominated in accordance with the provisions set forth in this Section 1.10. In addition, a nominee shall not be eligible for election or re-election if a stockholder or Stockholder Associated Person, as applicable, takes action contrary to the representations made in the Nominee Solicitation Statement applicable to such nominee or if the Nominee Solicitation Statement applicable to such nominee contains an untrue statement of a material fact or omits to state a material fact necessary to make the statements therein not misleading. The chairman of any meeting shall have the power and duty

to determine whether a nomination was made in accordance with the provisions of this Section 1.10 (including the previous sentence of this Section 1.10(c)), and if the chairman should determine that a nomination was not made in accordance with the provisions of this Section 1.10, the chairman shall so declare to the meeting and such nomination shall not be brought before the meeting.

(d) Except as otherwise required by law, nothing in this Section 1.10 shall obligate the Corporation or the Board to include in any proxy statement or other stockholder communication distributed on behalf of the Corporation or the Board information with respect to any nominee for director submitted by a stockholder.

(e) Notwithstanding the foregoing provisions of this Section 1.10, unless otherwise required by law, if the stockholder (or a qualified representative of the stockholder) does not appear at the meeting to present a nomination, such nomination shall not be brought before the meeting, notwithstanding that proxies in respect of such nominee may have been received by the Corporation. For purposes of this Section 1.10, to be considered a “**qualified representative of the stockholder**”, a person must be authorized by a written instrument executed by such stockholder or an electronic transmission delivered by such stockholder to act for such stockholder as proxy at the meeting of stockholders and such person must produce such written instrument or electronic transmission, or a reliable reproduction of the written instrument or electronic transmission, at the meeting of stockholders.

(f) For purposes of this Section 1.10, “**public disclosure**” shall include disclosure in a press release reported by the Dow Jones News Service, Associated Press or comparable national news service or in a document publicly filed by the Corporation with the Securities and Exchange Commission pursuant to Section 13, 14 or 15(d) of the Exchange Act.

(g) Notwithstanding the foregoing provisions of this Section 1.10, a stockholder shall also comply with all applicable requirements of the Exchange Act and the rules and regulations promulgated thereunder with respect to the matters set forth in this Section 1.10; provided, however, that any references in these Bylaws to the Exchange Act or the rules and regulations promulgated thereunder are not intended to and shall not limit any requirements applicable to nominations to be considered pursuant to this Section 1.10 (including paragraph (a)(ii) hereof), and compliance with paragraph (a)(ii) of this Section 1.10 shall be the exclusive means for a stockholder to make nominations. Nothing in this Section 1.10 shall be deemed to affect any rights of the holders of any series of Preferred Stock to elect directors pursuant to any applicable provisions of the Certificate of Incorporation.

1.11 Notice of Business at Annual Meetings.

(a) At any annual meeting of the stockholders, only such business shall be conducted as shall have been properly brought before the meeting. To be properly brought before an annual meeting, business must be (1) specified in the notice of meeting (or any supplement thereto) given by or at the direction of the Board, (2) otherwise properly brought before the meeting by or at the direction of the Board (or any committee thereof), or (3) properly brought before the annual meeting by a stockholder. For business to be properly brought before

an annual meeting by a stockholder, (i) if such business relates to the nomination of a person for election as a director of the Corporation, the procedures in Section 1.10 must be complied with and (ii) if such business relates to any other matter, the business must constitute a proper matter under Delaware law for stockholder action and the stockholder must (x) have given timely notice thereof in writing to the Secretary in accordance with the procedures in Section 1.11(b), (y) be a stockholder of record on the date the stockholder gives notice provided for in Section 1.11(b) and on the record date for the determination of stockholders entitled to vote at such annual meeting and (z) be entitled to vote at such annual meeting.

(b) To be timely, a stockholder's notice must be received in writing by the Secretary at the principal executive offices of the Corporation not less than ninety (90) days nor more than one hundred and twenty (120) days prior to the first anniversary of the preceding year's annual meeting ((except in the case of the Corporation's first annual meeting following its initial public offering, for which such notice shall be timely if delivered in the same time period as if such meeting were for the election of directors at a special meeting governed by Section 1.10(b)); provided, however, that in the event that the date of the annual meeting in any other year is advanced by more than thirty (30) days, or delayed by more than sixty (60) days, from the first anniversary of the preceding year's annual meeting, a stockholder's notice must be so received not earlier than the one hundred and twentieth (120th) day prior to such annual meeting and not later than the close of business on the later of (A) the ninetieth (90th) day prior to such annual meeting and (B) the tenth (10th) day following the day on which notice of the date of such annual meeting was mailed or public disclosure of the date of such annual meeting was made, whichever first occurs. In no event shall the adjournment or postponement of an annual meeting (or the public disclosure thereof) commence a new time period (or extend any time period) for the giving of a stockholder's notice under this Section 1.11.

The stockholder's notice to the Secretary shall set forth:

(A) as to each matter the stockholder proposes to bring before the annual meeting (1) a brief description of the business desired to be brought before the annual meeting, (2) the text of the proposal (including the exact text of any resolutions proposed for consideration and, in the event that such business includes a proposal to amend the Bylaws, the exact text of the proposed amendment), and (3) the reasons for conducting such business at the annual meeting, and

(B) as to the stockholder giving the notice and the beneficial owner, if any, on whose behalf the proposal is being made (1) the name and address of such stockholder, as they appear on the Corporation's books, of such beneficial owner and of any Stockholder Associated Person, (2) the class and series and number of shares of stock of the Corporation that are, directly or indirectly, owned, beneficially or of record, by such stockholder, such beneficial owner and any Stockholder Associated Person, (3) a description of any material interest of such stockholder, such beneficial owner or any Stockholder Associated Person and the respective affiliates and associates of, or others acting in concert with, such stockholder, such beneficial owner or any Stockholder Associated Person in such business, (4) a description of any agreement, arrangement or understanding between or among such stockholder, such beneficial owner and/or any Stockholder Associated Person and any other person or persons (including their names) in connection with the proposal of such business or who may participate in the solicitation of

proxies in favor of such proposal, (5) a description of any agreement, arrangement or understanding (including any derivative or short positions, swaps, profit interests, options, warrants, convertible securities, stock appreciation or similar rights, hedging transactions, and borrowed or loaned shares) that has been entered into by, or on behalf of, such stockholder, such beneficial owner or any Stockholder Associated Person, the effect or intent of which is to mitigate loss to, manage risk or benefit of share price changes for, or increase or decrease the voting power of, such stockholder, such beneficial owner or any Stockholder Associated Person with respect to shares of stock of the Corporation, (6) any other information relating to such stockholder, such beneficial owner and any Stockholder Associated Person that would be required to be disclosed in a proxy statement or other filings required to be made in connection with solicitations of proxies for the business proposed pursuant to Section 14 of the Exchange Act and the rules and regulations promulgated thereunder, (7) a representation that such stockholder intends to appear in person or by proxy at the annual meeting to bring such business before the meeting and (8) a representation whether such stockholder, such beneficial owner and/or any Stockholder Associated Person intends or is part of a group which intends (x) to deliver a proxy statement and/or form of proxy to holders of at least the percentage of the Corporation's outstanding capital stock required to approve or adopt the proposal and/or (y) otherwise to solicit proxies or votes from stockholders in support of such proposal. Such information provided and statements made as required by clauses (A) and (B) above or otherwise by this Section 1.11 are hereinafter referred to as a "**Business Solicitation Statement.**" Not later than ten (10) days after the record date for determining stockholders entitled to notice of the meeting, the information required by Items (A)(3) and (B)(1)-(6) of the prior sentence shall be supplemented by the stockholder giving the notice to provide updated information as of such record date. Notwithstanding anything in these Bylaws to the contrary, no business shall be conducted at any annual meeting of stockholders except in accordance with the procedures in this Section 1.11; provided that any stockholder proposal which complies with Rule 14a-8 of the proxy rules (or any successor provision) promulgated under the Exchange Act and is to be included in the Corporation's proxy statement for an annual meeting of stockholders shall be deemed to comply with the notice requirements of this Section 1.11. A stockholder shall not have complied with this Section 1.11(b) if the stockholder (or beneficial owner, if any, on whose behalf the proposal is made) solicits or does not solicit, as the case may be, proxies or votes in support of such stockholder's proposal in contravention of the representations with respect thereto required by this Section 1.11.

(c) Without exception, no business shall be conducted at any annual meeting except in accordance with the provisions set forth in this Section 1.11. In addition, business proposed to be brought by a stockholder may not be brought before the annual meeting if such stockholder or a Stockholder Associated Person, as applicable, takes action contrary to the representations made in the Business Solicitation Statement applicable to such business or if the Business Solicitation Statement applicable to such business contains an untrue statement of a material fact or omits to state a material fact necessary to make the statements therein not misleading. The chairman of any annual meeting shall have the power and duty to determine whether business was properly brought before the annual meeting in accordance with the provisions of this Section 1.11 (including the previous sentence of this Section 1.11(c)), and if the chairman should determine that business was not properly brought before the annual meeting in accordance with the provisions of this Section 1.11, the chairman shall so declare to the meeting and such business shall not be brought before the annual meeting.

(d) Except as otherwise required by law, nothing in this Section 1.11 shall obligate the Corporation or the Board to include in any proxy statement or other stockholder communication distributed on behalf of the Corporation or the Board information with respect to any proposal submitted by a stockholder.

(e) Notwithstanding the foregoing provisions of this Section 1.11, unless otherwise required by law, if the stockholder (or a qualified representative of the stockholder) does not appear at the annual meeting to present business, such business shall not be considered, notwithstanding that proxies in respect of such business may have been received by the Corporation.

(f) For purposes of this Section 1.11, the terms “qualified representative of the stockholder” and “public disclosure” shall have the same meaning as in Section 1.10.

(g) Notwithstanding the foregoing provisions of this Section 1.11, a stockholder shall also comply with all applicable requirements of the Exchange Act and the rules and regulations promulgated thereunder with respect to the matters set forth in this Section 1.11; provided, however, that any references in these Bylaws to the Exchange Act or the rules and regulations promulgated thereunder are not intended to and shall not limit any requirements applicable to proposals as to any business to be considered pursuant to this Section 1.11 (including paragraph (a)(3) hereof), and compliance with paragraph (a)(3) of this Section 1.11 shall be the exclusive means for a stockholder to submit business (other than, as provided in the penultimate sentence of (b), business other than nominations brought properly under and in compliance with Rule 14a-8 of the Exchange Act, as may be amended from time to time). Nothing in this Section 1.11 shall be deemed to affect any rights of stockholders to request inclusion of proposals in the Corporation’s proxy statement pursuant to applicable rules and regulations promulgated under the Exchange Act.

1.12 Conduct of Meetings.

(a) Meetings of stockholders shall be presided over by the Chairman of the Board, if any, or in the Chairman’s absence by the Vice Chairman of the Board, if any, or in the Vice Chairman’s absence by the Chief Executive Officer, or in the Chief Executive Officer’s absence, by the President, or in the President’s absence by a Vice President, or in the absence of all of the foregoing persons by a chairman designated by the Board. The Secretary shall act as secretary of the meeting, but in the Secretary’s absence the chairman of the meeting may appoint any person to act as secretary of the meeting.

(b) The Board may adopt by resolution such rules, regulations and procedures for the conduct of any meeting of stockholders of the Corporation as it shall deem appropriate including, without limitation, such guidelines and procedures as it may deem appropriate regarding the participation by means of remote communication of stockholders and proxyholders not physically present at a meeting. Except to the extent inconsistent with such rules, regulations

and procedures as adopted by the Board, the chairman of any meeting of stockholders shall have the right and authority to convene and (for any or no reason) to recess and/or adjourn the meeting, to prescribe such rules, regulations and procedures and to do all such acts as, in the judgment of such chairman, are appropriate for the proper conduct of the meeting. Such rules, regulations or procedures, whether adopted by the Board or prescribed by the chairman of the meeting, may include, without limitation, the following: (i) the establishment of an agenda or order of business for the meeting; (ii) rules and procedures for maintaining order at the meeting and the safety of those present; (iii) limitations on attendance at or participation in the meeting to stockholders of record of the Corporation, their duly authorized and constituted proxies or such other persons as shall be determined; (iv) restrictions on entry to the meeting after the time fixed for the commencement thereof; and (v) limitations on the time allotted to questions or comments by participants. Unless and to the extent determined by the Board or the chairman of the meeting, meetings of stockholders shall not be required to be held in accordance with the rules of parliamentary procedure.

(c) The chairman of the meeting shall announce at the meeting when the polls for each matter to be voted upon at the meeting are opened and closed. After the polls close, no ballots, proxies or votes or any revocations thereof or changes thereto may be accepted.

(d) In advance of any meeting of stockholders, the Board, the Chairman of the Board, the Chief Executive Officer or the President shall appoint one or more inspectors of election to act at the meeting and make a written report thereof. One or more other persons may be designated as alternate inspectors to replace any inspector who fails to act. If no inspector or alternate is present, ready and willing to act at a meeting of stockholders, the chairman of the meeting shall appoint one or more inspectors to act at the meeting. Unless otherwise required by law, inspectors may be officers, employees or agents of the Corporation. Each inspector, before entering upon the discharge of such inspector's duties, shall take and sign an oath faithfully to execute the duties of inspector with strict impartiality and according to the best of such inspector's ability. The inspector shall have the duties prescribed by law and, when the vote is completed, shall make a certificate of the result of the vote taken and of such other facts as may be required by law. Every vote taken by ballots shall be counted by a duly appointed inspector or duly appointed inspectors.

1.13 Delivery to the Corporation. Whenever this Article I requires one or more persons (including a record or beneficial owner of stock) to deliver a document or information to the Corporation or any officer, employee or agent thereof (including any notice, request, questionnaire, revocation, representation or other document or agreement), unless the Corporation elects otherwise and except as otherwise expressly provided in this Article I, such document or information shall be in writing exclusively (and not in an electronic transmission) and shall be delivered exclusively by hand (including, without limitation, overnight courier service) or by certified or registered mail, return receipt requested, and the Corporation shall not be required to accept delivery of any document not in such written form or so delivered.

Article II Directors

2.1 General Powers. Except as otherwise provided by the Certificate of Incorporation or the DGCL, the business and affairs of the Corporation shall be managed by or under the direction of the Board.

2.2 Number, Election and Qualification. Subject to the special rights of the holders of one or more series of Preferred Stock to elect directors, the total number of directors constituting the Board shall be fixed from time to time by resolution of the majority of the Whole Board. Election of directors need not be by written ballot. Directors need not be stockholders of the Corporation.

2.3 Chairman of the Board; Vice Chairman of the Board. The Board may appoint from its members a Chairman of the Board and a Vice Chairman of the Board, neither of whom need be an employee or officer of the Corporation. If the Board appoints a Chairman of the Board, such Chairman shall perform such duties and possess such powers as are assigned by the Board and, if the Chairman of the Board is also designated as the Corporation's Chief Executive Officer, shall have the powers and duties of the Chief Executive Officer prescribed in Section 3.7 of these Bylaws. If the Board appoints a Vice Chairman of the Board, such Vice Chairman shall perform such duties and possess such powers as are assigned by the Board. Unless otherwise provided by the Board, the Chairman of the Board or, in the Chairman's absence, the Vice Chairman of the Board, if any, shall preside at all meetings of the Board.

2.4 Classes of Directors. Subject to the special rights of the holders of one or more series of Preferred Stock to elect directors, the Board shall be divided into three classes, designated: Class I, Class II and Class III. Each class shall consist, as nearly as may be possible, of one-third of the total number of directors constituting the entire Board. The Board is authorized to assign members of the Board already in office to Class I, Class II or Class III at the time such classification becomes effective. If the number of such directors is changed, any increase or decrease shall be apportioned among the classes so as to maintain the number of directors in each class as nearly equal as possible, and any such additional director of any class elected to fill a newly created directorship resulting from an increase in such class shall hold office for a term that shall coincide with the remaining term of that class, but in no case shall a decrease in the number of directors shorten the term of any incumbent director or result in the removal of any such director.

2.5 Terms of Office. Subject to the special rights of the holders of one or more series of Preferred Stock to elect directors, and except as set forth in the Certificate of Incorporation, each director shall serve for a term ending on the date of the third annual meeting of stockholders following the annual meeting of stockholders at which such director was elected; provided that the term of each director shall continue until the election and qualification of his or her successor and be subject to his or her earlier death, disqualification, resignation or removal.

2.6 Quorum. The greater of (a) a majority of the directors at any time in office and (b) one-third of the number of directors fixed by the Board pursuant to Section 2.2 of these Bylaws shall be necessary and sufficient to constitute a quorum of the Board. If at any meeting of the Board there shall be less than a quorum, a majority of the directors present may adjourn the meeting from time to time without further notice other than announcement at the meeting, until a quorum shall be present.

2.7 Action at Meeting. Every act or decision done or made by a majority of the directors present at a meeting duly held at which a quorum is present shall be regarded as the act of the Board, unless a greater number is required by law or by the Certificate of Incorporation or these Bylaws.

2.8 Removal. Subject to the special rights of the holders of one or more series of Preferred Stock, directors of the Corporation may be removed only as expressly provided in the Certificate of Incorporation and applicable law.

2.9 Vacancies. Subject to the special rights of the holders of one or more of Preferred Stock, and unless otherwise provided by the Certificate of Incorporation, any newly created directorship that results from an increase in the number of directors or any vacancy on the Board that results from the death, disability, resignation, disqualification or removal of any director or from any other cause shall be filled solely by the affirmative vote of a majority of the total number of directors then in office, even if less than a quorum, or by a sole remaining director and shall not be filled by the stockholders. Any director elected to fill a vacancy not resulting from an increase in the number of directors shall hold office for the remaining term of his or her predecessor.

2.10 Resignation. Any director may resign only by delivering a resignation in writing or by electronic transmission to the Chairman of the Board or the Chief Executive Officer. Such resignation shall be effective upon delivery unless it is specified to be effective at some later time or upon the happening of some later event.

2.11 Regular Meetings. Regular meetings of the Board may be held without notice at such time and place as shall be determined from time to time by the Board; provided that any director who is absent when such a determination is made shall be given notice of the determination. A regular meeting of the Board may be held without notice immediately after and at the same place as the annual meeting of stockholders.

2.12 Special Meetings. Special meetings of the Board may be held at any time and place designated in a call by the Chairman of the Board, the Chief Executive Officer, the President, two or more directors, or by one director in the event that there is only a single director in office.

2.13 Notice of Special Meetings. Notice of the date, place and time of any special meeting of the Board shall be given to each director by the Chairman of the Board, the Chief Executive Officer, the President, the Secretary or by the director(s) calling the meeting. Notice shall be duly given to each director (a) in person or by telephone at least twenty-four (24) hours in advance of the meeting, (b) by sending written notice by reputable overnight courier, telecopy, facsimile or other means of electronic transmission, or delivering written notice by hand, to such

director's last known business, home or means of electronic transmission address at least twenty-four (24) hours in advance of the meeting, or (c) by sending written notice by first-class mail to such director's last known business or home address at least seventy-two (72) hours in advance of the meeting. A notice or waiver of notice of a meeting of the Board need not specify the purposes of the meeting.

2.14 Meetings by Conference Communications Equipment. Directors may participate in meetings of the Board or any committee thereof by means of conference telephone or other communications equipment by means of which all persons participating in the meeting can hear each other, and participation by such means shall constitute presence in person at such meeting.

2.15 Action by Consent. Any action required or permitted to be taken at any meeting of the Board or of any committee thereof may be taken without a meeting, if all members of the Board or committee, as the case may be, consent to the action in writing or by electronic transmission, and any consent may be documented, signed and delivered in any manner permitted by Section 116 of the DGCL. After an action is taken, the consent or consents relating thereto shall be filed with the minutes of proceedings of the Board or committee thereof. Such filing shall be in paper form if the minutes are maintained in paper form and shall be in electronic form if the minutes are maintained in electronic form.

2.16 Committees. The Board may designate one or more committees, each committee to consist of one or more of the directors of the Corporation with such lawfully delegable powers and duties as the Board thereby confers, to serve at the pleasure of the Board. The Board may designate one or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee. In the absence or disqualification of a member of a committee, the member or members of the committee present at any meeting and not disqualified from voting, whether or not such member or members constitute a quorum, may unanimously appoint another member of the Board to act at the meeting in the place of any such absent or disqualified member. Any such committee, to the extent provided in the resolution of the Board and subject to applicable law, shall have and may exercise all the powers and authority of the Board in the management of the business and affairs of the Corporation and may authorize the seal of the Corporation to be affixed to all papers which may require it; but no such committee shall have the power or authority to (i) approve or adopt, or recommend to the stockholders, any action or matter (other than the election or removal of directors) expressly required by the DGCL to be submitted to stockholders for approval, or (ii) adopt, amend or repeal any bylaw of the Corporation. Each such committee shall keep minutes and make such reports as the Board may from time to time request. Except as the Board may otherwise determine, any committee may make rules for the conduct of its business, but unless otherwise provided by the directors or in such rules, its business shall be conducted as nearly as possible in the same manner as is provided in these Bylaws for the Board. Except as otherwise provided in the Certificate of Incorporation, these Bylaws, or the resolution of the Board designating the committee, a committee may create one or more subcommittees, each subcommittee to consist of one or more members of the committee, and delegate to a subcommittee any or all of the powers and authority of the committee.

2.17 **Compensation of Directors.** Directors may be paid such compensation for their services and such reimbursement for expenses of attendance at meetings as the Board may from time to time determine. No such payment shall preclude any director from serving the Corporation or any of its parent or subsidiary entities in any other capacity and receiving compensation for such service.

Article III Officers

3.1 **Titles.** The “**Executive Officers**” of the Corporation shall be such persons as are designated as such by the Board and shall include, but not be limited to, a Chief Executive Officer, a President and a Chief Financial Officer. Additional Executive Officers may be appointed by the Board from time to time. In addition to the Executive Officers of the Corporation described above, there may also be such “**Non-Executive Officers**” of the Corporation as may be designated and appointed from time to time by the Board or the Chief Executive Officer of the Corporation in accordance with the provisions of Section 3.2 of these Bylaws. In addition, the Secretary and Assistant Secretaries of the Corporation may be appointed by the Board from time to time.

3.2 **Appointment.** The Executive Officers of the Corporation shall be chosen by the Board, subject to the rights, if any, of an Executive Officer under any contract of employment. Non-Executive Officers of the Corporation shall be chosen by the Board or the Chief Executive Officer of the Corporation.

3.3 **Qualification.** No officer need be a stockholder. Any two or more offices may be held by the same person.

3.4 **Tenure.** Except as otherwise provided by law, by the Certificate of Incorporation or by these Bylaws, each officer shall hold office until such officer’s successor is duly elected and qualified, unless a different term is specified in the resolution electing or appointing such officer, or until such officer’s earlier death, resignation, disqualification or removal.

3.5 **Removal; Resignation.** Subject to the rights, if any, of an Executive Officer under any contract of employment, any Executive Officer may be removed, either with or without cause, at any time by the Board at any regular or special meeting of the Board. Any Non-Executive Officer may be removed, either with or without cause, at any time by the Chief Executive Officer of the Corporation or by the Executive Officer to whom such Non-Executive Officer reports. Any officer may resign only by delivering a resignation in writing or by electronic transmission to the Chief Executive Officer. Such resignation shall be effective upon receipt unless it is specified to be effective at some later time or upon the happening of some later event.

3.6 **Vacancies.** The Board may fill any vacancy occurring in any office for any reason and may, in its discretion, leave unfilled, for such period as it may determine, any offices.

3.7 President; Chief Executive Officer. Unless the Board has designated another person as the Corporation's Chief Executive Officer, the President shall be the Chief Executive Officer of the Corporation. The Chief Executive Officer shall have general charge and supervision of the business of the Corporation subject to the direction of the Board, and shall perform all duties and have all powers that are commonly incident to the office of chief executive or that are delegated to such officer by the Board. The President shall perform such other duties and shall have such other powers as the Board or the Chief Executive Officer (if the President is not the Chief Executive Officer) may from time to time prescribe.

3.8 Chief Financial Officer. The Chief Financial Officer shall perform such duties and shall have such powers as may from time to time be assigned by the Board or the Chief Executive Officer. In addition, the Chief Financial Officer shall perform such duties and have such powers as are incident to the office, including without limitation the duty and power to keep and be responsible for all funds and securities of the Corporation, to deposit funds of the Corporation in depositories selected in accordance with these Bylaws, to disburse such funds as ordered by the Board, to make proper accounts of such funds, and to render as required by the Board statements of all such transactions and of the financial condition of the Corporation.

3.9 Vice Presidents. Each Vice President shall perform such duties and possess such powers as the Board or the Chief Executive Officer may from time to time prescribe. The Board or the Chief Executive Officer may assign to any Vice President the title of Executive Vice President, Senior Vice President or any other title.

3.10 Secretary and Assistant Secretaries. The Secretary shall perform such duties and shall have such powers as the Board or the Chief Executive Officer may from time to time prescribe. In addition, the Secretary shall perform such duties and have such powers as are incident to the office of the secretary, including without limitation the duty and power to give notices of all meetings of stockholders and special meetings of the Board, to attend all meetings of stockholders and the Board and keep a record of the proceedings, to maintain a stock ledger and prepare lists of stockholders and their addresses as required, to be custodian of corporate records and the corporate seal and to affix and attest to the same on documents.

Any Assistant Secretary shall perform such duties and possess such powers as the Board, the Chief Executive Officer or the Secretary may from time to time prescribe.

In the absence of the Secretary or any Assistant Secretary at any meeting of stockholders or directors, the chairman of the meeting shall designate a temporary secretary to keep a record of the meeting.

3.11 Salaries. Executive Officers of the Corporation shall be entitled to such salaries, compensation or reimbursement as shall be fixed or allowed from time to time by the Board or a committee thereof.

3.12 Delegation of Authority. The Board may from time to time delegate the powers or duties of any officer to any other officer or agent, notwithstanding any provision hereof.

3.13 **Execution of Contracts.** Each Executive Officer and Non-Executive Officer of the Corporation may execute, affix the corporate seal and/or deliver, in the name and on behalf of the Corporation, deeds, mortgages, notes, bonds, contracts, agreements, powers of attorney, guarantees, settlements, releases, evidences of indebtedness, conveyances or any other document or instrument which (i) is authorized by the Board or (ii) is executed in accordance with policies adopted by the Board from time to time, except in each case where the execution, affixation of the corporate seal and/or delivery thereof shall be expressly and exclusively delegated by the Board to some other officer or agent of the Corporation.

Article IV Capital Stock

4.1 **Issuance of Stock.** Subject to the provisions of the Certificate of Incorporation and applicable law, the whole or any part of any unissued balance of the authorized capital stock of the Corporation or the whole or any part of any shares of the authorized capital stock of the Corporation held in the Corporation's treasury may be issued, sold, transferred or otherwise disposed of by vote of the Board in such manner, for such lawful consideration and on such terms as the Board may determine.

4.2 **Stock Certificates; Uncertificated Shares.** The shares of the Corporation shall be represented by certificates, provided that the Board may provide by resolution or resolutions that some or all of any or all classes or series of the Corporation's stock shall be uncertificated shares. Any such resolution shall not apply to shares represented by a certificate until such certificate is surrendered to the Corporation. Every holder of stock represented by certificates shall be entitled to have a certificate signed by, or in the name of the Corporation, by any two authorized officers of the Corporation (it being understood that each of the Chairman of the Board, the Vice Chairman of the Board, the Chief Executive Officer, the President, any Vice President, the Chief Financial Officer, any Assistant Treasurer, the Secretary, and any Assistant Secretary shall be an authorized officer for such purpose), representing the number of shares registered in certificate form. Any or all of the signatures on the certificate may be a facsimile. In case any officer, transfer agent or registrar who has signed or whose facsimile signature has been placed upon a certificate shall have ceased to be such officer, transfer agent or registrar before such certificate is issued, it may be issued by the Corporation with the same effect as if such person were an officer, transfer agent or registrar at the date of issue.

4.3 **Transfers.** Shares of stock of the Corporation shall be transferable in the manner prescribed by law, the Certificate of Incorporation and in these Bylaws. Transfers of shares of stock of the Corporation shall be made only on the books of the Corporation or by transfer agents designated to transfer shares of stock of the Corporation. Subject to applicable law, shares of stock represented by certificates shall be transferred only on the books of the Corporation by the surrender to the Corporation or its transfer agent of the certificate representing such shares properly endorsed or accompanied by a written assignment or power of attorney properly executed, and with such proof of authority or the authenticity of signature as the Corporation or its transfer agent may reasonably require. Except as may be otherwise required by law, by the Certificate of Incorporation or by these Bylaws, the Corporation shall be entitled to treat the record holder of stock as shown on its books as the owner of such stock for all purposes, including the payment of dividends and the right to vote with respect to such stock, regardless of any transfer, pledge or other disposition of such stock until the shares have been transferred on the books of the Corporation in accordance with the requirements of these Bylaws.

4.4 Lost, Stolen or Destroyed Certificates. The Corporation may issue a new certificate or uncertificated shares in place of any previously issued certificate alleged to have been lost, stolen or destroyed, upon such terms and conditions as the Board may prescribe, including the presentation of reasonable evidence of such loss, theft or destruction and the giving of such indemnity and posting of such bond as the Board may require for the protection of the Corporation or any transfer agent or registrar.

4.5 Record Date. In order that the Corporation may determine the stockholders entitled to notice of any meeting of stockholders or any adjournment thereof, the Board may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the Board, and which record date shall, unless otherwise required by law, not be more than sixty (60) nor less than ten (10) days before the date of such meeting. If the Board so fixes a date, such date shall also be the record date for determining the stockholders entitled to vote at such meeting unless the Board determines, at the time it fixes such record date, that a later date on or before the date of the meeting shall be the date for making such determination. If no record date is fixed by the Board, the record date for determining stockholders entitled to notice of or to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given, or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held. A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting; provided, however, that the Board may fix a new record date for determination of stockholders entitled to vote at the adjourned meeting, and in such case shall also fix as the record date for stockholders entitled to notice of such adjourned meeting the same or an earlier date as that fixed for determination of stockholders entitled to vote in accordance herewith at the adjourned meeting.

In order that the Corporation may determine the stockholders entitled to receive payment of any dividend or other distribution or allotment of any rights, or entitled to exercise any rights in respect of any change, conversion or exchange of stock or for the purpose of any other lawful action, the Board may fix a record date, which shall not be more than sixty (60) days prior to such action. If no such record date is fixed, the record date for determining stockholders for any such purpose shall be at the close of business on the day on which the Board adopts the resolution relating thereto.

4.6 Regulations. The issue and registration of shares of stock of the Corporation shall be governed by such other regulations as the Board may establish.

4.7 Dividends. Dividends on the capital stock of the Corporation, subject to the provisions of the Certificate of Incorporation, if any, may be declared by the Board at any regular or special meeting, pursuant to law, and may be paid in cash, in property or in shares of capital stock.

Article V
General Provisions

5.1 **Fiscal Year.** Except as from time to time otherwise designated by the Board, the fiscal year of the Corporation shall begin on the first day of January of each year and end on the last day of December in each year.

5.2 **Corporate Seal.** The corporate seal shall be in such form as shall be approved by the Board.

5.3 **Waiver of Notice.** Whenever notice is required to be given by law, by the Certificate of Incorporation or by these Bylaws, a written waiver signed by the person entitled to notice, or a waiver by electronic transmission by the person entitled to notice, whether before, at or after the time of the event for which notice is to be given, shall be deemed equivalent to notice required to be given to such person. Neither the business nor the purpose of any meeting need be specified in any such waiver. Attendance of a person at a meeting shall constitute a waiver of notice of such meeting, except when the person attends a meeting for the express purpose of objecting at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened.

5.4 **Voting of Securities.** Except as the Board may otherwise designate, the Chief Executive Officer, the President or the Treasurer may waive notice, vote, consent, or appoint any person or persons to waive notice, vote or consent, on behalf of the Corporation, and act as, or appoint any person or persons to act as, proxy or attorney-in-fact for this Corporation (with or without power of substitution) with respect to, the securities of any other entity which may be held by this Corporation.

5.5 **Evidence of Authority.** A certificate by the Secretary, or an Assistant Secretary, or a temporary Secretary, as to any action taken by the stockholders, directors, a committee or any officer or representative of the Corporation shall as to all persons who rely on the certificate in good faith be conclusive evidence of such action.

5.6 **Certificate of Incorporation.** All references in these Bylaws to the Certificate of Incorporation shall be deemed to refer to the Certificate of Incorporation of the Corporation, as amended and/or restated and in effect from time to time.

5.7 **Severability.** Any determination that any provision of these Bylaws is for any reason inapplicable, illegal or ineffective shall not affect or invalidate any other provision of these Bylaws.

5.8 **Pronouns.** All pronouns used in these Bylaws shall be deemed to refer to the masculine, feminine or neuter, singular or plural, as the identity of the person or persons may require.

5.9 **Electronic Transmission.** For purposes of these Bylaws, "electronic transmission" means any form of communication, not directly involving the physical transmission of paper, that creates a record that may be retained, retrieved, and reviewed by a recipient thereof, and that may be directly reproduced in paper form by such a recipient through an automated process.

**Article VI
Amendments**

These Bylaws may be altered, amended or repealed, in whole or in part, or new Bylaws may be adopted by the Whole Board or by the stockholders as expressly provided in the Certificate of Incorporation.

**Article VII
Indemnification and Advancement**

7.1 Power to Indemnify in Actions, Suits or Proceedings other than Those by or in the Right of the Corporation. Subject to Section 7.3, the Corporation shall indemnify and hold harmless to the fullest extent permitted by applicable law as it presently exists or may hereafter be amended, any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (a "**Proceeding**") (other than an action by or in the right of the Corporation) by reason of the fact that such person is or was a director or Executive Officer of the Corporation, or, while a director or Executive Officer of the Corporation, is or was serving at the request of the Corporation as a director, officer, employee or agent of another Corporation, partnership, joint venture, trust, employee benefit plan or other enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with the defense or settlement of such Proceeding if such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of the Corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe such person's conduct was unlawful. The termination of any action, suit or proceeding by judgment, order, settlement, conviction, or upon a plea or nolo contendere or its equivalent, shall not, of itself, create a presumption that the person did not act in good faith and in a manner which such person reasonably believed to be in or not opposed to the best interests of the Corporation, and, with respect to any criminal action or proceeding, had reasonable cause to believe that such person's conduct was unlawful.

7.2 Power to Indemnify in Actions, Suits or Proceedings by or in the Right of the Corporation. Subject to Section 7.3, the Corporation shall indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the Corporation to procure a judgment in its favor by reason of the fact that such person is or was a director or Executive Officer of the Corporation, or, while a director or Executive Officer of the Corporation, is or was serving at the request of the Corporation as a director, officer, employee or agent of another Corporation, partnership, joint venture, trust, employee benefit plan or other enterprise against expenses (including attorneys' fees) actually and reasonably incurred by such person in connection with the defense or settlement of such action or suit if such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of the Corporation; except that no indemnification

shall be made in respect of any claim, issue or matter as to which such person shall have been adjudged to be liable to the Corporation unless and only to the extent that the Court of Chancery or the court in which such action or suit was brought shall determine upon application that, despite the adjudication of liability but in view of all the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

7.3 Authorization of Indemnification. Any indemnification under this Article VII (unless ordered by a court) shall be made by the Corporation only as authorized in the specific case upon a determination that indemnification of the director or Executive Officer is proper in the circumstances because such person has met the applicable standard of conduct set forth in Section 7.1 or Section 7.2, as the case may be. Such determination shall be made, with respect to a person who is a director or Executive Officer at the time of such determination, (i) by a majority vote of the directors who are not parties to such action, suit or proceeding, even though less than a quorum, or (ii) by a committee of such directors designated by a majority vote of such directors, even though less than a quorum, or (iii) if there are no such directors, or if such directors so direct, by independent legal counsel in a written opinion or (iv) by the stockholders. Such determination shall be made, with respect to former directors and Executive Officers, by any person or persons having the authority to act on the matter on behalf of the Corporation. To the extent, however, that a present or former director or Executive Officer of the Corporation has been successful on the merits or otherwise in defense of any action, suit or proceeding set forth in Section 7.1 or Section 7.2 or in defense of any claim, issue or matter therein, such person shall be indemnified against expenses (including attorneys' fees) actually and reasonably incurred by such person in connection therewith, without the necessity of authorization in the specific case.

7.4 Good Faith Defined. For purposes of any determination under Section 7.3, a person shall be deemed to have acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of the Corporation, or, with respect to any criminal action or proceeding, to have had no reasonable cause to believe such person's conduct was unlawful, if such person's action is based on good faith reliance on the records or books of account of the Corporation or another enterprise, or on information supplied to such person by the officers of the Corporation or another enterprise in the course of their duties, or on the advice of legal counsel for the Corporation or another enterprise or on information or records given or reports made to the Corporation or another enterprise by an independent certified public accountant or by an appraiser or other expert selected with reasonable care by the Corporation or another enterprise. The term "**another enterprise**" as used in this Section 7.4 shall mean any other corporation or any partnership, joint venture, trust, employee benefit plan or other enterprise of which such person is or was serving at the request of the Corporation as a director, officer, employee or agent. The provisions of this Section 7.4 shall not be deemed to be exclusive or to limit in any way the circumstances in which a person may be deemed to have met the applicable standard of conduct set forth in Section 7.1 or 7.2, as the case may be.

7.5 Right of Claimant to Bring Suit. Notwithstanding any contrary determination in the specific case under Section 7.3, and notwithstanding the absence of any determination thereunder, if a claim under Sections 7.1 or 7.2 of the Article VII is not paid in full by the Corporation within (i) ninety (90) days after a written claim for indemnification has been

received by the Corporation, or (ii) thirty (30) days after a written claim for an advancement of expenses has been received by the Corporation, the claimant may at any time thereafter (but not before) bring suit against the Corporation in the Court of Chancery in the State of Delaware to recover the unpaid amount of the claim, together with interest thereon, or to obtain advancement of expenses, as applicable. It shall be a defense to any such action brought to enforce a right to indemnification (but not in an action brought to enforce a right to an advancement of expenses) that the claimant has not met the standards of conduct which make it permissible under the DGCL (or other applicable law) for the Corporation to indemnify the claimant for the amount claimed, but the burden of proving such defense shall be on the Corporation. Neither a contrary determination in the specific case under Section 7.3 nor the absence of any determination thereunder shall be a defense to such application or create a presumption that the claimant has not met any applicable standard of conduct. If successful, in whole or in part, the claimant shall also be entitled to be paid the expense of prosecuting such claim, including reasonable attorneys' fees incurred in connection therewith, to the fullest extent permitted by applicable law.

7.6 Expenses Payable in Advance. Expenses, including without limitation attorneys' fees, incurred by a current or former director or Executive Officer in defending any civil, criminal, administrative or investigative action, suit or proceeding shall be paid by the Corporation in advance of the final disposition of such action, suit or proceeding upon receipt of an undertaking by or on behalf of such current or former director or Executive Officer to repay such amount if it shall ultimately be determined that such person is not entitled to be indemnified by the Corporation as authorized in this Article VII.

7.7 Nonexclusivity of Indemnification and Advancement of Expenses. The rights to indemnification and advancement of expenses provided by or granted pursuant to this Article VII shall not be deemed exclusive of any other rights to which those seeking indemnification or advancement of expenses may be entitled under the Certificate of Incorporation, any agreement, vote of stockholders or disinterested directors or otherwise, both as to action in such person's official capacity and as to action in another capacity while holding such office, it being the policy of the Corporation that, subject to Section 7.11, indemnification of the persons specified in Sections 7.1 and 7.2 shall be made to the fullest extent permitted by law. The provisions of this Article VII shall not be deemed to preclude the indemnification of any person who is not specified in Section 7.1 or 7.2 but whom the Corporation has the power or obligation to indemnify under the provisions of the DGCL, or otherwise.

7.8 Insurance. The Corporation may purchase and maintain insurance on behalf of any person who is or was a director, Executive Officer, employee or agent of the Corporation, or is or was serving at the request of the Corporation as a director, Executive Officer, employee or agent of another corporation, partnership, joint venture, trust, employee benefit plan or other enterprise against any liability asserted against such person and incurred by such person in any such capacity, or arising out of such person's status as such, whether or not the Corporation would have the power or the obligation to indemnify such person against such liability under the provisions of this Article VII.

7.9 Certain Definitions. For purposes of this Article VII, references to “the Corporation” shall include, in addition to the resulting corporation, any constituent corporation (including any constituent of a constituent) absorbed in a consolidation or merger which, if its separate existence had continued, would have had power and authority to indemnify its directors, officers, employees or agents so that any person who is or was a director, officer, employee or agent of such constituent corporation, or is or was serving at the request of such constituent corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust, employee benefit plan or other enterprise, shall stand in the same position under the provisions of this Article VII with respect to the resulting or surviving corporation as such person would have with respect to such constituent corporation if its separate existence had continued. For purposes of this Article VII, references to “fines” shall include any excise taxes assessed on a person with respect of any employee benefit plan; and references to “serving at the request of the Corporation” shall include any service as a director, officer, employee or agent of the Corporation which imposes duties on, or involves services by, such director, officer, employee or agent with respect to an employee benefit plan, its participants or beneficiaries; and a person who acted in good faith and in a manner such person reasonably believed to be in the interest of the participants and beneficiaries of an employee benefit plan shall be deemed to have acted in a manner “not opposed to the best interests of the Corporation” as referred to in this Article VII. Any reference to an officer of the Corporation in this Article VII shall be deemed to refer exclusively to the Executive Officers, Non-Executive Officers, the Secretary and any Assistant Secretary, and any other officer appointed as such pursuant to and in accordance with Article III of these Bylaws, and any reference to an officer of any other corporation, partnership, joint venture, trust, employee benefit plan or other enterprise shall be deemed to refer exclusively to an officer appointed by the board of directors or equivalent governing body of such other entity pursuant to the certificate of incorporation and bylaws or equivalent organizational documents of such other corporation, partnership, joint venture, trust, employee benefit plan or other enterprise. The fact that any person who is or was an employee of the Corporation or an employee of any other corporation, partnership, joint venture, trust, employee benefit plan or other enterprise, but not an officer thereof as described in the preceding sentence, has been given or has used the title of “Vice President” or any other title that could be construed to suggest or imply that such person is or may be such an officer of the Corporation or of such other corporation, partnership, joint venture, trust, employee benefit plan or other enterprise shall not result in such person being constituted as, or being deemed to be, such an officer of the Corporation or of such other corporation, partnership, joint venture, trust, employee benefit plan or other enterprise for purposes of this Article VII.

7.10 Survival of Indemnification and Advancement of Expenses. The indemnification and advancement of expenses provided by, or granted pursuant to, this Article VII shall, unless otherwise provided when authorized or ratified, continue as to a person who has ceased to be a director or Executive Officer and shall inure to the benefit of the heirs, executors and administrators of such a person.

7.11 Limitation on Indemnification. Notwithstanding anything contained in this Article VII to the contrary, except for proceedings to enforce rights to indemnification (which shall be governed by Section 7.5), the Corporation shall not be obligated to indemnify any director, officer, employee or agent in connection with an action, suit or proceeding (or part thereof):

(a) for which payment has actually been made to or on behalf of such person under any statute, insurance policy, indemnity provision, vote or otherwise, except with respect to any excess beyond the amount paid;

(b) for an accounting or disgorgement of profits pursuant to Section 16(b) of the Exchange Act, or similar provisions of federal, state or local statutory law or common law, if such person is held liable therefor (including pursuant to any settlement arrangements);

(c) for any reimbursement of the Corporation by such person of any bonus or other incentive-based or equity-based compensation or of any profits realized by such person from the sale of securities of the corporation, as required in each case under the Exchange Act (including any such reimbursements that arise from an accounting restatement of the Corporation pursuant to Section 304 of the Sarbanes-Oxley Act of 2002 (the “**Sarbanes-Oxley Act**”), or the payment to the Corporation of profits arising from the purchase and sale by such person of securities in violation of Section 306 of the Sarbanes-Oxley Act), if such person is held liable therefor (including pursuant to any settlement arrangements);

(d) initiated by such person, including any action, suit or proceeding (or part thereof) initiated by such person against the Corporation or its directors, officers, employees, agents or other indemnitees, unless (i) the Board authorized the action, suit or proceeding (or relevant part thereof) prior to its initiation, (ii) the Corporation provides the indemnification, in its sole discretion, pursuant to the powers vested in the Corporation under applicable law, (iii) otherwise required to be made under Section 7.5 or (iv) otherwise required by applicable law; or

(e) if prohibited by applicable law.

7.12 **Contract Rights.** The obligations of the Corporation under this Article VII to indemnify, and advance expenses to, a person who is or was a director or Executive Officer of the Corporation shall be considered a contract between the Corporation and such person, and no modification or repeal of any provision of this Article VII shall affect, to the detriment of such person, such obligations of the Corporation in connection with a claim based on any act or failure to act occurring before such modification or repeal.

**AMENDED AND RESTATED
INVESTORS' RIGHTS AGREEMENT**

THIS AMENDED AND RESTATED INVESTORS' RIGHTS AGREEMENT (this "**Agreement**"), is made as of the 15th day of January, 2021, by and among TScan Therapeutics, Inc., a Delaware corporation (the "**Company**"), and each of the investors listed on Schedule A hereto, each of which is referred to in this Agreement as an "**Investor**".

RECITALS

WHEREAS, certain of the Investors (the "**Existing Investors**") hold shares of the Series B Preferred Stock, the Series A Preferred Stock and/or shares of Common Stock issued upon conversion thereof and possess registration rights, information rights, rights of first offer, and other rights pursuant to that certain Amended and Restated Investors' Rights Agreement, dated as of July 11, 2019, by and among the Company and such Existing Investors party thereto (as amended, the "**Prior Agreement**")

WHEREAS, the Existing Investors that are a party to this Agreement and the Prior Agreement are collectively holders of at least 59% of the then outstanding Registrable Securities (as defined in the Prior Agreement) (voting together as a single class and not as separate series and on an as-converted to Common Stock basis) held by the Existing Investors (collectively, the "**Requisite Stockholders**"), and desire to amend and restate the Prior Agreement in its entirety and to accept the rights created pursuant to this Agreement in lieu of the rights granted to them under the Prior Agreement;

WHEREAS, the Company and certain of the Investors are parties to that certain Series C Preferred Stock Purchase Agreement of even date herewith (the "**Purchase Agreement**"), under which the Company's and such Investors' obligations are conditioned upon the execution and delivery of this Agreement by the Company, such Investors and the Requisite Stockholders; and

WHEREAS, in order to induce the Company and certain of the Investors to enter into the Purchase Agreement and to purchase shares of Series B Preferred Stock thereunder, the parties desire to enter into this Agreement to govern the rights of the Investors to cause the Company to register shares of Common Stock issuable to the Investors, to receive certain information from the Company, and to participate in future equity offerings by the Company, and certain other matters as set forth in this Agreement.

NOW, THEREFORE, the Company and the undersigned Requisite Stockholders hereby agree to amend and restate the Prior Agreement in its entirety as set forth herein, and the parties to this Agreement hereby further agree as follows:

1. **Definitions.** For purposes of this Agreement:

1.1 "**6 Dimensions**" means 6 Dimensions Capital, L.P., 6 Dimensions Affiliates Fund, L.P. and their Affiliates.

1.2 “**Affiliate**” means, with respect to any specified Person, (i) any other Person who, directly or indirectly, controls, is controlled by, or is under common control with such Person, including without limitation any general partner, managing member, officer or director of such Person or any venture capital fund or other investment fund now or hereafter existing that is controlled by one or more general partners or managing members or investment advisers of, or shares the same management company or investment adviser with, such Person, and with respect to an Investor, (ii) any Person directly or indirectly managed or advised by the Investor or an entity referred to in (i) above. For the avoidance of doubt, Seth Rudnick or his trust, Seth A Rudnick 2014 Irrevocable GST Trust, and Pitango (as defined herein) shall be deemed Affiliates of one another.

1.3 “**Baker Bros.**” means 667, L.P., Baker Brothers Life Sciences, L.P. and their respective Affiliates.

1.4 “**Bessemer**” means Bessemer Venture Partners IX L.P., Bessemer Venture Partners IX Institutional L.P. and their Affiliates.

1.5 “**Bessemer Director**” means the Series A Director designated by Bessemer pursuant to the Voting Agreement.

1.6 “**BlackRock**” means BlackRock Health Sciences Trust II and its Affiliates.

1.7 “**Board**” means the Company’s Board of Directors.

1.8 “**Common Stock**” means shares of the Company’s common stock, par value \$0.0001 per share.

1.9 “**Competitor**” means a Person engaged, directly or indirectly (including through any partnership, limited liability company, corporation, joint venture or similar arrangement (whether now existing or formed hereafter)), in a business that competes with the Company’s business, but shall not include any financial investment firm or collective investment vehicle that, together with its Affiliates, holds less than twenty percent (20)% of the outstanding equity of any Competitor and does not, nor do any of its Affiliates, have a right to designate any members of the board of directors of any Competitor. For the avoidance of doubt, Longwood, Baker Bros., Hillhouse, RA Capital, BlackRock, Bessemer, Novartis, GV, 6 Dimensions, NIBR, Pitango Healthtech Fund I, L.P., Pitango Healthtech Principals Fund I, L.P. (collectively, “**Pitango**”) and Astellas Venture Management, LLC (“**AVM**”), and each of their respective Affiliates, shall not at any time be deemed to be a Competitor.

1.10 “**Damages**” means any loss, damage, claim or liability (joint or several) to which a party hereto may become subject under the Securities Act, the Exchange Act, or other federal or state law, insofar as such loss, damage, claim or liability (or any action in respect thereof) arises out of or is based upon: (i) any untrue statement or alleged untrue statement of a material fact contained in any registration statement of the Company, including any preliminary prospectus or final prospectus contained therein or any amendments or supplements thereto; (ii) an omission or alleged omission to state therein a material fact required

to be stated therein, or necessary to make the statements therein not misleading; or (iii) any violation or alleged violation by the indemnifying party (or any of its agents or Affiliates) of the Securities Act, the Exchange Act, any state securities law, or any rule or regulation promulgated under the Securities Act, the Exchange Act, or any state securities law.

1.11 “**Derivative Securities**” means any securities or rights convertible into, or exercisable or exchangeable for (in each case, directly or indirectly), Common Stock, including options and warrants.

1.12 “**Exchange Act**” means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

1.13 “**Excluded Registration**” means (i) a registration relating to the sale or grant of securities to employees of the Company or a subsidiary pursuant to a stock option, stock purchase, equity incentive or similar plan; (ii) a registration relating to an SEC Rule 145 transaction; (iii) a registration on any form that does not include substantially the same information as would be required to be included in a registration statement covering the sale of the Registrable Securities; or (iv) a registration in which the only Common Stock being registered is Common Stock issuable upon conversion of debt securities that are also being registered.

1.14 “**FOIA Party**” means a Person that, in the reasonable determination of the Board of Directors, may be subject to, and thereby required to disclose non-public information furnished by or relating to the Company under, the Freedom of Information Act, 5 U.S.C. 552 (“**FOIA**”), any state public records access law, any state or other jurisdiction’s laws similar in intent or effect to FOIA, or any other similar statutory or regulatory requirement.

1.15 “**Form S-1**” means such form under the Securities Act as in effect on the date hereof or any successor registration form under the Securities Act subsequently adopted by the SEC.

1.16 “**Form S-3**” means such form under the Securities Act as in effect on the date hereof or any registration form under the Securities Act subsequently adopted by the SEC that permits incorporation of substantial information by reference to other documents filed by the Company with the SEC.

1.17 “**GAAP**” means generally accepted accounting principles in the United States as in effect from time to time.

1.18 “**GV**” means GV 2017, L.P., GV 2019, L.P. and their Affiliates.

1.19 “**Hillhouse**” means JMD II Holdings Limited and its Affiliates.

1.20 “**Holder**” means any holder of Registrable Securities who is a party to this Agreement.

1.21 “**Immediate Family Member**” means a child, stepchild, grandchild, parent, stepparent, grandparent, spouse, sibling, mother-in-law, father-in-law, son-in-law, daughter-in-law, brother-in-law, or sister-in-law, including, adoptive relationships, of a natural person referred to herein.

1.22 “**Initiating Holders**” means, collectively, Holders who properly initiate a registration request under this Agreement.

1.23 “**IPO**” means the Company’s first underwritten public offering of its Common Stock under the Securities Act.

1.24 “**Key Employee**” means any executive-level employee (including vice-president-level positions) as well as any employee who, either alone or in concert with others, develops, invents, programs, or designs any Company Intellectual Property (as defined in the Purchase Agreement).

1.25 “**Longwood**” means Longwood Fund IV, L.P. and its Affiliates.

1.26 “**Major Investor**” means any Investor that, individually or together with such Investor’s Affiliates, holds at least 4,329,004 shares of Preferred Stock (as adjusted for any stock split, stock dividend, combination, or other recapitalization or reclassification effected after the date hereof). Notwithstanding the foregoing, Baker Bros. shall be deemed to be a Major Investor.

1.27 “**New Securities**” means, collectively, equity securities of the Company, whether or not currently authorized, as well as rights, options, or warrants to purchase such equity securities, or securities of any type whatsoever that are, or may become, convertible or exchangeable into or exercisable for such equity securities.

1.28 “**NIBR**” means Novartis Institutes for Biomedical Research, Inc. and its Affiliates.

1.29 “**Novartis**” means Novartis Bioventures Ltd. and its Affiliates.

1.30 “**Novartis Director**” means the Series A Director designated by Novartis pursuant to the Voting Agreement.

1.31 “**Person**” means any individual, corporation, partnership, trust, limited liability company, association or other entity.

1.32 “**Preferred Director**” means any Series A Director, Series B Director or Series C Director.

1.33 “**Preferred Stock**” means shares of the Company’s Series A Preferred Stock, Series B Preferred Stock and Series C Preferred Stock.

1.34 “**RA Capital**” means RA Capital Healthcare Fund, L.P., RA Capital Nexus Fund II, L.P. and their Affiliates.

1.35 “**Registrable Securities**” means (i) the Common Stock issuable or issued upon conversion of the Preferred Stock, (ii) any Common Stock, or any Common Stock issued or issuable (directly or indirectly) upon conversion and/or exercise of any other securities of the Company, acquired by the Investors after the date hereof and (iii) any Common Stock issued as (or issuable upon the conversion or exercise of any warrant, right, or other security that is issued as) a dividend or other distribution with respect to, or in exchange for or in replacement of, the shares referenced in clauses (i) or (ii) above; excluding in all cases, however, any Registrable Securities sold by a Person in a transaction in which the applicable rights under this Agreement are not assigned pursuant to Subsection 6.1, and excluding for purposes of Section 2 any shares for which registration rights have terminated pursuant to Subsection 2.13 of this Agreement.

1.36 “**Registrable Securities then outstanding**” means the number of shares determined by adding the number of shares of outstanding Common Stock that are Registrable Securities and the number of shares of Common Stock issuable (directly or indirectly) pursuant to then exercisable and/or convertible securities that are Registrable Securities.

1.37 “**Requisite Investor Directors**” means, the affirmative vote of a majority of the then-seated Preferred Directors (a majority of which majority shall be comprised of a combination of the Novartis Director, the Bessemer Director, either Series B Director and the Series C Director).

1.38 “**Restricted Securities**” means the securities of the Company required to be notated with the legend set forth in Subsection 2.12(b) hereof.

1.39 “**SEC**” means the Securities and Exchange Commission.

1.40 “**SEC Rule 144**” means Rule 144 promulgated by the SEC under the Securities Act.

1.41 “**SEC Rule 145**” means Rule 145 promulgated by the SEC under the Securities Act.

1.42 “**Securities Act**” means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

1.43 “**Selling Expenses**” means all underwriting discounts, selling commissions, and stock transfer taxes applicable to the sale of Registrable Securities, and fees and disbursements of counsel for any Holder, except for the fees and disbursements of the Holder Counsel borne and paid by the Company as provided in Subsection 2.6.

1.44 “**Series A Director**” means any director of the Company that the holders of the Series A Preferred Stock are entitled to elect pursuant to the Company’s Certificate of Incorporation.

1.45 “**Series A Preferred Stock**” means shares of the Company’s Series A Preferred Stock, par value \$0.0001 per share.

1.46 “**Series B Director**” means any director of the Company that the holders of the Series B Preferred Stock are entitled to elect pursuant to the Company’s Certificate of Incorporation.

1.47 “**Series B Preferred Stock**” means shares of the Company’s Series B Preferred Stock, par value \$0.0001 per share.

1.48 “**Series C Director**” means any director of the Company that the holders of the Series C Preferred Stock are entitled to elect pursuant to the Company’s Certificate of Incorporation.

1.49 “**Series C Preferred Stock**” means shares of the Company’s Series C Preferred Stock, par value \$0.0001 per share.

2. Registration Rights. The Company covenants and agrees as follows:

2.1 Demand Registration.

(a) Form S-1 Demand. If at any time after the earlier of (i) three (3) years after the date of this Agreement or (ii) one hundred eighty (180) days after the effective date of the registration statement for the IPO, the Company receives a request from Holders of at least thirty-five percent (35%) of the Registrable Securities then outstanding that the Company file a Form S-1 registration statement with respect to at least thirty-five (35%) of the Registrable Securities then outstanding and held by such Holders having an anticipated aggregate offering price of at least \$10,000,000, then the Company shall (x) within ten (10) days after the date such request is given, give notice thereof (the “**Demand Notice**”) to all Holders other than the Initiating Holders; and (y) as soon as practicable, and in any event within sixty (60) days after the date such request is given by the Initiating Holders, file a Form S-1 registration statement under the Securities Act covering all Registrable Securities that the Initiating Holders requested to be registered and any additional Registrable Securities requested to be included in such registration by any other Holders, as specified by notice given by each such Holder to the Company within twenty (20) days of the date the Demand Notice is given, and in each case, subject to the limitations of Subsections 2.1(c) and 2.3.

(b) Form S-3 Demand. If at any time when it is eligible to use a Form S-3 registration statement, the Company receives a request from Holders of Registrable Securities then outstanding that the Company file a Form S-3 registration statement with respect to outstanding Registrable Securities of such Holders having an anticipated aggregate offering price, net of Selling Expenses, of at least \$3,000,000, then the Company shall (i) within ten (10) days after the date such request is given, give a Demand Notice to all Holders other than the

Initiating Holders; and (ii) as soon as practicable, and in any event within forty-five (45) days after the date such request is given by the Initiating Holders, file a Form S-3 registration statement under the Securities Act covering all Registrable Securities requested to be included in such registration by any other Holders, as specified by notice given by each such Holder to the Company within twenty (20) days of the date the Demand Notice is given, and in each case, subject to the limitations of Subsections 2.1(c) and 2.3.

(c) Notwithstanding the foregoing obligations, if the Company furnishes to Holders requesting a registration pursuant to this Subsection 2.1 a certificate signed by the Company's chief executive officer stating that in the good faith judgment of the Board it would be materially detrimental to the Company and its stockholders for such registration statement to either become effective or remain effective for as long as such registration statement otherwise would be required to remain effective, because such action would (i) materially interfere with a significant acquisition, corporate reorganization, or other similar transaction involving the Company; (ii) require premature disclosure of material information that the Company has a bona fide business purpose for preserving as confidential; or (iii) render the Company unable to comply with requirements under the Securities Act or Exchange Act, then the Company shall have the right to defer taking action with respect to such filing, and any time period with respect to filing or effectiveness thereof shall be tolled correspondingly, for a period of not more than sixty (60) days after the request of the Initiating Holders is given; provided, however, that the Company may not invoke this right more than once in any twelve (12) month period; and provided further that the Company shall not register any securities for its own account or that of any other stockholder during such sixty (60) day period other than an Excluded Registration.

(d) The Company shall not be obligated to effect, or to take any action to effect, any registration pursuant to Subsection 2.1(a)(i) during the period that is sixty (60) days before the Company's good faith estimate of the date of filing of, and ending on a date that is one hundred eighty (180) days after the effective date of, a Company-initiated registration, provided that the Company is actively employing in good faith commercially reasonable efforts to cause such registration statement to become effective; (ii) after the Company has effected two registrations pursuant to Subsection 2.1(a); or (iii) if the Initiating Holders propose to dispose of shares of Registrable Securities that may be immediately registered on Form S-3 pursuant to a request made pursuant to Subsection 2.1(b). The Company shall not be obligated to effect, or to take any action to effect, any registration pursuant to Subsection 2.1(b) during the period that is thirty (30) days before the Company's good faith estimate of the date of filing of, and ending on a date that is ninety (90) days after the effective date of, a Company-initiated registration, provided that the Company is actively employing in good faith commercially reasonable efforts to cause such registration statement to become effective; or (ii) if the Company has effected two registrations pursuant to Subsection 2.1(b) within the twelve (12) month period immediately preceding the date of such request. A registration shall not be counted as "effected" for purposes of this Subsection 2.1(d) until such time as the applicable registration statement has been declared effective by the SEC, unless the Initiating Holders withdraw their request for such registration, elect not to pay the registration expenses therefor, and forfeit their right to one demand registration statement pursuant to Subsection 2.6, in which case such withdrawn registration statement shall be counted as "effected" for purposes of this Subsection 2.1(d); provided, that if such withdrawal is during a period the Company has deferred taking action pursuant to Subsection 2.1(c), then the Initiating Holders may withdraw their request for registration and such registration will not be counted as "effected" for purposes of this Subsection 2.1(d).

2.2 Company Registration. If the Company proposes to register (including, for this purpose, a registration effected by the Company for stockholders other than the Holders) any of its securities under the Securities Act in connection with the public offering of such securities solely for cash (other than in an Excluded Registration), the Company shall, at such time, promptly give each Holder notice of such registration. Upon the request of each Holder given within twenty (20) days after such notice is given by the Company, the Company shall, subject to the provisions of Subsection 2.3, cause to be registered all of the Registrable Securities that each such Holder has requested to be included in such registration. The Company shall have the right to terminate or withdraw any registration initiated by it under this Subsection 2.2 before the effective date of such registration, whether or not any Holder has elected to include Registrable Securities in such registration. The expenses (other than Selling Expenses) of such withdrawn registration shall be borne by the Company in accordance with Subsection 2.6.

2.3 Underwriting Requirements.

(a) If, pursuant to Subsection 2.1, the Initiating Holders intend to distribute the Registrable Securities covered by their request by means of an underwriting, they shall so advise the Company as a part of their request made pursuant to Subsection 2.1, and the Company shall include such information in the Demand Notice. The underwriter(s) will be selected by the Company and shall be reasonably acceptable to a majority in interest of the Initiating Holders. In such event, the right of any Holder to include such Holder's Registrable Securities in such registration shall be conditioned upon such Holder's participation in such underwriting and the inclusion of such Holder's Registrable Securities in the underwriting to the extent provided herein. All Holders proposing to distribute their securities through such underwriting shall (together with the Company as provided in Subsection 2.4(e)) enter into an underwriting agreement in customary form with the underwriter(s) selected for such underwriting; provided, however, that no Holder (or any of their assignees) shall be required to make any representations, warranties or indemnities except as they relate to such Holder's ownership of shares and authority to enter into the underwriting agreement and to such Holder's intended method of distribution, and the liability of such Holder shall be several and not joint, and limited to an amount equal to the net proceeds from the offering received by such Holder. Notwithstanding any other provision of this Subsection 2.3, if the managing underwriter(s) advise(s) the Initiating Holders in writing that marketing factors require a limitation on the number of shares to be underwritten, then the Initiating Holders shall so advise all Holders of Registrable Securities that otherwise would be underwritten pursuant hereto, and the number of Registrable Securities that may be included in the underwriting shall be allocated among such Holders of Registrable Securities, including the Initiating Holders, in proportion (as nearly as practicable) to the number of Registrable Securities owned by each Holder or in such other proportion as shall mutually be agreed to by all such selling Holders; provided, however, that the number of Registrable Securities held by the Holders to be included in such underwriting shall not be reduced unless all other securities are first entirely excluded from the underwriting. To facilitate the allocation of shares in accordance with the above provisions, the Company or the underwriters may round the number of shares allocated to any Holder to the nearest one hundred (100) shares.

(b) In connection with any offering involving an underwriting of shares of the Company's capital stock pursuant to Subsection 2.2, the Company shall not be required to include any of the Holders' Registrable Securities in such underwriting unless the Holders accept the terms of the underwriting as agreed upon between the Company and its underwriters, and then only in such quantity as the underwriters in their sole discretion determine will not jeopardize the success of the offering by the Company. If the total number of securities, including Registrable Securities, requested by stockholders to be included in such offering exceeds the number of securities to be sold (other than by the Company) that the underwriters in their reasonable discretion determine is compatible with the success of the offering, then the Company shall be required to include in the offering only that number of such securities, including Registrable Securities, which the underwriters and the Company in their sole discretion determine will not jeopardize the success of the offering. If the underwriters determine that less than all of the Registrable Securities requested to be registered can be included in such offering, then the Registrable Securities that are included in such offering shall be allocated among the selling Holders in proportion (as nearly as practicable to) the number of Registrable Securities owned by each selling Holder or in such other proportions as shall mutually be agreed to by all such selling Holders. To facilitate the allocation of shares in accordance with the above provisions, the Company or the underwriters may round the number of shares allocated to any Holder to the nearest one hundred (100) shares. Notwithstanding the foregoing, in no event shall (i) the number of Registrable Securities included in the offering be reduced unless all other securities (other than securities to be sold by the Company) are first entirely excluded from the offering, or (ii) the number of Registrable Securities included in the offering be reduced below thirty percent (30%) of the total number of securities included in such offering, unless such offering is the IPO, in which case the selling Holders may be excluded further if the underwriters make the determination described above and no other stockholder's securities are included in such offering. For purposes of the provision in this Subsection 2.3(b) concerning apportionment, for any selling Holder that is a partnership, limited liability company, or corporation, the partners, members, retired partners, retired members, stockholders, and Affiliates of such Holder, or the estates and Immediate Family Members of any such partners, retired partners, members, and retired members and any trusts for the benefit of any of the foregoing Persons, shall be deemed to be a single "selling Holder," and any pro rata reduction with respect to such "selling Holder" shall be based upon the aggregate number of Registrable Securities owned by all Persons included in such "selling Holder," as defined in this sentence.

(c) For purposes of Subsection 2.1, a registration shall not be counted as "effected" if, as a result of an exercise of the underwriter's cutback provisions in Subsection 2.3(a), fewer than fifty percent (50%) of the total number of Registrable Securities that Holders have requested to be included in such registration statement are actually included.

2.4 Obligations of the Company. Whenever required under this Section 2 to effect the registration of any Registrable Securities, the Company shall, as expeditiously as reasonably possible:

(a) prepare and file with the SEC a registration statement with respect to such Registrable Securities and use its commercially reasonable efforts to cause such registration statement to become effective and, upon the request of the Holders of a majority of the Registrable Securities registered thereunder, keep such registration statement effective for a period of up to one hundred twenty (120) days or, if earlier, until the distribution contemplated in the registration statement has been completed; provided, however, that (i) such one hundred twenty (120) day period shall be extended for a period of time equal to the period the Holder refrains, at the request of an underwriter of Common Stock (or other securities) of the Company, from selling any securities included in such registration, and (ii) in the case of any registration of Registrable Securities on Form S-3 that are intended to be offered on a continuous or delayed basis, subject to compliance with applicable SEC rules, such one hundred twenty (120) day period shall be extended for up to an additional twenty (120) days, if necessary, to keep the registration statement effective until all such Registrable Securities are sold;

(b) prepare and file with the SEC such amendments and supplements to such registration statement, and the prospectus used in connection with such registration statement, as may be necessary to comply with the Securities Act in order to enable the disposition of all securities covered by such registration statement;

(c) furnish to the selling Holders such numbers of copies of a prospectus, including a preliminary prospectus, as required by the Securities Act, and such other documents as the Holders may reasonably request in order to facilitate their disposition of their Registrable Securities;

(d) use its commercially reasonable efforts to register and qualify the securities covered by such registration statement under such other securities or blue-sky laws of such jurisdictions as shall be reasonably requested by the selling Holders; provided that the Company shall not be required to qualify to do business or to file a general consent to service of process in any such states or jurisdictions, unless the Company is already subject to service in such jurisdiction and except as may be required by the Securities Act;

(e) in the event of any underwritten public offering, enter into and perform its obligations under an underwriting agreement, in usual and customary form, with the underwriter(s) of such offering;

(f) use its commercially reasonable efforts to cause all such Registrable Securities covered by such registration statement to be listed on a national securities exchange or trading system and each securities exchange and trading system (if any) on which similar securities issued by the Company are then listed;

(g) provide a transfer agent and registrar for all Registrable Securities registered pursuant to this Agreement and provide a CUSIP number for all such Registrable Securities, in each case not later than the effective date of such registration;

(h) promptly make available for inspection by the selling Holders, any underwriter(s) participating in any disposition pursuant to such registration statement, and any attorney or accountant or other agent retained by any such underwriter or selected by the selling Holders, all financial and other records, pertinent corporate documents, and properties of the Company, and cause the Company's officers, directors, employees, and independent accountants to supply all information reasonably requested by any such seller, underwriter, attorney, accountant, or agent, in each case, as necessary or advisable to verify the accuracy of the information in such registration statement and to conduct appropriate due diligence in connection therewith;

(i) notify each selling Holder, promptly after the Company receives notice thereof, of the time when such registration statement has been declared effective or a supplement to any prospectus forming a part of such registration statement has been filed; and

(j) after such registration statement becomes effective, notify each selling Holder of any request by the SEC that the Company amend or supplement such registration statement or prospectus.

In addition, the Company shall ensure that, at all times after any registration statement covering a public offering of securities of the Company under the Securities Act shall have become effective, its insider trading policy shall provide that the Company's directors may implement a trading program under Rule 10b5-1 of the Exchange Act.

2.5 Furnish Information. It shall be a condition precedent to the obligations of the Company to take any action pursuant to this Section 2 with respect to the Registrable Securities of any selling Holder that such Holder shall furnish to the Company such information regarding itself, the Registrable Securities held by it, and the intended method of disposition of such securities as is reasonably required to effect the registration of such Holder's Registrable Securities.

2.6 Expenses of Registration. All expenses (other than Selling Expenses) incurred in connection with registrations, filings, or qualifications pursuant to Section 2 or pursuant to an IPO, including all registration, filing, and qualification fees; printers' and accounting fees; fees and disbursements of counsel for the Company; and the reasonable fees and disbursements of one counsel for the selling Holders or, in the case of an IPO, one counsel to the Investors ("**Holder Counsel**"), shall be borne and paid by the Company; provided, however, that the Company shall not be required to pay for any expenses of any registration proceeding begun pursuant to Subsection 2.1 if the registration request is subsequently withdrawn at the request of the Holders of a majority of the Registrable Securities to be registered (in which case all selling Holders shall bear such expenses pro rata based upon the number of Registrable Securities that were to be included in the withdrawn registration), unless the Holders of a majority of the Registrable Securities agree to forfeit their right to one registration pursuant to Subsections 2.1(a) or 2.1(b), as the case may be; provided further that if, at the time of such withdrawal, the Holders shall have learned of a material adverse change in the condition, business, or prospects of the Company from that known to the Holders at the time of their request and have withdrawn the request with reasonable promptness after learning of such information then the Holders shall

not be required to pay any of such expenses and shall not forfeit their right to one registration pursuant to Subsections 2.1(a) or 2.1(b). All Selling Expenses relating to Registrable Securities registered pursuant to this Section 2 shall be borne and paid by the Holders pro rata on the basis of the number of Registrable Securities registered on their behalf.

2.7 Delay of Registration. No Holder shall have any right to obtain or seek an injunction restraining or otherwise delaying any registration pursuant to this Agreement as the result of any controversy that might arise with respect to the interpretation or implementation of this Section 2.

2.8 Indemnification. If any Registrable Securities are included in a registration statement under this Section 2:

(a) To the extent permitted by law, the Company will indemnify and hold harmless each selling Holder, and the partners, members, officers, directors, and stockholders of each such Holder; legal counsel and accountants for each such Holder; any underwriter (as defined in the Securities Act) for each such Holder; and each Person, if any, who controls such Holder or underwriter within the meaning of the Securities Act or the Exchange Act, against any Damages, and the Company will pay to each such Holder, underwriter, controlling Person, or other aforementioned Person any legal or other expenses reasonably incurred thereby in connection with investigating or defending any claim or proceeding from which Damages may result, as such expenses are incurred; provided, however, that the indemnity agreement contained in this Subsection 2.8(a) shall not apply to amounts paid in settlement of any such claim or proceeding if such settlement is effected without the consent of the Company, which consent shall not be unreasonably withheld, nor shall the Company be liable for any Damages only to the extent that they arise out of or are based upon actions or omissions made in reliance upon and in conformity with written information furnished by or on behalf of any such Holder, underwriter, controlling Person, or other aforementioned Person expressly for use in connection with such registration.

(b) To the extent permitted by law, each selling Holder, severally and not jointly, will indemnify and hold harmless the Company, and each of its directors, each of its officers who has signed the registration statement, each Person (if any), who controls the Company within the meaning of the Securities Act, legal counsel and accountants for the Company, any underwriter (as defined in the Securities Act), any other Holder selling securities in such registration statement, and any controlling Person of any such underwriter or other Holder, against any Damages, in each case only to the extent that such Damages arise out of or are based upon actions or omissions made in reliance upon and in conformity with written information furnished by or on behalf of such selling Holder expressly for use in connection with such registration and has not been corrected in a subsequent writing prior to or concurrently with the sale of Registrable Securities to the Person asserting the claim; and each such selling Holder will pay to the Company and each other aforementioned Person any legal or other expenses reasonably incurred thereby in connection with investigating or defending any claim or proceeding from which Damages may result, as such expenses are incurred; provided, however, that the indemnity agreement contained in this Subsection 2.8(b) shall not apply to amounts paid in settlement of any such claim or proceeding if such settlement is effected without the consent

of the Holder, which consent shall not be unreasonably withheld; and provided further that in no event shall the aggregate amounts payable by any Holder by way of indemnity or contribution under Subsections 2.8(b) and 2.8(d) exceed the proceeds from the offering received by such Holder (net of any Selling Expenses paid by such Holder), except in the case of fraud or willful misconduct by such Holder except to the extent such information has been corrected in a subsequent writing prior to or concurrently with the sale of Registrable Securities to the Person asserting the claim.

(c) Promptly after receipt by an indemnified party under this Subsection 2.8 of notice of the commencement of any action (including any governmental action) for which a party may be entitled to indemnification hereunder, such indemnified party will, if a claim in respect thereof is to be made against any indemnifying party under this Subsection 2.8, give the indemnifying party notice of the commencement thereof. The indemnifying party shall have the right to participate in such action and, to the extent the indemnifying party so desires, participate jointly with any other indemnifying party to which notice has been given, and to assume the defense thereof with counsel mutually satisfactory to the parties; provided, however, that an indemnified party (together with all other indemnified parties that may be represented without conflict by one counsel) shall have the right to retain one separate counsel, with the fees and expenses to be paid by the indemnifying party, if representation of such indemnified party by the counsel retained by the indemnifying party would be inappropriate due to actual or potential differing interests between such indemnified party and any other party represented by such counsel in such action. The failure to give notice to the indemnifying party within a reasonable time of the commencement of any such action shall relieve such indemnifying party of any liability to the indemnified party under this Subsection 2.8, to the extent that such failure materially prejudices the indemnifying party's ability to defend such action. The failure to give notice to the indemnifying party will not relieve it of any liability that it may have to any indemnified party otherwise than under this Subsection 2.8.

(d) To provide for just and equitable contribution to joint liability under the Securities Act in any case in which either: (i) any party otherwise entitled to indemnification hereunder makes a claim for indemnification pursuant to this Subsection 2.8 but it is judicially determined (by the entry of a final judgment or decree by a court of competent jurisdiction and the expiration of time to appeal or the denial of the last right of appeal) that such indemnification may not be enforced in such case, notwithstanding the fact that this Subsection 2.8 provides for indemnification in such case, or (ii) contribution under the Securities Act may be required on the part of any party hereto for which indemnification is provided under this Subsection 2.8, then, and in each such case, such parties will contribute to the aggregate losses, claims, damages, liabilities, or expenses to which they may be subject (after contribution from others) in such proportion as is appropriate to reflect the relative fault of each of the indemnifying party and the indemnified party in connection with the statements, omissions, or other actions that resulted in such loss, claim, damage, liability, or expense, as well as to reflect any other relevant equitable considerations. The relative fault of the indemnifying party and of the indemnified party shall be determined by reference to, among other things, whether the untrue or allegedly untrue statement of a material fact, or the omission or alleged omission of a material fact, relates to information supplied by the indemnifying party or by the indemnified

party and the parties' relative intent, knowledge, access to information, and opportunity to correct or prevent such statement or omission; provided, however, that, in any such case (x) no Holder will be required to contribute any amount in excess of the public offering price of all such Registrable Securities offered and sold by such Holder pursuant to such registration statement, and (y) no Person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) will be entitled to contribution from any Person who was not guilty of such fraudulent misrepresentation; and provided further that in no event shall a Holder's liability pursuant to this Subsection 2.8(d), when combined with the amounts paid or payable by such Holder pursuant to Subsection 2.8(b), exceed the proceeds from the offering received by such Holder (net of any Selling Expenses paid by such Holder), except in the case of willful misconduct or fraud by such Holder.

(e) Notwithstanding the foregoing, to the extent that the provisions on indemnification and contribution contained in the underwriting agreement entered into in connection with the underwritten public offering are in conflict with the foregoing provisions, the provisions in the underwriting agreement shall control; provided, however, that any matter expressly provided for or addressed by the foregoing provisions that is not expressly provided for or addressed by the underwriting agreement shall be controlled by the foregoing provisions.

(f) Unless otherwise superseded by an underwriting agreement entered into in connection with the underwritten public offering, the obligations of the Company and Holders under this Subsection 2.8 shall survive the completion of any offering of Registrable Securities in a registration under this Section 2, and otherwise shall survive the termination of this Agreement.

2.9 Reports Under Exchange Act. With a view to making available to the Holders the benefits of SEC Rule 144 and any other rule or regulation of the SEC that may at any time permit a Holder to sell securities of the Company to the public without registration or pursuant to a registration on Form S-3, the Company shall:

(a) make and keep available adequate current public information, as those terms are understood and defined in SEC Rule 144, at all times after the effective date of the registration statement filed by the Company for the IPO;

(b) use commercially reasonable efforts to file with the SEC in a timely manner all reports and other documents required of the Company under the Securities Act and the Exchange Act (at any time after the Company has become subject to such reporting requirements); and

(c) furnish to any Holder, so long as the Holder owns any Registrable Securities, forthwith upon request (i) to the extent accurate, a written statement by the Company that it has complied with the reporting requirements of SEC Rule 144 (at any time after ninety (90) days after the effective date of the registration statement filed by the Company for the IPO), the Securities Act, and the Exchange Act (at any time after the Company has become subject to such reporting requirements), or that it qualifies as a registrant whose securities may be resold pursuant to Form S-3 (at any time after the Company so qualifies); (ii) a copy of the most recent

annual or quarterly report of the Company and such other reports and documents so filed by the Company; and (iii) such other information as may be reasonably requested in availing any Holder of any rule or regulation of the SEC that permits the selling of any such securities without registration (at any time after the Company has become subject to the reporting requirements under the Exchange Act) or pursuant to Form S-3 (at any time after the Company so qualifies to use such form).

2.10 Limitations on Subsequent Registration Rights. From and after the date of this Agreement, the Company shall not, without the prior written consent of the Requisite Preferred Holders, enter into any agreement with any holder or prospective holder of any securities of the Company that (i) would allow such holder or prospective holder to include such securities in any registration unless, under the terms of such agreement, such holder or prospective holder may include such securities in any such registration only to the extent that the inclusion of such securities will not reduce the number of the Registrable Securities of the Holders that are included; or (ii) allow such holder or prospective holder to initiate a demand for registration of any securities held by such holder or prospective holder; provided that this limitation shall not apply to Registrable Securities acquired by any additional Investor that becomes a party to this Agreement in accordance with Subsection 6.9.

2.11 "Market Stand-off" Agreement. Each Holder hereby agrees that it will not, without the prior written consent of the managing underwriter, during the period commencing on the date of the final prospectus relating to the registration by the Company of shares of its Common Stock or any other equity securities under the Securities Act on a registration statement on Form S-1 and ending on the date specified by the Company and the managing underwriter (such period not to exceed one hundred eighty (180) days), (i) lend; offer; pledge; sell; contract to sell; sell any option or contract to purchase; purchase any option or contract to sell; grant any option, right, or warrant to purchase; or otherwise transfer or dispose of, directly or indirectly, any shares of Common Stock or any securities convertible into or exercisable or exchangeable (directly or indirectly) for Common Stock, in each case, held immediately before the effective date of the registration statement for such offering or (ii) enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of such securities, whether any such transaction described in clause (i) or (ii) above is to be settled by delivery of Common Stock or other securities, in cash, or otherwise. The foregoing provisions of this Subsection 2.11 shall apply only to the IPO, shall not apply to the sale of any shares to an underwriter pursuant to an underwriting agreement, or the transfer of any shares to any trust for the direct or indirect benefit of the Holder or the immediate family of the Holder, provided that the trustee of the trust agrees to be bound in writing by the restrictions set forth herein, and provided further that any such transfer shall not involve a disposition for value, and shall be applicable to the Holders only if all officers and directors, and all stockholders (together with such stockholder's Affiliates) owning more than one percent (1%) of the Company's outstanding Common Stock (after giving effect to conversion into Common Stock of all outstanding Preferred Stock), are subject to the same restrictions. The underwriters in connection with such registration are intended third-party beneficiaries of this Subsection 2.11 and shall have the right, power and authority to enforce the provisions hereof as though they were a party hereto. Each Holder further agrees to execute such agreements as may be reasonably requested by the underwriters in connection with such

registration that are consistent with this Subsection 2.11 or that are necessary to give further effect thereto. Any discretionary waiver or termination of the restrictions of any or all of such agreements by the Company or the underwriters shall apply pro rata to all Holders subject to such agreements, based on the number of shares subject to such agreements, unless otherwise approved by the Requisite Preferred Holders (as defined below). In the event that any underwriter requests any Major Investor to sign a lock-up agreement (a “**Major Investor Lock-Up Agreement**”), and any director, officer, or stockholder (together with such stockholder’s Affiliates) owning more than one percent (1%) of the Company’s outstanding Common Stock (after giving effect to conversion into Common Stock of all outstanding Preferred Stock) enters into a lock-up agreement with the underwriter with terms that are more favorable to such stockholder than are afforded to any Major Investor in such Major Investor’s Major Investor Lock-Up Agreement, the Company shall use its best efforts to require the underwriters to include such more favorable terms in each Major Investor Lock-Up Agreement. The Company shall notify the Major Investors if it is aware of any lock-up agreements relating to the Company with more favorable terms than the Major Investor Lock-Up Agreement.

2.12 Restrictions on Transfer.

(a) The Preferred Stock and the Registrable Securities shall not be sold, pledged, or otherwise transferred, and the Company shall not recognize and shall issue stop-transfer instructions to its transfer agent with respect to any such sale, pledge, or transfer, except upon the conditions specified in this Agreement, which conditions are intended to ensure compliance with the provisions of the Securities Act. A transferring Holder will cause any proposed purchaser, pledgee, or transferee of the Preferred Stock and the Registrable Securities held by such Holder to agree to take and hold such securities subject to the provisions and upon the conditions specified in this Agreement. Notwithstanding the foregoing, the Company shall not require any transferee of shares pursuant to an effective registration statement or, following the IPO, SEC Rule 144, in each case, to be bound by the terms of this Agreement.

(b) Each certificate, instrument, or book entry representing (i) the Preferred Stock, (ii) the Registrable Securities, and (iii) any other securities issued in respect of the securities referenced in clauses (i) and (ii), upon any stock split, stock dividend, recapitalization, merger, consolidation, or similar event, shall (unless otherwise permitted by the provisions of Subsection 2.12(c)) be notated with a legend substantially in the following form:

THE SECURITIES REPRESENTED HEREBY HAVE BEEN ACQUIRED FOR INVESTMENT AND HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933. SUCH SHARES MAY NOT BE SOLD, PLEDGED, OR TRANSFERRED IN THE ABSENCE OF SUCH REGISTRATION OR A VALID EXEMPTION FROM THE REGISTRATION AND PROSPECTUS DELIVERY REQUIREMENTS OF SAID ACT.

THE SECURITIES REPRESENTED HEREBY MAY BE TRANSFERRED ONLY IN ACCORDANCE WITH THE TERMS OF AN AGREEMENT BETWEEN THE COMPANY AND THE STOCKHOLDER, A COPY OF WHICH IS ON FILE WITH THE SECRETARY OF THE COMPANY.

The Holders consent to the Company making a notation in its records and giving instructions to any transfer agent of the Restricted Securities in order to implement the restrictions on transfer set forth in this Subsection 2.12.

(c) The holder of such Restricted Securities, by acceptance of ownership thereof, agrees to comply in all respects with the provisions of this Section 2. Before any proposed sale, pledge, or transfer of any Restricted Securities, unless there is in effect a registration statement under the Securities Act covering the proposed transaction, or following the IPO, the transfer is made pursuant to SEC Rule 144, the Holder thereof shall give notice to the Company of such Holder's intention to effect such sale, pledge, or transfer; provided that no notice shall be required in connection if the intended sale, pledge or transfer complies with SEC Rule 144. Each such notice shall describe the manner and circumstances of the proposed sale, pledge, or transfer in sufficient detail and, if reasonably requested by the Company, shall be accompanied at such Holder's expense by either (i) a written opinion of legal counsel who shall, and whose legal opinion shall, be reasonably satisfactory to the Company, addressed to the Company, to the effect that the proposed transaction may be effected without registration under the Securities Act; (ii) a "no action" letter from the SEC to the effect that the proposed sale, pledge, or transfer of such Restricted Securities without registration will not result in a recommendation by the staff of the SEC that action be taken with respect thereto; or (iii) any other evidence reasonably satisfactory to counsel to the Company to the effect that the proposed sale, pledge, or transfer of the Restricted Securities may be effected without registration under the Securities Act, whereupon the Holder of such Restricted Securities shall be entitled to sell, pledge, or transfer such Restricted Securities in accordance with the terms of the notice given by the Holder to the Company. The Company will not require such a legal opinion or "no action" letter (x) in any transaction in compliance with SEC Rule 144; or (y) in any transaction in which such Holder distributes Restricted Securities to an Affiliate of such Holder for no consideration; provided that each transferee agrees in writing to be subject to the terms of this Subsection 2.12. Each certificate, instrument, or book entry representing the Restricted Securities transferred as above provided shall be notated with, except if such transfer is made pursuant to SEC Rule 144, the appropriate restrictive legend set forth in Subsection 2.12(b), except that such certificate instrument, or book entry shall not be notated with such restrictive legend if, in the opinion of counsel for such Holder and the Company, such legend is not required in order to establish compliance with any provisions of the Securities Act.

2.13 Termination of Registration Rights. The right of any Holder to request registration or inclusion of Registrable Securities in any registration pursuant to Subsections 2.1 or 2.2 shall terminate upon the earliest to occur of:

(a) the closing of a Deemed Liquidation Event, as such term is defined in the Company's Certificate of Incorporation, in which the consideration received by the Investors in such Deemed Liquidation Event is in the form of cash and/or publicly traded securities, or if the Investors receive registration rights from the acquiring company or other successor to the Company reasonably comparable to those set forth in this Section 2;

(b) such time following the IPO as SEC Rule 144 or another similar exemption under the Securities Act is available for the sale of all of such Holder's shares without limitation during a three-month period without registration; and

(c) the third anniversary of the IPO.

3. Information and Observer Rights.

3.1 Delivery of Financial Statements. The Company shall deliver to each Major Investor, provided that the Board has not reasonably determined that such Major Investor is a Competitor:

(a) as soon as practicable, but in any event within one hundred twenty (120) days after the end of each fiscal year of the Company (i) a balance sheet as of the end of such year, (ii) statements of income and of cash flows for such year, and a comparison between (x) the actual amounts as of and for such fiscal year and (y) the comparable amounts for the prior year and as included in the Budget (as defined below) for such year, and (iii) a statement of stockholders' equity as of the end of such year, all such financial statements audited and certified by independent public accounts of nationally or regionally recognized standing selected by the Company;

(b) as soon as practicable, but in any event within forty-five (45) days after the end of each quarter of each fiscal year of the Company, unaudited statements of income and cash flows for such fiscal quarter, and an unaudited balance sheet and a statement of stockholders' equity as of the end of such fiscal quarter, all prepared in accordance with GAAP (except that such financial statements may (i) be subject to normal year-end audit adjustments; and (ii) not contain all notes thereto that may be required in accordance with GAAP);

(c) as soon as practicable, but in any event within forty-five (45) days after the end of each quarter of each fiscal year of the Company, a statement showing the number of shares of each class and series of capital stock and securities convertible into or exercisable for shares of capital stock outstanding at the end of the period, the Common Stock issuable upon conversion or exercise of any outstanding securities convertible or exercisable for Common Stock and the exchange ratio or exercise price applicable thereto, and the number of shares of issued stock options and stock options not yet issued but reserved for issuance, if any, all in sufficient detail as to permit the Major Investors to calculate their respective percentage equity ownership in the Company;

(d) as soon as practicable, but in any event thirty (30) days before the end of each fiscal year, a budget and business plan for the next fiscal year (collectively, the "**Budget**"), approved by the Board, including the Requisite Investor Directors (as defined below), and prepared on a monthly basis, including balance sheets, income statements, and statements of cash flow for such months and, promptly after prepared, any other budgets or revised budgets prepared by the Company; and

(e) such other information relating to the financial condition, business, prospects, capitalization or corporate affairs of the Company as any Major Investor may from time to time reasonably request; provided, however, that the Company shall not be obligated under this Subsection 3.1 to provide information (i) that the Company reasonably determines in good faith to be a trade secret or confidential information (unless covered by an enforceable confidentiality agreement in a form reasonably acceptable to the Company); or (ii) the disclosure of which would adversely affect the attorney-client privilege between the Company and its counsel.

If, for any period, the Company has any subsidiary whose accounts are consolidated with those of the Company, then in respect of such period the financial statements delivered pursuant to the foregoing sections shall be the consolidated and consolidating financial statements of the Company and all such consolidated subsidiaries.

Notwithstanding anything else in this Subsection 3.1 to the contrary, the Company may cease providing the information set forth in this Subsection 3.1 during the period starting with the date sixty (60) days before the Company's good-faith estimate of the date of filing of a registration statement if it must do so to comply with the SEC rules applicable to such registration statement and related offering; provided that the Company's covenants under this Subsection 3.1 shall be reinstated at such time as the Company is no longer actively employing its commercially reasonable efforts to cause such registration statement to become effective.

3.2 Inspection. The Company shall permit each Major Investor (provided that the Board has not reasonably determined that such Major Investor is a Competitor), at such Major Investor's expense, to visit and inspect the Company's properties; examine its books of account and records; and discuss the Company's affairs, finances, and accounts with its officers, during normal business hours of the Company as may be reasonably requested by the Major Investor; provided, however, that the Company shall not be obligated pursuant to this Subsection 3.2 to provide access to any information that it reasonably and in good faith considers to be a trade secret or confidential information (unless covered by an enforceable confidentiality agreement in form reasonably acceptable to the Company) or the disclosure of which would adversely affect the attorney-client privilege between the Company and its counsel (based upon advice from the Company's qualified outside counsel).

3.3 Observer Rights.

(a) As long as Longwood owns any shares of Preferred Stock (or Common Stock issued upon conversion thereof), the Company shall invite a representative of Longwood to attend all meetings of the Board (and of each committee of the Board, if any) in a nonvoting observer capacity and, in this respect, shall give such representative copies of all notices, minutes, consents, and other materials that it provides to its directors at the same time and in the same manner as provided to such directors; provided, however, that (i) such representative shall agree to hold in confidence and trust and to act in a fiduciary manner with respect to all information so provided; and (ii) the Company reserves the right to withhold any information and to exclude such representative from any meeting or portion thereof if access to such information or attendance at such meeting could (A) adversely affect the attorney-client privilege between the Company and its counsel (based upon advice from the Company's qualified outside counsel), (B) result in disclosure of trade secrets (unless covered by an enforceable confidentiality agreement in a form reasonably acceptable to the Company, it being understood that Section 3.5 of this Agreement shall be considered a form acceptable to the Company) or (C) result in a conflict of interest.

(b) As long as Bessemer owns any shares of Preferred Stock (or Common Stock issued upon conversion thereof), the Company shall invite a representative of Bessemer to attend all meetings of the Board (and of each committee of the Board, if any) in a nonvoting observer capacity and, in this respect, shall give such representative copies of all notices, minutes, consents, and other materials that it provides to its directors at the same time and in the same manner as provided to such directors; provided, however, that (i) such representative shall agree to hold in confidence and trust and to act in a fiduciary manner with respect to all information so provided; and (ii) the Company reserves the right to withhold any information and to exclude such representative from any meeting or portion thereof if access to such information or attendance at such meeting could (A) adversely affect the attorney-client privilege between the Company and its counsel (based upon advice from the Company's qualified outside counsel), (B) result in disclosure of trade secrets (unless covered by an enforceable confidentiality agreement, in a form reasonably acceptable to the Company, it being understood that Section 3.5 of this Agreement shall be considered a form acceptable to the Company) or (C) result in a conflict of interest.

(c) As long as Novartis owns any shares of Preferred Stock (or Common Stock issued upon conversion thereof), the Company shall invite a representative of Novartis to attend all meetings of the Board (and of each committee of the Board, if any) in a nonvoting observer capacity and, in this respect, shall give such representative copies of all notices, minutes, consents, and other materials that it provides to its directors at the same time and in the same manner as provided to such directors; provided, however, that (i) such representative shall agree to hold in confidence and trust and to act in a fiduciary manner with respect to all information so provided; and (ii) the Company reserves the right to withhold any information and to exclude such representative from any meeting or portion thereof if access to such information or attendance at such meeting could (A) adversely affect the attorney-client privilege between the Company and its counsel (based upon advice from the Company's qualified outside counsel), (B) result in disclosure of trade secrets (unless covered by an enforceable confidentiality agreement, in a form reasonably acceptable to the Company, it being understood that Section 3.5 of this Agreement shall be considered a form acceptable to the Company) or (C) result in a conflict of interest.

(d) As long as 6 Dimensions owns any shares of Preferred Stock (or Common Stock issued upon conversion thereof), the Company shall invite a representative of 6 Dimensions to attend all meetings of the Board (and of each committee of the Board, if any) in a nonvoting observer capacity and, in this respect, shall give such representative copies of all notices, minutes, consents, and other materials that it provides to its directors at the same time and in the same manner as provided to such directors; provided, however, that (i) such representative shall agree to hold in confidence and trust and to act in a fiduciary manner with respect to all information so provided; and (ii) the Company reserves the right to withhold any information and to exclude such representative from any meeting or portion thereof if access to such information or attendance at such meeting could (A) adversely affect the attorney-client

privilege between the Company and its counsel (based upon advice from the Company's qualified outside counsel), (B) result in disclosure of trade secrets (unless covered by an enforceable confidentiality agreement, in a form reasonably acceptable to the Company, it being understood that Section 3.5 of this Agreement shall be considered a form acceptable to the Company) or (C) result in a conflict of interest.

(e) As long as NIBR owns any shares of Preferred Stock (or Common Stock issued upon conversion thereof), the Company shall invite a representative of NIBR to attend all meetings of the Board (and of each committee of the Board, if any) in a nonvoting observer capacity and, in this respect, shall give such representative copies of all notices, minutes, consents, and other materials that it provides to its directors at the same time and in the same manner as provided to such directors; provided, however, that (i) such representative shall agree to hold in confidence and trust and to act in a fiduciary manner with respect to all information so provided; and (ii) the Company reserves the right to withhold any information and to exclude such representative from any meeting or portion thereof if access to such information or attendance at such meeting could (A) adversely affect the attorney-client privilege between the Company and its counsel (based upon advice from the Company's qualified outside counsel), (B) result in disclosure of trade secrets (unless covered by an enforceable confidentiality agreement, in a form reasonably acceptable to the Company, it being understood that Section 3.5 of this Agreement shall be considered a form acceptable to the Company) or (C) result in a conflict of interest.

(f) As long as Pitango owns any shares of Preferred Stock (or Common Stock issued upon conversion thereof), the Company shall invite a representative of Pitango to attend all meetings of the Board (and of each committee of the Board, if any) in a nonvoting observer capacity and, in this respect, shall give such representative copies of all notices, minutes, consents, and other materials that it provides to its directors at the same time and in the same manner as provided to such directors; provided, however, that (i) such representative shall agree to hold in confidence and trust and to act in a fiduciary manner with respect to all information so provided; and (ii) the Company reserves the right to withhold any information and to exclude such representative from any meeting or portion thereof if access to such information or attendance at such meeting could (A) adversely affect the attorney-client privilege between the Company and its counsel (based upon advice from the Company's qualified outside counsel), (B) result in disclosure of trade secrets (unless covered by an enforceable confidentiality agreement, in a form reasonably acceptable to the Company, it being understood that Section 3.5 of this Agreement shall be considered a form acceptable to the Company) or (C) result in a conflict of interest.

(g) As long as AVM owns any shares of Preferred Stock (or Common Stock issued upon conversion thereof), the Company shall invite a representative of AVM to attend all meetings of the Board (and of each committee of the Board, if any) in a nonvoting observer capacity and, in this respect, shall give such representative copies of all notices, minutes, consents, and other materials that it provides to its directors at the same time and in the same manner as provided to such directors; provided, however, that (i) such representative shall agree to hold in confidence and trust and to act in a fiduciary manner with respect to all information so provided; and (ii) the Company reserves the right to withhold any information

and to exclude such representative from any meeting or portion thereof if access to such information or attendance at such meeting could (A) adversely affect the attorney-client privilege between the Company and its counsel (based upon advice from the Company's qualified outside counsel), (B) result in disclosure of trade secrets (unless covered by an enforceable confidentiality agreement, in a form reasonably acceptable to the Company, it being understood that Section 3.5 of this Agreement shall be considered a form acceptable to the Company) or (C) result in a conflict of interest.

(h) As long as Baker Bros. owns any shares of Preferred Stock (or Common Stock issued upon conversion thereof), the Company shall invite a representative of Baker Bros. to attend all meetings of the Board (and of each committee of the Board, if any) in a nonvoting observer capacity and, in this respect, shall give such representative copies of all notices, minutes, consents, and other materials that it provides to its directors at the same time and in the same manner as provided to such directors; provided, however, that (i) such representative shall agree to hold in confidence and trust and to act in a fiduciary manner with respect to all information so provided; and (ii) the Company reserves the right to withhold any information and to exclude such representative from any meeting or portion thereof if access to such information or attendance at such meeting could (A) adversely affect the attorney-client privilege between the Company and its counsel (based upon advice from the Company's qualified outside counsel), (B) result in disclosure of trade secrets (unless covered by an enforceable confidentiality agreement, in a form reasonably acceptable to the Company, it being understood that Section 3.5 of this Agreement shall be considered a form acceptable to the Company) or (C) result in a conflict of interest.

3.4 Termination of Information and Observer Rights. The covenants set forth in Subsection 3.1, Subsection 3.2 and Subsection 3.3 shall terminate and be of no further force or effect (i) immediately before the consummation of a Qualified IPO, as such term is defined in the Company's Certificate of Incorporation, or (ii) upon a Deemed Liquidation Event, as such term is defined in the Company's Certificate of Incorporation, whichever event occurs first.

3.5 Confidentiality. Each Investor agrees that such Investor will keep confidential and will not disclose, divulge, or use for any purpose (other than to monitor or make decisions with respect to its investment in the Company or to enforce its rights) any confidential information obtained from the Company pursuant to the terms of this Agreement (including notice of the Company's intention to file a registration statement), unless such confidential information (a) is known or becomes known to the public in general (other than as a result of a breach of this Subsection 3.5 by such Investor), (b) is or has been independently developed or conceived by such Investor without use of the Company's confidential information, or (c) is or has been made known or disclosed to such Investor by a third party without a breach of any obligation of confidentiality such third party may have to the Company; provided, however, that an Investor may disclose confidential information (i) to its attorneys, accountants, consultants, and other professionals to the extent reasonably necessary to obtain their services in connection

with monitoring its investment in the Company; (ii) to any prospective purchaser of any Registrable Securities from such Investor, if such prospective purchaser agrees to be bound by the provisions of this Subsection 3.5; (iii) to any existing or prospective Affiliate, partner, member, stockholder, or wholly owned subsidiary of such Investor in the ordinary course of business, provided that such Investor informs such Person that such information is confidential and directs such Person to maintain the confidentiality of such information; or (iv) as may otherwise be required by law, regulation, rule, court order or subpoena, provided that such Investor promptly notifies the Company of such disclosure and takes reasonable steps to minimize the extent of any such required disclosure.

4. Rights to Future Stock Issuances.

4.1 Right of First Offer. Subject to the terms and conditions of this Subsection 4.1 and applicable securities laws, if the Company proposes to offer or sell any New Securities, the Company shall first offer such New Securities to each Major Investor. A Major Investor shall be entitled to apportion the right of first offer hereby granted to it in such proportions as it deems appropriate, among (i) itself and (ii) its Affiliates and (iii) its beneficial interest holders, such as limited partners, members or any other Person having “beneficial ownership,” as such term is defined in Rule 13d-3 promulgated under the Exchange Act, of such Major Investor (“**Investor Beneficial Owners**”); provided that each such Affiliate or Investor Beneficial Owner (x) is not a Competitor, unless such party’s purchase of New Securities is otherwise consented to by the Board, (y) agrees to enter into this Agreement and each of the Amended and Restated Voting Agreement (the “**Voting Agreement**”) and Amended and Restated Right of First Refusal and Co-Sale Agreement of even date herewith among the Company, the Investors and the other parties named therein, as an “**Investor**” under each such agreement (provided that any FOIA Party shall not be entitled to any rights as a Major Investor under Subsections 3.1 and 3.2 hereof).

(a) The Company shall give notice (the “**Offer Notice**”) to each Major Investor, stating (i) its bona fide intention to offer such New Securities, (ii) the number of such New Securities to be offered, and (iii) the price and terms, if any, upon which it proposes to offer such New Securities.

(b) By notification to the Company within twenty (20) days after the Offer Notice is given, each Major Investor may elect to purchase or otherwise acquire, at the price and on the terms specified in the Offer Notice, up to that portion of such New Securities which equals the proportion that the Common Stock then held by such Major Investor (including all shares of Common Stock then issuable (directly or indirectly) upon conversion and/or exercise, as applicable, of the Preferred Stock and any other Derivative Securities then held by such Major Investor) bears to the total Common Stock of the Company then outstanding (assuming full conversion and/or exercise, as applicable, of all Preferred Stock and other Derivative Securities then outstanding). At the expiration of such twenty (20) day period, the Company shall promptly notify each Major Investor that elects to purchase or acquire all the shares available to it (each, a “**Fully Exercising Investor**”) of any other Major Investor’s failure to do likewise. During the ten (10) day period commencing after the Company has given such notice, each Fully Exercising Investor may, by giving notice to the Company, elect to purchase

or acquire, in addition to the number of shares specified above, up to that portion of the New Securities for which Major Investors were entitled to subscribe but that were not subscribed for by the Major Investors which is equal to the proportion that the Common Stock issued and held, or issuable (directly or indirectly) upon conversion and/or exercise, as applicable, of the Preferred Stock and any other Derivative Securities then held by such Fully Exercising Investor bears to the Common Stock issued and held, or issuable (directly or indirectly) upon conversion and/or exercise, as applicable, of the Preferred Stock and any other Derivative Securities then held by all Fully Exercising Investors who wish to purchase such unsubscribed shares. The closing of any sale pursuant to this Subsection 4.1(b) shall occur within the later of ninety (90) days of the date that the Offer Notice is given and the date of initial sale of New Securities pursuant to Subsection 4.1(c).

(c) If all New Securities referred to in the Offer Notice are not elected to be purchased or acquired as provided in Subsection 4.1(b), the Company may, during the ninety (90) day period following the expiration of the periods provided in Subsection 4.1(b), offer and sell the remaining unsubscribed portion of such New Securities to any Person or Persons at a price not less than, and upon terms no more favorable to the offeree than, those specified in the Offer Notice. If the Company does not enter into an agreement for the sale of the New Securities within such period, or if such agreement is not consummated within thirty (30) days of the execution thereof, the right provided hereunder shall be deemed to be revived and such New Securities shall not be offered unless first reoffered to the Major Investors in accordance with this Subsection 4.1.

(d) The right of first offer in this Subsection 4.1 shall not be applicable to (i) Exempted Securities (as defined in the Company's Certificate of Incorporation) and (ii) shares of Common Stock issued in the IPO and (iii) the issuance of shares of Preferred Stock to the Investors pursuant to Subsection 1.3 of the Purchase Agreement.

4.2 Termination. The covenants set forth in Subsection 4.1 shall terminate and be of no further force or effect (i) immediately before the consummation of a Qualified IPO, as such term is defined in the Company's Certificate of Incorporation, or (ii) upon a Deemed Liquidation Event, as such term is defined in the Company's Certificate of Incorporation, in which the consideration received by the Major Investors in such Deemed Liquidation Event is in the form of cash and/or publicly traded securities, or if the Major Investors receive participation rights from the acquiring company or other successor to the Company reasonably comparable to those set forth in this Section 4, whichever event occurs first.

5. Additional Covenants.

5.1 Director and Officer Insurance. The Company shall use commercially reasonable efforts to maintain its Directors and Officers liability insurance with coverage at least as is presently in effect until such time as the Board (including the Requisite Investor Directors) determines that such insurance should be discontinued or reduced. The Directors and Officers liability insurance policy shall not be cancelable by the Company without prior approval by the Board, including the Requisite Investor Directors. Notwithstanding any other provision of this Section 5.1 to the contrary, for so long as a Preferred Director is serving on the Board, the Company shall not cease to maintain a Directors and Officers liability insurance policy in an amount of at least three million (\$3,000,000) unless otherwise approved by such Preferred Director.

5.2 Investment Bankers. The Company shall not hire, fire or amend the terms of engagement of any investment bankers without the prior written approval of the Requisite Preferred Holders.

5.3 Employee Agreements. Unless otherwise approved by the Board (including the Requisite Investor Directors (as defined below)), the Company will cause (i) each Person now or hereafter employed by it or by any subsidiary (or engaged by the Company or any subsidiary as a consultant/independent contractor) with access to confidential information and/or trade secrets to enter into a nondisclosure, proprietary rights assignment and non-solicitation agreement and (ii) each Key Employee to enter into a non-competition agreement, in each case substantially in forms approved by the Board (including the Requisite Investor Directors (as defined below)). In addition, the Company shall not amend, modify, terminate, waive, or otherwise alter, in whole or in part, any provision of the above-referenced agreements or any restricted stock agreement between the Company and any employee, without the consent of the Board, which consent shall include the Requisite Investor Directors.

5.4 Employee Stock. Unless otherwise approved by the Board, including the Requisite Investor Directors, all employees and consultants of the Company who purchase, receive options to purchase, or receive awards of shares of the Company's capital stock after the date hereof shall be required to execute restricted stock or option agreements, as applicable, providing for (i) vesting of shares over a four (4) year period, with the first twenty-five percent (25%) of such shares vesting following twelve (12) months of continued employment or service, and the remaining shares vesting in equal monthly installments over the following thirty-six (36) months, and (ii) a market stand-off provision substantially similar to that in Subsection 2.11. Without the prior approval by the Board, including the Requisite Investor Directors, the Company shall not amend, modify, terminate, waive or otherwise alter, in whole or in part, any stock purchase, stock restriction or option agreement with any existing employee or service provider if such amendment would cause it to be inconsistent with this Subsection 5.3. In addition, unless otherwise approved by the Board, including the Requisite Investor Directors, the Company shall not offer or allow any acceleration of vesting and shall retain (and not waive) a "right of first refusal" on employee transfers until the Company's IPO and shall have the right to repurchase unvested shares at cost upon termination of employment of a holder of restricted stock.

5.5 Matters Requiring Investor Director Approval.

(a) So long as the holders of Preferred Stock are entitled to elect a Preferred Director, the Company hereby covenants and agrees with each of the Investors that it shall not and it shall cause each of its direct and indirect subsidiaries not to, without approval of the Board, which approval must include the affirmative vote of the Requisite Investor Directors:

(i) make, or permit any subsidiary to make, any loan or advance to, or own any stock or other securities of, any subsidiary or other corporation, partnership, or other entity unless it is wholly owned by the Company;

(ii) make, or permit any subsidiary to make, any loan or advance to any Person, including, without limitation, any employee or director of the Company or any subsidiary, except advances and similar expenditures in the ordinary course of business or under the terms of an employee stock or option plan approved by the Board;

(iii) guarantee, directly or indirectly, or permit any subsidiary to guarantee, directly or indirectly, any indebtedness except for trade accounts of the Company or any subsidiary arising in the ordinary course of business;

(iv) make any investment inconsistent with any investment policy approved by the Board other than investments in prime commercial paper, money market funds, certificates of deposit in any United States bank having a net worth in excess of \$100,000,000 or obligations issued or guaranteed by the United States of America;

(v) incur any aggregate indebtedness in excess of \$250,000 that is not already included in a budget approved by the Board, other than trade credit incurred in the ordinary course of business;

(vi) otherwise enter into or be a party to any transaction with any director, officer, consultant or employee of the Company, or any significant stockholder of the Company, or any "associate" (as defined in Rule 12b-2 promulgated under the Exchange Act) of any such Person, including without limitation any "management bonus" or similar plan providing payments to employees in connection with a Deemed Liquidation Event, as such term is defined in the Company's Certificate of Incorporation, except for transactions made in the ordinary course of business and pursuant to reasonable requirements of the Company's business and upon fair and reasonable terms that are approved by a majority of the disinterested members of the Board who have no direct economic interest in the transaction and no affiliation (other than representation on the Board) with any entity that (i) is a party to the transaction or (ii) is affiliated with a party to the transaction;

(vii) hire, terminate, or change the compensation of the executive officers, including approving any option grants or stock awards to executive officers;

(viii) change the principal business of the Company, enter new lines of business, or exit the current line of business;

(ix) sell, assign, license, pledge, or encumber material technology or intellectual property, other than licenses granted in the ordinary course of business; or

(x) enter into any corporate strategic relationship involving the payment, contribution, or assignment by the Company or to the Company of money or assets greater than \$500,000, except for transactions in the ordinary course of business.

(b) Notwithstanding anything herein to the contrary, prior to approving any action or waiver that requires the approval of the Requisite Investor Directors pursuant to this Agreement or the Company' Certificate of Incorporation (an "**Investor Director Approval Action**"), if the Series C Director seat is vacant, then the Company shall provide Baker Bros. no less than five business days' written notice prior to considering such Investor Director Approval Action, and the Board shall not consider such Investor Director Approval Action during such five business day period. If, during such five business day period, Baker Bros. notifies the Company, in writing, of its designation of a Series C Director, the Company covenants and agrees that it shall not take the applicable Investor Director Approval Action unless such Series C Director is seated on the Board and has voted on such applicable Investor Director Approval Action.

5.6 Board Matters. Unless otherwise determined by the vote of a majority of the directors then in office, the Board shall meet in person or by video conference at least quarterly in accordance with an agreed-upon schedule. The Company shall reimburse the nonemployee directors for all reasonable out-of-pocket travel expenses incurred (consistent with the Company's travel policy) in connection with attending meetings of the Board. Any Board committee shall include at least two (2) Preferred Directors (which Preferred Directors, for the avoidance of doubt, shall not include more than one Series A Director designated by Longwood). The Series C Director shall have the right to sit on any committee of the Board.

5.7 Successor Indemnification. If the Company or any of its successors or assignees consolidates with or merges into any other Person and is not the continuing or surviving corporation or entity of such consolidation or merger, then to the extent necessary, proper provision shall be made so that the successors and assignees of the Company assume the obligations of the Company with respect to indemnification of members of the Board as in effect immediately before such transaction, whether such obligations are contained in the Company's Bylaws, its Certificate of Incorporation, or elsewhere, as the case may be.

5.8 Investor Counsel. At the outset of considering a transaction which, if consummated would constitute a Sale of the Company (as defined in the Voting Agreement (as defined in the Purchase Agreement)), the Company shall obtain the ability to share with the counsel(s) for the Major Investors ("**Investor Counsel**") (and such counsel's clients) and shall share the confidential information (including, without limitation, the initial and all subsequent drafts of memoranda of understanding, letters of intent and other transaction documents and related noncompete, employment, consulting and other compensation agreements and plans) pertaining to and memorializing any of the transactions which, individually or when aggregated with others would constitute the Sale of the Company. The Company shall be obligated to share (and cause the Company's counsel and investment bankers to share) such materials when distributed to the Company's executives and/or any one or more of the other parties to such transaction(s). In the event that Investor Counsel deems it appropriate, in its reasonable discretion, to enter into a joint defense agreement or other arrangement to enhance the ability of the parties to protect their communications and other reviewed materials under the attorney client privilege, the Company shall, and shall direct its counsel to, execute and deliver to Investor Counsel and its clients such an agreement in form and substance reasonably acceptable to Investor Counsel. In the event that one or more of the other party or parties to such transactions

require the clients of Investor Counsel to enter into a confidentiality agreement and/or joint defense agreement in order to receive such information, then the Company shall share whatever information can be shared without entry into such agreement and shall, at the same time, in good faith work expeditiously to enable Investor Counsel and its clients to negotiate and enter into the appropriate agreement(s) without undue burden to the clients of Investor Counsel.

5.9 Indemnification Matters. The Company hereby acknowledges that one (1) or more of the directors nominated to serve on the Board by the Investors (each an “**Investor Director**”) may have certain rights to indemnification, advancement of expenses and/or insurance provided by one or more of the Investors and certain of their Affiliates (collectively, the “**Investor Indemnitors**”). The Company hereby agrees (a) that it is the indemnitor of first resort (*i.e.*, its obligations to any such Investor Director are primary and any obligation of the Investor Indemnitors to advance expenses or to provide indemnification for the same expenses or liabilities incurred by such Investor Director are secondary), (b) that it shall be required to advance the full amount of expenses incurred by such Investor Director and shall be liable for the full amount of all expenses, judgments, penalties, fines and amounts paid in settlement by or on behalf of any such Investor Director to the extent legally permitted and as required by the Company’s Certificate of Incorporation or Bylaws of the Company (or any agreement between the Company and such Investor Director), without regard to any rights such Investor Director may have against the Investor Indemnitors, and, (c) that it irrevocably waives, relinquishes and releases the Investor Indemnitors from any and all claims against the Investor Indemnitors for contribution, subrogation or any other recovery of any kind in respect thereof. The Company further agrees that no advancement or payment by the Investor Indemnitors on behalf of any such Investor Director with respect to any claim for which such Investor Director has sought indemnification from the Company shall affect the foregoing and the Investor Indemnitors shall have a right of contribution and/or be subrogated to the extent of such advancement or payment to all of the rights of recovery of such Investor Director against the Company. The Investor Directors and the Investor Indemnitors are intended third-party beneficiaries of this Subsection 5.9 and shall have the right, power and authority to enforce the provisions of this Subsection 5.9 as though they were a party to this Agreement.

5.10 Right to Conduct Activities. The Company hereby agrees and acknowledges Longwood, Baker Bros., Hillhouse, RA Capital, BlackRock, Bessemer, Novartis, GV, 6 Dimensions, Pitango, AVM and their Affiliates (including any affiliated advisors and funds irrespective of whether such affiliated advisors or funds fit within the definition of “Affiliate” pursuant to this Agreement) are professional investment managers and/or funds or venture investment arms of their Affiliates, and as such, invest in numerous portfolio companies or have Affiliates, some of which may be deemed competitive with the Company’s business (as conducted or proposed to be conducted). Neither Longwood, Baker Bros., Hillhouse, RA Capital, BlackRock, Bessemer, Novartis, GV, 6 Dimensions, Pitango, AVM nor any of their Affiliates (including any affiliated advisors and funds irrespective of whether such affiliated advisors or funds fit within the definition of “Affiliate” pursuant to this Agreement) shall be liable to the Company for any claim arising out of, or based upon, (i) the investment by Longwood, Baker Bros., Hillhouse, RA Capital, BlackRock, Bessemer, Novartis, GV, 6 Dimensions, Pitango, AVM or any of their Affiliates (including any affiliated advisor or fund irrespective of whether such affiliated advisor or fund fits within the definition of “Affiliate”

pursuant to this Agreement) in any entity competitive to the Company or the activities of their Affiliates, or (ii) actions taken by any advisor, partner, officer or other representative of Longwood, Baker Bros., Hillhouse, RA Capital, BlackRock, Bessemer, Novartis, GV, 6 Dimensions, Pitango, AVM or any of their Affiliates (including any affiliated advisor or fund irrespective of whether such affiliated advisor or fund fits within the definition of “Affiliate” pursuant to this Agreement) to assist any such competitive company, whether or not such action was taken as a board member of such competitive company, or otherwise; provided, however, that the foregoing shall not relieve (x) any of the Investors from liability associated with the unauthorized disclosure of the Company’s confidential information obtained pursuant to this Agreement, or (y) any director or officer of the Company from any liability associated with a breach of his or her fiduciary duties to the Company.

5.11 Real Property Holding Corporation. If at any time the Company determines that it is a “United States real property holding corporation” (a “**USRPHC**”) as defined in the Code and any applicable regulations promulgated thereunder, it shall promptly inform the Investor in writing of such determination. In addition, upon the Investor’s request, the Company shall promptly determine whether or not it is a USRPHC and shall promptly inform Longwood, Baker Bros., Bessemer, Novartis, GV, 6 Dimensions, Pitango and AVM in writing of such determination.

5.12 Export. The Company agrees to inform Longwood, Baker Bros., RA Capital, BlackRock, Bessemer, Novartis, GV, 6 Dimensions, Pitango, AVM and Hillhouse if the Company does conduct, or expects to conduct, operations from or do business directly or indirectly in or with Cuba, North Korea, Iran, Syria, or the Crimea region of Ukraine.

5.13 Munitions. The Company covenants not to control any weapon or explosive device, nuclear or otherwise.

5.14 Anti-corruption. The Company covenants to maintain systems or internal controls (including, but not limited to, accounting systems, purchasing systems and billing systems) to ensure compliance with the FCPA or any other applicable anti-bribery or anti-corruption law (such as Part 12 of the United States Anti-Terrorism, Crime and Security Act of 2001; the United States Money Laundering Control Act of 1986; the United States International Money Laundering Abatement and Anti-Terrorist Financing Act of 2001; the United States Foreign Corrupt Practices Act, as amended; and laws applicable in the United Kingdom that prohibit bribery, corrupt practices or money laundering, including, for the avoidance of doubt, the Bribery Act 2010).

5.15 Subsidiary Governance. No subsidiary of the Company shall take any action without the approval of the Board to the extent approval of the Board would be required in the event such action was to be taken by the Company itself, including the requisite groups of directors whose approval would be required in the event such action was to be taken by the Company itself.

5.16 Interested Transaction Approvals. The Company will not enter into any transaction with an Investor or any person that is employed by, consults with, or is otherwise affiliated with an Investor without the approval of a majority of the disinterested members of the Board who have no direct economic interest in the transaction and no affiliation (other than representation on the Board) with any entity that (i) is a party to the transaction or (ii) is affiliated with a party to the transaction.

5.17 CFIUS Matters. If, to the knowledge of the Company, at any time the Company (i) is deemed to be a “TID U.S. business” as that term is defined in 31 C.F.R. § 800.248 or (ii) engages in the design, fabrication, development, testing, production or manufacture of “critical technologies” as defined by 31 C.F.R. § 800.215, as amended, then the Company shall provide written notice to Longwood, Baker Bros., RA Capital, BlackRock, Bessemer, Novartis, GV, NIBR, 6 Dimensions, Pitango, AVM and Hillhouse within 10 days of knowledge of such designation or engagement.

5.18 Qualified Small Business Stock. The Company shall use commercially reasonable efforts to cause the shares of Series A Preferred Stock and Series B Preferred Stock, as well as any shares into which such shares are converted, within the meaning of Section 1202(f) of the Internal Revenue Code (the “Code”), to constitute “qualified small business stock” as defined in Section 1202(c) of the Code; provided, however, that such requirement shall not be applicable if the Board determines, in its good-faith business judgment, that such qualification is inconsistent with the best interests of the Company. The Company shall submit to its stockholders (including the Investors) and to the Internal Revenue Service any reports that may be required under Section 1202(d)(1)(C) of the Code and the regulations promulgated thereunder. In addition, within twenty (20) business days after any Investor’s written request therefor, the Company shall, at its option, either (i) deliver to such Investor a written statement indicating whether (and what portion of) such Investor’s interest in the Company constitutes “qualified small business stock” as defined in Section 1202(c) of the Code or (ii) deliver to such Investor such factual information in the Company’s possession as is reasonably necessary to enable such Investor to determine whether (and what portion of) such Investor’s interest in the Company constitutes “qualified small business stock” as defined in Section 1202(c) of the Code.

5.19 Termination of Covenants. All of the covenants set forth in this Section 5, except for Subsections 5.7, 5.8 and 5.9, shall terminate and be of no further force or effect (i) immediately before the consummation of the IPO or (ii) upon a Deemed Liquidation Event, as such term is defined in the Company’s Certificate of Incorporation, whichever event occurs first.

6. Miscellaneous.

6.1 Successors and Assigns. The rights under this Agreement may be assigned (but only with all related obligations) by a Holder to a transferee of Registrable Securities that (i) is an Affiliate of a Holder; (ii) is a Holder’s Immediate Family Member or trust for the benefit of an individual Holder or one or more of such Holder’s Immediate Family Members; or (iii) after such transfer, holds at least 500,000 shares of Registrable Securities (subject to appropriate adjustment for stock splits, stock dividends, combinations, and other recapitalizations); provided, however, that (x) the Company is, within a reasonable time after

such transfer, furnished with written notice of the name and address of such transferee and the Registrable Securities with respect to which such rights are being transferred; and (y) such transferee agrees in a written instrument delivered to the Company to be bound by and subject to the terms and conditions of this Agreement, including the provisions of Subsection 2.11. For the purposes of determining the number of shares of Registrable Securities held by a transferee, the holdings of a transferee (1) that is an Affiliate or stockholder of a Holder; (2) who is a Holder's Immediate Family Member; or (3) that is a trust for the benefit of an individual Holder or such Holder's Immediate Family Member shall be aggregated together and with those of the transferring Holder; provided further that all transferees who would not qualify individually for assignment of rights shall have a single attorney-in-fact for the purpose of exercising any rights, receiving notices, or taking any action under this Agreement. The terms and conditions of this Agreement inure to the benefit of and are binding upon the respective successors and permitted assignees of the parties. Nothing in this Agreement, express or implied, is intended to confer upon any party other than the parties hereto or their respective successors and permitted assignees any rights, remedies, obligations or liabilities under or by reason of this Agreement, except as expressly provided herein.

6.2 Governing Law. This Agreement shall be governed by the internal law of the State of Delaware, without regard to conflict of law principles that would result in the application of any law other than the law of the State of Delaware.

6.3 Counterparts. This Agreement may be executed in two (2) or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Counterparts may be delivered via facsimile, electronic mail (including pdf or any electronic signature complying with the U.S. federal ESIGN Act of 2000, *e.g.*, www.docusign.com) or other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

6.4 Titles and Subtitles. The titles and subtitles used in this Agreement are for convenience only and are not to be considered in construing or interpreting this Agreement.

6.5 Notices.

(a) All notices and other communications given or made pursuant to this Agreement shall be in writing and shall be deemed effectively given upon the earlier of actual receipt or (i) personal delivery to the party to be notified; (ii) when sent, if sent by electronic mail during the recipient's normal business hours, and if not sent during normal business hours, then on the recipient's next business day; (iii) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid; or (iv) one (1) business day after the business day of deposit with a nationally recognized overnight courier, freight prepaid, specifying next-day delivery, with written verification of receipt. All communications shall be sent to the respective parties at their addresses as set forth on Schedule A hereto, or to the principal office of the Company and to the attention of the Chief Executive Officer, in the case of the Company, or to such email address or address as subsequently modified by written notice given in accordance with this Subsection 6.5. If notice is given to the Company, a copy

shall also be sent to Gunderson Dettmer Stough Villeneuve Franklin & Hachigian, LLP, One Marina Park Drive, Suite 900, Boston, MA 02210, Attention: Timothy H. Ehrlich; and if notice is given to Investors, a copy (which shall not constitute notice) shall also be given to Cooley LLP, 500 Boylston Street, 14th Floor, Boston, MA 02116, Attention: Joshua Rottner and to Faber, Daeufer & Itrato PC, 890 Winter Street, Suite 315, Waltham, MA 02451, Attention: Kurt Macheimer and to Wilmer Cutler Pickering Hale and Dorr LLP, 60 State Street, Boston, MA 02109, Attention: Jason Kropp, Email: Jason.Kropp@wilmerhale.com.

(b) Consent to Electronic Notice. Each Investor consents to the delivery of any stockholder notice pursuant to the Delaware General Corporation Law (the “**DGCL**”), as amended or superseded from time to time, by electronic transmission pursuant to Section 232 of the DGCL (or any successor thereto) at the electronic mail address set forth below such Investor’s name on Schedule A hereto, as updated from time to time by notice to the Company, or as on the books of the Company. To the extent that any notice given by means of electronic transmission is returned or undeliverable for any reason, the foregoing consent shall be deemed to have been revoked until a new or corrected electronic mail address has been provided, and such attempted electronic notice shall be ineffective and deemed to not have been given. Each Investor agrees to promptly notify the Company of any change in such stockholder’s electronic mail address, and that failure to do so shall not affect the foregoing.

6.6 Amendments and Waivers. Any term of this Agreement may be amended, modified or terminated and the observance of any term of this Agreement may be waived (either generally or in a particular instance, and either retroactively or prospectively) only with the written consent of the Company and the holders of a majority of the then outstanding Registrable Securities (voting together as a single class and not as separate series and on an as-converted to Common Stock basis) (the “**Requisite Preferred Holders**”); provided that the Company may in its sole discretion waive compliance with Subsection 2.12(c) (and the Company’s failure to object promptly in writing after notification of a proposed assignment allegedly in violation of Subsection 2.12(c) shall be deemed to be a waiver); and provided further that any provision hereof may be waived by any waiving party on such party’s own behalf, without the consent of any other party. Notwithstanding the foregoing, (a) this Agreement may not be amended, modified or terminated and the observance of any term hereof may not be waived with respect to any Investor without the written consent of such Investor, unless such amendment, modification, termination, or waiver applies to all Investors in the same fashion (it being agreed that a waiver of the provisions of Section 4 with respect to a particular transaction shall be deemed to apply to all Investors in the same fashion if such waiver does so by its terms, notwithstanding the fact that certain Investors may, nonetheless, by agreement with the Company, purchase securities in such transaction; provided, however, that if any Major Investor (or Affiliate of a Major Investor) is allowed to participate in any such transaction or financing, then each other Major Investor will be offered the opportunity to participate on the same basis (although proportionate to their respective holdings of Registrable Securities)), (b) Subsections 3.1 and 3.2, Section 4 and any other section of this Agreement applicable to the Major Investors (including this clause (b) of this Subsection 6.6) may not be amended, modified, terminated or

waived without the written consent of the holders of at least a majority of the Registrable Securities then outstanding and held by the Major Investors, (c) Subsection 3.3(a) and this clause (c) of this Subsection 6.6 may not be amended, modified, terminated or waived without the written consent of Longwood for so long as Longwood holds any Registrable Securities, (d) Subsections 3.3(b), 5.10, 5.11, 5.12, 5.13, 5.14, 5.15, 5.16 and this clause (d) of this Subsection 6.6 may not be amended, modified, terminated or waived without the written consent of Bessemer for so long as Bessemer holds any Registrable Securities, (e) Subsection 3.3(c) and this clause (e) of this Subsection 6.6 may not be amended, modified, terminated or waived without the written consent of Novartis for so long as Novartis holds any Registrable Securities, (f) Subsection 3.3(d) and this clause (f) of this Subsection 6.6 may not be amended, modified, terminated or waived without the written consent of 6 Dimensions for so long as 6 Dimensions holds any Registrable Securities, (g) Subsections 3.3(e), 5.17 and this clause (g) of this Subsection 6.6 may not be amended, modified, terminated or waived without the written consent of NIBR for so long as NIBR holds any Registrable Securities, (h) Subsection 3.3(f) and this clause (h) of this Subsection 6.6 may not be amended, modified, terminated or waived without the written consent of Pitango for so long as Pitango holds any Registrable Securities, (i) Subsections 3.3(g), 5.10, 5.11, 5.12, 5.17 and this clause (i) of this Subsection 6.6 may not be amended, modified, terminated or waived without the written consent of AVM for so long as AVM holds any Registrable Securities, (j) Subsections 1.25 (as it relates to Baker Bros.), 3.3(h), 5.10, 5.11, 5.12, 5.17 and this clause (j) of this Subsection 6.6 may not be amended, modified, terminated or waived without the written consent of Baker Bros. for so long as Baker Bros holds any Registrable Securities, (k) Subsections 5.10, 5.12, 5.17 and this clause (k) of this Subsection 6.6 may not be amended, modified, terminated or waived without the written consent of Hillhouse for so long as Hillhouse holds any Registrable Securities, (l) Subsections 5.10, 5.12, 5.17 and this clause (l) of this Subsection 6.6 may not be amended, modified, terminated or waived without the written consent of RA Capital for so long as RA Capital holds any Registrable Securities, and (m) Subsections 5.10, 5.12, 5.17 and this clause (m) of this Subsection 6.6 may not be amended, modified, terminated or waived without the written consent of BlackRock for so long as BlackRock holds any Registrable Securities. Notwithstanding the foregoing, Schedule A hereto may be amended by the Company from time to time to add transferees of any Registrable Securities in compliance with the terms of this Agreement without the consent of the other parties, and Schedule A hereto may also be amended by the Company after the date of this Agreement without the consent of the other parties to add information regarding any additional Investor who becomes a party to this Agreement in accordance with Subsection 6.9. The Company shall give prompt notice of any amendment, modification or termination hereof or waiver hereunder to any party hereto that did not consent in writing to such amendment, modification, termination, or waiver. Any amendment, modification, termination, or waiver effected in accordance with this Subsection 6.6 shall be binding on all parties hereto, regardless of whether any such party has consented thereto. No waivers of or exceptions to any term, condition, or provision of this Agreement, in any one or more instances, shall be deemed to be or construed as a further or continuing waiver of any such term, condition, or provision.

6.7 Severability. In case any one or more of the provisions contained in this Agreement is for any reason held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other provision of this Agreement, and such invalid, illegal, or unenforceable provision shall be reformed and construed so that it will be valid, legal, and enforceable to the maximum extent permitted by law.

6.8 Aggregation of Stock. All shares of Registrable Securities held or acquired by Affiliates shall be aggregated together for the purpose of determining the availability of any rights under this Agreement and such Affiliated persons may apportion such rights as among themselves in any manner they deem appropriate.

6.9 Additional Investors. Notwithstanding anything to the contrary contained in any other section of this Agreement, subject to Section 3.3 of Article FOURTH, Part B of the Restated Certificate, if the Company issues additional shares of the Company's Preferred Stock after the date hereof, whether pursuant to the Purchase Agreement or otherwise, any purchaser of such shares of Preferred Stock may become a party to this Agreement by executing and delivering an additional counterpart signature page to this Agreement, and thereafter shall be deemed an "Investor" for all purposes hereunder. No action or consent by the Investors shall be required for such joinder to this Agreement by such additional Investor, so long as such additional Investor has agreed in writing to be bound by all of the obligations as an "Investor" hereunder.

6.10 Entire Agreement. This Agreement (including any Schedules and Exhibits hereto) together with the other Transaction Documents (as defined in the Purchase Agreement) constitutes the full and entire understanding and agreement among the parties with respect to the subject matter hereof, and any other written or oral agreement relating to the subject matter hereof existing between the parties is expressly canceled.

6.11 Dispute Resolution. The parties (a) hereby irrevocably and unconditionally submit to the jurisdiction of the state courts of Delaware and to the jurisdiction of the United States District Court for the District of Delaware for the purpose of any suit, action or other proceeding arising out of or based upon this Agreement, (b) agree not to commence any suit, action or other proceeding arising out of or based upon this Agreement except in the state courts of Delaware or the United States District Court for the District of Delaware, and (c) hereby waive, and agree not to assert, by way of motion, as a defense, or otherwise, in any such suit, action or proceeding, any claim that it is not subject personally to the jurisdiction of the above-named courts, that its property is exempt or immune from attachment or execution, that the suit, action or proceeding is brought in an inconvenient forum, that the venue of the suit, action or proceeding is improper or that this Agreement or the subject matter hereof may not be enforced in or by such court.

WAIVER OF JURY TRIAL: EACH PARTY HEREBY WAIVES ITS RIGHTS TO A JURY TRIAL OF ANY CLAIM OR CAUSE OF ACTION BASED UPON OR ARISING OUT OF THIS AGREEMENT, THE OTHER TRANSACTION DOCUMENTS, THE SECURITIES OR THE SUBJECT MATTER HEREOF OR THEREOF. THE SCOPE OF THIS WAIVER IS INTENDED TO BE ALL-ENCOMPASSING OF ANY AND ALL DISPUTES THAT MAY BE FILED IN ANY COURT AND THAT RELATE TO THE SUBJECT MATTER OF THIS TRANSACTION, INCLUDING, WITHOUT LIMITATION, CONTRACT CLAIMS, TORT CLAIMS (INCLUDING NEGLIGENCE), BREACH OF DUTY CLAIMS, AND ALL OTHER

COMMON LAW AND STATUTORY CLAIMS. THIS SECTION HAS BEEN FULLY DISCUSSED BY EACH OF THE PARTIES HERETO AND THESE PROVISIONS WILL NOT BE SUBJECT TO ANY EXCEPTIONS. EACH PARTY HERETO HEREBY FURTHER WARRANTS AND REPRESENTS THAT SUCH PARTY HAS REVIEWED THIS WAIVER WITH ITS LEGAL COUNSEL, AND THAT SUCH PARTY KNOWINGLY AND VOLUNTARILY WAIVES ITS JURY TRIAL RIGHTS FOLLOWING CONSULTATION WITH LEGAL COUNSEL.

The prevailing party shall be entitled to reasonable attorney's fees, costs, and necessary disbursements in addition to any other relief to which such party may be entitled. Each of the parties to this Agreement consents to personal jurisdiction for any equitable action sought in the U.S. District Court for the District of Delaware or any court of the State of Delaware having subject matter jurisdiction.

6.12 Delays or Omissions. No delay or omission to exercise any right, power, or remedy accruing to any party under this Agreement, upon any breach or default of any other party under this Agreement, shall impair any such right, power, or remedy of such nonbreaching or nondefaulting party, nor shall it be construed to be a waiver of or acquiescence to any such breach or default, or to any similar breach or default thereafter occurring, nor shall any waiver of any single breach or default be deemed a waiver of any other breach or default theretofore or thereafter occurring. All remedies, whether under this Agreement or by law or otherwise afforded to any party, shall be cumulative and not alternative.

6.13 Effect on Prior Agreement. Upon the effectiveness of this Agreement, the Prior Agreement shall be superseded and replaced in its entirety by this Agreement and shall be of no further force or effect.

[Remainder of Page Intentionally Left Blank]

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

COMPANY:

TSCAN THERAPEUTICS, INC.

By: /s/ David Southwell

Name: David Southwell

Title: Chief Executive Officer

SIGNATURE PAGE TO AMENDED AND RESTATED INVESTORS' RIGHTS AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

INVESTOR:

667, L.P.

BY: BAKER BROS. ADVISORS LP,
management company and investment adviser to **667, L.P.**,
pursuant to authority granted to it by Baker Biotech Capital,
L.P., general partner to 667, L.P., and not as the general
partner.

By: /s/ Scott Lessing

Name: Scott L. Lessing

Title: President

BAKER BROTHERS LIFE SCIENCES, L.P.

By: BAKER BROS. ADVISORS LP,
management company and investment adviser to
Baker Brothers Life Sciences, L.P., pursuant to authority
granted to it by Baker Brothers Life Sciences Capital, L.P.,
general partner to Baker Brothers Life Sciences, L.P., and
not as the general partner.

By: /s/ Scott Lessing

Name: Scott L. Lessing

Title: President

SIGNATURE PAGE TO AMENDED AND RESTATED INVESTORS' RIGHTS AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

INVESTOR:

JMD III HOLDINGS LIMITED

By: /s/ Colm O'Connell

Name: Colm O'Connell

Title: Authorized Signatory

SIGNATURE PAGE TO AMENDED AND RESTATED INVESTORS' RIGHTS AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

INVESTOR:

BLACKROCK HEALTH SCIENCES TRUST II

By: BlackRock Advisors, LLC, its Investment Adviser

By: /s/ Hongying Erin Xie _____

Name: Hongying Erin Xie

Title: Managing Director

SIGNATURE PAGE TO AMENDED AND RESTATED INVESTORS' RIGHTS AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

INVESTOR:

RA CAPITAL HEALTHCARE FUND, L.P.

By: RA Capital Healthcare Fund GP, LLC
Its General Partner

By: /s/ Rajeev Shah

Name: Rajeev Shah

Title: Manager

Address: RA Capital Management, L.P.
200 Berkeley Street
18th Floor
Boston, MA 02116
Attn: General Counsel

SIGNATURE PAGE TO AMENDED AND RESTATED INVESTORS' RIGHTS AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

INVESTOR:

RA CAPITAL NEXUS FUND II, L.P.

By: RA Capital Nexus Fund II GP, LLC

Its: General Partner

By: /s/ Rajeev Shah

Name: Rajeev Shah

Title: Manager

Address: RA Capital Management, L.P.
200 Berkeley Street
18th Floor
Boston, MA 02116
Attn: General Counsel

SIGNATURE PAGE TO AMENDED AND RESTATED INVESTORS' RIGHTS AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

INVESTOR:

GEBRIAN FAMILY TRUST

By: /s/ Tom Millett

Name: Tom Millett

Title: Trustee

SIGNATURE PAGE TO AMENDED AND RESTATED INVESTORS' RIGHTS AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

INVESTOR:

TIMOTHY BARBERICH

By: /s/ Timothy Barberich _____

SIGNATURE PAGE TO AMENDED AND RESTATED INVESTORS' RIGHTS AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

INVESTOR:

LONGWOOD FUND IV, L.P.

By: Longwood Fund IV GP, LLC, its General Partner

By: /s/ John Lawrence

Name: John Lawrence

Title: CFO

SIGNATURE PAGE TO AMENDED AND RESTATED INVESTORS' RIGHTS AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

INVESTOR:

**BESSEMER VENTURE PARTNERS IX, L.P.
BESSEMER VENTURE PARTNERS IX
INSTITUTIONAL L.P.**

By: Deer IX & Co. L.P., their General Partner

By: Deer IX & Co. Ltd., its General Partner

By: /s/ Scott Ring

Name: Scott Ring

Title: General Counsel

SIGNATURE PAGE TO AMENDED AND RESTATED INVESTORS' RIGHTS AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

INVESTOR:

NOVARTIS BIOVENTURES LTD.

By: /s/ Bart Dzikowski

Name: Bart Dzikowski

Title: Secretary of the Board

By: /s/ Beat Steffen

Name: Beat Steffen

Title:

SIGNATURE PAGE TO AMENDED AND RESTATED INVESTORS' RIGHTS AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

INVESTOR:

6 DIMENSIONS CAPITAL, L.P.

By: 6 Dimensions Capital GP, LLC, its General Partner

By: /s/ Christina Chung

Name: Christina Chung

Title: Chief Financial Officer

6 DIMENSIONS AFFILIATES FUND, L.P.

By: 6 Dimensions Capital GP, LLC, its General Partner

By: /s/ Christina Chung

Name: Christina Chung

Title: Chief Financial Officer

SIGNATURE PAGE TO AMENDED AND RESTATED INVESTORS' RIGHTS AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

INVESTOR:

PITANGO HEALTHTECH FUND I - ISRAEL L.P

By: /s/ Ittai Harel

Name: _____

Title: _____

PITANGO HEALTHTECH FUND I, L.P.

By: /s/ Ittai Harel

Name: _____

Title: _____

PITANGO HEALTHTECH PRINCIPALS FUND I, L.P.

By: /s/ Ittai Harel

Name: _____

Title: _____

SIGNATURE PAGE TO AMENDED AND RESTATED INVESTORS' RIGHTS AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

INVESTOR:

GV 2017, L.P.

By: GV 2017 GP, L.P., its General Partner

By: GV 2017 GP, L.L.C., its General Partner

By: /s/ Daphne M. Chang

Name: Daphne M. Chang

Title: Authorized Signatory

GV 2019, L.P.

By: GV 2019 GP, L.P., its General Partner

By: GV 2019 GP, L.L.C., its General Partner

By: /s/ Daphne M. Chang

Name: Daphne M. Chang

Title: Authorized Signatory

SIGNATURE PAGE TO AMENDED AND RESTATED INVESTORS' RIGHTS AGREEMENT

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

**INVESTOR:
G&H PARTNERS**

By: /s/ Stefan J. Palmer Jr.

Name: Stefan J. Palmer Jr.

Title: General Partner

SIGNATURE PAGE TO AMENDED AND RESTATED INVESTORS' RIGHTS AGREEMENT

SCHEDULE A

INVESTORS

Name and Address

Novartis Institutes for Biomedical Research, Inc.

250 Massachusetts Avenue
Cambridge, MA 02139
Attn: General Counsel

Timothy Joseph Barberich

88 Beacon Street, #3
Boston, MA 02108
tbarberich@aol.com

Longwood Fund IV, L.P.

c/o Longwood Fund
The Prudential Tower
800 Boylston St., Suite 1555
Boston, MA 02199

Bessemer Venture Partners IX, L.P.

c/o Bessemer Venture Partners
1865 Palmer Avenue
Suite 104
Larchmont, NY 10538
Tel. 914-833-5300
Transactions@bvp.com

Bessemer Venture Partners IX Institutional L.P.

c/o Bessemer Venture Partners
1865 Palmer Avenue
Suite 104
Larchmont, NY 10538
Tel. 914-833-5300
Transactions@bvp.com

Novartis Bioventures Ltd.

Novartis Campus, Forum 1-1.32
Attn: Stephan Sandmeier
CH-4056 Basel, Switzerland
Email: nvf.notifications@nvfund.com

With a Copy to:

Novartis Venture Fund
Attn: Nandita Shangari
196 Broadway, 1st Floor
Cambridge, MA 02139
Email: nandita.shangari@nvfund.com

GV 2017, L.P.

Attn: GV Legal Department
1600 Amphitheatre Parkway
Mountain View, CA 94043
Email: notice@gv.com

GV 2019, L.P.

Attn: GV Legal Department
1600 Amphitheatre Parkway
Mountain View, CA 94043
Email: notice@gv.com

6 Dimensions Capital, L. P.

Attn: Christina Chung
8th Floor, 55 Cambridge Parkway,
Cambridge, MA 02142
Tel: 825-2805 1580
Email: christina.chung@6dimensionscapital.com

6 Dimensions Affiliates Fund, L.P.

Attn: Christina Chung
8th Floor, 55 Cambridge Parkway,
Cambridge, MA 02142
Tel: 825-2805 1580
Email: christina.chung@6dimensionscapital.com

Pitango Healthtech Fund I, L.P.

11 HaMenofim St., Herzliya 46725, Israel
Attention: Ittai Harel (ittai.h@pitango.com) and Adv. Elana Barzilay
(elana.b@pitango.com)

Pitango Healthtech Principals Fund I, L.P.

11 HaMenofim St., Herzliya 46725, Israel
Attention: Ittai Harel (ittai.h@pitango.com) and Adv. Elana Barzilay
(elana.b@pitango.com)

Seth A. Rudnick 2014 Irrevocable GST Trust

PO Box 5341
Pinehurst, NC 28374
Attn: Carolyn Rudnick

G&H Partners

1200 Seaport Blvd.
Redwood City, CA 94063

Astellas Venture Management LLC

2882 Sand Hill Road, Suite 121
Menlo Park, CA 94025
shunichiro.matsumoto@astellas.com

667, L.P.

Baker Brothers Life Sciences, L.P.

860 Washington St., 3rd Floor
New York, NY 10014

With a Copy to (which shall not constitute notice):

Wilmer Cutler Pickering Hale and Dorr LLP

Attn: Jason Kropp
,60 State Street,
Boston, MA 02109,
Email: Jason.Kropp@wilmerhale.com

RA Capital Healthcare Fund, L.P.

RA Capital Nexus Fund II, L.P.

c/o RA Capital Management, L.P.
200 Berkeley Street
18th Floor
Boston, MA 02116
Attn: General Counsel

JMD III Holdings Limited

c/o Citco Fund Services (Cayman Islands) Limited
89 Nexus Way, Camana Bay, P.O. Box 31106
Grand Cayman KY1-1205, Cayman Islands

BlackRock Health Sciences Trust II

c/o BlackRock Advisors, LLC
60 State Street, 19th/20th Floor
Boston, MA 02109
Attn: Erin Xie

Gebrian Family Trust

REGISTRATION RIGHTS AGREEMENT

This Registration Rights Agreement (this "Agreement") is made as of January 15, 2021 by and between TScan Therapeutics, Inc., a Delaware corporation (the "Company"), and the person(s) listed on the attached Schedule A who are signatories to this Agreement (each, an "Investor", and collectively, the "Investors"). Unless otherwise defined herein, capitalized terms used in this Agreement have the respective meanings ascribed to them in Section 1.

RECITALS

WHEREAS, the Company and the Investors wish to provide for certain arrangements with respect to the registration of the Registrable Securities (as defined below) by the Company under the Securities Act (as defined below).

NOW, THEREFORE, in consideration of the mutual promises and covenants set forth herein, and other consideration, the receipt and adequacy of which are hereby acknowledged, the parties hereto agree as follows:

**Section 1.
Definitions**

1.1. Certain Definitions. In addition to the terms defined elsewhere in this Agreement, as used in this Agreement, the following terms have the respective meanings set forth below:

- (a) "Block Trade" shall mean an offering of Registrable Securities which requires both the Investors and the Company to enter into a sale agreement and is limited in scope of selling efforts as compared to an Underwritten Offering.
- (b) "Board" shall mean the Board of Directors of the Company.
- (c) "Commission" shall mean the Securities and Exchange Commission or any other federal agency at the time administering the Securities Act.
- (d) "Common Stock" shall mean the common stock of the Company, par value \$0.0001 per share.
- (e) "Exchange Act" shall mean the Securities Exchange Act of 1934, as amended, or any similar successor federal statute and the rules and regulations thereunder, all as the same shall be in effect from time to time.
- (f) "Governmental Entity" shall mean any federal, state, local or foreign government, or any department, agency, or instrumentality of any government; any public international organization, any transnational governmental organization; any court of competent jurisdiction, arbitral, administrative agency, commission, or other governmental regulatory authority or quasi-governmental authority, any political party; and any national securities exchange or national quotation system.

(g) “Investors’ Rights Agreement” shall mean that certain Amended and Restated Investors’ Rights Agreement, dated as of January [•], 2021, by and among the Company and the investors listed on Schedule A thereto, including the Investors, as the same may be amended and/or restated from time to time.

(h) “Other Investors” shall mean the “Investors,” as defined in the Investors’ Rights Agreement.

(i) “Other Securities” shall mean securities of the Company, other than Registrable Securities (as defined below).

(j) “Person” shall mean any individual, partnership, corporation, company, association, trust, joint venture, limited liability company, unincorporated organization, entity or division, or any government, governmental department or agency or political subdivision thereof.

(k) “Registrable Securities” shall mean the shares of Common Stock and any Common Stock issued or issuable upon the exercise or conversion of any other securities (whether equity, debt or otherwise) of the Company now owned or hereafter acquired by any of the Investors.

(l) The terms “register,” “registered” and “registration” shall refer to a registration effected by preparing and filing a Registration Statement in compliance with the Securities Act, and such Registration Statement becoming effective under the Securities Act.

(m) “Registration Expenses” shall mean all expenses incurred by the Company in effecting any registration pursuant to this Agreement, including, without limitation, all registration, qualification, and filing fees, printing expenses, escrow fees, fees and disbursements of counsel for the Company, up to (1) \$50,000 in aggregate of reasonable and documented out-of-pocket legal expenses of one outside counsel for Investors and one outside counsel for each of the Other Investors (in each case if different from the Company’s counsel and if such counsel is reasonably approved by the Company) in connection with the preparation and filing of the Resale Registration Shelf (as defined below), and (2) up to \$50,000 in aggregate of reasonable and documented out-of-pocket legal expenses of one outside counsel for the Investors and one outside counsel for each of the Other Investors (in each case if different from the Company’s counsel and if such counsel is reasonably approved by the Company) per Underwritten Offering, blue sky fees and expenses, and expenses of any regular or special audits incident to or required by any such registration, but shall not include Selling Expenses. For the avoidance of doubt, the Registration Expenses comprising legal expenses incurred by the Investors and Other Investors payable by the Company shall be allocated equally among the Investors and the Other Investors participating in the applicable Resale Registration Shelf or underwritten public offering in the event the aggregate of such legal expenses exceeds \$50,000.

(n) “Registration Statement” means any registration statement of the Company filed with, or to be filed with, the Commission under the Securities Act, including the related prospectus, amendments and supplements to such registration statement, including pre- and post-effective amendments, and all exhibits and all material incorporated by reference in such registration statement as may be necessary to comply with applicable securities laws other than a registration statement (and related prospectus) filed on Form S-4 or Form S-8 or any successor forms thereto.

(o) “Rule 144” shall mean Rule 144 as promulgated by the Commission under the Securities Act, as such rule may be amended from time to time, or any similar successor rule that may be promulgated by the Commission.

(p) “Securities Act” shall mean the Securities Act of 1933, as amended, or any similar successor federal statute and the rules and regulations thereunder, all as the same shall be in effect from time to time.

(q) “Selling Expenses” shall mean all underwriting discounts and selling commissions applicable to the sale of Registrable Securities, the fees and expenses of any legal counsel (except as provided in the definition of “Registration Expenses”) and any other advisors any of the Investors engage and all similar fees and commissions relating to the Investors’ disposition of the Registrable Securities.

(r) “Underwritten Offering” shall mean a public offering of Registrable Securities pursuant to an effective registration statement under the Securities Act (other than pursuant to a registration statement on Form S-4 or S-8 or any similar or successor form) which requires the Investors and the Company to enter into an underwriting agreement.

Section 2. Resale Registration Rights

2.1. Resale Registration Rights.

(a) Following demand by any Investor the Company shall file with the Commission a Registration Statement on Form S-3 (except if the Company is not then eligible to register for resale the Registrable Securities on Form S-3, in which case such registration shall be on another appropriate form in accordance with the Securities Act) covering the resale of the Registrable Securities by the Investors (the “Resale Registration Shelf”), and the Company shall file such Resale Registration Shelf as promptly as reasonably practicable following such demand, and in any event within sixty (60) days of such demand; provided, however, that the Company shall not be obligated to make any such filing until one year following the date of the Company’s initial public offering (the “Demand Effective Date”). Such Resale Registration Shelf shall include a “final” prospectus, including the information required by Item 507 of Regulation S-K of the Securities Act, as provided by the Investors in accordance with Section 2.7. Notwithstanding the foregoing, before filing the Resale Registration Shelf, the Company shall furnish to the Investors a copy of the Resale Registration Shelf and afford the Investors an opportunity to review and comment on the Resale Registration Shelf. The Company’s obligation pursuant to this Section 2.1(a) is conditioned upon the Investors providing the information contemplated in Section 2.7. Notwithstanding anything contained herein to the contrary, any demand made by an Investor pursuant to this Agreement that the Company file with the Commission a Registration Statement shall be deemed to be a demand for registration of the same nature (i.e., Form S-3 or Form S-1, underwritten or not) pursuant to the Investor Rights Agreement to the extent such rights are, at the relative time, available pursuant to the Investor Rights Agreement.

(b) The Company shall use its reasonable best efforts to cause the Resale Registration Shelf and related prospectuses to become effective as promptly as practicable after filing, but in any event by the earlier of: (A) 120 days following the demand that the Company file the Resale Registration Shelf, and (B) five trading days after the date the Company receives written notification from the Commission that such Resale Registration Shelf will not be reviewed. The Company shall use its reasonable best efforts to cause such Registration Statement to remain effective under the Securities Act, including by filing any necessary post-effective amendments and prospectus supplements, or alternatively, by filing one or more new Registration Statements, continuously until the earlier of the date (i) all Registrable Securities covered by the Resale Registration Shelf have been sold or may be sold freely without limitations or restrictions as to volume or manner of sale pursuant to Rule 144 or (ii) all Registrable Securities covered by the Resale Registration Shelf otherwise cease to be Registrable Securities pursuant to Section 2.10 hereof. The Company shall promptly, and within two (2) business days after the Company confirms the effectiveness of the Resale Registration Shelf with the Commission, notify the Investors of the effectiveness of the Resale Registration Shelf.

(c) Notwithstanding anything contained herein to the contrary, the Company shall not be obligated to effect, or to take any action to effect, a registration pursuant to Section 2.1(a):

(i) if the Company has and maintains an effective Registration Statement on Form S-3ASR that provides for the resale of an unlimited number of securities by selling stockholders (a “Company Registration Shelf”);

(ii) during the period forty-five (45) days prior to the Company’s good faith estimate of the date of filing of a Company Registration Shelf; or

(iii) if the Company has caused a Registration Statement to become effective during the prior twelve (12) month period pursuant to (x) this Section 2.1, (y) Section 2.1(a) of the Investors’ Rights Agreement or (z) Section 2.1(b) of the Investors’ Rights Agreement (in each case provided that the Investors had the opportunity to register all of their Registrable Securities).

(d) If the Company has a Company Registration Shelf in place at any time in which the Investors make a demand pursuant to Section 2.1(a), the Company shall file with the Commission, as promptly as practicable, and in any event within fifteen (15) business days after such demand, a “final” prospectus supplement to its Company Registration Shelf covering the resale of the Registrable Securities by the Investors (the “Prospectus”); provided, however, that (i) the Company shall not be obligated to make any such filing until after the Demand Effective Date and (ii) the Company shall not be obligated to file more than one Prospectus pursuant to this Section 2.1(d) in any six month period to add additional Registrable Securities to the Company Registration Shelf that were acquired by the Investors other than directly from the Company or in an underwritten public offering by the Company. The Prospectus shall include the information required under Item 507 of Regulation S-K of the Securities Act, which information shall be provided by the Investors in accordance with Section 2.7. Notwithstanding the foregoing, before filing the Prospectus, the Company shall furnish to the Investors a copy of the Prospectus and afford a single outside counsel (in addition to any inside counsel) of the Investors an opportunity to review and comment on the Prospectus.

(e) Deferral and Suspension. At any time after being obligated pursuant to this Agreement or the Investors' Rights Agreement to file a Resale Registration Shelf or Prospectus, or after any such Resale Registration Shelf has become effective or such Prospectus has been filed with the Commission, the Company may defer the filing of or suspend the use of any such Resale Registration Shelf or Prospectus, upon giving written notice of such action to the Investors with a certificate signed by the Chief Executive Officer of the Company stating that in the good faith judgment of the Board, the filing or use of any such Resale Registration Shelf or Prospectus covering the Registrable Securities would be seriously detrimental to the Company or its stockholders at such time and that the Board concludes, as a result, that it is in the best interests of the Company and its stockholders to defer the filing or suspend the use of such Resale Registration Shelf or Prospectus at such time. The Company shall have the right to defer the filing of or suspend the use of such Resale Registration Shelf or Prospectus for a period of not more than one hundred twenty (120) days from the date the Company notifies the Investors of such deferral or suspension; provided that the Company shall not exercise the right contained in this Section 2.1(e) more than once in any twelve month period. In the case of the suspension of use of any effective Resale Registration Shelf or Prospectus, the Investors, immediately upon receipt of notice thereof from the Company, shall discontinue any offers or sales of Registrable Securities pursuant to such Resale Registration Shelf or Prospectus until advised in writing by the Company that the use of such Resale Registration Shelf or Prospectus may be resumed. In the case of a deferred Prospectus or Resale Registration Shelf filing, the Company shall provide prompt written notice to the Investors of (i) the Company's decision to file or seek effectiveness of the Prospectus or Resale Registration Shelf, as the case may be, following such deferral and (ii) in the case of a Resale Registration Shelf, the effectiveness of such Resale Registration Shelf. In the case of either a suspension of use of, or deferred filing of, any Resale Registration Shelf or Prospectus, the Company shall not, during the pendency of such suspension or deferral, be required to take any action hereunder (including any action pursuant to Section 2.2 hereof) with respect to the registration or sale of any Registrable Securities pursuant to any such Resale Registration Shelf, Company Registration Shelf or Prospectus.

(f) Piggy-Back Rights. The Company must provide the Investors with ten (10) days' notice before filing any Resale Registration Shelf or Prospectus pursuant to a request by the Other Investors pursuant to Section 2.1(a) of the Investors' Rights Agreement, and, upon the Investors' written request, include the Investors as one or more selling stockholders in such Resale Registration Shelf or Prospectus. Section 2.3(a) of the Investors' Rights Agreement notwithstanding, the securities of the Investors and the Other Investors will be excluded on a pro rata basis from such Registration Statement if any such exclusion is deemed necessary in order to comply with any applicable laws or request from any Government Entity, Nasdaq or any applicable listing agency.

(g) Other Securities. Subject to Section 2.2(e) below, any Resale Registration Shelf or Prospectus may include Other Securities, and may include securities of the Company being sold for the account of the Company; *provided* (subject to Section 2.3(b) of the Investors' Rights Agreement) such Other Securities are excluded first from such Registration Statement in order to comply with any applicable laws or request from any Governmental Entity, Nasdaq or any applicable listing agency. No Other Securities may be included in an Underwritten Offering pursuant to Section 2.2 without the consent of the Investors, except as expressly set forth herein or required pursuant to the Investors' Rights Agreement.

2.2. Sales and Underwritten Offerings of the Registrable Securities.

- (a) Notwithstanding any provision contained herein to the contrary, the Investors, collectively, shall and subject to the limitations set forth in this Section 2.2, be permitted (i) one Underwritten Offering per calendar year, but no more than three Underwritten Offerings in total (provided that the Investors and the Other Investors are limited to an aggregate of two Underwritten Offerings per calendar year), and (ii) no more than two Underwritten Offerings or Block Trades in any twelve month period, to effect the sale or distribution of Registrable Securities.
- (b) If the Investors intend to effect an Underwritten Offering or Block Trade pursuant to a Resale Registration Shelf or Company Registration Shelf to sell or otherwise distribute Registrable Securities, they shall so advise the Company and provide as much notice to the Company as reasonably practicable (and, in either case, not less than fifteen (15) business days prior to the Investors' request that the Company file a prospectus supplement to a Resale Registration Shelf or Company Registration Shelf).
- (c) In connection with any offering initiated by the Investors pursuant to this Section 2.2 involving an underwriting of shares of Registrable Securities, the Investors shall be entitled to select the underwriter or underwriters for such offering, subject to the consent of the Company, such consent not to be unreasonably withheld, conditioned or delayed.
- (d) In connection with any offering initiated by the Investors pursuant to this Section 2.2 involving an Underwritten Offering of Registrable Securities, the Company shall not be required to include any of the Registrable Securities in such underwriting unless the Investors (i) enter into an underwriting agreement in customary form with the underwriter or underwriters, (ii) accept customary terms in such underwriting agreement with regard to representations and warranties relating to ownership of the Registrable Securities and authority and power to enter into such underwriting agreement and (iii) complete and execute all questionnaires, powers of attorney, custody agreements, indemnities and other documents as may be requested by such underwriter or underwriters. Further, the Company shall not be required to include any of the Registrable Securities in an Underwritten Offering or Block Trade if (Y) the underwriting/sale agreement proposed by the underwriter or underwriters contains representations, warranties or conditions that are not reasonable in light of the Company's then-current business (for the avoidance of doubt, the limitation in this clause (Y) is not related to the Company's then-current disclosure, which may need to be updated prior to such offering) or (Z) the underwriter, underwriters or the Investors require the Company to participate in any marketing, roadshow or comparable activity that may be required to complete the orderly sale of shares by the underwriter or underwriters.
- (e) Subject to Section 2.2(f) below, the Company must provide the Investors with not less than ten (10) business days' notice before effecting an underwritten public offering pursuant to a request by the Other Investors pursuant to Section 2.1(b) of the Investors' Rights Agreement, and, upon the Investors' written request, include the Registrable Securities requested by the Investors in such underwritten public offering.

(f) If the total amount of securities to be sold in any offering initiated by the Investors pursuant to this Section 2.2 involving an underwriting of shares of Registrable Securities, or any underwritten public offering initiated by the Other Investors pursuant to their registration rights, exceeds the amount that the underwriters determine in their sole discretion is compatible with the success of the offering, then the Company shall be required to include in the offering only that number of such securities, including Registrable Securities (subject in each case to the cutback provisions set forth in this Section 2.2(e)), that the underwriters and the Company determine in their sole discretion shall not jeopardize the success of the offering. If the Underwritten Offering has been requested pursuant to Section 2.2(a) of this Agreement or the Investors' Rights Agreement, the number of shares that are entitled to be included in the registration and underwriting shall be allocated in the following manner: (a) first, shares of Company equity securities that the Company desires to include in such registration (including any Other Securities) shall be excluded and (b) second, Registrable Securities requested to be included in such registration by the Investors and the Other Investors shall be excluded, pro rata. For the avoidance of doubt, no other person besides the Investors shall be entitled to participate in any Block Trade. To facilitate the allocation of shares in accordance with the above provisions, the Company or the underwriters may round down the number of shares allocated to any of the Investors or the Other Investors to the nearest 100 shares.

2.3. Fees and Expenses. All Registration Expenses incurred in connection with registrations pursuant to this Agreement shall be borne by the Company. All Selling Expenses relating to securities registered on behalf of the Investors shall be borne by the Investors.

2.4. Registration Procedures. In the case of each registration of Registrable Securities effected by the Company pursuant to Section 2.1 hereof (including, for the avoidance of doubt, Section 2.1(f)), the Company shall keep the Investors advised as to the initiation of each such registration and as to the status thereof. The Company shall use its reasonable best efforts, within the limits set forth in this Section 2.4, to:

(a) prepare and file with the Commission such amendments and supplements to such Registration Statement and the prospectuses used in connection with such Registration Statement as may be necessary to keep such Registration Statement effective and current and comply with the provisions of the Securities Act with respect to the disposition of all securities covered by such Registration Statement;

(b) furnish to the Investors such numbers of copies of a prospectus, including preliminary prospectuses, in conformity with the requirements of the Securities Act, and such other documents as the Investors may reasonably request in order to facilitate the disposition of Registrable Securities;

(c) use its reasonable best efforts to register and qualify the Registrable Securities covered by such Registration Statement under such other securities or blue sky laws of such jurisdictions in the United States as shall be reasonably requested by the Investors, provided that the Company shall not be required in connection therewith or as a condition thereto to qualify to do business or to file a general consent to service of process in any such states or jurisdictions;

(d) in the event of any Underwritten Offering or Block Trade, and subject to Section 2.2(d), enter into and perform its obligations under an underwriting agreement or Block Trade sale agreement, in usual and customary form (including any “lock-ups” on behalf of the Company and its directors and officers), with the managing underwriter of such offering and take such other usual and customary action as the Investors may reasonably request in order to facilitate the disposition of such Registrable Securities;

(e) notify the Investors at any time when a prospectus relating to a Registration Statement covering any Registrable Securities is required to be delivered under the Securities Act of the happening of any event as a result of which the prospectus included in such Registration Statement, as then in effect, includes an untrue statement of a material fact or omits to state a material fact required to be stated therein or necessary to make the statements therein not misleading in the light of the circumstances then existing. The Company shall use its reasonable best efforts to amend or supplement such prospectus in order to cause such prospectus not to include any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading in the light of the circumstances then existing;

(f) provide a transfer agent and registrar for all Registrable Securities registered pursuant to such Registration Statement and, if required, a CUSIP number for all such Registrable Securities, in each case not later than the effective date of such registration;

(g) if requested by an Investor, use reasonable best efforts to cause the Company’s transfer agent to remove any restrictive legend from any Registrable Securities, within two business days following such request;

(h) cause to be furnished, at the request of the Investors, on the date that Registrable Securities are delivered to underwriters for sale in connection with any Underwritten Offering or Block Trade, (i) an opinion, dated such date, of the counsel representing the Company for the purposes of such registration, in form and substance as is customarily given to underwriters in an underwritten public offering, addressed to the underwriters, and (ii) a letter or letters from the independent certified public accountants of the Company, in form and substance as is customarily given by independent certified public accountants to underwriters in an underwritten public offering, addressed to the underwriters; and

(i) cause all such Registrable Securities included in a Registration Statement pursuant to this Agreement to be listed on each securities exchange or other securities trading markets on which Common Stock is then listed.

2.5. The Investors’ Obligations.

(a) Discontinuance of Distribution. The Investors agree that, upon receipt of any notice from the Company of the occurrence of any event of the kind described in Section 2.4(e) hereof, the Investors shall immediately discontinue disposition of Registrable Securities pursuant to any Registration Statement covering such Registrable Securities until the Investors’ receipt of the copies of the supplemented or amended prospectus contemplated by Section 2.4(e) hereof or receipt of notice that no supplement or amendment is required and that the Investors’ disposition of the Registrable Securities may be resumed. The Company may provide appropriate stop orders to enforce the provisions of this Section 2.5(a).

(b) Compliance with Prospectus Delivery Requirements. The Investors covenant and agree that they shall comply with the prospectus delivery requirements of the Securities Act as applicable to them or an exemption therefrom in connection with sales of Registrable Securities pursuant to any Registration Statement filed by the Company pursuant to this Agreement.

2.6. Indemnification.

(a) To the extent permitted by law, the Company shall indemnify the Investors, and, as applicable, their officers, directors, and constituent partners, legal counsel for each Investor and each Person controlling the Investors, with respect to which registration, related qualification, or related compliance of Registrable Securities has been effected pursuant to this Agreement, and each underwriter, if any, and each Person who controls any underwriter within the meaning of the Securities Act against all claims, losses, damages, or liabilities (or actions in respect thereof) to the extent such claims, losses, damages, or liabilities arise out of or are based upon (i) any untrue statement (or alleged untrue statement) of a material fact contained in any prospectus or other document (including any related Registration Statement) incident to any such registration, qualification, or compliance, or (ii) any omission (or alleged omission) to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, or (iii) any violation or alleged violation by the Company of the Securities Act, the Exchange Act, any state securities law, or any rule or regulation promulgated under the Securities Act, the Exchange Act or any state securities law applicable to the Company and relating to action or inaction required of the Company in connection with any such registration, qualification, or compliance; and the Company shall pay as incurred to the Investors, each such underwriter, and each Person who controls the Investors or underwriter, any reasonable and documented out-of-pocket legal expenses and any other expenses reasonably incurred in connection with investigating or defending any such claim, loss, damage, liability, or action; provided, however, that the indemnity contained in this Section 2.6(a) shall not apply to amounts paid in settlement of any such claim, loss, damage, liability, or action if settlement is effected without the consent of the Company (which consent shall not unreasonably be withheld); and provided, further, that the Company shall not be liable in any such case to the extent that any such claim, loss, damage, liability, or expense arises out of or is based upon any violation by such Investor of the obligations set forth in Section 2.5 hereof or any untrue statement or omission contained in such prospectus or other document based upon written information furnished to the Company by the Investors, such underwriter, or such controlling Person and stated to be for use therein or any bad faith or willful misconduct of the Investor.

(b) To the extent permitted by law, each Investor (severally and not jointly) shall, if Registrable Securities held by such Investor are included for sale in the registration and related qualification and compliance effected pursuant to this Agreement, indemnify the Company, each of its directors, each officer of the Company who signs the applicable Registration Statement, each legal counsel and each underwriter of the Company's securities covered by such a Registration Statement, each Person who controls the Company or such underwriter within the meaning of the Securities Act against all claims, losses, damages, and liabilities (or actions in respect thereof) arising out of or based upon (i) any untrue statement (or alleged untrue

statement) of a material fact contained in any such Registration Statement, or related document, or (ii) any omission (or alleged omission) to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, or (iii) any violation or alleged violation by such Investor of Section 2.5 hereof, the Securities Act, the Exchange Act, any state securities law, or any rule or regulation promulgated under the Securities Act, the Exchange Act or any state securities law applicable to such Investor and relating to action or inaction required of such Investor in connection with any such registration and related qualification and compliance, and shall pay as incurred to such persons, any reasonable and documented out-of-pocket legal expenses and any other expenses reasonably incurred in connection with investigating or defending any such claim, loss, damage, liability, or action, in each case only to the extent that such untrue statement (or alleged untrue statement) or omission (or alleged omission) is made in (and such violation pertains to) such Registration Statement or related document in reliance upon and in conformity with written information furnished to the Company by such Investor and stated to be specifically for use therein; provided, however, that the indemnity contained in this Section 2.6(b) shall not apply to amounts paid in settlement of any such claim, loss, damage, liability, or action if settlement is effected without the consent of such Investor (which consent shall not unreasonably be withheld); provided, further, that the Investor shall not be liable in any such case to the extent that any such claim, loss, damage, liability or expense arises out of or is based upon any bad faith willful misconduct or gross negligence of the Company; and provided, further, that such Investors' liability under this Section 2.6(b) (when combined with any amounts such Investor is liable for under Section 2.6(d)) shall not exceed such Investors' net proceeds from the offering of securities made in connection with such registration.

(c) Promptly after receipt by an indemnified party under this Section 2.6 of notice of the commencement of any action, such indemnified party shall, if a claim in respect thereof is to be made against an indemnifying party under this Section 2.6, notify the indemnifying party in writing of the commencement thereof and generally summarize such action. The indemnifying party shall have the right to participate in and to assume the defense of such claim at its own expense; provided, however, that the indemnifying party shall be entitled to select counsel for the defense of such claim with the approval of any parties entitled to indemnification, which approval shall not be unreasonably withheld; provided further, however, that if either party reasonably determines that there may be a conflict between the position of the Company and the Investors in conducting the defense of such action, suit, or proceeding by reason of recognized claims for indemnity under this Section 2.6, then counsel for such party shall be entitled to conduct the defense to the extent reasonably determined by such counsel to be necessary to protect the interest of such party. The failure to notify an indemnifying party promptly of the commencement of any such action, if prejudicial to the ability of the indemnifying party to defend such action, shall relieve such indemnifying party, to the extent so prejudiced, of any liability to the indemnified party under this Section 2.6, but the omission so to notify the indemnifying party shall not relieve such party of any liability that such party may have to any indemnified party otherwise than under this Section 2.6.

(d) If the indemnification provided for in this Section 2.6 is held by a court of competent jurisdiction to be unavailable to an indemnified party with respect to any loss, liability, claim, damage, or expense referred to therein, then the indemnifying party, in lieu of indemnifying such indemnified party hereunder, shall contribute to the amount paid or payable by such indemnified

party as a result of such loss, liability, claim, damage, or expense in such proportion as is appropriate to reflect the relative fault of the indemnifying party on the one hand and of the indemnified party on the other in connection with the statements or omissions that resulted in such loss, liability, claim, damage, or expense as well as any other relevant equitable considerations. The relative fault of the indemnifying party and of the indemnified party shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission to state a material fact relates to information supplied by the indemnifying party or by the indemnified party and the parties' relative intent, knowledge, access to information, and opportunity to correct or prevent such statement or omission. In no event, however, shall (i) any amount due for contribution hereunder be in excess of the amount that would otherwise be due under Section 2.6(a) or Section 2.6(b), as applicable, based on the limitations of such provisions and (ii) a Person found by a court of competent jurisdiction to be liable for fraudulent misrepresentation (within the meaning of the Securities Act), bad faith or willful misconduct be entitled to contribution from a Person who was not also found by a court of competent jurisdiction to be liable for such fraudulent misrepresentation (within the meaning of the Securities Act), bad faith or willful misconduct.

(e) Notwithstanding the foregoing, to the extent that the provisions on indemnification and contribution contained in the underwriting agreement entered into in connection with an Underwritten Offering, or the Block Trade sale agreement, are in conflict with the foregoing provisions, the provisions in the underwriting agreement or Block Trade sale agreement shall control; provided, however, that the failure of the underwriting agreement to provide for or address a matter provided for or addressed by the foregoing provisions shall not be a conflict between the underwriting agreement or the Block Trade sale agreement and the foregoing provisions.

(f) The obligations of the Company and the Investors under this Section 2.6 shall survive the completion of any offering of Registrable Securities in a Registration Statement under this Agreement or otherwise.

2.7. Information. The Investors shall furnish to the Company such information regarding the Investors and the distribution proposed by the Investors as the Company may reasonably request and as shall be reasonably required in connection with any registration referred to in this Agreement. The Investors agree to, as promptly as practicable (and in any event prior to any sales made pursuant to a prospectus), furnish to the Company all information required to be disclosed in order to make the information previously furnished to the Company by the Investors not misleading. The Investors agree to keep confidential the receipt of any notice received pursuant to Section 2.4(g) and the contents thereof, except as required pursuant to applicable law. Notwithstanding anything to the contrary herein, the Company shall be under no obligation to name the Investors in any Registration Statement or include such Investors' Registrable Securities or Other Securities if the Investors have not provided the information required by this Section 2.7 with respect to the Investors as a selling securityholder in such Registration Statement or any related prospectus.

2.8. Rule 144 Requirements. With a view to making available to the Investors the benefits of Rule 144 and any other rule or regulation of the Commission that may at any time permit the Investors to sell Registrable Securities to the public without registration, the Company agrees to use its reasonable best efforts to:

(a) make and keep public information available, as those terms are understood and defined in Rule 144 at all times after the date hereof;

(b) file with the Commission in a timely manner all reports and other documents required of the Company under the Securities Act and the Exchange Act;

(c) prior to the filing of the Registration Statement or any amendment thereto (whether pre-effective or post-effective), and prior to the filing of any prospectus or prospectus supplement related thereto, to provide the Investors with copies of all of the pages thereof (if any) that reference the Investors; and

(d) furnish to any Investor, so long as the Investor owns any Registrable Securities, forthwith upon request (i) a written statement by the Company that it has complied with the reporting requirements of Rule 144, (ii) a copy of the most recent annual or quarterly report of the Company and such other reports and documents so filed by the Company, and (iii) such other information as may be reasonably requested by an Investor in availing itself of any rule or regulation of the Commission which permits an Investor to sell any such securities without registration.

2.9. Limitations on Subsequent Registration Rights. From and after the date of this Agreement, the Company shall not, without prior written consent of the Investors, (Y) enter into any agreement with any holder or prospective holder of any securities of the Company which would provide to such holder rights with respect to the registration of such securities under the Securities Act or the Exchange Act that would conflict with or adversely affect any of the rights provided to the Investors in this Section 2, or (Z) amend the Investors' Rights Agreement in any manner that would conflict with or adversely affect any of the rights provided to the Investors in this Section 2; it being understood and agreed that any subsequent agreement of the Company with any holder or prospective holder of any securities of the Company of the same class (or convertible into or exchange for securities of the same class) as the Registrable Securities granting such Person rights under this Section 2 equivalent to the rights of the Investors under this Section 2 will not be prohibited by the terms of this Section 2.9.

2.10. Termination of Status as Registrable Securities. The Registrable Securities shall cease to be Registrable Securities upon the earliest to occur of the following events: (i) such Registrable Securities have been sold pursuant to an effective Registration Statement; (ii) such Registrable Securities have been sold by the Investors pursuant to Rule 144 (or other similar rule), (iii) such Registrable Securities may be resold by the Investor holding such Registrable Securities without limitations as to volume or manner of sale pursuant to Rule 144; or (iv) ten (10) years after the date of this Agreement.

**Section 3.
Miscellaneous**

3.1. Amendment. No amendment, alteration or modification of any of the provisions of this Agreement shall be binding unless made in writing and signed by each of the Company and the Investors.

3.2. Injunctive Relief. It is hereby agreed and acknowledged that it shall be impossible to measure in money the damages that would be suffered if the parties fail to comply with any of the obligations herein imposed on them and that in the event of any such failure, an aggrieved Person shall be irreparably damaged and shall not have an adequate remedy at law. Any such Person shall, therefore, be entitled (in addition to any other remedy to which it may be entitled in law or in equity) to injunctive relief, including, without limitation, specific performance, to enforce such obligations, and if any action should be brought in equity to enforce any of the provisions of this Agreement, none of the parties hereto shall raise the defense that there is an adequate remedy at law.

3.3. Notices. All notices required or permitted under this Agreement must be in writing and sent to the address or facsimile number identified below. Notices must be given: (a) by personal delivery, with receipt acknowledged; (b) by electronic mail followed by hard copy delivered by the methods under clause (c) or (d); (c) by prepaid certified or registered mail, return receipt requested; or (d) by prepaid reputable overnight delivery service. Notices shall be effective upon receipt. Either party may change its notice address by providing the other party written notice of such change. Notices shall be delivered as follows:

If to the Investors: Baker Brothers Investments
860 Washington St., 3rd Floor
New York, NY 10014
Attention: Scott Lessing, President
Email: bbi_officialnotices@bbinvestments.com

with a copy (which copy shall not constitute notice) to: Wilmer Cutler Pickering Hale and Dorr LLP
60 State Street
Boston, MA 02109
Attention: Jason Kropp
Email: Jason.Kropp@wilmerhale.com

If to the Company: TScan Therapeutics, Inc.
830 Winter St.
Waltham, MA 02451
Attention: Chief Executive Officer
Email:

with a copy to: Gunderson Dettmer Stough Villeneuve Franklin & Hachigian, LLP
One Marina Park Drive
Suite 900
Boston, MA 02210
Attention: Timothy H. Ehrlich
Email: tehrlich@gunder.com

3.4. Governing Law; Jurisdiction; Venue; Jury Trial.

(a) This Agreement shall be governed by, and construed in accordance with, the law of the State of New York without giving effect to any choice or conflict of law provision or rule (whether of the State of New York or any other jurisdiction) that would cause the application of the laws of any jurisdiction other than the State of New York.

(b) Each of the Company and the Investors irrevocably and unconditionally submits, for itself and its property, to the nonexclusive jurisdiction of the courts of the State of New York sitting in the Borough of Manhattan, New York and of the United States District Court of the Southern District of New York, and any appellate court from any thereof, in any action or proceeding arising out of or relating to this Agreement and the transactions contemplated herein, or for recognition or enforcement of any judgment, and each of the Company and the Investors irrevocably and unconditionally agrees that all claims in respect of any such action or proceeding may be heard and determined in such New York state court or, to the fullest extent permitted by applicable law, in such federal court. Each of the Company and the Investors hereto agrees that a final judgment in any such action or proceeding shall be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by law.

(c) Each of the Company and the Investors irrevocably and unconditionally waives, to the fullest extent permitted by applicable law, any objection that it may now or hereafter have to the laying of venue of any action or proceeding arising out of or relating to this Agreement and the transactions contemplated herein in any court referred to in Section 3.4(b) hereof. Each of the Company and the Investors hereby irrevocably waives, to the fullest extent permitted by applicable law, the defense of an inconvenient forum to the maintenance of such action or proceeding in any such court.

(d) EACH OF THE COMPANY AND THE INVESTORS HEREBY IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN ANY LEGAL PROCEEDING DIRECTLY OR INDIRECTLY ARISING OUT OF OR RELATING TO THIS AGREEMENT OR THE TRANSACTIONS CONTEMPLATED HEREBY (WHETHER BASED ON CONTRACT, TORT OR ANY OTHER THEORY). EACH OF THE COMPANY AND THE INVESTORS (A) CERTIFIES THAT NO REPRESENTATIVE, AGENT OR ATTORNEY OF ANY OTHER PERSON HAS REPRESENTED, EXPRESSLY OR OTHERWISE, THAT SUCH OTHER PERSON WOULD NOT, IN THE EVENT OF LITIGATION, SEEK TO ENFORCE THE FOREGOING WAIVER AND (B) ACKNOWLEDGES THAT EACH OF THE COMPANY AND THE INVESTORS HAS BEEN INDUCED TO ENTER INTO THIS AGREEMENT BY, AMONG OTHER THINGS, THE MUTUAL WAIVERS AND CERTIFICATIONS IN THIS SECTION.

3.5. Successors, Assigns and Transferees. Any and all rights, duties and obligations hereunder shall not be assigned, transferred, delegated or sublicensed by any party hereto without the prior written consent of the other party; provided, however, that the Investors shall be entitled to transfer Registrable Securities to one or more of their affiliates and, solely in connection therewith, may assign their rights hereunder in respect of such transferred Registrable Securities, in each case, so long as such Investor is not relieved of any liability or obligations hereunder, without the prior consent of the Company. Any transfer or assignment made other than as provided in the first sentence of this Section 3.5 shall be null and void. Subject to the foregoing and except as otherwise provided herein, the provisions of this Agreement shall inure to the benefit of, and be binding upon, the successors, permitted assigns, heirs, executors and administrators of the parties hereto. The Company shall not consummate any recapitalization, merger, consolidation, reorganization or other similar transaction whereby stockholders of the Company receive (either directly, through an exchange, via dividend from the Company or otherwise) equity (the “Other Equity”) in any other entity (the “Other Entity”) with respect to Registrable Securities hereunder, unless prior to the consummation thereof, the Other Entity assumes, by written instrument, the obligations under this Agreement with respect to such Other Equity as if such Other Equity were Registrable Securities hereunder.

3.6. Entire Agreement. This Agreement, together with any exhibits hereto, constitute the entire agreement between the parties relating to the subject matter hereof and all previous agreements or arrangements between the parties, written or oral, relating to the subject matter hereof are superseded.

3.7. Waiver. No failure on the part of either party hereto to exercise any power, right, privilege or remedy under this Agreement, and no delay on the part of either party hereto in exercising any power, right, privilege or remedy under this Agreement, shall operate as a waiver thereof; and no single or partial exercise of any such power, right, privilege or remedy shall preclude any other or further exercise thereof or of any other power, right, privilege or remedy.

3.8. Severability. If any part of this Agreement is declared invalid or unenforceable by any court of competent jurisdiction, such declaration shall not affect the remainder of the Agreement and the invalidated provision shall be revised in a manner that shall render such provision valid while preserving the parties’ original intent to the maximum extent possible.

3.9. Titles and Subtitles. The titles and subtitles used in this Agreement are used for convenience only and are not to be considered in construing or interpreting this Agreement. All references in this Agreement to sections, paragraphs and exhibits shall, unless otherwise provided, refer to sections and paragraphs hereof and exhibits attached hereto. References to any section in the Investors’ Rights Agreement shall be deemed to refer to the equivalent section in the event of any amendment thereto.

3.10. Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be enforceable against the parties that execute such counterparts (including by facsimile or other electronic means), and all of which together shall constitute one instrument.

3.11. Term and Termination. The Investors’ rights to demand the registration of the Registrable Securities under this Agreement, as well as the Company’s obligations under Section 2.1 hereof, shall terminate automatically once all Registrable Securities cease to be Registrable Securities pursuant to the terms of Section 2.10 of this Agreement.

[Remainder of Page Intentionally Left Blank; Signature Page Follows]

IN WITNESS WHEREOF, the parties hereto have executed this Registration Rights Agreement effective as of the day, month and year first above written.

COMPANY:

TSCAN THERAPEUTICS, INC.

By: /s/ David Southwell

Name: David Southwell

Title: Chief Executive Officer

[Signature Page to Registration Rights Agreement]

IN WITNESS WHEREOF, the parties hereto have executed this Registration Rights Agreement effective as of the day, month and year first above written.

INVESTORS:

667, L.P.

By: BAKER BROS. ADVISORS LP, management company and investment adviser to 667, L.P., pursuant to authority granted to it by Baker Biotech Capital, L.P., general partner to 667, L.P., and not as the general partner

By: /s/ Scott L. Lessing

Scott L. Lessing
President

BAKER BROTHERS LIFE SCIENCES, L.P.

By: BAKER BROS. ADVISORS LP, management company and investment adviser to BAKER BROTHERS LIFE SCIENCES, L.P., pursuant to authority granted to it by Baker Brothers Life Sciences Capital, L.P., general partner to BAKER BROTHERS LIFE SCIENCES, L.P., and not as the general partner

By: /s/ Scott L. Lessing

Scott L. Lessing
President

[Signature Page to Registration Rights Agreement]

Schedule A

The Investors

667, L.P.
BAKER BROTHERS LIFE SCIENCES, L.P.

To the above Investors:
Baker Brothers Investments
860 Washington Street
New York, NY 10014
Attn: Scott Lessing
Email: slessing@BBInvestments.com

With a copy (which shall not constitute notice) to:

Wilmer Cutler Pickering Hale and Dorr LLP
60 State Street
Boston, MA 02109
Attention: Jason Kropp
Email: Jason.Kropp@wilmerhale.com

AMENDED AND RESTATED NOMINATING AGREEMENT

THIS AMENDED AND RESTATED NOMINATING AGREEMENT (this “**Agreement**”), dated as of April 22, 2021, by and among TScan Therapeutics, Inc., a Delaware corporation (the “**Company**”), Baker Brothers Life Sciences, L.P. (“**BBLS**”) and 667, L.P. (“**667**” and together with BBLS, the “**Investor**”).

WHEREAS, the Company and the Investor are parties to that certain Nominating Agreement dated January 15, 2021 (the “**Original Agreement**”);

WHEREAS, the Company and the Investor desire to amend and restate the Original Agreement pursuant to the terms and subject to the conditions set forth herein.

NOW, THEREFORE, for good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the parties hereto, intending to be legally bound, hereby agree that the Original Agreement shall be amended and restated by this Agreement, which shall supersede and replace the Original Agreement, and further agree as follows:

1. **Definitions.** As used in this Agreement, the following terms shall have the following respective meanings:

- (a) “**Affiliate**” has the meaning given to that term in Rule 12b-2 under the Securities Exchange Act of 1934, as amended.
- (b) “**Board of Directors**” means the Board of Directors of the Company.
- (c) “**Bylaws**” means the Bylaws of the Company, as may be amended, restated or otherwise modified from time to time.
- (d) “**Common Stock**” means shares of the Company’s Common Stock, par value \$0.0001 per share.
- (e) “**IPO**” means the Company’s first underwritten public offering of its Common Stock under the Securities Act of 1933, as amended.
- (f) “**Purchase Agreement**” means that certain Series C Preferred Stock Purchase Agreement, dated January 15, 2021, by and among the Company, the Investor and the other parties thereto.
- (g) “**Required Shares**” means at least 75% of the shares of the Series C Preferred purchased by the Investor pursuant to the Purchase Agreement, or such number of shares of Common Stock (whether voting or non-voting) issued upon conversion of such number of shares of Series C Preferred (in either case, as adjusted for any stock split, stock dividend, combination, or other recapitalization or reclassification or similar transaction).
- (h) “**Series C Preferred**” means shares of the Company’s Series C Preferred Stock, par value \$0.0001 per share.

2. Board Representation.

(a) Subject at all times to Sections 2(b) and 3(n) below, during the period beginning immediately following the closing of the IPO and for three (3) years thereafter, at any time at which the Investor and its Affiliates, collectively, beneficially own (i) the Required Shares and (ii) at least 2% of the Company's then-outstanding voting Common Stock, the Company shall support the nomination of, and cause the Board of Directors (or the nominating committee thereof), subject to the requirements of fiduciary duties under applicable law, to include in the slate of nominees recommended to the Company's stockholders for election as directors of the Company at each annual or special meeting of the Company's stockholders at which directors are to be elected (an "**Election Meeting**"), one (1) person designated at any time and from time to time by the Investor (the "**Investor Designee**"); provided that, the Company shall have no obligation to support the nomination of or cause the Board of Directors to include in the slate of nominees recommended to the Company's stockholders for election as directors of the Company an Investor Designee if the Investor already has at least one Investor Designee serving as a director on the Board of Directors at the time of the Election Meeting and the term of such Investor Designee as a director on the Board of Directors does not expire at such Election Meeting. In the event that the Investor Designee resigns from his or her seat on the Board of Directors or is removed or otherwise fails to become or ceases to be a director for any reason, the Company shall cause the vacancy to be filled by the election or appointment of another Investor Designee nominated by the Investor as soon as reasonably practicable in compliance with applicable laws, rules and regulations, subject to the requirements of fiduciary duties. Investor will provide the Company, in writing, the information about the Investor Designee that is reasonably required by applicable law for inclusion in the Company's proxy materials for meetings of stockholders promptly after the Company requests such information from the Investor, and will cause the Investor Designee to submit on a timely basis to the Company a completed and executed questionnaire in the form that the Company provides to its outside directors generally.

(b) Notwithstanding the provisions of Section 2(a), the Investor shall not be entitled to designate any individual as a nominee to the Board of Directors if a majority of the disinterested members of the Board of Directors reasonably and in good faith determines, after consultation with the Company's outside legal counsel and upon written advice of such counsel, that such person would not be qualified to serve as a director of the Company under any applicable law (including requirements of fiduciary duties under applicable law), rule or regulation, rule of the stock exchange on which the Company's shares are listed, the Bylaws or any policy, or guidelines previously approved by the Board of Directors, provided that a direct or indirect purpose of any such policy or guideline is not to obstruct the Investor's right to designate an individual as a nominee to the Board of Directors or its rights under this Agreement. The Company shall notify the Investor of any objection to an Investor Designee pursuant to this Section 2(b) sufficiently in advance of the date on which the proxy materials related to any such designee are to be mailed by the Company in connection with such election of directors, and in no event less than the first business day after such determination by the Board of Directors, so as to enable the Investor to propose a replacement Investor Designee in accordance with the terms of this Agreement.

(c) Subject at all times to Section 3(n) below and the other limitations set forth in this Section 2(c), during the period beginning at the closing of the IPO until such time as the

Investor and its Affiliates, collectively, no longer beneficially own the Required Shares, the Company shall invite a designee of the Investor (the “**Observer**”) to attend all meetings of the Board of Directors and each committee thereof in a nonvoting observer capacity. In this respect, the Company shall give the Observer copies of all notices, minutes, consents, and other materials that it provides to its directors at substantially the same time and in the same manner as provided to such directors; *provided, however*, that such Observer shall agree to hold in confidence all information so provided; and *provided, further*, that the Company reserves the right to withhold any information and to exclude the Observer from any meeting or portion thereof that the (A) Board of Directors determines based upon the advice of outside counsel that (i) access to such information or attendance at such meeting is reasonably likely to adversely affect the attorney-client privilege between the Company and its counsel or (ii) access to such information or attendance at such meeting is reasonably likely to result in a conflict of interest or (B) to protect trade secrets (unless covered by an enforceable confidentiality agreement, in a form reasonably acceptable to the Company), or a conflict of interest, of if the Investor or Observer is a competitor of the Company. With respect to the Observer, the Company’s obligations under this Section 2(c) are contingent upon such Observer’s (x) entering into a confidentiality agreement with the Company in a form that is reasonably acceptable to the Company and the Investor and (y) agreeing to be bound by the Company’s insider trading and window policies then in effect and applicable to members of the Board of Directors. Additionally, the rights set forth in this Section 2(c) may only be exercised by the Investor at such time or times when no Investor Designee is on the Board of Directors.

3. Miscellaneous.

(a) Governing Law. This Agreement shall be governed by and construed in accordance with the internal laws of the State of Delaware, without giving effect to its principles of conflicts of laws.

(b) Certain Adjustments. Subject to Section 3(n) below, the provisions of this Agreement shall apply to the full extent set forth herein with respect to any and all shares of capital stock of the Company or any successor or assign of the Company (whether by merger, consolidation, sale of assets or otherwise) that may be issued in respect of, in exchange for, or in substitution for the shares of Common Stock, by combination, recapitalization, reclassification, merger, consolidation or otherwise and the term “**Common Stock**” shall include all such other securities. In the event of any change in the capitalization of the Company, as a result of any stock split, stock dividend or stock combination or otherwise, the provisions of this Agreement shall be appropriately adjusted.

(c) Enforcement. The parties expressly agree that the provisions of this Agreement may be specifically enforced against each of the parties hereto in any court of competent jurisdiction.

(d) Successors and Assigns. Except as otherwise provided herein, the provisions hereof shall inure to the benefit of, and be binding upon, the successors, assigns, heirs, executors, and administrators of the parties hereto.

(e) Entire Agreement. This Agreement, the Bylaws and for so long as they remain in force, the Voting Agreement (as defined in the Purchase Agreement) and that certain letter agreement, dated as of January 15, 2021, by and among the Company and the Investor, constitutes the full and entire understanding and agreement between the parties with regard to the subject matter hereof and supersedes all prior oral or written (and all contemporaneous oral) agreements or understandings with respect to the subject matter hereof.

(f) Notice. All notices required or permitted under this Agreement must be in writing and sent to the address or email address (and with such copies, which shall not constitute notice) as identified below. Notices must be given: (a) by personal delivery, with receipt acknowledged; (b) by email followed by hard copy delivered by the methods under clause (c) or (d); (c) by prepaid certified or registered mail, return receipt requested; or (d) by prepaid reputable overnight delivery service. Notices shall be effective upon receipt. Either party may change its notice address by providing the other party written notice of such change. Notices shall be delivered as follows:

If to the Investor: Baker Brothers Investments
860 Washington St., 3rd Floor
New York, NY 10014
Attention: Scott Lessing, President
Email: slessing@bbinvestments.com

with a copy (which copy shall not constitute notice) to: Wilmer Cutler Pickering Hale and Dorr LLP
60 State Street
Boston, MA 02109
Attention: Jason Kropp
Email: Jason.Kropp@wilmerhale.com

If to the Company: TScan Therapeutics, Inc.
830 Winter St.
Waltham, MA 02451
Attention: Chief Executive Officer
Email:

with a copy (which copy shall not constitute notice) to: Gunderson Dettmer Stough Villeneuve Franklin & Hachigian, LLP
One Marina Park Drive
Suite 900
Boston, MA 02210
Attention: Timothy H. Ehrlich
Email: tehrlich@gunder.com

(g) Delays or Omissions. No delay or omission to exercise any right, power or remedy accruing to the Investor hereto upon any breach or default of the Company under this Agreement, shall impair any such right, power or remedy of the Investor nor shall it be construed to be a waiver of any such breach or default, or an acquiescence therein, or of or in any similar breach or default thereunder occurring; nor shall any waiver of any single breach or default be deemed a waiver of any other breach or default therefore or thereafter occurring. Any waiver, permit, consent or approval of any kind or character on the part of the Investor of any breach or default of the Company under this Agreement, or any waiver on the part of any party of any provisions or conditions of this Agreement, in each case, must be in writing and shall be effective only to the extent specifically set forth in such writing. All remedies, either under this Agreement, or by law or otherwise afforded to any party, shall be cumulative and not alternative.

(h) Counterparts. This Agreement may be executed in any number of counterparts (including by facsimile or other electronic means), each of which may be executed by less than all of the parties hereto, each of which shall be enforceable against the parties actually executing such counterparts, and all of which together shall constitute one instrument.

(i) Severability. If any provision of this Agreement shall be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby.

(j) Amendments and Waivers. The provisions of this Agreement may be amended at any time and from time to time, and particular provisions of this Agreement may be waived or modified, with and only with an agreement or consent in writing signed by the Company and the Investor.

(k) Jurisdiction. The parties hereto irrevocably submit, in any legal action or proceeding relating to this Agreement, to the jurisdiction of the courts of the United States located in the State of Delaware or in any Delaware state court and consent that any such action or proceeding may be brought in such courts and waive any objection that they may now or hereafter have to the venue of such action or proceeding in any such court or that such action or proceeding was brought in an inconvenient forum.

(l) Further Assurances. The parties agree to use their best efforts and act in good faith in carrying out their obligations under this Agreement. The parties also agree, without further consideration, to execute such further instruments and to take such further actions as may be necessary or desirable to carry out the purposes and intent of this Agreement.

(m) Enforcement. The parties expressly agree that the provisions of this Agreement may be specifically enforced against each of the parties hereto in any court of competent jurisdiction.

(n) Termination. This Agreement shall automatically terminate upon the earliest of (i) such time as the Investor and its Affiliates, collectively, no longer beneficially own the Required Shares, (ii) the third (3rd) anniversary of the closing of the IPO, and (iii) the consummation of a Deemed Liquidation Event (as defined in the Company's Amended and Restated Certificate of Incorporation as in effect on the date hereof).

IN WITNESS WHEREOF, each of the parties hereto has executed this Amended and Restated Nominating Agreement as of the date first above written.

COMPANY:

TSCAN THERAPEUTICS, INC.

By: /s/ David Southwell

Name: David Southwell

Title: Chief Executive Officer

INVESTOR:

667, L.P.

BY: BAKER BROS. ADVISORS LP, management company and investment adviser to **667, L.P.**, pursuant to authority granted to it by Baker Biotech Capital, L.P., general partner to 667, L.P., and not as the general partner.

By: /s/ Scott Lessing

Name: Scott Lessing

Title: President

BAKER BROTHERS LIFE SCIENCES, L.P.

By: BAKER BROS. ADVISORS LP, management company and investment adviser to **Baker Brothers Life Sciences, L.P.**, pursuant to authority granted to it by Baker Brothers Life Sciences Capital, L.P., general partner to Baker Brothers Life Sciences, L.P., and not as the general partner.

By: /s/ Scott Lessing

Name: Scott Lessing

Title: President

[SIGNATURE PAGE TO TSCAN THERAPEUTICS AMENDED AND RESTATED NOMINATING AGREEMENT]

INDEMNIFICATION AGREEMENT

THIS INDEMNIFICATION AGREEMENT (the “*Agreement*”) is made and entered into as of [●], 2021, between TScan Therapeutics, Inc., a Delaware corporation (the “*Company*”), and [●] (“*Indemnitee*”).

WITNESSETH THAT:

WHEREAS, highly competent persons have become more reluctant to serve corporations as directors and officers or in other capacities unless they are provided with adequate protection through insurance or adequate indemnification against inordinate risks of claims and actions against them arising out of their service to and activities on behalf of the corporation;

WHEREAS, the Board of Directors of the Company (the “*Board*”) has determined that, in order to attract and retain qualified individuals, the Company will attempt to maintain on an ongoing basis, at its sole expense, liability insurance to protect persons serving the Company and its subsidiaries from certain liabilities. Although the furnishing of such insurance has been a customary and widespread practice among United States-based corporations and other business enterprises, the Company believes that, given current market conditions and trends, such insurance may be available to it in the future only at higher premiums and with more exclusions. At the same time, directors, officers, and other persons in service to corporations or business enterprises are being increasingly subjected to expensive and time-consuming litigation relating to, among other things, matters that traditionally would have been brought only against the Company or business enterprise itself. The Bylaws, as amended, (the “*Bylaws*”) and the Amended and Restated Certificate of Incorporation (as amended, the “*Restated Certificate*”) of the Company require indemnification of the officers and directors of the Company. Indemnitee may also be entitled to indemnification pursuant to the General Corporation Law of the State of Delaware (“*DGCL*”). The Bylaws, Restated Certificate and the DGCL expressly provide that the indemnification provisions set forth therein are not exclusive, and thereby contemplate that contracts may be entered into between the Company and members of the Board, officers and other persons with respect to indemnification;

WHEREAS, the uncertainties relating to such insurance and to indemnification have increased the difficulty of attracting and retaining such persons;

WHEREAS, the Board has determined that the increased difficulty in attracting and retaining such persons is detrimental to the best interests of the Company’s stockholders and that the Company should act to assure such persons that there will be increased certainty of such protection in the future;

WHEREAS, it is reasonable, prudent and necessary for the Company contractually to obligate itself to indemnify, and to advance expenses on behalf of, such persons to the fullest extent permitted by applicable law so that they will serve or continue to serve the Company free from undue concern that they will not be so indemnified;

WHEREAS, this Agreement is a supplement to and in furtherance of the Bylaws and Restated Certificate and any resolutions adopted pursuant thereto, and shall not be deemed a substitute therefor, nor to diminish or abrogate any rights of Indemnitee thereunder;

WHEREAS, Indemnitee does not regard the protection available under the Bylaws and Restated Certificate and insurance as adequate in the present circumstances, and may not be willing to serve as an officer and/or director without adequate protection, and the Company desires Indemnitee to serve in such capacity. Indemnitee is willing to serve, continue to serve and to take on additional service for or on behalf of the Company on the condition that he be so indemnified[.]/[;]

[WHEREAS, Indemnitee is or may become a representative of or affiliated with a venture capital fund (together with any affiliated venture capital funds and the general partners, managing members or other control persons and/or any affiliated management companies, the “**VC Funds**”, and each, individually, a “**VC Fund**”), and has certain rights to indemnification and/or insurance provided by the VC Funds, which Indemnitee and the VC Fund intend to be secondary to the primary obligation of the Company to indemnify Indemnitee as provided herein, with the Company’s acknowledgement and agreement to the foregoing being a material condition to Indemnitee’s willingness to serve on the Board.]

NOW, THEREFORE, in consideration of Indemnitee’s agreement to serve as an officer and/or director from and after the date hereof, the parties hereto agree as follows:

1. **Indemnity of Indemnitee**. The Company hereby agrees to hold harmless and indemnify Indemnitee to the fullest extent permitted by law, as such may be amended from time to time. In furtherance of the foregoing indemnification, and without limiting the generality thereof:

(a) **Proceedings Other Than Proceedings by or in the Right of the Company**. Indemnitee shall be entitled to the rights of indemnification provided in this **Section 1(a)** if, by reason of such person’s Corporate Status (as hereinafter defined), the Indemnitee is, or is threatened to be made, a party to or participant in any Proceeding (as hereinafter defined) other than a Proceeding by or in the right of the Company. Pursuant to this **Section 1(a)**, Indemnitee shall be indemnified against all Expenses (as hereinafter defined), judgments, penalties, fines and amounts paid in settlement actually and reasonably incurred by such person, or on such person’s behalf, in connection with such Proceeding or any claim, issue or matter therein, if the Indemnitee acted in good faith and in a manner the Indemnitee reasonably believed to be in or not opposed to the best interests of the Company, and with respect to any criminal Proceeding, had no reasonable cause to believe the Indemnitee’s conduct was unlawful.

(b) **Proceedings by or in the Right of the Company**. Indemnitee shall be entitled to the rights of indemnification provided in this **Section 1(b)** if, by reason of such person’s Corporate Status, the Indemnitee is, or is threatened to be made, a party to or participant in any Proceeding brought by or in the right of the Company. Pursuant to this **Section 1(b)**, Indemnitee shall be indemnified against all Expenses actually and reasonably incurred by the Indemnitee, or on the Indemnitee’s behalf, in connection with such Proceeding if the Indemnitee acted in good faith and in a manner the Indemnitee reasonably believed to be in or not opposed

to the best interests of the Company; *provided, however*, if applicable law so provides, no indemnification against such Expenses shall be made in respect of any claim, issue or matter in such Proceeding as to which Indemnitee shall have been adjudged to be liable to the Company unless and to the extent that the Court of Chancery of the State of Delaware shall determine that such indemnification may be made.

(c) Indemnification for Expenses of a Party Who is Wholly or Partly Successful. Notwithstanding any other provision of this Agreement, to the extent that Indemnitee is, by reason of such person's Corporate Status, a party to (or participant in) and is successful, on the merits or otherwise, in any Proceeding, such person shall be indemnified to the maximum extent permitted by law, as such may be amended from time to time, against all Expenses actually and reasonably incurred by such person or on such person's behalf in connection therewith. If Indemnitee is not wholly successful in such Proceeding but is successful, on the merits or otherwise, as to one or more but less than all claims, issues or matters in such Proceeding, the Company shall indemnify Indemnitee against all Expenses actually and reasonably incurred by such person or on such person's behalf in connection with each successfully resolved claim, issue or matter. For purposes of this Section 1 and without limitation, the termination of any claim, issue or matter in such a Proceeding by dismissal, with or without prejudice, shall be deemed to be a successful result as to such claim, issue or matter.

(d) [Indemnification of VC Fund. If (i) any VC Fund is, or is threatened to be made, a party to or a participant in any Proceeding, and (ii) such VC Fund's involvement in the proceeding is related to Indemnitee's Corporate Status, then, to the extent resulting from any claim based on the Indemnitee's Corporate Status, such VC Fund will be entitled to indemnification hereunder for Expenses to the same extent as Indemnitee.]

(e) Partial Indemnification. If Indemnitee is entitled under any provision of this Agreement to indemnification by the Company for some or a portion of Expenses, but not, however, for the total amount thereof, the Company shall nevertheless indemnify Indemnitee for the portion thereof to which Indemnitee is entitled.

2. Additional Indemnity.

(a) Indemnification of Indemnitee. In addition to, and without regard to any limitations on, the indemnification provided for in Section 1 of this Agreement, the Company shall and hereby does indemnify and hold harmless Indemnitee against all Expenses, judgments, penalties, fines and amounts paid in settlement actually and reasonably incurred by such person or on such person's behalf if, by reason of such person's Corporate Status, such person is, or is threatened to be made, a party to or participant in any Proceeding (including a Proceeding by or in the right of the Company), including, without limitation, all liability arising out of the negligence or active or passive wrongdoing of Indemnitee. The only limitation that shall exist upon the Company's obligations pursuant to this Agreement shall be that the Company shall not be obligated to make any payment to Indemnitee that is finally determined (under the procedures, and subject to the presumptions, set forth in Sections 6 and 7 hereof) to be unlawful.

3. Contribution.

(a) Whether or not the indemnification provided in Sections 1 and 2 hereof is available, in respect of any threatened, pending or completed action, suit or proceeding in which the Company is jointly liable with Indemnitee (or would be if joined in such action, suit or proceeding), the Company shall pay, in the first instance, the entire amount of any judgment or settlement of such action, suit or proceeding without requiring Indemnitee to contribute to such payment and the Company hereby waives and relinquishes any right of contribution it may have against Indemnitee. The Company shall not enter into any settlement of any action, suit or proceeding in which the Company is jointly liable with Indemnitee (or would be if joined in such action, suit or proceeding) unless such settlement provides for a full and final release of all claims asserted against Indemnitee.

(b) Without diminishing or impairing the obligations of the Company set forth in the preceding subparagraph, if, for any reason, Indemnitee shall elect or be required to pay all or any portion of any judgment or settlement in any threatened, pending or completed action, suit or proceeding in which the Company is jointly liable with Indemnitee (or would be if joined in such action, suit or proceeding), the Company shall contribute to the amount of Expenses, judgments, fines and amounts paid in settlement actually and reasonably incurred and paid or payable by Indemnitee in proportion to the relative benefits received by the Company and all officers, directors or employees of the Company, other than Indemnitee, who are jointly liable with Indemnitee (or would be if joined in such action, suit or proceeding), on the one hand, and Indemnitee, on the other hand, from the transaction or events from which such action, suit or proceeding arose; provided, however, that the proportion determined on the basis of relative benefit may, to the extent necessary to conform to law, be further adjusted by reference to the relative fault of the Company and all officers, directors or employees of the Company other than Indemnitee who are jointly liable with Indemnitee (or would be if joined in such action, suit or proceeding), on the one hand, and Indemnitee, on the other hand, in connection with the transaction or events that resulted in such Expenses, judgments, fines or settlement amounts, as well as any other equitable considerations which applicable law may require to be considered. The relative fault of the Company and all officers, directors or employees of the Company, other than Indemnitee, who are jointly liable with Indemnitee (or would be if joined in such action, suit or proceeding), on the one hand, and Indemnitee, on the other hand, shall be determined by reference to, among other things, the degree to which their actions were motivated by intent to gain personal profit or advantage, the degree to which their liability is primary or secondary and the degree to which their conduct is active or passive.

(c) The Company hereby agrees to fully indemnify and hold Indemnitee harmless from any claims of contribution which may be brought by officers, directors or employees of the Company, other than Indemnitee, who may be jointly liable with Indemnitee.

(d) To the fullest extent permissible under applicable law and without diminishing or impairing the obligations of the Company set forth in the preceding subparagraphs of this Section 3, if the indemnification provided for in this Agreement is unavailable to Indemnitee for any reason whatsoever, the Company, in lieu of indemnifying Indemnitee, shall contribute to the amount incurred by Indemnitee, whether for judgments, fines, penalties, excise taxes, amounts paid or to be paid in settlement and/or for Expenses, in

connection with any claim relating to an indemnifiable event under this Agreement, in such proportion as is deemed fair and reasonable in light of all of the circumstances of such Proceeding in order to reflect (i) the relative benefits received by the Company and Indemnitee as a result of the event(s) and/or transaction(s) giving cause to such Proceeding; and/or (ii) the relative fault of the Company (and its directors, officers, employees and agents) and Indemnitee in connection with such event(s) and/or transaction(s).

4. Indemnification for Expenses of a Witness. Notwithstanding any other provision of this Agreement, to the extent that Indemnitee is, by reason of such person's Corporate Status, a witness, or is made (or asked to) respond to discovery requests, in any Proceeding to which Indemnitee is not a party, such person shall be indemnified against all Expenses actually and reasonably incurred by such person or on such person's behalf in connection therewith.

5. Advancement of Expenses. Notwithstanding any other provision of this Agreement, the Company shall advance all Expenses incurred by or on behalf of Indemnitee in connection with any Proceeding by reason of Indemnitee's Corporate Status within thirty (30) days after the receipt by the Company of a statement or statements from Indemnitee requesting such advance or advances from time to time, whether prior to or after final disposition of such Proceeding. Such statement or statements shall reasonably evidence the Expenses incurred by Indemnitee and shall include or be preceded or accompanied by a written undertaking by or on behalf of Indemnitee to repay any Expenses advanced if it shall ultimately be determined that Indemnitee is not entitled to be indemnified against such Expenses. Any advances and undertakings to repay pursuant to this Section 5 shall be unsecured and interest free and not conditioned on Indemnitee's ability to repay such advances.

6. Procedures and Presumptions for Determination of Entitlement to Indemnification. It is the intent of this Agreement to secure for Indemnitee rights of indemnity that are as favorable as may be permitted under the DGCL and public policy of the State of Delaware. Accordingly, the parties agree that the following procedures and presumptions shall apply in the event of any question as to whether Indemnitee is entitled to indemnification under this Agreement:

(a) To obtain indemnification under this Agreement, Indemnitee shall submit to the Company a written request, including therein or therewith such documentation and information as is reasonably available to Indemnitee and is reasonably necessary to determine whether and to what extent Indemnitee is entitled to indemnification. The Secretary of the Company shall, promptly upon receipt of such a request for indemnification, inform the Board in writing that Indemnitee has requested indemnification. Notwithstanding the foregoing, any failure of Indemnitee to provide such a request to the Company, or to provide such a request in a timely fashion, shall not relieve the Company of any liability that it may have to Indemnitee unless, and to the extent that, such failure actually and materially prejudices the interests of the Company.

(b) Upon written request by Indemnitee for indemnification pursuant to the first sentence of Section 6(a) hereof, a determination with respect to Indemnitee's entitlement thereto shall be made in the specific case by one of the following four methods, which shall be at the election of the Board: (1) by a majority vote of the Disinterested Directors (as hereinafter

defined), even though less than a quorum, (2) by a committee of Disinterested Directors designated by a majority vote of the Disinterested Directors, even though less than a quorum, (3) if there are no Disinterested Directors or if the Disinterested Directors so direct, by Independent Counsel (as hereinafter defined) in a written opinion to the Board, a copy of which shall be delivered to the Indemnitee, or (4) if so directed by the Board, by the stockholders of the Company. Notwithstanding the foregoing, at the written request of Indemnitee following a Change in Control (as hereinafter defined), the determination shall be made by Independent Counsel in a written opinion.

(c) If the determination of entitlement to indemnification is to be made by Independent Counsel pursuant to Section 6(b) hereof, the Independent Counsel shall be selected as provided in this Section 6(c). The Independent Counsel shall be selected by the Board, provided that Independent Counsel will be selected by Indemnitee following a Change in Control of the Company. Indemnitee (or the Company, after a Change in Control) may, within ten (10) days after such written notice of selection shall have been given, deliver to the Company (or the Indemnitee, following a Change in Control) a written objection to such selection; provided, however, that such objection may be asserted only on the ground that the Independent Counsel so selected does not meet the requirements of "**Independent Counsel**" as defined in Section 13 of this Agreement, and the objection shall set forth with particularity the factual basis of such assertion. Absent a proper and timely objection, the person so selected shall act as Independent Counsel. If a written objection is made and substantiated, the Independent Counsel selected may not serve as Independent Counsel unless and until such objection is withdrawn or a court has determined that such objection is without merit. If, within twenty (20) days after submission by Indemnitee of a written request for indemnification pursuant to Section 6(a) hereof, no Independent Counsel shall have been selected and not objected to, either the Company or Indemnitee may petition the Court of Chancery of the State of Delaware or other court of competent jurisdiction for resolution of any objection which shall have been made by the Indemnitee to the Company's selection of Independent Counsel and/or for the appointment as Independent Counsel of a person selected by the court or by such other person as the court shall designate, and the person with respect to whom all objections are so resolved or the person so appointed shall act as Independent Counsel under Section 6(b) hereof. The Company shall pay any and all reasonable fees and Expenses of Independent Counsel incurred by such Independent Counsel in connection with acting pursuant to Section 6(b) hereof, and the Company shall pay all reasonable fees and Expenses incident to the procedures of this Section 6(c), regardless of the manner in which such Independent Counsel was selected or appointed.

(d) In making a determination with respect to entitlement to indemnification hereunder, the person or persons or entity making such determination shall presume that Indemnitee is entitled to indemnification under this Agreement. Anyone seeking to overcome this presumption shall have the burden of proof and the burden of persuasion by clear and convincing evidence. Neither the failure of the Company (including by its directors or Independent Counsel) to have made a determination prior to the commencement of any action pursuant to this Agreement that indemnification is proper in the circumstances because Indemnitee has met the applicable standard of conduct, nor an actual determination by the Company (including by its directors or Independent Counsel) that Indemnitee has not met such applicable standard of conduct, shall be a defense to the action or create a presumption that Indemnitee has not met the applicable standard of conduct.

(e) Indemnitee shall be deemed to have acted in good faith if Indemnitee's action is based on the records or books of account of the Enterprise (as hereinafter defined), including financial statements, or on information supplied to Indemnitee by the officers of the Enterprise in the course of their duties, or on the advice of legal counsel for the Enterprise or on information or records given or reports made to the Enterprise by an independent certified public accountant or by an appraiser or other expert selected with reasonable care by the Enterprise. In addition, the knowledge and/or actions, or failure to act, of any director, officer, agent or employee of the Enterprise shall not be imputed to Indemnitee for purposes of determining the right to indemnification under this Agreement. Whether or not the foregoing provisions of this Section 6(e) are satisfied, it shall in any event be presumed that Indemnitee has at all times acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of the Company. Anyone seeking to overcome this presumption shall have the burden of proof and the burden of persuasion by clear and convincing evidence.

(f) If the person, persons or entity empowered or selected under Section 6 to determine whether Indemnitee is entitled to indemnification shall not have made a determination within sixty (60) days after receipt by the Company of the request therefor, the requisite determination of entitlement to indemnification shall be deemed to have been made and Indemnitee shall be entitled to such indemnification absent (i) a misstatement by Indemnitee of a material fact, or an omission of a material fact necessary to make Indemnitee's statement not materially misleading, in connection with the request for indemnification, or (ii) a prohibition of such indemnification under applicable law; provided, however, that such 60-day period may be extended for a reasonable time, not to exceed an additional thirty (30) days, if the person, persons or entity making such determination with respect to entitlement to indemnification in good faith requires such additional time to obtain or evaluate documentation and/or information relating thereto; and provided, further, that the foregoing provisions of this Section 6(f) shall not apply if the determination of entitlement to indemnification is to be made by the stockholders pursuant to Section 6(b) of this Agreement and if (A) within fifteen (15) days after receipt by the Company of the request for such determination, the Board or the Disinterested Directors, if appropriate, resolve to submit such determination to the stockholders for their consideration at an annual meeting thereof to be held within seventy-five (75) days after such receipt and such determination is made thereat, or (B) a special meeting of stockholders is called within fifteen (15) days after such receipt for the purpose of making such determination, such meeting is held for such purpose within sixty (60) days after having been so called and such determination is made thereat.

(g) Indemnitee shall cooperate with the person, persons or entity making such determination with respect to Indemnitee's entitlement to indemnification, including providing to such person, persons or entity upon reasonable advance request any documentation or information which is not privileged or otherwise protected from disclosure and which is reasonably available to Indemnitee and reasonably necessary to such determination. Any Independent Counsel, member of the Board or stockholder of the Company shall act reasonably and in good faith in making a determination regarding the Indemnitee's entitlement to indemnification under this Agreement. Any costs or Expenses (including attorneys' fees and disbursements) incurred by Indemnitee in so cooperating with the person, persons or entity making such determination shall be borne by the Company (irrespective of the determination as to Indemnitee's entitlement to indemnification) and the Company hereby indemnifies and agrees to hold Indemnitee harmless therefrom.

(h) The Company acknowledges that a settlement or other disposition short of final judgment may be successful if it permits a party to avoid expense, delay, distraction, disruption and uncertainty. In the event that any action, claim or proceeding to which Indemnatee is a party is resolved in any manner other than by adverse judgment against Indemnatee (including, without limitation, settlement of such action, claim or proceeding with or without payment of money or other consideration) it shall be presumed that Indemnatee has been successful on the merits or otherwise in such action, suit or proceeding. Anyone seeking to overcome this presumption shall have the burden of proof and the burden of persuasion by clear and convincing evidence.

(i) The termination of any Proceeding or of any claim, issue or matter therein, by judgment, order, settlement or conviction, or upon a plea of nolo contendere or its equivalent, shall not (except as otherwise expressly provided in this Agreement) of itself adversely affect the right of Indemnatee to indemnification or create a presumption that Indemnatee did not act in good faith and in a manner which such person reasonably believed to be in or not opposed to the best interests of the Company or, with respect to any criminal Proceeding, that Indemnatee had reasonable cause to believe that such person's conduct was unlawful.

7. Remedies of Indemnatee.

(a) In the event that (i) a determination is made pursuant to Section 6 of this Agreement that Indemnatee is not entitled to indemnification under this Agreement, (ii) advancement of Expenses is not timely made pursuant to Section 5 of this Agreement, (iii) no determination of entitlement to indemnification is made pursuant to Section 6(b) of this Agreement within ninety (90) days after receipt by the Company of the request for indemnification, (iv) payment of indemnification is not made pursuant to this Agreement within ten (10) days after receipt by the Company of a written request therefor or (v) payment of indemnification is not made within ten (10) days after a determination has been made that Indemnatee is entitled to indemnification or such determination is deemed to have been made pursuant to Section 6 of this Agreement, Indemnatee shall be entitled to an adjudication in an appropriate court of the State of Delaware, or in any other court of competent jurisdiction, of Indemnatee's entitlement to such indemnification. Indemnatee shall commence such proceeding seeking an adjudication within one hundred eighty (180) days following the date on which Indemnatee first has the right to commence such proceeding pursuant to this Section 7(a). The Company shall not oppose Indemnatee's right to seek any such adjudication.

(b) In the event that a determination shall have been made pursuant to Section 6(b) of this Agreement that Indemnatee is not entitled to indemnification, any judicial proceeding commenced pursuant to this Section 7 shall be conducted in all respects as a de novo trial on the merits, and Indemnatee shall not be prejudiced by reason of the adverse determination under Section 6(b).

(c) If a determination shall have been made pursuant to Section 6(b) of this Agreement that Indemnitee is entitled to indemnification, the Company shall be bound by such determination in any judicial proceeding commenced pursuant to this Section 7, absent (i) a misstatement by Indemnitee of a material fact, or an omission of a material fact necessary to make Indemnitee's misstatement not materially misleading in connection with the application for indemnification, or (ii) a prohibition of such indemnification under applicable law.

(d) In the event that Indemnitee, pursuant to this Section 7, seeks a judicial adjudication of such person's rights under, or to recover damages for breach of, this Agreement, or to recover under any directors' and officers' liability insurance policies maintained by the Company, the Company shall pay on Indemnitee's behalf, in advance, any and all Expenses actually and reasonably incurred by such person in such judicial adjudication, regardless of whether Indemnitee ultimately is determined to be entitled to such indemnification, advancement of Expenses or insurance recovery. The Company irrevocably authorizes the Indemnitee from time to time to retain counsel of Indemnitee's choice, at the expense of the Company to the extent provided hereunder or under applicable law, to advise and represent Indemnitee in connection with any such judicial adjudication or recovery, including without limitation the initiation or defense of any litigation or other legal action, whether by or against the Company or any director, officer, stockholder or other person affiliated with the Company. Notwithstanding any existing or prior attorney-client relationship between the Company and such counsel, the Company irrevocably consents to Indemnitee's entering into an attorney-client relationship with such counsel, and in that connection the Company and Indemnitee agree that a confidential relationship shall exist between Indemnitee and such counsel.

(e) The Company shall be precluded from asserting in any judicial proceeding commenced pursuant to this Section 7 that the procedures and presumptions of this Agreement are not valid, binding and enforceable and shall stipulate in any such court that the Company is bound by all the provisions of this Agreement. The Company shall indemnify Indemnitee against any and all Expenses and, if requested by Indemnitee, shall (within ten (10) days after receipt by the Company of a written request therefore) advance, to the extent not prohibited by law, such Expenses to Indemnitee, which are incurred by Indemnitee in connection with any action brought by Indemnitee for indemnification or advance of Expenses from the Company under this Agreement or under any directors' or officers' liability insurance policies maintained by the Company, regardless of whether Indemnitee ultimately is determined to be entitled to such indemnification, advancement of Expenses or insurance recovery, as the case may be.

(f) Notwithstanding anything in this Agreement to the contrary, no determination as to entitlement to indemnification under this Agreement shall be required to be made prior to the final disposition of the Proceeding.

8. Non-Exclusivity; Survival of Rights; Insurance; Primacy of Indemnification; Subrogation.

(a) The rights of indemnification as provided by this Agreement shall not be deemed exclusive of any other rights to which Indemnitee may at any time be entitled under applicable law, the Restated Certificate, the Bylaws, any agreement, a vote of stockholders, a resolution of directors or otherwise, of the Company. No amendment, alteration or repeal of this Agreement or of any provision hereof shall limit or restrict any right of Indemnitee under this Agreement in respect of any action taken or omitted by such Indemnitee in such person's

Corporate Status prior to such amendment, alteration or repeal. To the extent that a change in the DGCL, whether by statute or judicial decision, permits greater indemnification than would be afforded currently under the Restated Certificate, Bylaws and this Agreement, it is the intent of the parties hereto that Indemnitee shall enjoy by this Agreement the greater benefits so afforded by such change. No right or remedy herein conferred is intended to be exclusive of any other right or remedy, and every other right and remedy shall be cumulative and in addition to every other right and remedy given hereunder or now or hereafter existing at law or in equity or otherwise. The assertion or employment of any right or remedy hereunder, or otherwise, shall not prevent the concurrent assertion or employment of any other right or remedy.

(b) To the extent that the Company maintains an insurance policy or policies providing liability insurance for directors, officers, employees, or agents or fiduciaries of the Company or of any other corporation, partnership, joint venture, trust, employee benefit plan or other Enterprise that such person serves at the request of the Company, Indemnitee shall be covered by such policy or policies in accordance with its or their terms to the maximum extent of the coverage available for any director, officer, employee, agent or fiduciary under such policy or policies. If, at the time of the receipt of a notice of a claim pursuant to the terms hereof, the Company has directors' and officers' liability insurance in effect, the Company shall give prompt notice of the commencement of such proceeding to the insurers in accordance with the procedures set forth in the respective policies. The Company shall thereafter take all necessary or desirable action to cause such insurers to pay, on behalf of the Indemnitee, all amounts payable as a result of such proceeding in accordance with the terms of such policies.

(c) [The Company hereby acknowledges that Indemnitee has certain rights to indemnification, advancement of expenses and/or insurance provided by one or more VC Funds and certain of its or their affiliates (collectively, the "**Fund Indemnitors**"). The Company hereby agrees (i) that it is the indemnitor of first resort (i.e., its obligations to Indemnitee are primary and any obligation of the Fund Indemnitors to advance Expenses or to provide indemnification for the same Expenses or liabilities incurred by Indemnitee are secondary), (ii) that it shall be required to advance the full amount of expenses incurred by Indemnitee and shall be liable for the full amount of all Expenses, judgments, penalties, fines and amounts paid in settlement to the extent legally permitted and as required by the terms of this Agreement and Bylaws and Restated Certificate of the Company (or any other agreement between the Company and Indemnitee), without regard to any rights Indemnitee may have against the Fund Indemnitors, and, (iii) that it irrevocably waives, relinquishes and releases the Fund Indemnitors from any and all claims against the Fund Indemnitors for contribution, subrogation or any other recovery of any kind in respect thereof. The Company further agrees that no advancement or payment by the Fund Indemnitors on behalf of Indemnitee with respect to any claim for which Indemnitee has sought indemnification from the Company shall affect the foregoing and the Fund Indemnitors shall have a right of contribution and/or be subrogated to the extent of such advancement or payment to all of the rights of recovery of Indemnitee against the Company. The Company and Indemnitee agree that the Fund Indemnitors are express third party beneficiaries of the terms of this Section 8(c).]

(d) [Except as provided in paragraph (c) above, i]//[I]n the event of any payment under this Agreement, the Company shall be subrogated to the extent of such payment to all of the rights of recovery of Indemnitee [(other than against the Fund Indemnitors)], who shall execute all papers required and take all action necessary to secure such rights, including execution of such documents as are necessary to enable the Company to bring suit to enforce such rights.

(e) [Except as provided in paragraph (c) above, t]/[T]he Company shall not be liable under this Agreement to make any payment of amounts otherwise indemnifiable hereunder if and to the extent that Indemnitee has otherwise actually received such payment under any insurance policy, contract, agreement or otherwise.

(f) [Except as provided in paragraph (c) above, t]/[T]he Company's obligation to indemnify or advance Expenses hereunder to Indemnitee who is or was serving at the request of the Company as a director, officer, employee or agent of any other corporation, partnership, joint venture, trust, employee benefit plan or other Enterprise shall be reduced by any amount Indemnitee has actually received as indemnification or advancement of Expenses from such other corporation, partnership, joint venture, trust, employee benefit plan or other Enterprise.

9. Exception to Right of Indemnification. Notwithstanding any provision in this Agreement, the Company shall not be obligated under this Agreement to make any indemnity in connection with any claim made against Indemnitee:

(a) for which payment has actually been made to or on behalf of Indemnitee under any insurance policy or other indemnity provision, except with respect to any excess beyond the amount paid under any insurance policy or other indemnity provision[, provided, that the foregoing shall not affect the rights of Indemnitee or the Fund Indemnitors set forth in Section 8(c) above]; or

(b) for an accounting of profits made from the purchase and sale (or sale and purchase) by Indemnitee of securities of the Company within the meaning of Section 16(b) of the Securities Exchange Act of 1934, as amended, or similar provisions of state statutory law or common law; or

(c) in connection with any Proceeding (or any part of any Proceeding) initiated by Indemnitee, including any Proceeding (or any part of any Proceeding) initiated by Indemnitee against the Company or its directors, officers, employees or other indemnitees, unless (i) the Board authorized the Proceeding (or any part of any Proceeding) prior to its initiation, (ii) the Proceeding is initiated by Indemnitee pursuant to Indemnitee's rights under Section 7 of this Agreement, or (iii) the Company provides the indemnification, in its sole discretion, pursuant to the powers vested in the Company under applicable law.

10. Duration of Agreement. All agreements and obligations of the Company contained herein shall continue during the period Indemnitee is an officer or director of the Company (or is or was serving at the request of the Company as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other Enterprise) and shall continue thereafter so long as Indemnitee shall be subject to any Proceeding (or any proceeding commenced under Section 7 hereof) by reason of such person's Corporate Status, whether or not such person is acting or serving in any such capacity at the time any liability or expense is

incurred for which indemnification can be provided under this Agreement. This Agreement shall be binding upon and inure to the benefit of and be enforceable by the parties hereto and their respective successors (including any direct or indirect successor by purchase, merger, consolidation or otherwise to all or substantially all of the business or assets of the Company), assigns, spouses, heirs, executors and personal and legal representatives.

11. Security. To the extent requested by Indemnitee and approved by the Board, the Company may at any time and from time to time provide security to Indemnitee for the Company's obligations hereunder through an irrevocable bank line of credit, funded trust or other collateral. Any such security, once provided to Indemnitee, may not be revoked or released without the prior written consent of the Indemnitee.

12. Enforcement.

(a) The Company expressly confirms and agrees that it has entered into this Agreement and assumes the obligations imposed on it hereby in order to induce Indemnitee to serve as an officer or director of the Company, and the Company acknowledges that Indemnitee is relying upon this Agreement in serving as an officer or director of the Company.

(b) This Agreement constitutes the entire agreement between the parties hereto with respect to the subject matter hereof and supersedes all prior agreements and understandings, oral, written and implied, between the parties hereto with respect to the subject matter hereof.

13. Definitions. For purposes of this Agreement:

(a) "**Change in Control**" means a Liquidation Event as defined in the Restated Certificate, as such may be amended from time to time.

(b) "**Corporate Status**" describes the status of a person who is or was a director, officer, employee, agent or fiduciary of the Company or of any other corporation, partnership, joint venture, trust, employee benefit plan or other Enterprise that such person is or was serving at the express written request of the Company.

(c) "**Disinterested Director**" means a director of the Company who is not and was not a party to the Proceeding in respect of which indemnification is sought by Indemnitee.

(d) "**Enterprise**" shall mean the Company and any other corporation, partnership, joint venture, trust, employee benefit plan or other enterprise that Indemnitee is or was serving at the express written request of the Company as a director, officer, employee, agent or fiduciary.

(e) "**Expenses**" shall include all reasonable attorneys' fees, retainers, court costs, transcript costs, fees of experts, witness fees, travel expenses, duplicating costs, printing and binding costs, telephone charges, postage, delivery service fees and all other disbursements or expenses of the types customarily incurred in connection with prosecuting, defending, preparing to prosecute or defend, investigating, participating, or being or preparing to be a witness in a Proceeding, or responding to, or objecting to, a request to provide discovery in any

Proceeding. Expenses also shall include Expenses incurred in connection with any appeal resulting from any Proceeding and any federal, state, local or foreign taxes imposed on the Indemnitee as a result of the actual or deemed receipt of any payments under this Agreement, including without limitation the premium, security for, and other costs relating to any cost bond, supersede as bond, or other appeal bond or its equivalent. Expenses, however, shall not include amounts paid in settlement by Indemnitee or the amount of judgments or fines against Indemnitee.

(f) “**Independent Counsel**” means a law firm, or a member of a law firm, that is experienced in matters of corporation law and neither presently is, nor in the past five years has been, retained to represent: (i) the Company or Indemnitee in any matter material to either such party (other than with respect to matters concerning Indemnitee under this Agreement, or of other indemnitees under similar indemnification agreements), or (ii) any other party to the Proceeding giving rise to a claim for indemnification hereunder. Notwithstanding the foregoing, the term “Independent Counsel” shall not include any person who, under the applicable standards of professional conduct then prevailing, would have a conflict of interest in representing either the Company or Indemnitee in an action to determine Indemnitee’s rights under this Agreement. The Company agrees to pay the reasonable fees of the Independent Counsel referred to above and to fully indemnify such counsel against any and all Expenses, claims, liabilities and damages arising out of or relating to this Agreement or its engagement pursuant hereto.

(g) “**Proceeding**” includes any threatened, pending or completed action, suit, arbitration, alternate dispute resolution mechanism, investigation, inquiry, administrative hearing or any other actual, threatened or completed proceeding, whether brought by or in the right of the Company or otherwise and whether civil, criminal, administrative or investigative, in which Indemnitee was, is or will be involved as a party or otherwise, by reason of the fact that Indemnitee is or was an officer or director of the Company, by reason of any action taken by such person or of any inaction on such person’s part while acting as an officer or director of the Company, or by reason of the fact that he is or was serving at the request of the Company as a director, officer, employee, agent or fiduciary of another corporation, partnership, joint venture, trust or other Enterprise; in each case whether or not he is acting or serving in any such capacity at the time any liability or expense is incurred for which indemnification can be provided under this Agreement; including one pending on or before the date of this Agreement, but excluding one initiated by an Indemnitee pursuant to Section 7 of this Agreement to enforce such person’s rights under this Agreement.

14. **Severability.** The invalidity or unenforceability of any provision hereof shall in no way affect the validity or enforceability of any other provision. Without limiting the generality of the foregoing, this Agreement is intended to confer upon Indemnitee indemnification rights to the fullest extent permitted by applicable laws. In the event any provision hereof conflicts with any applicable law, such provision shall be deemed modified, consistent with the aforementioned intent, to the extent necessary to resolve such conflict.

15. **Modification and Waiver.** No supplement, modification, termination or amendment of this Agreement shall be binding unless executed in writing by both of the parties hereto. No waiver of any of the provisions of this Agreement shall be deemed or shall constitute a waiver of any other provisions hereof (whether or not similar) nor shall such waiver constitute a continuing waiver.

16. Notice By Indemnitee. Indemnitee agrees promptly to notify the Company in writing upon being served with or otherwise receiving any summons, citation, subpoena, complaint, indictment, information or other document relating to any Proceeding or matter which may be subject to indemnification covered hereunder. The failure to so notify the Company shall not relieve the Company of any obligation which it may have to Indemnitee under this Agreement or otherwise unless and only to the extent that such failure or delay materially prejudices the Company.

17. Notices. All notices and other communications given or made pursuant to this Agreement shall be in writing and shall be deemed effectively given: (a) upon personal delivery to the party to be notified, (b) when sent by confirmed electronic mail or facsimile if sent during normal business hours of the recipient, and if not so confirmed, then on the next business day, (c) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid, or (d) one (1) day after deposit with a nationally recognized overnight courier, specifying next day delivery, with written verification of receipt. All communications shall be sent:

(a) To Indemnitee at the address set forth below Indemnitee's signature hereto.

(b) To the Company at:

TScan Therapeutics, Inc.
830 Winter Street
Waltham, Massachusetts 02451
Attention: Chief Executive Officer

or to such other address as may have been furnished to Indemnitee by the Company or to the Company by Indemnitee, as the case may be.

18. Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same Agreement. This Agreement may also be executed and delivered by facsimile signature and in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

19. Headings. The headings of the paragraphs of this Agreement are inserted for convenience only and shall not be deemed to constitute part of this Agreement or to affect the construction thereof.

20. Governing Law and Consent to Jurisdiction. This Agreement and the legal relations among the parties shall be governed by, and construed and enforced in accordance with, the laws of the State of Delaware, without regard to its conflict of laws rules. The Company and Indemnitee hereby irrevocably and unconditionally (i) agree that any action or proceeding arising out of or in connection with this Agreement shall be brought only in the Chancery Court of the

State of Delaware (the "**Delaware Court**"), and not in any other state or federal court in the United States of America or any court in any other country, (ii) consent to submit to the exclusive jurisdiction of the Delaware Court for purposes of any action or proceeding arising out of or in connection with this Agreement, (iii) waive any objection to the laying of venue of any such action or proceeding in the Delaware Court, and (iv) waive, and agree not to plead or to make, any claim that any such action or proceeding brought in the Delaware Court has been brought in an improper or inconvenient forum.

(Signature Page Follows)

IN WITNESS WHEREOF, the parties hereto have executed this Indemnification Agreement on and as of the day and year first above written.

TSCAN THERAPEUTICS, INC.

By: _____
Name: David Southwell
Title: President & Chief Executive Officer

INDEMNITEE

Name: [●]
Address: _____

SIGNATURE PAGE TO THE INDEMNIFICATION AGREEMENT OF TSCAN THERAPEUTICS, INC.

T-SCAN THERAPEUTICS, INC.

2018 STOCK PLAN

ADOPTED ON APRIL 20, 2018

TABLE OF CONTENTS

	Page
SECTION 1. ESTABLISHMENT AND PURPOSE	1
SECTION 2. ADMINISTRATION	1
(a) Committees of the Board of Directors	1
(b) Authority of the Board of Directors	1
SECTION 3. ELIGIBILITY	1
(a) General Rule	1
(b) Ten-Percent Stockholders	1
SECTION 4. STOCK SUBJECT TO PLAN	2
(a) Basic Limitation	2
(b) Additional Shares	2
SECTION 5. TERMS AND CONDITIONS OF AWARDS OR SALES	2
(a) Stock Grant or Purchase Agreement	2
(b) Duration of Offers and Nontransferability of Rights	2
(c) Purchase Price	3
SECTION 6. TERMS AND CONDITIONS OF OPTIONS	3
(a) Stock Option Agreement	3
(b) Number of Shares	3
(c) Exercise Price	3
(d) Vesting and Exercisability	3
(e) Basic Term	4
(f) Termination of Service (Except by Death)	4
(g) Leaves of Absence	4
(h) Death of Optionee	4
(i) Restrictions on Transfer of Options	5
(j) No Rights as a Stockholder	5
(k) Modification, Extension and Assumption of Options	5
(l) Company's Right to Cancel Certain Options	5
SECTION 7. TERMS AND CONDITIONS OF RESTRICTED STOCK UNITS	6
(a) Restricted Stock Unit Agreement	6
(b) Payment for Restricted Stock Units	6
(c) Vesting Conditions	6
(d) Forfeiture	6
(e) Voting and Dividend Rights	6
(f) Form and Time of Settlement of Restricted Stock Units	6
(g) Death of Recipient	6
(h) Creditors' Rights	6
(i) Modification, Extension and Assumption of Restricted Stock Units	7
(j) Restrictions on Transfer of Restricted Stock Units	7

SECTION 8.	PAYMENT FOR SHARES	7
(a)	General Rule	7
(b)	Services Rendered	7
(c)	Promissory Note	7
(d)	Surrender of Stock	7
(e)	Cashless Exercise	7
(f)	Net Exercise	7
(g)	Other Forms of Payment	8
SECTION 9.	ADJUSTMENT OF SHARES	8
(a)	General	8
(b)	Corporate Transactions	8
(c)	Dissolution or Liquidation	9
(d)	Reservation of Rights	9
SECTION 10.	MISCELLANEOUS PROVISIONS	10
(a)	Securities Law Requirements	10
(b)	No Retention Rights	10
(c)	Treatment as Compensation	10
(d)	Governing Law	10
(e)	Conditions and Restrictions on Shares	10
(f)	Tax Matters	11
SECTION 11.	DURATION AND AMENDMENTS; STOCKHOLDER APPROVAL	11
(a)	Term of the Plan	11
(b)	Right to Amend or Terminate the Plan	11
(c)	Effect of Amendment or Termination	12
(d)	Stockholder Approval	12
SECTION 12.	DEFINITIONS	12

ESTABLISHMENT AND PURPOSE.

The purpose of this Plan is to attract, incentivize and retain Employees, Outside Directors and Consultants through the grant of Awards. The Plan provides for the direct award or sale of Shares, the grant of Options to purchase Shares and the grant of Restricted Stock Units to acquire Shares. Options granted under the Plan may be ISOs intended to qualify under Code Section 422 or NSOs which are not intended to so qualify.

Capitalized terms are defined in Section 12.

ADMINISTRATION.

Committees of the Board of Directors. The Plan may be administered by one or more Committees. Each Committee shall consist, as required by applicable law, of one or more members of the Board of Directors who have been appointed by the Board of Directors. Each Committee shall have such authority and be responsible for such functions as the Board of Directors has assigned to it. If no Committee has been appointed, the entire Board of Directors shall administer the Plan. Any reference to the Board of Directors in the Plan or an Award Agreement shall be construed as a reference to the Committee (if any) to whom the Board of Directors has assigned a particular function.

Authority of the Board of Directors. Subject to the provisions of the Plan, the Board of Directors shall have full authority and discretion to take any actions it deems necessary or advisable for the administration of the Plan. Notwithstanding anything to the contrary in the Plan, with respect to the terms and conditions of awards granted to Participants outside the United States, the Board of Directors may vary from the provisions of the Plan to the extent it determines it necessary and appropriate to do so; provided that it may not vary from those Plan terms requiring stockholder approval pursuant to Section 11(d) below. All decisions, interpretations and other actions of the Board of Directors shall be final and binding on all Participants and all persons deriving their rights from a Participant.

ELIGIBILITY.

General Rule. Employees, Outside Directors and Consultants shall be eligible for the grant of Awards under the Plan.¹ However, only Employees shall be eligible for the grant of ISOs.

Ten-Percent Stockholders. A person who owns more than 10% of the total combined voting power of all classes of outstanding stock of the Company, its Parent or any of its Subsidiaries shall not be eligible for the grant of an ISO unless (i) the Exercise Price is at least 110% of the Fair Market Value of a Share on the Date of Grant and (ii) such ISO by its terms is not exercisable after the expiration of five years from the Date of Grant. For purposes of this Subsection (b), in determining stock ownership, the attribution rules of Code Section 424(d) shall be applied.

¹ Note that special considerations apply if the Company proposes to grant awards to an Employee or Consultant of a Parent company.

STOCK SUBJECT TO PLAN.

Basic Limitation. Not more than 3,000,000 Shares may be issued under the Plan, subject to Subsection (b) below and Section 9(a).² All of these Shares may be issued upon the exercise of ISOs. The Company, during the term of the Plan, shall at all times reserve and keep available sufficient Shares to satisfy the requirements of the Plan. Shares offered under the Plan may be authorized but unissued Shares or treasury Shares.

Additional Shares. In the event that Shares previously issued under the Plan are forfeited to or repurchased by the Company due to failure to vest, such Shares shall be added to the number of Shares then available for issuance under the Plan. In the event that Shares that otherwise would have been issuable under the Plan are withheld by the Company in payment of the Purchase Price, Exercise Price or withholding taxes, such Shares shall remain available for issuance under the Plan. In the event that an outstanding Option, Restricted Stock Unit or other right for any reason expires or is canceled, the Shares allocable to the unexercised or unsettled portion of such Option, Restricted Stock Unit or other right shall remain available for issuance under the Plan. To the extent an Award is settled in cash, the cash settlement shall not reduce the number of Shares remaining available for issuance under the Plan. Notwithstanding the foregoing, in the case of ISOs, this Subsection (b) shall be subject to any limitations imposed under Section 422 of the Code and the treasury regulations thereunder.

TERMS AND CONDITIONS OF AWARDS OR SALES.

Stock Grant or Purchase Agreement. Each award of Shares under the Plan shall be evidenced by a Stock Grant Agreement between the Grantee and the Company. Each sale of Shares under the Plan (other than upon exercise of an Option) shall be evidenced by a Stock Purchase Agreement between the Purchaser and the Company. Such award or sale shall be subject to all applicable terms and conditions of the Plan and may be subject to any other terms and conditions which are not inconsistent with the Plan and which the Board of Directors deems appropriate for inclusion in a Stock Grant Agreement or Stock Purchase Agreement. The provisions of the various Stock Grant Agreements and Stock Purchase Agreements entered into under the Plan need not be identical.

Duration of Offers and Nontransferability of Rights. Any right to purchase Shares under the Plan (other than an Option) shall automatically expire if not exercised by the Purchaser within 30 days (or such other period as may be specified in the Award Agreement) after the grant of such right was communicated to the Purchaser by the Company. Such right is not transferable and may be exercised only by the Purchaser to whom such right was granted.

² Please refer to Exhibit A for a schedule of the initial share reserve and any subsequent increases in the reserve.

Purchase Price. The Board of Directors shall determine the Purchase Price of Shares to be offered under the Plan at its sole discretion. The Purchase Price shall be payable in a form described in Section 8.

TERMS AND CONDITIONS OF OPTIONS.

Stock Option Agreement. Each grant of an Option under the Plan shall be evidenced by a Stock Option Agreement between the Optionee and the Company. The Option shall be subject to all applicable terms and conditions of the Plan and may be subject to any other terms and conditions that are not inconsistent with the Plan and that the Board of Directors deems appropriate for inclusion in a Stock Option Agreement. The provisions of the various Stock Option Agreements entered into under the Plan need not be identical.

Number of Shares. Each Stock Option Agreement shall specify the number of Shares that are subject to the Option and shall provide for the adjustment of such number in accordance with Section 9. The Stock Option Agreement shall also specify whether the Option is an ISO or an NSO.

Exercise Price.

General. Each Stock Option Agreement shall specify the Exercise Price, which shall be payable in a form described in Section 8. Subject to the remaining provisions of this Subsection (c), the Exercise Price shall be determined by the Board of Directors in its sole discretion.

ISOs. The Exercise Price of an ISO shall not be less than 100% of the Fair Market Value of a Share on the Date of Grant, and a higher percentage may be required by Section 3(b). This Subsection (c)(ii) shall not apply to an ISO granted pursuant to an assumption of, or substitution for, another incentive stock option in a manner that complies with Code Section 424(a).

NSOs. Except as specifically set forth in this Subsection (c)(iii), the Exercise Price of an NSO shall not be less than 100% of the Fair Market Value of a Share on the Date of Grant. This Subsection (c)(iii) shall not apply to an NSO granted to a person who is not a U.S. taxpayer on the Date of Grant or to an NSO that is intended either to be exempt from Code Section 409A as a “short-term deferral” or to comply with the requirements of Code Section 409A. In addition, this Subsection (c)(iii) shall not apply to an NSO granted pursuant to an assumption of, or substitution for, another stock option in a manner that complies with Code Section 409A.

Vesting and Exercisability. Each Stock Option Agreement shall specify the date when all or any installment of the Option is to become vested and exercisable. No Option shall be exercisable unless the Optionee (i) has delivered an executed copy of the Stock Option Agreement to the Company or (ii) otherwise agrees to be bound by the terms of the Stock Option Agreement. The Board of Directors shall determine the vesting and exercisability provisions of the Stock Option Agreement at its sole discretion.

Basic Term. The Stock Option Agreement shall specify the term of the Option. The term shall not exceed 10 years from the Date of Grant, and in the case of an ISO, a shorter term may be required by Section 3(b). Subject to the preceding sentence, the Board of Directors at its sole discretion shall determine when an Option is to expire.

Termination of Service (Except by Death). If an Optionee's Service terminates for any reason other than the Optionee's death, then the Optionee's Options shall expire on the earliest of the following dates:

The expiration date determined pursuant to Subsection (e) above;

The date three months after the termination of the Optionee's Service for any reason other than Disability, or such earlier or later date as the Board of Directors may determine (but in no event earlier than 30 days after the termination of the Optionee's Service); or

The date six months after the termination of the Optionee's Service by reason of Disability, or such later date as the Board of Directors may determine.

The Optionee may exercise all or part of the Optionee's Options at any time before the expiration of such Options under the preceding sentence, but only to the extent that such Options had become exercisable before the Optionee's Service terminated (or became exercisable as a result of the termination) and the underlying Shares had vested before the Optionee's Service terminated (or vested as a result of the termination). In the event that the Optionee dies after the termination of the Optionee's Service but before the expiration of the Optionee's Options, all or part of such Options may be exercised (prior to expiration) by the executors or administrators of the Optionee's estate or by any person who has acquired such Options directly from the Optionee by beneficiary designation, bequest or inheritance, but only to the extent that such Options had become exercisable before the Optionee's Service terminated (or became exercisable as a result of the termination) and the underlying Shares had vested before the Optionee's Service terminated (or vested as a result of the termination). In no event will an Option, or the Shares underlying an Option, become vested and/or exercisable after termination of the Optionee's Service unless the Board of Directors takes affirmative action or unless expressly provided in a written agreement between the Company and the Optionee.

Leaves of Absence. For purposes of Subsection (f) above, Service shall be deemed to continue while the Optionee is on a bona fide leave of absence approved by the Company in writing.

Death of Optionee. If an Optionee dies while the Optionee is in Service, then the Optionee's Options shall expire on the earlier of the following dates:

The expiration date determined pursuant to Subsection (e) above; or

The date 12 months after the Optionee's death, or such earlier or later date as the Board of Directors may determine (but in no event earlier than six months after the Optionee's death).

All or part of the Optionee's Options may be exercised at any time before the expiration of such Options under the preceding sentence by the executors or administrators of the Optionee's estate or by any person who has acquired such Options directly from the Optionee by beneficiary designation, bequest or inheritance, but only to the extent that such Options had become exercisable before the Optionee's death (or became exercisable as a result of the death) and the underlying Shares had vested before the Optionee's death (or vested as a result of the Optionee's death). In no event will an Option, or the Shares underlying an Option, become vested and/or exercisable after the Optionee's death unless the Board of Directors takes affirmative action or unless expressly provided in a written agreement between the Company and the Optionee.

Restrictions on Transfer of Options. An Option shall be transferable by the Optionee only by (i) a beneficiary designation, (ii) a will or (iii) the laws of descent and distribution, except as provided in the next sentence. If the Board of Directors so provides, in a Stock Option Agreement or otherwise, an NSO may be transferable to the extent permitted by Rule 701 under the Securities Act. An ISO may be exercised during the lifetime of the Optionee only by the Optionee or by the Optionee's guardian or legal representative.

No Rights as a Stockholder. An Optionee, or a transferee of an Optionee, shall have no rights as a stockholder with respect to any Shares covered by the Optionee's Option until such person submits a notice of exercise, pays the Exercise Price and satisfies all applicable withholding taxes pursuant to the terms of such Option.

Modification, Extension and Assumption of Options. Within the limitations of the Plan, the Board of Directors may modify, reprice, extend or assume outstanding Options or may accept the cancellation of outstanding options (whether granted by the Company or another issuer) in return for the grant of new Options or a different type of award for the same or a different number of Shares and at the same or a different Exercise Price (if applicable). The foregoing notwithstanding, no modification of an Option shall, without the consent of the Optionee, impair the Optionee's rights or increase the Optionee's obligations under such Option; provided, however, that a modification of an Option that is otherwise favorable to the Optionee (for example, providing the Optionee with additional time to exercise the Option after termination of employment or providing for additional forms of payment) but causes the Option to lose its tax-favored status (for example, as an ISO) shall not require the consent of the Optionee.

Company's Right to Cancel Certain Options. Any other provision of the Plan or a Stock Option Agreement notwithstanding, the Company shall have the right at any time to cancel an Option that was not granted in compliance with Rule 701 under the Securities Act. Prior to canceling such Option, the Company shall give the Optionee not less than 30 days' notice in writing. If the Company elects to cancel such Option, it shall deliver to the Optionee consideration with an aggregate value equal to the excess of (i) the Fair Market Value of the Shares subject to such Option as of the time of the cancellation over (ii) the Exercise Price of such Option. The consideration may be delivered in the form of cash or cash equivalents, in the form of Shares, or a combination of both. If the consideration would be a negative amount, such Option may be cancelled without the delivery of any consideration.

TERMS AND CONDITIONS OF RESTRICTED STOCK UNITS

Restricted Stock Unit Agreement. Each grant of Restricted Stock Units under the Plan shall be evidenced by a Restricted Stock Unit Agreement between the recipient and the Company. Such Restricted Stock Units shall be subject to all applicable terms and conditions of the Plan and may be subject to any other terms and conditions that are not inconsistent with the Plan and which the Board of Directors deems appropriate for inclusion in a Restricted Stock Unit Agreement. The provisions of the various Restricted Stock Unit Agreements entered into under the Plan need not be identical.

Payment for Restricted Stock Units. No cash consideration shall be required of the recipient in connection with the grant of Restricted Stock Units.

Vesting Conditions. Each Restricted Stock Unit Agreement shall specify the vesting requirements applicable to the Restricted Stock Units subject thereto, which the Board of Directors shall determine in its sole discretion.

Forfeiture. Unless a Restricted Stock Unit Agreement provides otherwise, upon termination of the recipient's Service and upon such other times specified in the Restricted Stock Unit Agreement, any unvested Restricted Stock Units shall be forfeited to the Company.

Voting and Dividend Rights. The holders of Restricted Stock Units shall have no voting rights. Prior to settlement or forfeiture, any Restricted Stock Unit granted under the Plan may, at the discretion of the Board of Directors, carry with it a right to dividend equivalents. Such right entitles the holder to be credited with an amount equal to all cash dividends paid on one Share while the Restricted Stock Unit is outstanding. Dividend equivalents may be converted into additional Restricted Stock Units. Settlement of dividend equivalents may be made in the form of cash, in the form of Shares, or in a combination of both. Prior to distribution, any dividend equivalents that are not paid shall be subject to the same conditions and restrictions as the Restricted Stock Units to which they attach.

Form and Time of Settlement of Restricted Stock Units. Settlement of vested Restricted Stock Units may be made in the form of (i) cash, (ii) Shares or (iii) any combination of both, as determined by the Board of Directors. The actual number of Restricted Stock Units eligible for settlement may be larger or smaller than the number included in the original award, based on predetermined performance factors. Vested Restricted Stock Units shall be settled in such manner and at such time(s) as specified in the Restricted Stock Unit Agreement. Until Restricted Stock Units are settled, the number of Shares represented by such Restricted Stock Units shall be subject to adjustment pursuant to Section 9.

Death of Recipient. Any Restricted Stock Units that become distributable after the Participant's death shall be distributed to the Participant's estate or to any person who has acquired such Restricted Stock Units directly from the recipient by beneficiary designation, bequest or inheritance.

Creditors' Rights. A holder of Restricted Stock Units shall have no rights other than those of a general creditor of the Company. Restricted Stock Units represent an unfunded and unsecured obligation of the Company, subject to the terms and conditions of the applicable Restricted Stock Unit Agreement.

Modification, Extension and Assumption of Restricted Stock Units. Within the limitations of the Plan, the Board of Directors may modify, extend or assume outstanding restricted stock units (whether granted by the Company or a different issuer). The foregoing notwithstanding, no modification of a Restricted Stock Unit shall, without the consent of the Participant, impair the Participant's rights or increase the Participant's obligations under such Restricted Stock Unit.

Restrictions on Transfer of Restricted Stock Units. A Restricted Stock Unit shall be transferable by the Participant only by (i) a beneficiary designation, (ii) a will or (iii) the laws of descent and distribution, except as provided in the next sentence. In addition, if the Board of Directors so provides, in a Restricted Stock Unit Agreement or otherwise, a Restricted Stock Unit shall also be transferable to the extent permitted by Rule 701 under the Securities Act.

PAYMENT FOR SHARES.

General Rule. The entire Purchase Price or Exercise Price of Shares issued under the Plan shall be payable in cash or cash equivalents at the time when such Shares are purchased, except as otherwise provided in this Section 8. In addition, the Board of Directors in its sole discretion may also permit payment through any of the methods described in (b) through (g) below.

Services Rendered. Shares may be awarded under the Plan in consideration of services rendered to the Company, a Parent or a Subsidiary prior to the award.

Promissory Note. All or a portion of the Purchase Price or Exercise Price (as the case may be) of Shares issued under the Plan may be paid with a promissory note. The Shares shall be pledged as security for payment of the principal amount of the promissory note and interest thereon. The interest rate payable under the terms of the promissory note shall not be less than the minimum rate (if any) required to avoid the imputation of additional interest under the Code. Subject to the foregoing, the Board of Directors in its sole discretion shall specify the term, interest rate, recourse, amortization requirements (if any) and other provisions of such note.

Surrender of Stock. All or any part of the Exercise Price may be paid by surrendering, or attesting to the ownership of, Shares that are already owned by the Optionee. Such Shares shall be surrendered to the Company in good form for transfer and shall be valued at their Fair Market Value as of the date when the Option is exercised.

Cashless Exercise. All or part of the Exercise Price and any withholding taxes may be paid pursuant to a cashless exercise arrangement (whether through a securities broker or otherwise) established by the Company whereby Shares subject to an Option are sold and all or part of the sale proceeds are delivered to the Company.

Net Exercise. An Option may permit exercise through a "net exercise" arrangement pursuant to which the Company will reduce the number of Shares issued upon exercise by the largest whole number of Shares having an aggregate Fair Market Value (determined by the Board of Directors as of the exercise date) that does not exceed the aggregate Exercise Price or the sum of the aggregate Exercise Price and any withholding taxes (with the Company accepting from the Optionee payment of cash or cash equivalents to satisfy any remaining balance of the aggregate Exercise Price and, if applicable, any additional withholding taxes not satisfied through such reduction in Shares); *provided* that to the extent Shares subject to an Option are withheld in this manner, the number of Shares subject to the Option following the net exercise will be reduced by the sum of the number of Shares withheld and the number of Shares delivered to the Optionee as a result of the exercise.

Other Forms of Payment. To the extent that an Award Agreement so provides, the Purchase Price or Exercise Price of Shares issued under the Plan may be paid in any other form permitted by the Delaware General Corporation Law, as amended.

ADJUSTMENT OF SHARES.

General. In the event of a subdivision of the outstanding Stock, a declaration of a dividend payable in Shares, a combination or consolidation of the outstanding Stock into a lesser number of Shares, a reclassification, or any other increase or decrease in the number of issued shares of Stock effected without receipt of consideration by the Company, proportionate adjustments shall automatically be made, as applicable, in each of (i) the number and kind of Shares available under Section 4, (ii) the number and kind of Shares covered by each outstanding Option, Award of Restricted Stock Units and any outstanding and unexercised right to purchase Shares that has not yet expired pursuant to Section 5(b), (iii) the Exercise Price under each outstanding Option and the Purchase Price applicable to any unexercised stock purchase right described in clause (ii) above, and (iv) any repurchase price that applies to Shares granted under the Plan pursuant to the terms of a Company repurchase right under the applicable Award Agreement. In the event of a declaration of an extraordinary dividend payable in a form other than Shares in an amount that has a material effect on the Fair Market Value of the Stock, a recapitalization, a spin-off, or a similar occurrence, the Board of Directors at its sole discretion may make appropriate adjustments in one or more of the items listed in clauses (i) through (iv) above; provided, however, that the Board of Directors shall in any event make such adjustments as may be required by Section 25102(o) of the California Corporations Code to the extent the Company is relying on the exemption afforded thereunder with respect to an Award. No fractional Shares shall be issued under the Plan as a result of an adjustment under this Section 9(a), although the Board of Directors in its sole discretion may make a cash payment in lieu of fractional Shares.

Corporate Transactions. In the event that the Company is a party to a merger or consolidation, or in the event of a sale of all or substantially all of the Company's stock or assets, all Shares acquired under the Plan and all Awards outstanding on the effective date of the transaction shall be treated in the manner described in the definitive transaction agreement (or, in the event the transaction does not entail a definitive agreement to which the Company is party, in the manner determined by the Board of Directors in its capacity as administrator of the Plan, with such determination having final and binding effect on all parties), which agreement or determination need not treat all Awards (or all portions of an Award) in an identical manner. The treatment specified in the transaction agreement or as determined by the Board of Directors may include (without limitation) one or more of the following with respect to each outstanding Award:

The Company, the surviving corporation or a parent thereof may continue or assume the Award or substitute a comparable award for the Award (including, but not limited to, an award to acquire the same consideration paid to the holders of Shares in the transaction). For avoidance of doubt, a comparable award need not be the same type of award as the Award for which it is substituted, and, in the case of an Option, need not have the same tax-status (e.g., an NSO may be substituted for an ISO).

The cancellation of the Award and a payment to the Participant with respect to each Share subject to the portion of the Award that is vested as of the transaction date equal to the excess of (A) the value, as determined by the Board of Directors in its absolute discretion, of the property (including cash) received by the holder of a share of Stock as a result of the transaction, over (if applicable) (B) the per-Share Exercise Price of the Award (such excess, the "**Spread**"). Such payment shall be made in the form of cash, cash equivalents, or securities of the surviving corporation or its parent having a value equal to the Spread. In addition, any escrow, indemnification, holdback, earn-out or similar provisions in the transaction agreement may apply to such payment to the same extent and in the same manner as such provisions apply to the holders of Stock. Receipt of the payment described in this Subsection (b)(ii) may be conditioned upon the Participant acknowledging such escrow, indemnification, holdback, earn-out or other provisions on a form prescribed by the Company. If the Spread applicable to an Award is zero or a negative number, then the Award may be cancelled without making a payment to the Participant.

Even if the Spread applicable to an Option is a positive number, the Option may be cancelled without the payment of any consideration; provided that the Optionee shall be notified of such treatment and given an opportunity to exercise the Option (to the extent the Option is vested or becomes vested as of the effective date of the transaction) during a period of not less than five (5) business days preceding the effective date of the transaction, unless (A) a shorter period is required to permit a timely closing of the transaction and (B) such shorter period still offers the Optionee a reasonable opportunity to exercise the Option.

In the case of an Option: (A) suspension of the Optionee's right to exercise the Option during a limited period of time preceding the closing of the transaction if such suspension is administratively necessary to facilitate the closing of the transaction and/or (B) termination of any right the Optionee has to exercise the Option prior to vesting in the Shares subject to the Option (i.e., "early exercise"), such that following the closing of the transaction the Option may only be exercised to the extent it is vested.

For the avoidance of doubt, the Board of Directors has discretion to accelerate, in whole or part, the vesting and exercisability of an Award in connection with a corporate transaction covered by this Section 9(b).

Dissolution or Liquidation. To the extent not previously exercised or settled, Options, Restricted Stock Units and other rights to purchase Shares shall terminate immediately prior to the liquidation or dissolution of the Company.

Reservation of Rights. Except as provided in Section 7(e) or this Section 9, a Participant shall have no rights by reason of (i) any subdivision or consolidation of shares of stock of any class, (ii) the payment of any dividend or (iii) any other increase or decrease in the number of shares of stock of any class. Any issuance by the Company of shares of stock of any class, or securities convertible into shares of stock of any class, shall not affect, and no adjustment by reason thereof shall be made with respect to, the number or Exercise Price of Shares subject to an Award. The grant of an Award pursuant to the Plan shall not affect in any way the right or power of the Company to make adjustments, reclassifications, reorganizations or changes of its capital or business structure, to merge or consolidate or to dissolve, liquidate, sell or transfer all or any part of its business or assets.

MISCELLANEOUS PROVISIONS.

Securities Law Requirements. Shares shall not be issued under the Plan unless, in the opinion of counsel acceptable to the Board of Directors, the issuance and delivery of such Shares complies with (or is exempt from) all applicable requirements of law, including (without limitation) the Securities Act, the rules and regulations promulgated thereunder, state securities laws and regulations, and the regulations of any stock exchange or other securities market on which the Company's securities may then be traded. The Company shall not be liable for a failure to issue Shares as a result of such requirements. Without limiting the foregoing, the Company may suspend the exercise of some or all outstanding Options for a period of up to 60 days in order to facilitate compliance with Securities Act Rule 701(e).

No Retention Rights. Nothing in the Plan or in any right or Award granted under the Plan shall confer upon the Participant any right to continue in Service for any period of specific duration or interfere with or otherwise restrict in any way the rights of the Company (or any Parent or Subsidiary employing or retaining the Participant) or of the Participant, which rights are hereby expressly reserved by each, to terminate his or her Service at any time and for any reason, with or without cause.

Treatment as Compensation. Any compensation that an individual earns or is deemed to earn under this Plan shall not be considered a part of his or her compensation for purposes of calculating contributions, accruals or benefits under any other plan or program that is maintained or funded by the Company, a Parent or a Subsidiary.

Governing Law. The Plan and all awards, sales and grants under the Plan shall be governed by, and construed in accordance with, the laws of the State of Delaware (except its choice-of-law provisions), as such laws are applied to contracts entered into and performed in such State.

Conditions and Restrictions on Shares. Shares issued under the Plan shall be subject to such forfeiture conditions, rights of repurchase, rights of first refusal, other transfer restrictions and such other terms and conditions as the Board of Directors may determine. Such conditions and restrictions shall be set forth in the applicable Award Agreement and shall apply in addition to any restrictions that may apply to holders of Shares generally. In addition, Shares issued under the Plan shall be subject to conditions and restrictions imposed either by applicable law or by Company policy, as adopted from time to time, designed to ensure compliance with applicable law or laws with which the Company determines in its sole discretion to comply including in order to maintain any statutory, regulatory or tax advantage, which (for avoidance of doubt) need not be set forth in the applicable Award Agreement.

Tax Matters.

As a condition to the award, grant, issuance, vesting, purchase, exercise, settlement or transfer of any Award, or Shares issued pursuant to any Award, granted under this Plan, the Participant shall make such arrangements as the Board of Directors may require or permit for the satisfaction of any federal, state, local or foreign withholding tax obligations that may arise in connection with such event.

Unless otherwise expressly set forth in an Award Agreement, it is intended that Awards shall be exempt from Code Section 409A, and any ambiguity in the terms of an Award Agreement and the Plan shall be interpreted consistently with this intent. To the extent an Award is not exempt from Code Section 409A (any such award, a “**409A Award**”), any ambiguity in the terms of such Award and the Plan shall be interpreted in a manner that to the maximum extent permissible supports the Award’s compliance with the requirements of that statute. Notwithstanding anything to the contrary permitted under the Plan, in no event shall a modification of an Award not already subject to Code Section 409A, or any subsequent action taken with respect to such Award, be given effect if such modification or action would cause the Award to become subject to Code Section 409A unless the parties explicitly acknowledge and consent to the modification or action as one having that effect. A 409A Award shall be subject to such additional rules and requirements as specified by the Board of Directors from time to time in order for it to comply with the requirements of Code Section 409A. In this regard, if any amount under a 409A Award is payable upon a “separation from service” to an individual who is considered a “specified employee” (as each term is defined under Code Section 409A), then no such payment shall be made prior to the date that is the earlier of (i) six months and one day after the Participant’s separation from service or (ii) the Participant’s death, but only to the extent such delay is necessary to prevent such payment from being subject to Section 409A(a)(1). In addition, if a transaction subject to Section 9(b) constitutes a payment event with respect to any 409A Award, then the transaction with respect to such award must also constitute a “change in control event” as defined in Treasury Regulation Section 1.409A-3(i)(5) to the extent required by Code Section 409A.

(iii) Neither the Company nor any member of the Board of Directors shall have any liability to a Participant in the event an Award held by the Participant fails to achieve its intended characterization under applicable tax law.

DURATION AND AMENDMENTS; STOCKHOLDER APPROVAL.

Term of the Plan. The Plan, as set forth herein, shall become effective on the date of its adoption by the Board of Directors, subject to approval of the Company’s stockholders under Subsection (d) below. The Plan shall terminate automatically 10 years after the later of (i) the date when the Board of Directors adopted the Plan or (ii) the date when the Board of Directors approved the most recent increase in the number of Shares reserved under Section 4 that was also approved by the Company’s stockholders. The Plan may be terminated on any earlier date pursuant to Subsection (b) below.

Right to Amend or Terminate the Plan. Subject to Subsection (d) below, the Board of Directors may amend, suspend or terminate the Plan at any time and for any reason.

Effect of Amendment or Termination. No Shares shall be issued or sold and no Award granted under the Plan after the termination thereof, except upon exercise or settlement of an Award granted under the Plan prior to such termination. Except as expressly provided in Section 6(k) above, the termination of the Plan, or any amendment thereof, shall not affect any Share previously issued or any Award previously granted under the Plan.

Stockholder Approval. To the extent required by applicable law, the Plan will be subject to approval of the Company's stockholders within 12 months of its adoption date. An amendment of the Plan will be subject to the approval of the Company's stockholders only to the extent required by applicable laws, regulations or rules.

DEFINITIONS.

(a) "**Award**" means any award granted under the Plan, including as an Option, an award of Restricted Stock Units or the grant or sale of Shares pursuant to Section 5 of the Plan.

(b) "**Award Agreement**" means a Restricted Stock Unit Agreement, Stock Grant Agreement, Stock Option Agreement or Stock Purchase Agreement or such other agreement evidencing an Award under the Plan.

(c) "**Board of Directors**" means the Board of Directors of the Company, as constituted from time to time.

(d) "**Code**" means the Internal Revenue Code of 1986, as amended.

(e) "**Committee**" means a committee of the Board of Directors, as described in Section 2(a).

(f) "**Company**" means T-Scan Therapeutics, Inc., a Delaware corporation.

(g) "**Consultant**" means a person, excluding Employees and Outside Directors, who performs bona fide services for the Company, a Parent³ or a Subsidiary as a consultant or advisor and who qualifies as a consultant or advisor under Rule 701(c)(1) of the Securities Act or under Instruction A.1.(a)(1) of Form S-8 under the Securities Act.

(h) "**Date of Grant**" means the date of grant specified in the Award Agreement, which date shall be the later of (i) the date on which the Board of Directors resolved to grant the Award or (ii) the first day of the Participant's Service.

(i) "**Disability**" means that the Optionee is unable to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment.

³ Note that special considerations apply if the Company proposes to grant awards to consultant or advisor of a Parent company.

(j) “**Employee**” means any individual who is a common-law employee of the Company, a Parent⁴ or a Subsidiary.

(k) “**Exchange Act**” means the Securities Exchange Act of 1934, as amended.

(l) “**Exercise Price**” means the amount for which one Share may be purchased upon exercise of an Option, as specified by the Board of Directors in the applicable Stock Option Agreement.

(m) “**Fair Market Value**” means the fair market value of a Share, as determined by the Board of Directors in good faith. Such determination shall be conclusive and binding on all persons.

(n) “**Grantee**” means a person to whom the Board of Directors has awarded Shares under the Plan.

(o) “**ISO**” means an Option that qualifies as an incentive stock option as described in Code Section 422(b). Notwithstanding its designation as an ISO, an Option that does not qualify as an ISO under applicable law shall be treated for all purposes as an NSO.

(p) “**NSO**” means an Option that does not qualify as an incentive stock option as described in Code Section 422(b) or 423(b).

(q) “**Option**” means an ISO or NSO granted under the Plan and entitling the holder to purchase Shares.

(r) “**Optionee**” means a person who holds an Option.

(s) “**Outside Director**” means a member of the Board of Directors who is not an Employee.

(t) “**Parent**” means any corporation (other than the Company) in an unbroken chain of corporations ending with the Company, if each of the corporations other than the Company owns stock possessing 50% or more of the total combined voting power of all classes of stock in one of the other corporations in such chain. A corporation that attains the status of a Parent on a date after the adoption of the Plan shall be considered a Parent commencing as of such date.

(u) “**Participant**” means the holder of an outstanding Award.

(v) “**Plan**” means this T-Scan Therapeutics, Inc. 2018 Stock Plan.

(w) “**Purchase Price**” means the consideration for which one Share may be acquired under the Plan (other than upon exercise of an Option), as specified by the Board of Directors.

⁴ Note that special considerations apply if the Company proposes to grant awards to an Employee of a Parent company.

(x) “**Purchaser**” means a person to whom the Board of Directors has offered the right to purchase Shares under the Plan (other than upon exercise of an Option).

(y) “**Restricted Stock Unit**” means a bookkeeping entry representing the equivalent of one Share, as awarded under the Plan.

(z) “**Restricted Stock Unit Agreement**” means the agreement between the Company and the recipient of a Restricted Stock Unit that contains the terms, conditions and restrictions pertaining to such Restricted Stock Unit.

(aa) “**Securities Act**” means the Securities Act of 1933, as amended.

(bb) “**Service**” means service as an Employee, Outside Director or Consultant. In case of any dispute as to whether and when Service has terminated, the Board of Directors shall have sole discretion to determine whether such termination has occurred and the effective date of such termination.

(cc) “**Share**” means one share of Stock, as adjusted in accordance with Section 9 (if applicable).

(dd) “**Stock**” means the Common Stock of the Company.

(ee) “**Stock Grant Agreement**” means the agreement between the Company and a Grantee who is awarded Shares under the Plan that contains the terms, conditions and restrictions pertaining to the award of such Shares.

(ff) “**Stock Option Agreement**” means the agreement between the Company and an Optionee that contains the terms, conditions and restrictions pertaining to the Optionee’s Option.

(gg) “**Stock Purchase Agreement**” means the agreement between the Company and a Purchaser who purchases Shares under the Plan that contains the terms, conditions and restrictions pertaining to the purchase of such Shares.

(hh) “**Subsidiary**” means any corporation (other than the Company) in an unbroken chain of corporations beginning with the Company, if each of the corporations other than the last corporation in the unbroken chain owns stock possessing 50% or more of the total combined voting power of all classes of stock in one of the other corporations in such chain. A corporation that attains the status of a Subsidiary on a date after the adoption of the Plan shall be considered a Subsidiary commencing as of such date.

EXHIBIT A

SCHEDULE OF SHARES RESERVED FOR ISSUANCE UNDER THE PLAN

Date of Board Approval	Date of Stockholder Approval	Number of Shares Added	Cumulative Number of Shares
April 20, 2018	April 27, 2018	Not Applicable	3,000,000

SUMMARY OF MODIFICATIONS AND AMENDMENTS TO THE PLAN

The following is a summary of material modifications made to the Plan (including any material deviations from the Gunderson Dettmer precedent form used to create the Plan):

T-SCAN THERAPEUTICS, INC. 2018 STOCK PLAN
NOTICE OF STOCK OPTION GRANT (INSTALLMENT EXERCISE)

The Optionee has been granted the following option to purchase shares of the Common Stock of T-Scan Therapeutics, Inc. (the “**Company**”):

Name of Optionee:	«Name»
Total Number of Shares:	«TotalShares»
Type of Option:	«ISO» Incentive Stock Option (ISO) «NSO» Nonstatutory Stock Option (NSO)
Exercise Price per Share:	\$«PricePerShare»
Date of Grant:	«DateGrant»
Vesting Schedule/Date Exercisable:	This option shall vest and become exercisable with respect to the first «Percent»% of the Shares subject to this option when the Optionee completes «CliffPeriod» months of continuous Service beginning with the Vesting Commencement Date set forth below. This option shall vest and become exercisable with respect to an additional «Fraction»% of the Shares subject to this option when the Optionee completes each month of continuous Service thereafter.
Vesting Commencement Date:	«VestComDate»
Expiration Date:	«ExpDate». This option expires earlier if the Optionee’s Service terminates earlier, as provided in Section 6 of the Stock Option Agreement, or if the Company engages in certain corporate transactions, as provided in Section 9 of the Plan.

By signing below or otherwise accepting this option in a manner acceptable to the Company, the Optionee and the Company agree that this option is granted under, and governed by the terms and conditions of, this Notice of Stock Option Grant, the 2018 Stock Plan and the Stock Option Agreement. Both of the latter documents are attached to, and made a part of, this Notice of Stock Option Grant. Capitalized terms not otherwise defined herein or in the Stock Option Agreement shall have the meanings set forth in the Plan. **Section 14 of the Stock Option Agreement includes important acknowledgements of the Optionee.**

OPTIONEE:

T-SCAN THERAPEUTICS, INC.

By: _____

Title: _____

THE OPTION GRANTED PURSUANT TO THE NOTICE OF STOCK OPTION GRANT AND THIS AGREEMENT AND THE SHARES ISSUABLE UPON THE EXERCISE THEREOF HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, AND MAY NOT BE SOLD, PLEDGED, OR OTHERWISE TRANSFERRED WITHOUT AN EFFECTIVE REGISTRATION THEREOF UNDER SUCH ACT OR AN OPINION OF COUNSEL, SATISFACTORY TO THE COMPANY AND ITS COUNSEL, THAT SUCH REGISTRATION IS NOT REQUIRED.

**T-SCAN THERAPEUTICS, INC. 2018 STOCK PLAN:
STOCK OPTION AGREEMENT (INSTALLMENT EXERCISE)**

SECTION 1. GRANT OF OPTION.

(a) **Option.** On the terms and conditions set forth in the Notice of Stock Option Grant, this Agreement and the Plan, the Company has granted to the Optionee on the Date of Grant the option to purchase at the Exercise Price the number of Shares set forth in the Notice of Stock Option Grant. The Exercise Price is agreed to be at least 100% of the Fair Market Value per Share on the Date of Grant (110% of Fair Market Value if this option is designated as an ISO in the Notice of Stock Option Grant and Section 3(b) of the Plan applies). This option is intended to be an ISO or an NSO, as provided in the Notice of Stock Option Grant.

(b) **\$100,000 Limitation.** Even if this option is designated as an ISO in the Notice of Stock Option Grant, it shall be deemed to be an NSO to the extent (and only to the extent) required by the \$100,000 annual limitation under Section 422(d) of the Code.

(c) **Stock Plan and Defined Terms.** This option is granted pursuant to the Plan, a copy of which the Optionee acknowledges having received. The provisions of the Plan are incorporated into this Agreement by this reference. Except as otherwise defined in this Agreement (including without limitation Section 15 hereof), capitalized terms shall have the meaning ascribed to such terms in the Plan.

SECTION 2. RIGHT TO EXERCISE.

(a) **Exercisability.** Subject to Subsection (b) below and the other conditions set forth in this Agreement, all or part of this option may be exercised prior to its expiration at the time or times set forth in the Notice of Stock Option Grant.

(b) **Stockholder Approval.** Any other provision of this Agreement notwithstanding, no portion of this option shall be exercisable at any time prior to the approval of the Plan by the Company's stockholders.

SECTION 3. NO TRANSFER OR ASSIGNMENT OF OPTION.

Except as otherwise provided in or pursuant to this Agreement or the Plan, this option and the rights and privileges conferred hereby shall not be sold, pledged or otherwise transferred (whether by operation of law or otherwise) and shall not be subject to sale under execution, attachment, levy or similar process.

SECTION 4. EXERCISE PROCEDURES.

(a) **Notice of Exercise.** The Optionee or the Optionee's representative may exercise this option by: (i) signing and delivering written notice (on a form prescribed by the Company) to the Company pursuant to Section 13(c) specifying the election to exercise this option, the number of Shares for which it is being exercised and the form of payment, (ii) if requested by the Company, executing and delivering such stockholders agreements as apply to the holders of the Company's preferred stock (including, without limitation, any right of first refusal and co-sale agreement and/or voting agreement of the Company) and (iii) delivering payment, in a form permissible under Section 5, for the full amount of the Purchase Price (together with any applicable withholding taxes under Subsection (b)). In the event that this option is being exercised by the representative of the Optionee, the notice shall be accompanied by proof (satisfactory to the Company) of the representative's right to exercise this option.

(b) **Withholding Taxes.** In the event that the Company determines that it is required to withhold any tax (including without limitation any income tax, social insurance contributions, payroll tax, payment on account or other tax-related items arising in connection with the Optionee's participation in the Plan and legally applicable to the Optionee (the "**Tax-Related Items**")) as a result of the grant, vesting or exercise of this option, or as a result of the transfer of shares acquired upon exercise of this option, the Optionee, as a condition of this option, shall make arrangements satisfactory to the Company to enable it to satisfy all Tax-Related Items. The Optionee acknowledges that the responsibility for all Tax-Related Items is the Optionee's and may exceed the amount actually withheld by the Company (or its affiliate or agent).

(c) **Issuance of Shares.** After satisfying all requirements for exercise of this option, the Company shall cause to be issued one or more certificates evidencing, or electronic notation representing, the Shares for which this option has been exercised. Such Shares shall be registered (i) in the name of the person exercising this option, (ii) in the names of such person and his or her spouse as community property or as joint tenants with the right of survivorship or (iii) with the Company's consent, in the name of a revocable trust. Until the issuance of the Shares has been entered into the books and records of the Company or a duly authorized transfer agent of the Company, no right to vote, receive dividends or any other right as a stockholder will exist with respect to such Shares. The Company shall cause any certificates evidencing such Shares to be delivered to or upon the order of the person exercising this option.

SECTION 5. PAYMENT FOR STOCK.

(a) **Cash.** All or part of the Purchase Price may be paid in cash or cash equivalents or pursuant to a form of electronic funds transfer acceptable to the Company.

(b) **Surrender of Stock.** At the discretion of the Board of Directors, all or any part of the Purchase Price may be paid by surrendering, or attesting to the ownership of, Shares that are already owned by the Optionee. Such Shares shall be surrendered to the Company in good form for transfer and shall be valued at their Fair Market Value as of the date when this option is exercised.

(c) **Cashless Exercise.** All or part of the Purchase Price and any withholding taxes may be paid by the delivery (on a form prescribed by the Company) of an irrevocable direction to a securities broker approved by the Company to sell Shares and to deliver all or part of the sales proceeds to the Company. However, payment pursuant to the preceding sentence shall be permitted only if (i) Stock then is publicly traded and (ii) such payment does not violate applicable law. At the discretion of the Board of Directors, all or part of the Purchase Price and any withholding taxes may be paid pursuant to another cashless exercise arrangement established by the Company.

SECTION 6. TERM AND EXPIRATION.

(a) **Basic Term.** This option shall in any event expire on the expiration date set forth in the Notice of Stock Option Grant, which date is 10 years after the Date of Grant (five years after the Date of Grant if this option is designated as an ISO in the Notice of Stock Option Grant and Section 3(b) of the Plan applies).

(b) **Termination of Service (Except by Death).** If the Optionee's Service terminates for any reason other than death, then this option shall expire on the earliest of the following occasions:

- (i) The expiration date determined pursuant to Subsection (a) above;
- (ii) The date three months after the termination of the Optionee's Service for any reason other than Disability; or
- (iii) The date six months after the termination of the Optionee's Service by reason of Disability.

The Optionee may exercise all or part of this option at any time before its expiration under the preceding sentence, but only to the extent that this option had become vested and exercisable before the Optionee's Service terminated or becomes vested and exercisable as a result of such termination. In the event that the Optionee dies after termination of Service but before the expiration of this option, all or part of this option may be exercised (prior to expiration) by the executors or administrators of the Optionee's estate or by any person who has acquired this option directly from the Optionee by beneficiary designation, bequest or inheritance, but only to the extent that this option had become vested and exercisable before the Optionee's Service terminated or becomes vested and exercisable as a result of such termination. Once this option (or portion thereof) has terminated, the Optionee shall have no further rights with respect to the option (or portion thereof) or to the underlying Shares.

(c) **Death of the Optionee.** If the Optionee dies while in Service, then this option shall expire on the earlier of the following dates:

- (i) The expiration date determined pursuant to Subsection (a) above; or
- (ii) The date 12 months after the Optionee's death.

All or part of this option may be exercised at any time before its expiration under the preceding sentence by the executors or administrators of the Optionee's estate or by any person who has acquired this option directly from the Optionee by beneficiary designation, bequest or inheritance, but only to the extent that this option had become vested and exercisable before the Optionee's death or becomes vested and exercisable as a result of the Optionee's death. Once this option (or portion thereof) has terminated, the Optionee shall have no further rights with respect to the option (or portion thereof) or to the underlying Shares.

(d) **Additional Vesting After Termination of Service.** The period of time beginning on the date that the Optionee's Service terminates or the date that the Optionee dies while in Service and ending on the earliest of the occasions determined pursuant to Subsections (b) or (c) above, as applicable, is referred to as the "**post-termination exercise period**". To the extent this option is not fully vested and exercisable on the date the Optionee's Service terminates or the date that the Optionee dies while in Service, the Board of Directors may, during the post-termination exercise period, take action to cause this option to become vested and exercisable (in whole or in part). In no event will this option become vested or exercisable after termination of the Optionee's Service or death unless the Board of Directors takes affirmative action pursuant to the preceding sentence or unless expressly provided in a written agreement between the Company and the Optionee. In this regard, any provision of this Agreement or another agreement that provides for vesting upon an event (including, without limitation, a change in control) will be deemed to require Service through the occurrence of such event unless the agreement clearly provides otherwise.

(e) **Extension of Post-Termination Exercise Periods.** Following the date on which the Company's Stock is first listed for trading on an established securities market, if during any part of the exercise period described in Subsections (b)(ii) or (iii) or Subsection (c)(ii) above the exercise of this option would be prohibited solely because the issuance of Shares upon such exercise would violate the registration requirements under the Securities Act or a similar provision of other applicable law, then instead of terminating at the end of such prescribed period, the then-vested portion of this option will instead remain outstanding and not expire until the earlier of (i) the expiration date determined pursuant to Section 6(a) above or (ii) the date on which the then-vested portion of this option has been exercisable without violation of applicable law for the aggregate period (which need not be consecutive) after termination of the Optionee's Service specified in the applicable Subsection above.

(f) **Part-Time Employment and Leaves of Absence.** If the Optionee commences working on a part-time basis, then the Company may adjust the vesting schedule set forth in the Notice of Stock Option Grant. If the Optionee goes on a leave of absence, then, to the extent permitted by applicable law, the Company may adjust or suspend the vesting schedule set

forth in the Notice of Stock Option Grant. Except as provided in the preceding sentence, Service shall be deemed to continue for any purpose under this Agreement while the Optionee is on a *bona fide* leave of absence approved by the Company in writing. Service shall be deemed to terminate when such leave ends, unless the Optionee immediately returns to active work when such leave ends.

(g) **Notice Concerning ISO Treatment.** Even if this option is designated as an ISO in the Notice of Stock Option Grant, it ceases to qualify for favorable tax treatment as an ISO to the extent that it is exercised:

(i) More than three months after the date when the Optionee ceases to be an Employee for any reason other than death or permanent and total disability (as defined in Section 22(e)(3) of the Code);

(ii) More than 12 months after the date when the Optionee ceases to be an Employee by reason of permanent and total disability (as defined in Section 22(e)(3) of the Code); or

(iii) More than three months after the date when the Optionee has been on a leave of absence for three months, unless the Optionee's reemployment rights following such leave were guaranteed by statute or by contract.

SECTION 7. RIGHT OF FIRST REFUSAL.

(a) **Right of First Refusal.** In the event that the Optionee proposes to sell, pledge or otherwise transfer to a third party any Shares acquired under this Agreement, or any interest in such Shares, the Company shall have the Right of First Refusal with respect to all (and not less than all) of such Shares. If the Optionee desires to transfer Shares acquired under this Agreement, the Optionee shall give a written Transfer Notice to the Company describing fully the proposed transfer, including the number of Shares proposed to be transferred, the proposed transfer price, the name and address of the proposed Transferee and proof satisfactory to the Company that the proposed sale or transfer will not violate any applicable federal, State or foreign securities laws. The Transfer Notice shall be signed both by the Optionee and by the proposed Transferee and must constitute a binding commitment of both parties to the transfer of the Shares. The Company shall have the right to purchase all, and not less than all, of the Shares on the terms of the proposal described in the Transfer Notice (subject, however, to any change in such terms permitted under Subsection (b) below) by delivery of a notice of exercise of the Right of First Refusal within 30 days after the date when the Transfer Notice was received by the Company.

(b) **Transfer of Shares.** If the Company fails to exercise its Right of First Refusal within 30 days after the date when it received the Transfer Notice, the Optionee may, not later than 90 days following receipt of the Transfer Notice by the Company, conclude a transfer of the Shares subject to the Transfer Notice on the terms and conditions no less favorable to the Optionee than those described in the Transfer Notice, provided that any such sale is made in compliance with applicable federal, State and foreign securities laws and not in violation of any

other contractual restrictions to which the Optionee is bound. Any proposed transfer on terms and conditions less favorable than those described in the Transfer Notice, as well as any subsequent proposed transfer by the Optionee, shall again be subject to the Right of First Refusal and shall require compliance with the procedure described in Subsection (a) above. If the Company exercises its Right of First Refusal, the parties shall consummate the sale of the Shares on the terms set forth in the Transfer Notice within 60 days after the date when the Company received the Transfer Notice (or within such longer period as may have been specified in the Transfer Notice); provided, however, that in the event the Transfer Notice provided that payment for the Shares was to be made in a form other than cash or cash equivalents paid at the time of transfer, the Company shall have the option of paying for the Shares with cash or cash equivalents equal to the present value of the consideration described in the Transfer Notice.

(c) **Additional or Exchanged Securities and Property.** In the event of a merger or consolidation of the Company, a sale of all or substantially all of the Company's stock or assets, any other corporate reorganization, a stock split, the declaration of a stock dividend, the declaration of an extraordinary dividend payable in a form other than stock, a spin-off, an adjustment in conversion ratio, a recapitalization or a similar transaction affecting the Company's outstanding securities, any securities or other property (including cash or cash equivalents) that are by reason of such transaction exchanged for, or distributed with respect to, any Shares subject to this Section 7 shall immediately be subject to the Right of First Refusal. Appropriate adjustments to reflect the exchange or distribution of such securities or property shall be made to the number and/or class of the Shares subject to this Section 7.

(d) **Termination of Right of First Refusal.** Any other provision of this Section 7 notwithstanding, in the event that the Stock is readily tradable on an established securities market when the Optionee desires to transfer Shares, the Company shall have no Right of First Refusal, and the Optionee shall have no obligation to comply with the procedures prescribed by Subsections (a) and (b) above.

(e) **Permitted Transfers.** This Section 7 shall not apply to (i) a transfer by beneficiary designation, will or intestate succession or (ii) a transfer to one or more members of the Optionee's Immediate Family or to a trust or other entity established by the Optionee solely for the benefit of the Optionee and/or one or more members of the Optionee's Immediate Family, provided in either case that the Transferee agrees in writing on a form prescribed by the Company to be bound by all provisions of this Agreement. If the Optionee transfers any Shares acquired under this Agreement, either under this Subsection (e) or after the Company has failed to exercise the Right of First Refusal, then this Agreement shall apply to the Transferee to the same extent as to the Optionee.

(f) **Termination of Rights as Stockholder.** If the Company makes available, at the time and place and in the amount and form provided in this Agreement, the consideration for the Shares to be purchased in accordance with this Section 7, then after such time the person from whom such Shares are to be purchased shall no longer have any rights as a holder of such Shares (other than the right to receive payment of such consideration in accordance with this Agreement). Such Shares shall be deemed to have been purchased in accordance with the applicable provisions hereof, whether or not any certificate(s) therefor have been delivered as required by this Agreement.

(g) **Assignment of Right of First Refusal.** The Board of Directors may freely assign the Company's Right of First Refusal, in whole or in part. Any person who accepts an assignment of the Right of First Refusal from the Company shall be entitled to and assume all of the Company's rights and obligations under this Section 7.

SECTION 8. LEGALITY OF INITIAL ISSUANCE.

No Shares shall be issued upon the exercise of this option unless and until the Company has determined that:

- a. It and the Optionee have taken any actions required to register the Shares under the Securities Act or to perfect an exemption from the registration requirements thereof;
- b. Any applicable listing requirement of any stock exchange or other securities market on which Stock is listed has been satisfied; and
- c. Any other applicable provision of federal, State or foreign law has been satisfied.

SECTION 9. NO REGISTRATION RIGHTS.

The Company may, but shall not be obligated to, register or qualify the sale of Shares under the Securities Act or any other applicable law. The Company shall not be obligated to take any affirmative action in order to cause the sale of Shares under this Agreement to comply with any law.

SECTION 10. RESTRICTIONS ON TRANSFER OF SHARES.

(a) **General Restrictions.** Unless the Stock is readily tradeable on an established securities market, the transfer of any of the Shares acquired pursuant to this Agreement (or any interest therein) shall, at the Company's request, be conditioned upon (i) effecting such transfer pursuant to a form of stock transfer agreement prescribed by the Company and (ii) payment of a transfer fee not to exceed \$5,000.

(b) **Securities Law Restrictions.** Regardless of whether the offer and sale of Shares under the Plan have been registered under the Securities Act or have been registered or qualified under the securities laws of any State or other relevant jurisdiction, the Company at its discretion may impose restrictions upon the sale, pledge or other transfer of such Shares (including the placement of appropriate legends on the stock certificates (or electronic equivalent) or the imposition of stop-transfer instructions) and may refuse (or may be required to refuse) to transfer Shares acquired hereunder (or Shares proposed to be transferred in a subsequent transfer) if, in the judgment of the Company, such restrictions, legends or refusal are necessary or appropriate to achieve compliance with the Securities Act or other relevant securities or other laws, including without limitation under Regulation S of the Securities Act or pursuant to another available exemption from registration.

(c) **Market Stand-Off.** In connection with any underwritten public offering by the Company of its equity securities pursuant to an effective registration statement filed under the Securities Act, including the Company's initial public offering, the Optionee or a Transferee shall not directly or indirectly sell, make any short sale of, loan, hypothecate, pledge, offer, grant or sell any option or other contract for the purchase of, purchase any option or other contract for the sale of, or otherwise dispose of or transfer, or agree to engage in any of the foregoing transactions with respect to, any Shares acquired under this Agreement without the prior written consent of the Company or its managing underwriter. Such restriction (the "**Market Stand-Off**") shall be in effect for such period of time following the date of the final prospectus for the offering as may be requested by the Company or such underwriter. In no event, however, shall such period exceed 180 days plus such additional period as may reasonably be requested by the Company or such underwriter to accommodate regulatory restrictions on (i) the publication or other distribution of research reports or (ii) analyst recommendations and opinions, including (without limitation) the restrictions set forth in Rule 2711(f)(4) of the National Association of Securities Dealers and Rule 472(f)(4) of the New York Stock Exchange, as amended, or any similar successor rules. The Market Stand-Off shall in any event terminate two years after the date of the Company's initial public offering. In the event of the declaration of a stock dividend, a spin-off, a stock split, an adjustment in conversion ratio, a recapitalization or a similar transaction affecting the Company's outstanding securities without receipt of consideration, any new, substituted or additional securities which are by reason of such transaction distributed with respect to any Shares subject to the Market Stand-Off, or into which such Shares thereby become convertible, shall immediately be subject to the Market Stand-Off. In order to enforce the Market Stand-Off, the Company may impose stop-transfer instructions with respect to the Shares acquired under this Agreement until the end of the applicable stand-off period. The Company's underwriters shall be beneficiaries of the agreement set forth in this Subsection (b). This Subsection (b) shall not apply to Shares registered in the public offering under the Securities Act.

(d) **Investment Intent at Grant.** The Optionee represents and agrees that the Shares to be acquired upon exercising this option will be acquired for investment, and not with a view to the sale or distribution thereof.

(e) **Investment Intent at Exercise.** In the event that the sale of Shares under the Plan is not registered under the Securities Act but an exemption is available that requires an investment representation or other representation, the Optionee shall represent and agree at the time of exercise that the Shares being acquired upon exercising this option are being acquired for investment, and not with a view to the sale or distribution thereof, and shall make such other representations as are deemed necessary or appropriate by the Company and its counsel, including (if applicable because the Company is relying on Regulation S under the Securities Act) that as of the date of exercise the Optionee is (i) not a U.S. Person; (ii) not acquiring the Shares on behalf, or for the account or benefit, of a U.S. Person; and (iii) is not exercising the option in the United States.

(f) **Legends.** Any certificates (or electronic equivalent) evidencing Shares purchased under this Agreement shall bear the following legend:

“THE SHARES REPRESENTED HEREBY (AND ANY INTEREST THEREIN) MAY NOT BE SOLD, ASSIGNED, TRANSFERRED, ENCUMBERED OR IN ANY MANNER DISPOSED OF, EXCEPT IN COMPLIANCE WITH THE TERMS OF THE STOCK OPTION AGREEMENT PURSUANT TO WHICH SUCH SHARES WERE ACQUIRED. SUCH AGREEMENT GRANTS TO THE COMPANY CERTAIN RIGHTS OF FIRST REFUSAL UPON AN ATTEMPTED TRANSFER OF THE SHARES. IN ADDITION, THE SHARES ARE SUBJECT TO RESTRICTIONS ON TRANSFER AS SET FORTH IN SUCH STOCK OPTION AGREEMENT. THE SECRETARY OF THE COMPANY WILL UPON WRITTEN REQUEST FURNISH A COPY OF SUCH STOCK OPTION AGREEMENT TO THE HOLDER HEREOF WITHOUT CHARGE.”

Any certificates (or electronic equivalent) evidencing Shares purchased under this Agreement in an unregistered transaction shall bear the following legend (and such other restrictive legends as are required or deemed advisable under the provisions of any applicable law):

“THE SHARES REPRESENTED HEREBY HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE “ACT”) OR ANY SECURITIES LAWS OF ANY U.S. STATE, AND MAY NOT BE SOLD, REOFFERED, PLEDGED, ASSIGNED, ENCUMBERED OR OTHERWISE TRANSFERRED OR DISPOSED WITHOUT AN EFFECTIVE REGISTRATION THEREOF UNDER SUCH ACT OR AN OPINION OF COUNSEL, SATISFACTORY TO THE COMPANY AND ITS COUNSEL, THAT SUCH REGISTRATION IS NOT REQUIRED. IN THE ABSENCE OF REGISTRATION OR THE AVAILABILITY (CONFIRMED BY OPINION OF COUNSEL) OF AN ALTERNATIVE EXEMPTION FROM REGISTRATION UNDER THE ACT (INCLUDING WITHOUT LIMITATION IN ACCORDANCE WITH REGULATIONS UNDER THE ACT), THESE SHARES MAY NOT BE SOLD, REOFFERED, PLEDGED, ASSIGNED, ENCUMBERED OR OTHERWISE TRANSFERRED OR DISPOSED OF. HEDGING TRANSACTIONS INVOLVING THESE SHARES MAY NOT BE CONDUCTED UNLESS IN COMPLIANCE WITH THE ACT.”

(g) **Removal of Legends.** If, in the opinion of the Company and its counsel, any legend placed on a stock certificate representing Shares sold under this Agreement is no longer required, the holder of such certificate shall be entitled to exchange such certificate for a certificate representing the same number of Shares but without such legend.

(h) **Administration.** Any determination by the Company and its counsel in connection with any of the matters set forth in this Section 10 shall be conclusive and binding on the Optionee and all other persons.

SECTION 11. DRAG ALONG RIGHT.

(a) **Required Actions.** If the Requisite Parties approve a Sale of the Company, then Optionee hereby agrees with respect to all Shares which the Optionee own(s) or over which the Optionee otherwise exercises voting or dispositive authority:

(i) if such Sale of the Company requires stockholder approval under the Certificate, the Bylaws of the Company or any law, rule or regulation applicable to the Company, to vote (in person, by proxy or by action by written consent, as applicable) such Shares in favor of such Sale of the Company (it being understood that, within five (5) days after the delivery of a proxy or consent solicitation statement (or similar document requesting the consent or approval of stockholders) in respect of any Sale of the Company, the Stockholder shall duly execute and deliver a proxy or consent, as the case may be, in favor of such Sale of the Company);

(ii) if such transaction is a Stock Sale, to sell the same proportion of shares of capital stock of the Company beneficially held by the Optionee as is being sold by the Selling Holders to the person to whom the Selling Holders propose to sell their Shares;

(iii) to refrain from exercising any dissenters' rights or rights of appraisal under applicable law at any time with respect to such Sale of the Company;

(iv) if the consideration for such Shares pursuant to the Sale of the Company includes any securities, accept in lieu thereof an amount of cash equal to the fair value (as determined in good faith by the Company) of such securities to the extent reasonably necessary (as determined in good faith by the Company) to comply with applicable federal and state securities laws;

(v) if the Selling Holders appoint a stockholder representative (the "**Stockholder Representative**") for matters affecting the stockholders of the Company under the applicable definitive transaction agreements, to consent to (i) the appointment of such Stockholder Representative, (ii) the establishment of any applicable escrow, expense or similar fund in connection with any indemnification or similar obligations, and (iii) the payment of such Stockholder's pro rata portion (from the applicable escrow or expense fund or otherwise) of any and all reasonable fees and expenses to such Stockholder Representative in connection with such Stockholder Representative's services and duties in connection with such Sale of the Company and its related service as the representative of the Stockholders;

(vi) to agree to make representations and warranties and to agree to indemnify and other liability obligations in connection with the Sale of the Company on terms and conditions that, taken as a whole, are no less favorable to Optionee than to other holders of Common Stock of the Company; and

(vii) to execute and deliver all related documentation and take such other action in support of the Sale of the Company, as reasonably requested by the Company, including a written consent, release and/or joinder, and to not take any action inconsistent with the Sale of the Company.

(b) **Exceptions.** Notwithstanding the foregoing, an Optionee will not be required to comply with Subsection (a) above in connection with any Sale of the Company unless (i) each holder of each class or series of the Company's stock will receive the same form of consideration for their shares of such class or series as is received by other holders in respect of their shares of such same class or series of stock and (ii) each holder of Common Stock will receive the same amount of consideration per share of Common Stock as is received by other holders in respect of their shares of Common Stock, subject, in each case, to any "rollover" or similar arrangements provided in the definitive documents relating to such Sale of the Company. If the consideration to be paid in exchange for the Shares pursuant to such Sale of the Company includes any securities and due receipt thereof by the Optionee would require under applicable law (x) the registration or qualification of such securities or of any person as a broker or dealer or agent with respect to such securities; or (y) the provision to any Optionee of any information other than such information as a prudent issuer would generally furnish in an offering made solely to "accredited investors" as defined in Regulation D promulgated under the Securities Act, the Company may cause to be paid to any such Optionee in lieu thereof, against surrender of the Shares which would have otherwise been sold by such Optionee, an amount in cash equal to the fair value (as determined in good faith by the Company's Board of Directors or the Requisite Parties, as applicable) of the securities which such Optionee would otherwise receive as of the date of the issuance of such securities in exchange for the Shares.

SECTION 12. ADJUSTMENT OF SHARES.

In the event of any transaction described in Section 9(a) of the Plan, the terms of this option (including, without limitation, the number and kind of Shares subject to this option and the Exercise Price) shall be adjusted as set forth in Section 9(a) of the Plan. In the event that the Company is a party to a merger or consolidation or in the event of a sale of all or substantially all of the Company's stock or assets, this option shall be subject to the treatment provided by the Board of Directors in its sole discretion, as provided in Section 9(b) of the Plan.

SECTION 13. MISCELLANEOUS PROVISIONS.

(a) **Rights as a Stockholder.** Neither the Optionee nor the Optionee's representative shall have any rights as a stockholder with respect to any Shares subject to this option until the Optionee or the Optionee's representative becomes entitled to receive such Shares by filing a notice of exercise and paying the Purchase Price pursuant to Sections 4 and 5.

(b) **No Retention Rights.** Nothing in this option or in the Plan shall confer upon the Optionee any right to continue in Service for any period of specific duration or interfere with or otherwise restrict in any way the rights of the Company (or any Parent or Subsidiary employing or retaining the Optionee) or of the Optionee, which rights are hereby expressly reserved by each, to terminate his or her Service at any time and for any reason, with or without cause.

(c) **Notice.** Any notice required by the terms of this Agreement shall be given in writing. It shall be deemed effective upon (i) personal delivery, (ii) deposit with the United States Postal Service, by registered or certified mail, with postage and fees prepaid, (iii) deposit with Federal Express Corporation, with shipping charges prepaid or (iv) deposit with any

internationally recognized express mail courier service, with shipping charges prepaid. Notice shall be addressed to the Company at its principal executive office and to the Optionee at the address that he or she most recently provided to the Company in accordance with this Subsection (c). In addition, to the extent required or permitted pursuant to rules established by the Company from time to time, notices may be delivered electronically.

(d) **Modifications and Waivers.** No provision of this Agreement shall be modified, waived or discharged unless the modification, waiver or discharge is agreed to in writing and signed by the Optionee and by an authorized officer of the Company (other than the Optionee); provided, however, that a modification that is otherwise favorable to the Optionee (for example, providing the Optionee with additional time to exercise this option after termination of employment or providing for additional forms of payment) but causes this option to lose its tax-favored status (for example, as an ISO) shall not require the consent of the Optionee. No waiver by either party of any breach of, or of compliance with, any condition or provision of this Agreement by the other party shall be considered a waiver of any other condition or provision or of the same condition or provision at another time.

(e) **Entire Agreement.** The Notice of Stock Option Grant, this Agreement and the Plan constitute the entire contract between the parties hereto with regard to the subject matter hereof. They supersede any other agreements, representations or understandings (whether oral or written and whether express or implied) that relate to the subject matter hereof.

(f) **Choice of Law.** This Agreement shall be governed by, and construed in accordance with, the laws of the State of Delaware, as such laws are applied to contracts entered into and performed in such State.

(g) **Severability.** Whenever possible, each provision of this Agreement shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Agreement shall be held to be prohibited by or invalid under applicable law, such provision shall be ineffective only to the extent of such prohibition or invalidity, without invalidating the remainder of such provision or the remaining provisions of this Agreement.

(h) **Binding Effect on Transferees, Heirs, Successors and Assigns.** This Agreement shall be binding upon Optionee's permitted transferees, heirs, successors and assigns; provided that for any such transfer to be deemed effective, the transferee shall agree on a form prescribed by the Company to be bound by the terms and conditions of this Agreement, including the restrictions on transfer in Section 10 and the drag along right in Section 11. The Company shall not record any transfer of Shares on its books or issue a new certificate representing any such Shares unless and until such transferee shall have complied with the terms of this Subsection (h).

SECTION 14. ACKNOWLEDGEMENTS OF THE OPTIONEE.

In addition to the other terms, conditions and restrictions imposed on this option and the Shares issuable under this option pursuant to this Agreement and the Plan, the Optionee expressly acknowledges being subject to Sections 7 (Right of First Refusal), 8 (Legality of Initial Issuance), 10 (Restrictions on Transfer of Shares, including without limitation the Market Stand-Off) and 11 (Drag Along Right), as well as the following provisions:

(a) **Tax Consequences.** The Optionee agrees that the Company does not have a duty to design or administer the Plan or its other compensation programs in a manner that minimizes the Optionee's tax liabilities. The Optionee shall not make any claim against the Company or its Board of Directors, officers or employees related to tax liabilities arising from this option or the Optionee's other compensation. In particular, any Optionee subject to U.S. taxation acknowledges that this option is exempt from Section 409A of the Code only if the Exercise Price is at least equal to the Fair Market Value per Share on the Date of Grant. Since Shares are not traded on an established securities market, the determination of their Fair Market Value is made by the Board of Directors or by an independent valuation firm retained by the Company. The Optionee acknowledges that there is no guarantee in either case that the Internal Revenue Service will agree with the valuation, and the Optionee shall not make any claim against the Company or its Board of Directors, officers or employees in the event that the Internal Revenue Service asserts that the valuation was too low. In addition, if this option is designated as an ISO, the Optionee acknowledges that there is no guarantee that the option in fact qualifies for incentive stock option treatment or that it will continue to qualify for incentive stock option treatment at the time of exercise. In this regard, the Optionee acknowledges that the Company may take actions that will cause the option to cease to be eligible for incentive stock option treatment and that such actions do not require the Optionee's consent.

(b) **Electronic Delivery of Documents.** The Optionee acknowledges and agrees that the Company may, in its sole discretion, deliver all documents relating to the Company, the Plan or this option and all other documents that the Company is required to deliver to its security holders (including, without limitation, disclosures that may be required by the Securities and Exchange Commission) by email or other means of electronic transmission (including by posting them on a website maintained by the Company or a third party under contract with the Company). The Optionee acknowledges that he or she may incur costs in connection with any such delivery by means of electronic transmission, including the cost of accessing the internet and printing fees, and that an interruption of internet access may interfere with his or her ability to access the documents.

(c) **No Notice of Expiration Date.** The Optionee agrees that the Company and its officers, employees, attorneys and agents do not have any obligation to notify him or her prior to the expiration of this option pursuant to Section 6, regardless of whether this option will expire at the end of its full term or on an earlier date related to the termination of the Optionee's Service. The Optionee further agrees that he or she has the sole responsibility for monitoring the expiration of this option and for exercising this option, if at all, before it expires. This Subsection (c) shall supersede any contrary representation that may have been made, orally or in writing, by the Company or by an officer, employee, attorney or agent of the Company.

(d) **Waiver of Statutory Information Rights.** The Optionee acknowledges and agrees that, upon exercise of this option and until the first sale of the Company's Stock to the general public pursuant to a registration statement filed under the Securities Act, he or she shall waive, and shall be deemed to have waived, any rights the Optionee would otherwise have under

Section 220 of the Delaware General Corporation Law (or under similar rights pursuant to any other applicable law) to inspect for any purpose and to make copies and extracts from the Company's stock ledger, a list of its stockholders and its other books and records or the books and records of any subsidiary of the Company (the "**Inspection Rights**"). The Optionee acknowledges and understands that, but for the waiver made herein, the Optionee would be entitled, upon compliance with the procedures set forth in Section 220 of the Delaware General Corporation Law, to Inspection Rights pursuant thereto, and further acknowledges and agrees that the waiver set forth herein is a knowing and voluntary waiver of such rights, that the Optionee has received sufficient consideration for such waiver and that the Company would not be willing to provide the benefits to the Optionee hereunder without the benefit of such waiver from the Optionee. This waiver applies only in the Optionee's capacity as a stockholder and does not affect any other inspection rights the Optionee may have pursuant to any written agreement with the Company.

(e) **Plan Discretionary.** The Optionee understands and acknowledges that (i) the Plan is entirely discretionary, (ii) the Company and the Optionee's employer have reserved the right to amend, suspend or terminate the Plan at any time, (iii) the grant of an option does not in any way create any contractual or other right to receive additional grants of options (or benefits in lieu of options) at any time or in any amount and (iv) all determinations with respect to any additional grants, including (without limitation) the times when options will be granted, the number of Shares offered, the Exercise Price and the vesting schedule, will be at the sole discretion of the Company.

(f) **Termination of Service.** The Optionee understands and acknowledges that participation in the Plan ceases upon termination of his or her Service for any reason, except as may explicitly be provided otherwise in the Plan or this Agreement.

(g) **Extraordinary Compensation.** The value of this option shall be an extraordinary item of compensation outside the scope of the Optionee's employment contract, if any, and shall not be considered a part of his or her normal or expected compensation for purposes of calculating severance, resignation, redundancy or end-of-service payments, bonuses, long-service awards, pension or retirement benefits or similar payments.

(h) **Authorization to Disclose.** The Optionee hereby authorizes and directs the Optionee's employer to disclose to the Company or any Subsidiary any information regarding the Optionee's employment, the nature and amount of the Optionee's compensation and the fact and conditions of the Optionee's participation in the Plan, as the Optionee's employer deems necessary or appropriate to facilitate the administration of the Plan.

(i) **Personal Data Authorization.** The Optionee consents to the collection, use and transfer of personal data as described in this Subsection (i). The Optionee understands and acknowledges that the Company, the Optionee's employer and the Company's other Subsidiaries hold certain personal information regarding the Optionee for the purpose of managing and administering the Plan, including (without limitation) the Optionee's name, home address, telephone number, date of birth, social insurance number, salary, nationality, job title, any Shares or directorships held in the Company and details of all options or any other entitlements to Shares awarded, canceled, exercised, vested, unvested or outstanding in the

Optionee's favor (the "**Data**"). The Optionee further understands and acknowledges that the Company and/or its Subsidiaries will transfer Data among themselves as necessary for the purpose of implementation, administration and management of the Optionee's participation in the Plan and that the Company and/or any Subsidiary may each further transfer Data to any third party assisting the Company in the implementation, administration and management of the Plan. The Optionee understands and acknowledges that the recipients of Data may be located in the United States or elsewhere. The Optionee authorizes such recipients to receive, possess, use, retain and transfer Data, in electronic or other form, for the purpose of administering the Optionee's participation in the Plan, including a transfer to any broker or other third party with whom the Optionee elects to deposit Shares acquired under the Plan of such Data as may be required for the administration of the Plan and/or the subsequent holding of Shares on the Optionee's behalf. The Optionee may, at any time, view the Data, require any necessary modifications of Data or withdraw the consents set forth in this Subsection (i) by contacting the Company in writing.

SECTION 15. DEFINITIONS.

(a) "**Agreement**" shall mean this Stock Option Agreement.

(b) "**Board of Directors**" shall mean the Board of Directors of the Company, as constituted from time to time or, if a Committee has been appointed, such Committee.

(c) "**Certificate**" shall mean the Company's amended and restated certificate of incorporation as in effect from time to time.

(d) "**Company**" shall mean T-Scan Therapeutics, Inc., a Delaware corporation.

(e) "**Immediate Family**" shall mean any child, stepchild, grandchild, parent, stepparent, grandparent, spouse, sibling, mother-in-law, father-in-law, son-in-law, daughter-in-law, brother-in-law or sister-in-law and shall include adoptive relationships.

(f) "**Optionee**" shall mean the person named in the Notice of Stock Option Grant.

(g) "**Plan**" shall mean the T-Scan Therapeutics, Inc. 2018 Stock Plan, as in effect on the Date of Grant.

(h) "**Purchase Price**" shall mean the Exercise Price multiplied by the number of Shares with respect to which this option is being exercised.

(i) "**Requisite Parties**" shall mean both the Board of Directors and the Selling Holders.

(j) "**Right of First Refusal**" shall mean the Company's right of first refusal described in Section 7.

(k) **“Sale of the Company”** shall mean: (i) a transaction or series of related transactions in which a person, or a group of related persons, acquires from stockholders of the Company shares representing more than fifty percent (50%) of the outstanding voting power of the Company (a **“Stock Sale”**), (ii) a sale of all or substantially all of the assets of the Company or (iii) any other transaction that qualifies as a **“Liquidation Event”** as defined in the Certificate.

(l) **“Selling Holders”** shall mean the holders of a majority of the then-outstanding shares of Common Stock (voting together as a single class and on an as-converted basis).

(m) **“Service”** shall mean service as an Employee, Outside Director or Consultant.

(n) **“Transferee”** shall mean any person to whom the Optionee has directly or indirectly transferred any Share acquired under this Agreement.

(o) **“Transfer Notice”** shall mean the notice of a proposed transfer of Shares described in Section 7.

(p) **“U.S. Person”** shall mean a person described in Rule 902(k) of Regulation S of the Securities Act (or any successor rule or provision), which generally defines a U.S. person as any natural person resident in the United States, any estate of which any executor or administrator is a U.S. Person, or any trust of which of any trustee is a U.S. Person.

T-SCAN THERAPEUTICS, INC. 2018 STOCK PLAN
NOTICE OF STOCK OPTION GRANT (EARLY EXERCISE)

The Optionee has been granted the following option to purchase shares of the Common Stock of T-Scan Therapeutics, Inc. (the “**Company**”):

Name of Optionee :	«Name»
Total Number of Shares:	«TotalShares»
Type of Option:	«ISO» Incentive Stock Option (ISO) «NSO» Nonstatutory Stock Option (NSO)
Exercise Price per Share:	\$«PricePerShare»
Date of Grant:	«DateGrant»
Date Exercisable:	This option may be exercised at any time after the Date of Grant for all or any part of the Shares subject to this option.
Vesting Commencement Date:	«VestComDate»
Vesting Schedule:	This option shall vest, and the Right of Repurchase shall lapse, with respect to the first «Percent»% of the Shares subject to this option when the Optionee completes «CliffPeriod» months of continuous Service beginning with the Vesting Commencement Date set forth above. This option shall vest, and the Right of Repurchase shall lapse, with respect to an additional «Fraction»% of the Shares subject to this option when the Optionee completes each month of continuous Service thereafter.
Expiration Date:	«ExpDate». This option expires earlier if the Optionee’s Service terminates earlier, as provided in Section 6 of the Stock Option Agreement, or if the Company engages in certain corporate transactions, as provided in Section 9 of the Plan.

By signing below or otherwise accepting this option in a manner acceptable to the Company, the Optionee and the Company agree that this option is granted under, and governed by the terms and conditions of, this Notice of Stock Option Grant, the 2018 Stock Plan and the Stock Option Agreement. Both of the latter documents are attached to, and made a part of, this Notice of Stock Option Grant. Capitalized terms not otherwise defined herein or in the Stock Option Agreement shall have the meanings set forth in the Plan. **Section 15 of the Stock Option Agreement includes important acknowledgements of the Optionee.**

OPTIONEE:

T-SCAN THERAPEUTICS, INC.

By: _____

Title: _____

THE OPTION GRANTED PURSUANT TO THE NOTICE OF STOCK OPTION GRANT AND THIS AGREEMENT AND THE SHARES ISSUABLE UPON THE EXERCISE THEREOF HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, AND MAY NOT BE SOLD, PLEDGED, OR OTHERWISE TRANSFERRED WITHOUT AN EFFECTIVE REGISTRATION THEREOF UNDER SUCH ACT OR AN OPINION OF COUNSEL, SATISFACTORY TO THE COMPANY AND ITS COUNSEL, THAT SUCH REGISTRATION IS NOT REQUIRED.

**T-SCAN THERAPEUTICS, INC. 2018 STOCK PLAN:
STOCK OPTION AGREEMENT (EARLY EXERCISE)**

SECTION 16. GRANT OF OPTION.

(a) **Option.** On the terms and conditions set forth in the Notice of Stock Option Grant, this Agreement and the Plan, the Company has granted to the Optionee on the Date of Grant the option to purchase at the Exercise Price the number of Shares set forth in the Notice of Stock Option Grant. The Exercise Price is agreed to be at least 100% of the Fair Market Value per Share on the Date of Grant (110% of Fair Market Value if this option is designated as an ISO in the Notice of Stock Option Grant and Section 3(b) of the Plan applies). This option is intended to be an ISO or an NSO, as provided in the Notice of Stock Option Grant.

(b) **\$100,000 Limitation.** Even if this option is designated as an ISO in the Notice of Stock Option Grant, it shall be deemed to be an NSO to the extent (and only to the extent) required by the \$100,000 annual limitation under Section 422(d) of the Code.

(c) **Stock Plan and Defined Terms.** This option is granted pursuant to the Plan, a copy of which the Optionee acknowledges having received. The provisions of the Plan are incorporated into this Agreement by this reference. Except as otherwise defined in this Agreement (including without limitation Section 16 hereof), capitalized terms shall have the meaning ascribed to such terms in the Plan.

SECTION 17. RIGHT TO EXERCISE.

(a) **Exercisability.** Subject to Subsection (b) below and the other conditions set forth in this Agreement, all or part of this option may be exercised prior to its expiration at the time or times set forth in the Notice of Stock Option Grant. Shares purchased by exercising this option may be subject to the Right of Repurchase under Section 7.

(b) **Stockholder Approval.** Any other provision of this Agreement notwithstanding, no portion of this option shall be exercisable at any time prior to the approval of the Plan by the Company's stockholders.

SECTION 18. NO TRANSFER OR ASSIGNMENT OF OPTION.

Except as otherwise provided in or pursuant to this Agreement or the Plan, this option and the rights and privileges conferred hereby shall not be sold, pledged or otherwise transferred (whether by operation of law or otherwise) and shall not be subject to sale under execution, attachment, levy or similar process.

SECTION 19. EXERCISE PROCEDURES.

(a) **Notice of Exercise.** The Optionee or the Optionee's representative may exercise this option by: (i) signing and delivering written notice (on a form prescribed by the Company) to the Company pursuant to Section 14(c) specifying the election to exercise this option, the number of Shares for which it is being exercised and the form of payment, (ii) if requested by the Company, executing and delivering such stockholders agreements as apply to the holders of the Company's preferred stock (including, without limitation, any right of first refusal and co-sale agreement and/or voting agreement of the Company) and (iii) delivering payment, in a form permissible under Section 5, for the full amount of the Purchase Price (together with any applicable withholding taxes under Subsection (b)). In the event that this option is being exercised by the representative of the Optionee, the notice shall be accompanied by proof (satisfactory to the Company) of the representative's right to exercise this option. In the event of a partial exercise of this option, Shares shall be deemed to have been purchased in the order in which they vest in accordance with the Notice of Stock Option Grant.

(b) **Withholding Taxes.** In the event that the Company determines that it is required to withhold any tax (including without limitation any income tax, social insurance contributions, payroll tax, payment on account or other tax-related items arising in connection with the Optionee's participation in the Plan and legally applicable to the Optionee (the "**Tax-Related Items**")) as a result of the grant, vesting or exercise of this option, or as a result of the vesting or transfer of shares acquired upon exercise of this option, the Optionee, as a condition of this option, shall make arrangements satisfactory to the Company to enable it to satisfy all Tax-Related Items. The Optionee acknowledges that the responsibility for all Tax-Related Items is the Optionee's and may exceed the amount actually withheld by the Company (or its affiliate or agent).

(c) **Issuance of Shares.** After satisfying all requirements for exercise of this option, the Company shall cause to be issued one or more certificates evidencing, or electronic notation representing, the Shares for which this option has been exercised. Such Shares shall be registered (i) in the name of the person exercising this option, (ii) in the names of such person and his or her spouse as community property or as joint tenants with the right of survivorship or (iii) with the Company's consent, in the name of a revocable trust. Until the issuance of the Shares has been entered into the books and records of the Company or a duly authorized transfer agent of the Company, no right to vote, receive dividends or any other right as a stockholder will exist with respect to such Shares. In the case of Restricted Shares, the Company shall cause any certificates evidencing such Shares to be deposited in escrow under Section 7(c). In the case of other Shares, the Company shall cause any certificates evidencing such Shares to be delivered to or upon the order of the person exercising this option.

SECTION 20. PAYMENT FOR STOCK.

(a) **Cash.** All or part of the Purchase Price may be paid in cash or cash equivalents or pursuant to a form of electronic funds transfer acceptable to the Company.

(b) **Surrender of Stock.** At the discretion of the Board of Directors, all or any part of the Purchase Price may be paid by surrendering, or attesting to the ownership of, Shares that are already owned by the Optionee. Such Shares shall be surrendered to the Company in good form for transfer and shall be valued at their Fair Market Value as of the date when this option is exercised.

(c) **Cashless Exercise.** All or part of the Purchase Price and any withholding taxes may be paid by the delivery (on a form prescribed by the Company) of an irrevocable direction to a securities broker approved by the Company to sell Shares and to deliver all or part of the sales proceeds to the Company. However, payment pursuant to the preceding sentence shall be permitted only if (i) Stock then is publicly traded and (ii) such payment does not violate applicable law. At the discretion of the Board of Directors, all or part of the Purchase Price and any withholding taxes may be paid pursuant to another cashless exercise arrangement established by the Company.

SECTION 21. TERM AND EXPIRATION.

(a) **Basic Term.** This option shall in any event expire on the expiration date set forth in the Notice of Stock Option Grant, which date is 10 years after the Date of Grant (five years after the Date of Grant if this option is designated as an ISO in the Notice of Stock Option Grant and Section 3(b) of the Plan applies).

(b) **Termination of Service (Except by Death).** If the Optionee's Service terminates for any reason other than death, then this option shall expire on the earliest of the following occasions:

- (i) The expiration date determined pursuant to Subsection (a) above;
- (ii) The date three months after the termination of the Optionee's Service for any reason other than Disability; or
- (iii) The date six months after the termination of the Optionee's Service by reason of Disability.

The Optionee may exercise all or part of this option at any time before its expiration under the preceding sentence, but only to the extent that this option had become vested before the Optionee's Service terminated or becomes vested as a result of such termination. In the event that the Optionee dies after termination of Service but before the expiration of this option, all or part of this option may be exercised (prior to expiration) by the executors or administrators of the Optionee's estate or by any person who has acquired this option directly from the Optionee by beneficiary designation, bequest or inheritance, but only to the extent that this option had become vested before the Optionee's Service terminated or becomes vested as a result of such termination. Once this option (or portion thereof) has terminated, the Optionee shall have no further rights with respect to the option (or portion thereof) or to the underlying Shares.

(c) **Death of the Optionee.** If the Optionee dies while in Service, then this option shall expire on the earlier of the following dates:

- (i) The expiration date determined pursuant to Subsection (a) above; or
- (ii) The date 12 months after the Optionee's death.

All or part of this option may be exercised at any time before its expiration under the preceding sentence by the executors or administrators of the Optionee's estate or by any person who has acquired this option directly from the Optionee by beneficiary designation, bequest or inheritance, but only to the extent that this option had become vested before the Optionee's death or becomes vested as a result of the Optionee's death. Once this option (or portion thereof) has terminated, the Optionee shall have no further rights with respect to the option (or portion thereof) or to the underlying Shares.

(d) **Additional Vesting After Termination of Service.** The period of time beginning on the date that the Optionee's Service terminates or the date that the Optionee dies while in Service and ending on the earliest of the occasions determined pursuant to Subsections (b) or (c) above, as applicable, is referred to as the "**post-termination exercise period**". To the extent this option is not fully vested on the date the Optionee's Service terminates or the date that the Optionee dies while in Service, the Board of Directors may, during the post-termination exercise period, take action to cause this option to become vested (in whole or in part). In no event will this option become vested after termination of the Optionee's Service or death unless the Board of Directors takes affirmative action pursuant to the preceding sentence or unless expressly provided in a written agreement between the Company and the Optionee. In this regard, any provision of this Agreement or another agreement that provides for vesting upon an event (including, without limitation, a change in control) will be deemed to require Service through the occurrence of such event unless the agreement clearly provides otherwise.

(e) **Extension of Post-Termination Exercise Periods.** Following the date on which the Company's Stock is first listed for trading on an established securities market, if during any part of the exercise period described in Subsections (b)(ii) or (iii) or Subsection (c)(ii) above the exercise of this option would be prohibited solely because the issuance of Shares upon such exercise would violate the registration requirements under the Securities Act or a similar provision of other applicable law, then instead of terminating at the end of such prescribed period, the then-vested portion of this option will instead remain outstanding and not expire until the earlier of (i) the expiration date determined pursuant to Section 6(a) above or (ii) the date on which the then-vested portion of this option has been exercisable without violation of applicable law for the aggregate period (which need not be consecutive) after termination of the Optionee's Service specified in the applicable Subsection above.

(f) **Part-Time Employment and Leaves of Absence.** If the Optionee commences working on a part-time basis, then the Company may adjust the vesting schedule set forth in the Notice of Stock Option Grant. If the Optionee goes on a leave of absence, then, to the extent permitted by applicable law, the Company may adjust or suspend the vesting schedule set forth in the Notice of Stock Option Grant. Except as provided in the preceding sentence, Service shall be deemed to continue for any purpose under this Agreement while the Optionee is on a *bona fide* leave of absence approved by the Company in writing. Service shall be deemed to terminate when such leave ends, unless the Optionee immediately returns to active work when such leave ends.

(g) **Notice Concerning ISO Treatment.** Even if this option is designated as an ISO in the Notice of Stock Option Grant, it ceases to qualify for favorable tax treatment as an ISO to the extent that it is exercised:

(i) More than three months after the date when the Optionee ceases to be an Employee for any reason other than death or permanent and total disability (as defined in Section 22(e)(3) of the Code);

(ii) More than 12 months after the date when the Optionee ceases to be an Employee by reason of permanent and total disability (as defined in Section 22(e)(3) of the Code); or

(iii) More than three months after the date when the Optionee has been on a leave of absence for three months, unless the Optionee's reemployment rights following such leave were guaranteed by statute or by contract.

SECTION 22. RIGHT OF REPURCHASE.

(a) **Scope of Repurchase Right.** Until they vest in accordance with the Notice of Stock Option Grant and Subsection (b) below, the Shares acquired under this Agreement shall be Restricted Shares and shall be subject to the Company's Right of Repurchase. The Company, however, may decline to exercise its Right of Repurchase or may exercise its Right of Repurchase only with respect to a portion of the Restricted Shares. The Company may exercise its Right of Repurchase only during the Repurchase Period following the termination of the Optionee's Service, but the Right of Repurchase may be exercised automatically under Subsection (d) below. If the Right of Repurchase is exercised, the Company shall pay the Optionee an amount equal to the lower of (i) the Exercise Price of each Restricted Share being repurchased or (ii) the Fair Market Value of such Restricted Share at the time the Right of Repurchase is exercised.

(b) **Lapse of Repurchase Right.** The Right of Repurchase shall lapse with respect to the Restricted Shares in accordance with the vesting schedule set forth in the Notice of Stock Option Grant.

(c) **Escrow.** Upon issuance, any certificate(s) for Restricted Shares shall be deposited in escrow with the Company to be held in accordance with the provisions of this Agreement. Any additional or exchanged securities or other property described in Subsection (f) below shall immediately be delivered to the Company to be held in escrow. All ordinary cash dividends on Restricted Shares (or on other securities held in escrow) shall be paid directly to the

Optionee and shall not be held in escrow. Restricted Shares, together with any other assets held in escrow under this Agreement, shall be (i) surrendered to the Company for repurchase upon exercise of the Right of Repurchase or the Right of First Refusal or (ii) if held in escrow, released to the Optionee upon his or her request to the extent that the Shares have ceased to be Restricted Shares (but not more frequently than once every six months). In any event, all Shares that have ceased to be Restricted Shares, together with any other vested assets held in escrow under this Agreement, shall be released within 90 days after the earlier of (i) the termination of the Optionee's Service or (ii) the lapse of the Right of First Refusal.

(d) **Exercise of Repurchase Right.** The Company shall be deemed to have exercised its Right of Repurchase automatically for all Restricted Shares as of the commencement of the Repurchase Period, unless the Company during the Repurchase Period notifies the holder of the Restricted Shares pursuant to Section 14(c) that it will not exercise its Right of Repurchase for some or all of the Restricted Shares. The Company shall pay to the holder of the Restricted Shares the purchase price determined under Subsection (a) above for the Restricted Shares being repurchased. Payment shall be made in cash or cash equivalents and/or by canceling indebtedness to the Company incurred by the Optionee in the purchase of the Restricted Shares. If the Restricted Shares being repurchased are represented by certificate(s), any such certificate(s) shall be delivered to the Company. If the Restricted Shares being repurchased are not represented by certificate, the repurchase shall be effected by an appropriate book entry on the stock ledger for the Shares.

(e) **Termination of Rights as Stockholder.** If the Right of Repurchase is exercised in accordance with this Section 7 and the Company makes available the consideration for the Restricted Shares being repurchased, then the person from whom the Restricted Shares are repurchased shall no longer have any rights as a holder of the Restricted Shares (other than the right to receive payment of such consideration). Such Restricted Shares shall be deemed to have been repurchased pursuant to this Section 7, whether or not any certificate(s) for such Restricted Shares have been delivered to the Company or the consideration for such Restricted Shares has been accepted.

(f) **Additional or Exchanged Securities and Property.** In the event of a merger or consolidation of the Company, a sale of all or substantially all of the Company's stock or assets, any other corporate reorganization, a stock split, the declaration of a stock dividend, the declaration of an extraordinary dividend payable in a form other than stock, a spin-off, an adjustment in conversion ratio, a recapitalization or a similar transaction affecting the Company's outstanding securities, any securities or other property (including cash or cash equivalents) that are by reason of such transaction exchanged for, or distributed with respect to, any Restricted Shares shall immediately be subject to the Right of Repurchase. Appropriate adjustments to reflect the exchange or distribution of such securities or property shall be made to the number and/or class of the Restricted Shares. Appropriate adjustments shall also be made to the price per share to be paid upon the exercise of the Right of Repurchase, provided that the aggregate purchase price payable for the Restricted Shares shall remain the same. In the event of any transaction described in Section 9(b) of the Plan or any other corporate reorganization, the Right of Repurchase may be exercised by the Company's successor.

(g) **Transfer of Restricted Shares.** The Optionee shall not transfer, assign, encumber or otherwise dispose of any Restricted Shares without the Company's written consent, except as provided in the following sentence. The Optionee may transfer Restricted Shares to one or more members of the Optionee's Immediate Family or to a trust or other entity established by the Optionee solely for the benefit of the Optionee and/or one or more members of the Optionee's Immediate Family, provided in either case that the Transferee agrees in writing on a form prescribed by the Company to be bound by all provisions of this Agreement. If the Optionee transfers any Restricted Shares, then this Agreement shall apply to the Transferee to the same extent as to the Optionee.

(h) **Assignment of Repurchase Right.** The Board of Directors may freely assign the Company's Right of Repurchase, in whole or in part. Any person who accepts an assignment of the Right of Repurchase from the Company shall be entitled to and assume all of the Company's rights and obligations under this Section 7.

SECTION 23. RIGHT OF FIRST REFUSAL.

(a) **Right of First Refusal.** In the event that the Optionee proposes to sell, pledge or otherwise transfer to a third party any Shares acquired under this Agreement, or any interest in such Shares, the Company shall have the Right of First Refusal with respect to all (and not less than all) of such Shares. If the Optionee desires to transfer Shares acquired under this Agreement, the Optionee shall give a written Transfer Notice to the Company describing fully the proposed transfer, including the number of Shares proposed to be transferred, the proposed transfer price, the name and address of the proposed Transferee and proof satisfactory to the Company that the proposed sale or transfer will not violate any applicable federal, State or foreign securities laws. The Transfer Notice shall be signed both by the Optionee and by the proposed Transferee and must constitute a binding commitment of both parties to the transfer of the Shares. The Company shall have the right to purchase all, and not less than all, of the Shares on the terms of the proposal described in the Transfer Notice (subject, however, to any change in such terms permitted under Subsection (b) below) by delivery of a notice of exercise of the Right of First Refusal within 30 days after the date when the Transfer Notice was received by the Company.

(b) **Transfer of Shares.** If the Company fails to exercise its Right of First Refusal within 30 days after the date when it received the Transfer Notice, the Optionee may, not later than 90 days following receipt of the Transfer Notice by the Company, conclude a transfer of the Shares subject to the Transfer Notice on the terms and conditions no less favorable to the Optionee than those described in the Transfer Notice, provided that any such sale is made in compliance with applicable federal, State and foreign securities laws and not in violation of any other contractual restrictions to which the Optionee is bound. Any proposed transfer on terms and conditions less favorable than those described in the Transfer Notice, as well as any subsequent proposed transfer by the Optionee, shall again be subject to the Right of First Refusal and shall require compliance with the procedure described in Subsection (a) above. If the Company exercises its Right of First Refusal, the parties shall consummate the sale of the Shares on the terms set forth in the Transfer Notice within 60 days after the date when the Company received the Transfer Notice (or within such longer period as may have been specified in the Transfer Notice); provided, however, that in the event the Transfer Notice provided that payment for the Shares was to be made in a form other than cash or cash equivalents paid at the time of transfer, the Company shall have the option of paying for the Shares with cash or cash equivalents equal to the present value of the consideration described in the Transfer Notice.

(c) **Additional or Exchanged Securities and Property.** In the event of a merger or consolidation of the Company, a sale of all or substantially all of the Company's stock or assets, any other corporate reorganization, a stock split, the declaration of a stock dividend, the declaration of an extraordinary dividend payable in a form other than stock, a spin-off, an adjustment in conversion ratio, a recapitalization or a similar transaction affecting the Company's outstanding securities, any securities or other property (including cash or cash equivalents) that are by reason of such transaction exchanged for, or distributed with respect to, any Shares subject to this Section 8 shall immediately be subject to the Right of First Refusal. Appropriate adjustments to reflect the exchange or distribution of such securities or property shall be made to the number and/or class of the Shares subject to this Section 8.

(d) **Termination of Right of First Refusal.** Any other provision of this Section 8 notwithstanding, in the event that the Stock is readily tradable on an established securities market when the Optionee desires to transfer Shares, the Company shall have no Right of First Refusal, and the Optionee shall have no obligation to comply with the procedures prescribed by Subsections (a) and (b) above.

(e) **Permitted Transfers.** This Section 8 shall not apply to (i) a transfer by beneficiary designation, will or intestate succession or (ii) a transfer to one or more members of the Optionee's Immediate Family or to a trust or other entity established by the Optionee solely for the benefit of the Optionee and/or one or more members of the Optionee's Immediate Family, provided in either case that the Transferee agrees in writing on a form prescribed by the Company to be bound by all provisions of this Agreement. If the Optionee transfers any Shares acquired under this Agreement, either under this Subsection (e) or after the Company has failed to exercise the Right of First Refusal, then this Agreement shall apply to the Transferee to the same extent as to the Optionee.

(f) **Termination of Rights as Stockholder.** If the Company makes available, at the time and place and in the amount and form provided in this Agreement, the consideration for the Shares to be purchased in accordance with this Section 8, then after such time the person from whom such Shares are to be purchased shall no longer have any rights as a holder of such Shares (other than the right to receive payment of such consideration in accordance with this Agreement). Such Shares shall be deemed to have been purchased in accordance with the applicable provisions hereof, whether or not any certificate(s) therefor have been delivered as required by this Agreement.

(g) **Assignment of Right of First Refusal.** The Board of Directors may freely assign the Company's Right of First Refusal, in whole or in part. Any person who accepts an assignment of the Right of First Refusal from the Company shall be entitled to and assume all of the Company's rights and obligations under this Section 8.

SECTION 24. LEGALITY OF INITIAL ISSUANCE.

No Shares shall be issued upon the exercise of this option unless and until the Company has determined that:

- a. It and the Optionee have taken any actions required to register the Shares under the Securities Act or to perfect an exemption from the registration requirements thereof;
 - b. Any applicable listing requirement of any stock exchange or other securities market on which Stock is listed has been satisfied;
- and
- c. Any other applicable provision of federal, State or foreign law has been satisfied.

SECTION 25. NO REGISTRATION RIGHTS.

The Company may, but shall not be obligated to, register or qualify the sale of Shares under the Securities Act or any other applicable law. The Company shall not be obligated to take any affirmative action in order to cause the sale of Shares under this Agreement to comply with any law.

SECTION 26. RESTRICTIONS ON TRANSFER OF SHARES.

(a) **General Restrictions.** Unless the Stock is readily tradeable on an established securities market, the transfer of any of the Shares acquired pursuant to this Agreement (or any interest therein) shall, at the Company's request, be conditioned upon (i) effecting such transfer pursuant to a form of stock transfer agreement prescribed by the Company and (ii) payment of a transfer fee not to exceed \$5,000.

(b) **Securities Law Restrictions.** Regardless of whether the offer and sale of Shares under the Plan have been registered under the Securities Act or have been registered or qualified under the securities laws of any State or other relevant jurisdiction, the Company at its discretion may impose restrictions upon the sale, pledge or other transfer of such Shares (including the placement of appropriate legends on the stock certificates (or electronic equivalent) or the imposition of stop-transfer instructions) and may refuse (or may be required to refuse) to transfer Shares acquired hereunder (or Shares proposed to be transferred in a subsequent transfer) if, in the judgment of the Company, such restrictions, legends or refusal are necessary or appropriate to achieve compliance with the Securities Act or other relevant securities or other laws, including without limitation under Regulation S of the Securities Act or pursuant to another available exemption from registration.

(c) **Market Stand-Off.** In connection with any underwritten public offering by the Company of its equity securities pursuant to an effective registration statement filed under the Securities Act, including the Company's initial public offering, the Optionee or a Transferee shall not directly or indirectly sell, make any short sale of, loan, hypothecate, pledge, offer, grant or sell any option or other contract for the purchase of, purchase any option or other contract for the sale of, or otherwise dispose of or transfer, or agree to engage in any of the foregoing

transactions with respect to, any Shares acquired under this Agreement without the prior written consent of the Company or its managing underwriter. Such restriction (the "Market Stand-Off") shall be in effect for such period of time following the date of the final prospectus for the offering as may be requested by the Company or such underwriter. In no event, however, shall such period exceed 180 days plus such additional period as may reasonably be requested by the Company or such underwriter to accommodate regulatory restrictions on (i) the publication or other distribution of research reports or (ii) analyst recommendations and opinions, including (without limitation) the restrictions set forth in Rule 2711(f)(4) of the National Association of Securities Dealers and Rule 472(f)(4) of the New York Stock Exchange, as amended, or any similar successor rules. The Market Stand-Off shall in any event terminate two years after the date of the Company's initial public offering. In the event of the declaration of a stock dividend, a spin-off, a stock split, an adjustment in conversion ratio, a recapitalization or a similar transaction affecting the Company's outstanding securities without receipt of consideration, any new, substituted or additional securities which are by reason of such transaction distributed with respect to any Shares subject to the Market Stand-Off, or into which such Shares thereby become convertible, shall immediately be subject to the Market Stand-Off. In order to enforce the Market Stand-Off, the Company may impose stop-transfer instructions with respect to the Shares acquired under this Agreement until the end of the applicable stand-off period. The Company's underwriters shall be beneficiaries of the agreement set forth in this Subsection (b). This Subsection (b) shall not apply to Shares registered in the public offering under the Securities Act.

(d) **Investment Intent at Grant.** The Optionee represents and agrees that the Shares to be acquired upon exercising this option will be acquired for investment, and not with a view to the sale or distribution thereof.

(e) **Investment Intent at Exercise.** In the event that the sale of Shares under the Plan is not registered under the Securities Act but an exemption is available that requires an investment representation or other representation, the Optionee shall represent and agree at the time of exercise that the Shares being acquired upon exercising this option are being acquired for investment, and not with a view to the sale or distribution thereof, and shall make such other representations as are deemed necessary or appropriate by the Company and its counsel, including (if applicable because the Company is relying on Regulation S under the Securities Act) that as of the date of exercise the Optionee is (i) not a U.S. Person; (ii) not acquiring the Shares on behalf, or for the account or benefit, of a U.S. Person; and (iii) is not exercising the option in the United States.

(f) **Legends.** Any certificates (or electronic equivalent) evidencing Shares purchased under this Agreement shall bear the following legend:

"THE SHARES REPRESENTED HEREBY (AND ANY INTEREST THEREIN) MAY NOT BE SOLD, ASSIGNED, TRANSFERRED, ENCUMBERED OR IN ANY MANNER DISPOSED OF, EXCEPT IN COMPLIANCE WITH THE TERMS OF THE STOCK OPTION AGREEMENT PURSUANT TO WHICH SUCH SHARES WERE ACQUIRED. SUCH AGREEMENT GRANTS TO THE COMPANY CERTAIN RIGHTS OF FIRST REFUSAL UPON AN ATTEMPTED TRANSFER OF THE SHARES AND CERTAIN REPURCHASE RIGHTS UPON TERMINATION OF SERVICE WITH THE COMPANY. IN

ADDITION, THE SHARES ARE SUBJECT TO RESTRICTIONS ON TRANSFER AS SET FORTH IN SUCH STOCK OPTION AGREEMENT. THE SECRETARY OF THE COMPANY WILL UPON WRITTEN REQUEST FURNISH A COPY OF SUCH STOCK OPTION AGREEMENT TO THE HOLDER HEREOF WITHOUT CHARGE.”

Any certificates (or electronic equivalent) evidencing Shares purchased under this Agreement in an unregistered transaction shall bear the following legend (and such other restrictive legends as are required or deemed advisable under the provisions of any applicable law):

“THE SHARES REPRESENTED HEREBY HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE “ACT”) OR ANY SECURITIES LAWS OF ANY U.S. STATE, AND MAY NOT BE SOLD, REOFFERED, PLEDGED, ASSIGNED, ENCUMBERED OR OTHERWISE TRANSFERRED OR DISPOSED WITHOUT AN EFFECTIVE REGISTRATION THEREOF UNDER SUCH ACT OR AN OPINION OF COUNSEL, SATISFACTORY TO THE COMPANY AND ITS COUNSEL, THAT SUCH REGISTRATION IS NOT REQUIRED. IN THE ABSENCE OF REGISTRATION OR THE AVAILABILITY (CONFIRMED BY OPINION OF COUNSEL) OF AN ALTERNATIVE EXEMPTION FROM REGISTRATION UNDER THE ACT (INCLUDING WITHOUT LIMITATION IN ACCORDANCE WITH REGULATIONS UNDER THE ACT), THESE SHARES MAY NOT BE SOLD, REOFFERED, PLEDGED, ASSIGNED, ENCUMBERED OR OTHERWISE TRANSFERRED OR DISPOSED OF. HEDGING TRANSACTIONS INVOLVING THESE SHARES MAY NOT BE CONDUCTED UNLESS IN COMPLIANCE WITH THE ACT.”

(g) **Removal of Legends.** If, in the opinion of the Company and its counsel, any legend placed on a stock certificate representing Shares sold under this Agreement is no longer required, the holder of such certificate shall be entitled to exchange such certificate for a certificate representing the same number of Shares but without such legend.

(h) **Administration.** Any determination by the Company and its counsel in connection with any of the matters set forth in this Section 11 shall be conclusive and binding on the Optionee and all other persons.

SECTION 27. DRAG ALONG RIGHT.

(a) **Required Actions.** If the Requisite Parties approve a Sale of the Company, then Optionee hereby agrees with respect to all Shares which the Optionee own(s) or over which the Optionee otherwise exercises voting or dispositive authority:

(i) if such Sale of the Company requires stockholder approval under the Certificate, the Bylaws of the Company or any law, rule or regulation applicable to the Company, to vote (in person, by proxy or by action by written consent, as applicable) such Shares in favor of such Sale of the Company (it being understood that, within five (5) days after the delivery of a proxy or consent solicitation statement (or similar document requesting the consent or approval of stockholders) in respect of any Sale of the Company, the Stockholder shall duly execute and deliver a proxy or consent, as the case may be, in favor of such Sale of the Company);

(ii) if such transaction is a Stock Sale, to sell the same proportion of shares of capital stock of the Company beneficially held by the Optionee as is being sold by the Selling Holders to the person to whom the Selling Holders propose to sell their Shares;

(iii) to refrain from exercising any dissenters' rights or rights of appraisal under applicable law at any time with respect to such Sale of the Company;

(iv) if the consideration for such Shares pursuant to the Sale of the Company includes any securities, accept in lieu thereof an amount of cash equal to the fair value (as determined in good faith by the Company) of such securities to the extent reasonably necessary (as determined in good faith by the Company) to comply with applicable federal and state securities laws;

(v) if the Selling Holders appoint a stockholder representative (the "**Stockholder Representative**") for matters affecting the stockholders of the Company under the applicable definitive transaction agreements, to consent to (i) the appointment of such Stockholder Representative, (ii) the establishment of any applicable escrow, expense or similar fund in connection with any indemnification or similar obligations, and (iii) the payment of such Stockholder's pro rata portion (from the applicable escrow or expense fund or otherwise) of any and all reasonable fees and expenses to such Stockholder Representative in connection with such Stockholder Representative's services and duties in connection with such Sale of the Company and its related service as the representative of the Stockholders;

(vi) to agree to make representations and warranties and to agree to indemnify and other liability obligations in connection with the Sale of the Company on terms and conditions that, taken as a whole, are no less favorable to Optionee than to other holders of Common Stock of the Company; and

(vii) to execute and deliver all related documentation and take such other action in support of the Sale of the Company, as reasonably requested by the Company, including a written consent, release and/or joinder, and to not take any action inconsistent with the Sale of the Company.

(b) **Exceptions.** Notwithstanding the foregoing, an Optionee will not be required to comply with Subsection (a) above in connection with any Sale of the Company unless (i) each holder of each class or series of the Company's stock will receive the same form of consideration for their shares of such class or series as is received by other holders in respect of their shares of such same class or series of stock and (ii) each holder of Common Stock will

receive the same amount of consideration per share of Common Stock as is received by other holders in respect of their shares of Common Stock, subject, in each case, to any “rollover” or similar arrangements provided in the definitive documents relating to such Sale of the Company. If the consideration to be paid in exchange for the Shares pursuant to such Sale of the Company includes any securities and due receipt thereof by the Optionee would require under applicable law (x) the registration or qualification of such securities or of any person as a broker or dealer or agent with respect to such securities; or (y) the provision to any Optionee of any information other than such information as a prudent issuer would generally furnish in an offering made solely to “accredited investors” as defined in Regulation D promulgated under the Securities Act, the Company may cause to be paid to any such Optionee in lieu thereof, against surrender of the Shares which would have otherwise been sold by such Optionee, an amount in cash equal to the fair value (as determined in good faith by the Company’s Board of Directors or the Requisite Parties, as applicable) of the securities which such Optionee would otherwise receive as of the date of the issuance of such securities in exchange for the Shares.

SECTION 28. ADJUSTMENT OF SHARES.

In the event of any transaction described in Section 9(a) of the Plan, the terms of this option (including, without limitation, the number and kind of Shares subject to this option and the Exercise Price) shall be adjusted as set forth in Section 9(a) of the Plan. In the event that the Company is a party to a merger or consolidation or in the event of a sale of all or substantially all of the Company’s stock or assets, this option shall be subject to the treatment provided by the Board of Directors in its sole discretion, as provided in Section 9(b) of the Plan.

SECTION 29. MISCELLANEOUS PROVISIONS.

(a) **Rights as a Stockholder.** Neither the Optionee nor the Optionee’s representative shall have any rights as a stockholder with respect to any Shares subject to this option until the Optionee or the Optionee’s representative becomes entitled to receive such Shares by filing a notice of exercise and paying the Purchase Price pursuant to Sections 4 and 5.

(b) **No Retention Rights.** Nothing in this option or in the Plan shall confer upon the Optionee any right to continue in Service for any period of specific duration or interfere with or otherwise restrict in any way the rights of the Company (or any Parent or Subsidiary employing or retaining the Optionee) or of the Optionee, which rights are hereby expressly reserved by each, to terminate his or her Service at any time and for any reason, with or without cause.

(c) **Notice.** Any notice required by the terms of this Agreement shall be given in writing. It shall be deemed effective upon (i) personal delivery, (ii) deposit with the United States Postal Service, by registered or certified mail, with postage and fees prepaid, (iii) deposit with Federal Express Corporation, with shipping charges prepaid or (iv) deposit with any internationally recognized express mail courier service, with shipping charges prepaid. Notice shall be addressed to the Company at its principal executive office and to the Optionee at the address that he or she most recently provided to the Company in accordance with this Subsection (c). In addition, to the extent required or permitted pursuant to rules established by the Company from time to time, notices may be delivered electronically.

(d) **Modifications and Waivers.** No provision of this Agreement shall be modified, waived or discharged unless the modification, waiver or discharge is agreed to in writing and signed by the Optionee and by an authorized officer of the Company (other than the Optionee); provided, however, that a modification that is otherwise favorable to the Optionee (for example, providing the Optionee with additional time to exercise this option after termination of employment or providing for additional forms of payment) but causes this option to lose its tax-favored status (for example, as an ISO) shall not require the consent of the Optionee. No waiver by either party of any breach of, or of compliance with, any condition or provision of this Agreement by the other party shall be considered a waiver of any other condition or provision or of the same condition or provision at another time.

(e) **Entire Agreement.** The Notice of Stock Option Grant, this Agreement and the Plan constitute the entire contract between the parties hereto with regard to the subject matter hereof. They supersede any other agreements, representations or understandings (whether oral or written and whether express or implied) that relate to the subject matter hereof.

(f) **Choice of Law.** This Agreement shall be governed by, and construed in accordance with, the laws of the State of Delaware, as such laws are applied to contracts entered into and performed in such State.

(g) **Severability.** Whenever possible, each provision of this Agreement shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Agreement shall be held to be prohibited by or invalid under applicable law, such provision shall be ineffective only to the extent of such prohibition or invalidity, without invalidating the remainder of such provision or the remaining provisions of this Agreement.

(h) **Binding Effect on Transferees, Heirs, Successors and Assigns.** This Agreement shall be binding upon Optionee's permitted transferees, heirs, successors and assigns; provided that for any such transfer to be deemed effective, the transferee shall agree on a form prescribed by the Company to be bound by the terms and conditions of this Agreement, including the restrictions on transfer in Section 11 and the drag along right in Section 12. The Company shall not record any transfer of Shares on its books or issue a new certificate representing any such Shares unless and until such transferee shall have complied with the terms of this Subsection (h).

SECTION 30. ACKNOWLEDGEMENTS OF THE OPTIONEE.

In addition to the other terms, conditions and restrictions imposed on this option and the Shares issuable under this option pursuant to this Agreement and the Plan, the Optionee expressly acknowledges being subject to Sections 7 (Right of Repurchase), 8 (Right of First Refusal), 9 (Legality of Initial Issuance), 11 (Restrictions on Transfer of Shares, including without limitation the Market Stand-Off) and 12 (Drag Along Right), as well as the following provisions:

(a) **Tax Consequences.** The Optionee agrees that the Company does not have a duty to design or administer the Plan or its other compensation programs in a manner that minimizes the Optionee's tax liabilities. The Optionee shall not make any claim against the Company or its Board of Directors, officers or employees related to tax liabilities arising from this option or the Optionee's other compensation. In particular, any Optionee subject to U.S. taxation acknowledges that this option is exempt from Section 409A of the Code only if the Exercise Price is at least equal to the Fair Market Value per Share on the Date of Grant. Since Shares are not traded on an established securities market, the determination of their Fair Market Value is made by the Board of Directors or by an independent valuation firm retained by the Company. The Optionee acknowledges that there is no guarantee in either case that the Internal Revenue Service will agree with the valuation, and the Optionee shall not make any claim against the Company or its Board of Directors, officers or employees in the event that the Internal Revenue Service asserts that the valuation was too low. In addition, if this option is designated as an ISO, the Optionee acknowledges that there is no guarantee that the option in fact qualifies for incentive stock option treatment or that it will continue to qualify for incentive stock option treatment at the time of exercise. In this regard, the Optionee acknowledges that the Company may take actions that will cause the option to cease to be eligible for incentive stock option treatment and that such actions do not require the Optionee's consent.

(b) **Electronic Delivery of Documents.** The Optionee acknowledges and agrees that the Company may, in its sole discretion, deliver all documents relating to the Company, the Plan or this option and all other documents that the Company is required to deliver to its security holders (including, without limitation, disclosures that may be required by the Securities and Exchange Commission) by email or other means of electronic transmission (including by posting them on a website maintained by the Company or a third party under contract with the Company). The Optionee acknowledges that he or she may incur costs in connection with any such delivery by means of electronic transmission, including the cost of accessing the internet and printing fees, and that an interruption of internet access may interfere with his or her ability to access the documents.

(c) **No Notice of Expiration Date.** The Optionee agrees that the Company and its officers, employees, attorneys and agents do not have any obligation to notify him or her prior to the expiration of this option pursuant to Section 6, regardless of whether this option will expire at the end of its full term or on an earlier date related to the termination of the Optionee's Service. The Optionee further agrees that he or she has the sole responsibility for monitoring the expiration of this option and for exercising this option, if at all, before it expires. This Subsection (c) shall supersede any contrary representation that may have been made, orally or in writing, by the Company or by an officer, employee, attorney or agent of the Company.

(d) **Waiver of Statutory Information Rights.** The Optionee acknowledges and agrees that, upon exercise of this option and until the first sale of the Company's Stock to the general public pursuant to a registration statement filed under the Securities Act, he or she shall waive, and shall be deemed to have waived, any rights the Optionee would otherwise have under Section 220 of the Delaware General Corporation Law (or under similar rights pursuant to any other applicable law) to inspect for any purpose and to make copies and extracts from the Company's stock ledger, a list of its stockholders and its other books and records or the books and records of any subsidiary of the Company (the "**Inspection Rights**"). The Optionee

acknowledges and understands that, but for the waiver made herein, the Optionee would be entitled, upon compliance with the procedures set forth in Section 220 of the Delaware General Corporation Law, to Inspection Rights pursuant thereto, and further acknowledges and agrees that the waiver set forth herein is a knowing and voluntary waiver of such rights, that the Optionee has received sufficient consideration for such waiver and that the Company would not be willing to provide the benefits to the Optionee hereunder without the benefit of such waiver from the Optionee. This waiver applies only in the Optionee's capacity as a stockholder and does not affect any other inspection rights the Optionee may have pursuant to any written agreement with the Company.

(e) **Plan Discretionary.** The Optionee understands and acknowledges that (i) the Plan is entirely discretionary, (ii) the Company and the Optionee's employer have reserved the right to amend, suspend or terminate the Plan at any time, (iii) the grant of an option does not in any way create any contractual or other right to receive additional grants of options (or benefits in lieu of options) at any time or in any amount and (iv) all determinations with respect to any additional grants, including (without limitation) the times when options will be granted, the number of Shares offered, the Exercise Price and the vesting schedule, will be at the sole discretion of the Company.

(f) **Termination of Service.** The Optionee understands and acknowledges that participation in the Plan ceases upon termination of his or her Service for any reason, except as may explicitly be provided otherwise in the Plan or this Agreement.

(g) **Extraordinary Compensation.** The value of this option shall be an extraordinary item of compensation outside the scope of the Optionee's employment contract, if any, and shall not be considered a part of his or her normal or expected compensation for purposes of calculating severance, resignation, redundancy or end-of-service payments, bonuses, long-service awards, pension or retirement benefits or similar payments.

(h) **Authorization to Disclose.** The Optionee hereby authorizes and directs the Optionee's employer to disclose to the Company or any Subsidiary any information regarding the Optionee's employment, the nature and amount of the Optionee's compensation and the fact and conditions of the Optionee's participation in the Plan, as the Optionee's employer deems necessary or appropriate to facilitate the administration of the Plan.

(i) **Personal Data Authorization.** The Optionee consents to the collection, use and transfer of personal data as described in this Subsection (i). The Optionee understands and acknowledges that the Company, the Optionee's employer and the Company's other Subsidiaries hold certain personal information regarding the Optionee for the purpose of managing and administering the Plan, including (without limitation) the Optionee's name, home address, telephone number, date of birth, social insurance number, salary, nationality, job title, any Shares or directorships held in the Company and details of all options or any other entitlements to Shares awarded, canceled, exercised, vested, unvested or outstanding in the Optionee's favor (the "**Data**"). The Optionee further understands and acknowledges that the Company and/or its Subsidiaries will transfer Data among themselves as necessary for the purpose of implementation, administration and management of the Optionee's participation in the Plan and that the Company and/or any Subsidiary may each further transfer Data to any third

party assisting the Company in the implementation, administration and management of the Plan. The Optionee understands and acknowledges that the recipients of Data may be located in the United States or elsewhere. The Optionee authorizes such recipients to receive, possess, use, retain and transfer Data, in electronic or other form, for the purpose of administering the Optionee's participation in the Plan, including a transfer to any broker or other third party with whom the Optionee elects to deposit Shares acquired under the Plan of such Data as may be required for the administration of the Plan and/or the subsequent holding of Shares on the Optionee's behalf. The Optionee may, at any time, view the Data, require any necessary modifications of Data or withdraw the consents set forth in this Subsection (i) by contacting the Company in writing.

SECTION 31. DEFINITIONS.

(a) "**Agreement**" shall mean this Stock Option Agreement.

(b) "**Board of Directors**" shall mean the Board of Directors of the Company, as constituted from time to time or, if a Committee has been appointed, such Committee.

(c) "**Certificate**" shall mean the Company's amended and restated certificate of incorporation as in effect from time to time.

(d) "**Company**" shall mean T-Scan Therapeutics, Inc., a Delaware corporation.

(e) "**Immediate Family**" shall mean any child, stepchild, grandchild, parent, stepparent, grandparent, spouse, sibling, mother-in-law, father-in-law, son-in-law, daughter-in-law, brother-in-law or sister-in-law and shall include adoptive relationships.

(f) "**Optionee**" shall mean the person named in the Notice of Stock Option Grant.

(g) "**Plan**" shall mean the T-Scan Therapeutics, Inc. 2018 Stock Plan, as in effect on the Date of Grant.

(h) "**Purchase Price**" shall mean the Exercise Price multiplied by the number of Shares with respect to which this option is being exercised.

(i) "**Repurchase Period**" shall mean a period of 90 consecutive days commencing on the date when the Optionee's Service terminates for any reason, including (without limitation) death or disability.

(j) "**Requisite Parties**" shall mean both the Board of Directors and the Selling Holders.

(k) "**Restricted Share**" shall mean a Share that is subject to the Right of Repurchase.

(l) “**Right of First Refusal**” shall mean the Company’s right of first refusal described in Section 8.

(m) “**Right of Repurchase**” shall mean the Company’s right of repurchase described in Section 7.

(n) “**Sale of the Company**” shall mean: (i) a transaction or series of related transactions in which a person, or a group of related persons, acquires from stockholders of the Company shares representing more than fifty percent (50%) of the outstanding voting power of the Company (a “**Stock Sale**”), (ii) a sale of all or substantially all of the assets of the Company or (iii) any other transaction that qualifies as a “Liquidation Event” as defined in the Certificate.

(o) “**Selling Holders**” shall mean the holders of a majority of the then-outstanding shares of Common Stock (voting together as a single class and on an as-converted basis).

(p) “**Service**” shall mean service as an Employee, Outside Director or Consultant.

(q) “**Transferee**” shall mean any person to whom the Optionee has directly or indirectly transferred any Share acquired under this Agreement.

(r) “**Transfer Notice**” shall mean the notice of a proposed transfer of Shares described in Section 8.

(s) “**U.S. Person**” shall mean a person described in Rule 902(k) of Regulation S of the Securities Act (or any successor rule or provision), which generally defines a U.S. person as any natural person resident in the United States, any estate of which any executor or administrator is a U.S. Person, or any trust of which of any trustee is a U.S. Person.

T-SCAN THERAPEUTICS, INC. 2018 STOCK PLAN
NOTICE OF STOCK OPTION EXERCISE (INSTALLMENT EXERCISE)
You must sign this Notice on Page 4 before submitting it to the Company.

OPTIONEE INFORMATION:

Name: _____

Social Security Number: _____

Address: _____

Employee Number: _____

Email Address: _____

OPTION INFORMATION:

Date of Grant: _____, 20__

Type of Stock Option:

Exercise Price per Share: \$_____

Nonstatutory (NSO)

Total number of shares of Common Stock of T-Scan
Therapeutics, Inc. (the "Company") covered by the option:

Incentive (ISO)

EXERCISE INFORMATION:

Number of shares of Common Stock of the Company for which the option is being exercised now: _____. (These shares are referred to below as the "Purchased Shares.")

Total Exercise Price for the Purchased Shares: \$_____

Form of payment enclosed **[check all that apply]:**

Check for \$_____, payable to "T-Scan Therapeutics, Inc."

Certificate(s) for _____ shares of Common Stock of the Company. These shares will be valued as of the date this notice is received by the Company. **[Requires Company consent.]**

Attestation Form covering _____ shares of Common Stock of the Company. These shares will be valued as of the date this notice is received by the Company. **[Requires Company consent.]**

Name(s) in which the Purchased Shares should be registered **[please review the attached explanation of the available forms of ownership, and then check one box]*:**

In my name only

- In the names of my spouse and myself as community property
- In the names of my spouse and myself as community property with the right of survivorship
- In the names of my spouse and myself as joint tenants with the right of survivorship
- In the name of an eligible revocable trust ***[requires Stock Transfer Agreement]***

My spouse's name (if applicable):

Full legal name of revocable trust:

* While the Company will register the Purchased Shares in accordance with your instruction, this document does not control or change the nature of the Purchased Shares as community property or separate property. You are advised to consult your own advisor to determine if additional steps or documentation are required in this regard.

REPRESENTATIONS AND ACKNOWLEDGEMENTS OF THE OPTIONEE:

1. I represent and warrant to the Company that I am acquiring and will hold the Purchased Shares for investment for my account only, and not with a view to, or for resale in connection with, any "distribution" of the Purchased Shares within the meaning of the Securities Act of 1933, as amended (the "Securities Act").
2. I understand that my purchase of the Purchased Shares has not been registered under the Securities Act by reason of a specific exemption therefrom and that the Purchased Shares must be held indefinitely, unless they are subsequently registered under the Securities Act or I obtain an opinion of counsel (in form and substance satisfactory to the Company and its counsel) that registration is not required.
3. I acknowledge that the Company is under no obligation to register the Purchased Shares or any sale or transfer thereof.
4. I am aware of Rule 144 under the Securities Act, which permits limited public resales of securities acquired in a non-public offering, subject to the satisfaction of certain conditions. These conditions may include (without limitation) that certain current public information about the issuer be available, that the resale occur only after a holding period required by Rule 144 has been satisfied, that the sale occur through an unsolicited "broker's transaction" and that the amount of securities being sold during any three-month period not exceed specified limitations. I understand that the conditions for resale set forth in Rule 144 have not been satisfied as of the date set forth below, and that the Company is not required to take action to satisfy any conditions applicable to it.
5. I will not sell, transfer or otherwise dispose of the Purchased Shares in violation of the Securities Act, the Securities Exchange Act of 1934, or the rules promulgated thereunder, including Rule 144 under the Securities Act.
6. I acknowledge that I have received and had access to such information as I consider necessary or appropriate for deciding whether to invest in the Purchased Shares and that I had an opportunity to ask questions and receive answers from the Company regarding the terms and conditions of the issuance of the Purchased Shares.

7. I am aware that my investment in the Company is a speculative investment that has limited liquidity and is subject to the risk of complete loss. I am able, without impairing my financial condition, to hold the Purchased Shares for an indefinite period and to suffer a complete loss of my investment in the Purchased Shares.
8. I acknowledge that the Purchased Shares remain subject to the Company's right of first refusal, the drag-along right and the market stand-off (sometimes referred to as the "lock-up"), all in accordance with the applicable Notice of Stock Option Grant and Stock Option Agreement. I acknowledge that any transfer of the Purchased Shares may be subject to a transfer fee and must be effected on the Company's form of stock transfer agreement, as further described in the Stock Option Agreement.
9. I acknowledge that I am acquiring the Purchased Shares subject to all other terms of the Notice of Stock Option Grant and Stock Option Agreement.
10. I acknowledge that I have received a copy of the Company's explanation of the forms of ownership available for my Purchased Shares. I acknowledge that the Company has encouraged me to consult my own adviser to determine the form of ownership that is appropriate for me. In the event that I choose to transfer my Purchased Shares to a trust, I agree to sign a Stock Transfer Agreement on a form prescribed by the Company. In the event that I choose to transfer my Purchased Shares to a trust that does not satisfy the requirements described in the attached explanation (i.e., a trust that is not an eligible revocable trust), I also acknowledge that the transfer will be treated as a "disposition" for tax purposes. As a result, the favorable ISO tax treatment will be unavailable and other unfavorable tax consequences may occur.
11. I acknowledge that I have received a copy of the Company's explanation of the federal income tax consequences of an option exercise. I acknowledge that the Company has encouraged me to consult my own adviser to determine the tax consequences of acquiring the Purchased Shares at this time.
12. I agree that the Company does not have a duty to design or administer the 2018 Stock Plan or its other compensation programs in a manner that minimizes my tax liabilities. I will not make any claim against the Company or its Board of Directors, officers or employees related to tax liabilities arising from my options or my other compensation. In particular, I acknowledge that my options are exempt from section 409A of the Internal Revenue Code only if the exercise price per share is at least equal to the fair market value per share of the Company's Common Stock at the time the option was granted by the Company's Board of Directors. Since shares of the Company's Common Stock are not traded on an established securities market, the determination of their fair market value was made by the Company's Board of Directors or by an independent valuation firm retained by the Company. I acknowledge that there is no guarantee in either case that the Internal Revenue Service will agree with the valuation, and I will not make any claim against the Company or its Board of Directors, officers or employees in the event that the Internal Revenue Service asserts that the valuation was too low.
13. I agree to seek the consent of my spouse to the extent required by the Company to enforce the foregoing.
14. I consent, with respect to all shares of capital stock of the Company held by me, to receive any notice given by the Company under its certificate of incorporation or bylaws, as the same may be amended and/or restated from time to time, the General Corporation Law of the State of Delaware (the "General Corporation Law") or otherwise, by electronic transmission pursuant to Section 232 of the General Corporation Law at the email address set forth above. I further acknowledge and

agree that the Company may rely upon any expressions of my consent to proposed corporate actions received from the email address provided above. I hereby agree to notify the Company of any change to my email address set forth above, and further agree that the provision of such notice shall constitute my consent to receive notice and to provide my expression of consent as provided herein at such address. In the event that the Company is unable to deliver notice to me at the e-mail address set forth above, I shall, within five (5) days after a request by the Company, provide the Company with a valid e-mail address to which I consent to receive notice and to provide expressions of consent as provided herein.

SIGNATURE:

DATE:

PURPOSE OF THIS EXPLANATION

The purpose of this explanation is to provide you with a brief summary of the forms of legal ownership available for the shares that you are purchasing (the “Purchased Shares”). For a number of reasons, this explanation is no substitute for personal legal advice:

- To make the explanation short and readable, only the highlights are covered. Some legal rules are not addressed, even though they may be important in particular cases.
- While the summary attempts to deal with the most common situations, your own situation may well be different from the norm.
- The law may change, and the Company is not responsible for updating this summary.
- The form in which you own your shares may have a *substantial* impact on the estate tax treatment that applies to those shares when you die or the income tax treatment that applies when your survivors sell the shares after your death.

FOR THESE REASONS, THE COMPANY STRONGLY ENCOURAGES YOU TO CONSULT YOUR OWN ADVISER BEFORE EXERCISING YOUR OPTION AND BEFORE MAKING A DECISION ABOUT THE FORM OF OWNERSHIP FOR YOUR SHARES.

OVERVIEW

The Notice of Stock Option Exercise offers five forms of taking title to the Purchased Shares:

- In your name only,
- In your name and the name of your spouse as community property,
- In your name and the name of your spouse as community property with the right of survivorship,
- In your name and the name of your spouse as joint tenants with the right of survivorship, or
- In the name of an eligible revocable trust.

Title in the Purchased Shares depends upon (a) your marital status, (b) the marital property laws of your state of residence and (c) any agreement with your spouse altering the existing marital property laws of your state of residence. If you are not married, you generally will take title in your name alone. If you are married, title depends upon the marital property laws of your state of residence. In general, states are classified either as “community property” states or as “common-law property” states. (But individual state law may vary within these classifications.)

COMMUNITY PROPERTY AND JOINT TENANCY

Community property states include California, Texas, Washington, Arizona, Nevada, New Mexico, Idaho, Louisiana and Wisconsin. In a community property state, property acquired during marriage by either spouse is presumed to be one-half owned by each spouse. All other property is classified as the separate property of the spouse who acquires the property. While either spouse has equal management and control over the community property and may sell, spend or encumber all community property, neither spouse may gift community property or partition his/her one-half interest without the consent of the other spouse. Upon divorce, all community property is divided equally among the spouses and each spouse is entitled to retain all of his/her separate property. Upon the death of a spouse, one-half of the community property (and all of the decedent spouse's separate property) will pass to the decedent spouse's heirs. The other one-half of the community property remains the property of the surviving spouse.

Other states are common-law property states. In a common-law property state, each spouse is generally deemed to own whatever he/she earns or acquires.

A married couple may elect to alter the marital property rules by mutually agreeing to take title to property in other forms. For example, a couple residing in a community property state may generally enter into an agreement and transform what otherwise would be community property into the separate property of the spouse who earns or acquires the property.

In addition, many community property and common-law property states allow married couples to take joint title in property acquired during marriage. For example, California allows a married couple to take title in a joint tenancy with the right of survivorship. In a joint tenancy, each spouse owns a one-half interest in the property as separate property. This means that each spouse may transfer or sell his/her one-half interest in the property while he/she is alive. However, unlike traditional separate property, a spouse cannot transfer his/her one-half interest to heirs at death. Instead, the surviving spouse *automatically* receives the decedent spouse's one-half interest and becomes the full owner of the property. (This is called the "right of survivorship.") Both spouses must consent to taking property in a joint tenancy in lieu of having the community property laws apply.

California also allows a married couple to take title in the shares as community property with the right of survivorship. This means that the shares are treated like community property while both spouses are alive. However, if one spouse dies, then the other spouse automatically receives the decedent spouse's one-half interest and becomes the full owner of the shares. In other words, the decedent spouse's will or trust does *not* control the disposition of the shares.

If you have the Purchased Shares issued in a form other than those described above, then the transfer will be treated as a "disposition" for tax purposes. This means that the effect, for tax purposes, will be the same as selling the Purchased Shares. Please refer to the attached tax summary for additional information.

TRUSTS

A transfer to a trust generally should not be treated as a “disposition” of the Purchased Shares for tax purposes if the trust satisfies each of the following conditions:

- You are the sole grantor of the trust,
- You are the sole trustee, or you and your spouse are the sole co-trustees,
- The trustee or trustees are not required to distribute the income of the trust to any person other than you and/or your spouse while you are alive, and
- The trust permits you to revoke all or part of the trust and to have the trust’s assets returned to you, without the consent of any other person (including your spouse).

If you have the Purchased Shares issued to a trust that does not meet these requirements, then the transfer will be treated as a “disposition” for tax purposes. This means that the effect, for tax purposes, will be the same as selling the Purchased Shares. Please refer to the attached tax summary for additional information.

If you have the Purchased Shares issued to any trust, you will be required to sign a Stock Transfer Agreement in your capacity as trustee. Under the Stock Transfer Agreement, the Purchased Shares remain subject to the Company’s right of first refusal in accordance with the applicable Notice of Stock Option Grant and Stock Option Agreement.

THE COMPANY WILL NOT CHECK TO DETERMINE WHETHER THE FORM OF OWNERSHIP THAT YOU ELECT IN YOUR NOTICE OF STOCK OPTION EXERCISE IS APPROPRIATE. YOU SHOULD CONSULT YOUR OWN ADVISERS ON THIS SUBJECT. IF AN INAPPROPRIATE ELECTION IS MADE, THE FORM OF OWNERSHIP MAY NOT WITHSTAND LEGAL SCRUTINY OR MAY HAVE ADVERSE TAX CONSEQUENCES.

EXPLANATION OF U.S. FEDERAL INCOME TAX CONSEQUENCES
(Current as of January 2018)

PURPOSE OF THIS EXPLANATION

The purpose of this explanation is to provide you with a brief summary of the tax consequences of exercising your option. For a number of reasons, this explanation is no substitute for personal tax advice:

- To make the explanation short and readable, only the highlights are covered. Some tax rules are not addressed, even though they may be important in particular cases.
- While the summary attempts to deal with the most common situations, your own tax situation may well be different from the norm.
- State and foreign income taxes are not addressed at all, even though they could have a significant impact on your tax planning. Likewise, federal gift and estate taxes and state inheritance taxes are not discussed.
- Tax planning involving incentive stock options is exceedingly complex, in part because of the possible application of the alternative minimum tax.
- This explanation assumes that your option is not subject to section 409A of the Internal Revenue Code. However, the Company cannot be certain that section 409A is inapplicable to your option. (Please refer to the last segment of this summary for more information about section 409A.)
- The tax rules change often, and the Company is not responsible for updating this summary. (Please refer to the date at the top of this page.)

FOR THESE REASONS, THE COMPANY STRONGLY ENCOURAGES YOU TO CONSULT YOUR OWN TAX ADVISER BEFORE EXERCISING YOUR OPTION.

EXERCISE OF NSO

If you are exercising an NSO, you generally will be taxed at the time of exercise. You will recognize ordinary income in an amount equal to the excess of (a) the fair market value of the Purchased Shares on the date of exercise over (b) the exercise price you are paying. If you are an employee or former employee of the Company, this amount is subject to withholding for income and payroll taxes. Your tax basis in the Purchased Shares (to calculate capital gain when you sell the shares) is equal to the sum of the exercise price you paid for the Purchased Shares plus any additional amount you recognized as income on the exercise date.

DISPOSITION OF NSO SHARES

When you dispose of the Purchased Shares, you will recognize a capital gain equal to the excess of (a) the sale proceeds over (b) your tax basis in the Purchased Shares. If the sale proceeds are less than your tax basis, you will recognize a capital loss. The capital gain or loss will be long-term if you held the Purchased Shares for more than 12 months. The holding period starts when you exercise your NSO. In general, the maximum marginal federal income tax rate on long-term capital gains is 20% under current law, but lower long-term capital gain rates may apply to certain taxpayers.

Effective January 1, 2013, as a result of the Health Care and Education Reconciliation Act of 2010, an additional Medicare contribution tax is imposed at a rate of 3.8% on the “net investment income” of individuals with adjusted gross incomes in excess of \$200,000 (\$250,000 in the case of a joint return, and \$125,000 in the case of a married taxpayer filing separately). “Net investment income” includes income from interest, dividends, and capital gains, reduced by the deductions properly allocated to such income.

Depending on the level of your adjusted gross income, the additional Medicare contribution tax may be imposed on any short-term and long-term capital gain income and can increase your marginal tax rate.

LIMIT ON ISO TREATMENT

The Notice of Stock Option Grant indicates whether your option is a nonstatutory stock option (NSO) or an incentive stock option (ISO). The favorable tax treatment for ISOs is limited, regardless of what the Notice of Stock Option Grant indicates. Of the options that become exercisable in any calendar year, only options covering the first \$100,000 of stock are eligible for ISO treatment. The excess over \$100,000 automatically receives NSO treatment. For this purpose, stock is valued at the time of grant. This means that the value is generally equal to the exercise price.

For example, assume that you hold an option to buy 60,000 shares for \$8 per share. Assume further that the entire option becomes exercisable in four equal annual installments. Only the first 50,000 shares qualify for ISO treatment. (12,500 times \$8 equals \$100,000.) The remaining 10,000 shares will be treated as if they had been acquired by exercising an NSO. This is true regardless of when the option is *actually* exercised; what matters is when it first *could* have been exercised.

EXERCISE OF ISO AND ISO HOLDING PERIODS

If you are exercising an ISO, you will not be taxed under the *regular* tax rules until you dispose of the Purchased Shares.⁵ (The alternative minimum tax rules are described below.) The tax treatment at the time of disposition depends on how long you hold the shares. You will satisfy the ISO holding periods if you hold the Purchased Shares until the *later* of the following dates:

- More than two years after the ISO was granted, and
- More than one year after the ISO is exercised.

DISPOSITION OF ISO SHARES

If you dispose of the Purchased Shares after satisfying *both* of the ISO holding periods, then you will recognize only a long-term capital gain at the time of disposition. The amount of the capital gain is equal to the excess of (a) the sale proceeds over (b) the exercise price. In general, the maximum marginal federal income tax rate on long-term capital gains is 20% under current law, but lower long-term capital gain rates may apply to certain taxpayers.

Effective January 1, 2013, as a result of the Health Care and Education Reconciliation Act of 2010, an additional Medicare contribution tax is imposed at a rate of 3.8% on the “net investment income” of individuals with adjusted gross incomes in excess of \$200,000 (\$250,000 in the case of a joint return, and \$125,000 in the case of a married taxpayer filing separately). “Net investment income” includes income from interest, dividends, and capital gains, reduced by the deductions properly allocated to such income.

If you dispose of the Purchased Shares before either or both of the ISO holding periods are met, then you will recognize ordinary income at the time of disposition. The amount of ordinary income will be equal to the excess of (a) the fair market value of the Purchased Shares on the date of exercise over (b) the exercise price. But if the disposition is an arm’s length sale to an unrelated party, the amount of ordinary income will not exceed the total gain from the sale. Under current IRS rules, the ordinary income amount will not be subject to withholding for income or payroll taxes.

Your tax basis in the Purchased Shares will be equal to the sum of the exercise price you paid for the Purchased Shares plus any additional amount you recognized as ordinary income. Any gain in excess of your basis will be taxed as a capital gain—either long-term or short-term, depending on how long you held the Purchased Shares after the date of exercise.

SUMMARY OF ALTERNATIVE MINIMUM TAX

The alternative minimum tax (AMT) must be paid to the extent that it exceeds your regular federal income tax for the year. For 2018, the first \$191,500 (\$95,750 for a married taxpayer filing a separate return) of your alternative minimum taxable income for the year over the allowable exemption amount (see below) is subject to alternative minimum taxation at the rate of 26%. The balance of your alternative minimum taxable income is subject to alternative minimum taxation at the rate of 28%. The dollar thresholds dividing the 26% and 28% rates are indexed for inflation in future years. Your alternative minimum tax base is equal to your alternative minimum taxable income (AMTI) minus your exemption amount.

⁵ Generally, a “disposition” of shares purchased under an ISO encompasses any transfer of legal title, such as a transfer by sale, exchange or gift. It generally does not include a transfer to your spouse, a transfer into joint ownership with right of survivorship (if you remain one of the joint owners), a pledge, a transfer by bequest or inheritance, or certain tax-free exchanges permitted under the Internal Revenue Code. A transfer to a trust is a “disposition” unless the trust is an eligible revocable trust, as described in the attached explanation.

- **Alternative Minimum Taxable Income.** Your AMTI is equal to your regular taxable income, subject to certain adjustments and increased by items of tax preference. Among the many adjustments made in computing AMTI are the following:
 - State and local income and property taxes are not allowed as a deduction.
 - Certain interest and other deductions are not allowed.
 - When an ISO is exercised, the spread is added to income for AMT purposes. (See discussion below.)
- **Exemption Amount.** Before AMT is calculated, AMTI is reduced by the exemption amount. Under current law, the exemption amount is as follows:

<u>Year:</u>	<u>Joint Returns:</u>	<u>Single Returns:</u>	<u>Separate Returns:</u>
2018 ⁶	\$ 109,400	\$ 70,300	\$ 54,700

The allowable exemption amount is reduced by \$0.25 for each \$1.00 by which alternative minimum taxable income for the year exceeds the following amounts:

<u>Year:</u>	<u>Joint Returns:</u>	<u>Single Returns:</u>	<u>Separate Returns:</u>
2018 ⁷	\$ 1,000,000	\$ 500,000	\$ 500,000

This means, for example, in 2018, the \$109,400 exemption amount is phased out completely for married individuals filing joint returns when their alternative minimum taxable income reaches \$1,437,600 $[(\$109,400 \div \$0.25) + \$1,000,000]$.

APPLICATION OF AMT WHEN ISO IS EXERCISED

As noted above, when an ISO is exercised, the spread is included in AMTI at the time of exercise.

A special rule applies if you dispose of the Purchased Shares in the same year in which you exercised the ISO. If the amount you realize on the sale is less than the value of the stock at the time of exercise, then the amount includible in AMTI on account of the ISO exercise is limited to the gain realized on the sale.⁸

To the extent that your AMT is attributable to the spread on exercising an ISO (and certain other items), you may be able to apply the AMT that you paid as a credit against your income tax liability in future years. But the rules on calculating the available tax credits were amended frequently in recent years and have become extraordinarily complex. On this issue in particular, you must consult your own tax adviser.

⁶ Amounts are indexed for inflation in future years.

⁷ Amounts are indexed for inflation in future years.

⁸ This is similar to the rule that applies under the regular tax system in the event of a disqualifying disposition of ISO stock. The amount of ordinary income that must be recognized in that case generally does not exceed the amount of the gain realized in the disposition.

When Purchased Shares are sold, your basis for purposes of computing the capital gain or loss under the AMT system is increased by the option spread that exists at the time of exercise. Again, an ISO is treated under the AMT system much like an NSO is treated under the regular tax system. But your basis in the ISO shares for purposes of computing gain or loss under the regular tax system does *not* reflect any AMT that you pay on the spread at exercise. Therefore, if you pay AMT in the year of the ISO exercise and regular income tax in the year of selling the Purchased Shares, you could pay tax twice on the same gain (except to the extent that you can use the AMT credit described above).

SECTION 409A OF THE INTERNAL REVENUE CODE

The preceding summary assumes that section 409A of the Internal Revenue Code does not apply to your option. In general, your option is exempt from section 409A if the exercise price per share is at least equal to the fair market value per share of the Company's Common Stock at the time the option was granted by the Board of Directors. Since shares of Common Stock are not traded on an established securities market, the determination of their fair market value generally is made by the Board of Directors or by an independent appraisal firm retained by the Company. In either case, there is no guarantee that the Internal Revenue Service will agree with the valuation.

If your option were found to be subject to section 409A, then you would be required to recognize ordinary income as early as the year in which the option (or portion thereof) vests. This amount would also be subject to a 20% federal tax *in addition to* the federal income tax at your usual marginal rate for ordinary income. Additional state income taxes may apply in some states.

DISCLAIMER UNDER IRS CIRCULAR 230

To ensure compliance with requirements imposed by U.S. tax authorities, we inform you that any U.S. tax advice contained in the foregoing summary is not intended or written to be used, and cannot be used, for the purpose of (i) avoiding United States federal, state or local tax penalties, or (ii) promoting, marketing or recommending to another party any matters addressed herein (including any attachments).

**T-SCAN THERAPEUTICS, INC. 2018 STOCK PLAN
NOTICE OF STOCK OPTION EXERCISE (EARLY EXERCISE)**

You must sign this Notice on Page 4 before submitting it to the Company.

OPTIONEE INFORMATION:

Name: _____

Social Security Number: _____

Address: _____

Employee Number: _____

Email Address: _____

OPTION INFORMATION:

Date of Grant: _____, 20__

Type of Stock Option:

Exercise Price per Share: \$_____

Nonstatutory (NSO)

Total number of shares of Common Stock of T-Scan Therapeutics, Inc. (the "Company") covered by the option: _____

Incentive (ISO)

EXERCISE INFORMATION:

Number of shares of Common Stock of the Company for which the option is being exercised now: _____. (These shares are referred to below as the "Purchased Shares.")

Total Exercise Price for the Purchased Shares: \$_____

Form of payment enclosed **[check all that apply]:**

Check for \$_____, payable to "T-Scan Therapeutics, Inc."

Certificate(s) for _____ shares of Common Stock of the Company. These shares will be valued as of the date this notice is received by the Company. **[Requires Company consent.]**

Attestation Form covering _____ shares of Common Stock of the Company. These shares will be valued as of the date this notice is received by the Company. **[Requires Company consent.]**

Name(s) in which the Purchased Shares should be registered **[please review the attached explanation of the available forms of ownership, and then check one box]*:**

In my name only

In the names of my spouse and myself as community property

My spouse's name (if applicable):

In the names of my spouse and myself as community property with the right of survivorship

In the names of my spouse and myself as joint tenants with the right of survivorship

In the name of an eligible revocable trust **[requires Stock Transfer Agreement]**

Full legal name of revocable trust:

* While the Company will register the Purchased Shares in accordance with your instruction, this document does not control or change the nature of the Purchased Shares as community property or separate property. You are advised to consult your own advisor to determine if additional steps or documentation are required in this regard.

REPRESENTATIONS AND ACKNOWLEDGEMENTS OF THE OPTIONEE:

1. I represent and warrant to the Company that I am acquiring and will hold the Purchased Shares for investment for my account only, and not with a view to, or for resale in connection with, any “distribution” of the Purchased Shares within the meaning of the Securities Act of 1933, as amended (the “Securities Act”).
2. I understand that my purchase of the Purchased Shares has not been registered under the Securities Act by reason of a specific exemption therefrom and that the Purchased Shares must be held indefinitely, unless they are subsequently registered under the Securities Act or I obtain an opinion of counsel (in form and substance satisfactory to the Company and its counsel) that registration is not required.
3. I acknowledge that the Company is under no obligation to register the Purchased Shares or any sale or transfer thereof.
4. I am aware of Rule 144 under the Securities Act, which permits limited public resales of securities acquired in a non-public offering, subject to the satisfaction of certain conditions. These conditions may include (without limitation) that certain current public information about the issuer be available, that the resale occur only after a holding period required by Rule 144 has been satisfied, that the sale occur through an unsolicited “broker’s transaction” and that the amount of securities being sold during any three-month period not exceed specified limitations. I understand that the conditions for resale set forth in Rule 144 have not been satisfied as of the date set forth below and that the Company is not required to take action to satisfy any conditions applicable to it.
5. I will not sell, transfer or otherwise dispose of the Purchased Shares in violation of the Securities Act, the Securities Exchange Act of 1934, or the rules promulgated thereunder, including Rule 144 under the Securities Act.
6. I acknowledge that I have received and had access to such information as I consider necessary or appropriate for deciding whether to invest in the Purchased Shares and that I had an opportunity to ask questions and receive answers from the Company regarding the terms and conditions of the issuance of the Purchased Shares.
7. I am aware that my investment in the Company is a speculative investment that has limited liquidity and is subject to the risk of complete loss. I am able, without impairing my financial condition, to hold the Purchased Shares for an indefinite period and to suffer a complete loss of my investment in the Purchased Shares.

8. I acknowledge that the Purchased Shares remain subject to the Company's right of first refusal, the drag-along right and the market stand-off (sometimes referred to as the "lock-up") and may remain subject to the Company's right of repurchase, all in accordance with the applicable Notice of Stock Option Grant and Stock Option Agreement. I acknowledge that any transfer of the Purchased Shares may be subject to a transfer fee and must be effected on the Company's form of stock transfer agreement, as further described in the Stock Option Agreement.
9. I acknowledge that I am acquiring the Purchased Shares subject to all other terms of the Notice of Stock Option Grant and Stock Option Agreement.
10. I acknowledge that I have received a copy of the Company's explanation of the forms of ownership available for my Purchased Shares. I acknowledge that the Company has encouraged me to consult my own adviser to determine the form of ownership that is appropriate for me. In the event that I choose to transfer my Purchased Shares to a trust, I agree to sign a Stock Transfer Agreement on a form prescribed by the Company. In the event that I choose to transfer my Purchased Shares to a trust that does not satisfy the requirements described in the attached explanation (i.e., a trust that is not an eligible revocable trust), I also acknowledge that the transfer will be treated as a "disposition" for tax purposes. As a result, the favorable ISO tax treatment will be unavailable and other unfavorable tax consequences may occur.
11. I acknowledge that I have received a copy of the Company's explanation of the federal income tax consequences of an option exercise and the tax election under section 83(b) of the Internal Revenue Code. In the event that I choose to make a section 83(b) election, I acknowledge that it is my responsibility—and not the Company's responsibility—to file the election in a timely manner, even if I ask the Company or its agents to make the filing on my behalf. I acknowledge that the Company has encouraged me to consult my own adviser to determine the tax consequences of acquiring the Purchased Shares at this time.
12. I agree that the Company does not have a duty to design or administer the 2018 Stock Plan or its other compensation programs in a manner that minimizes my tax liabilities. I will not make any claim against the Company or its Board of Directors, officers or employees related to tax liabilities arising from my options or my other compensation. In particular, I acknowledge that my options are exempt from section 409A of the Internal Revenue Code only if the exercise price per share is at least equal to the fair market value per share of the Company's Common Stock at the time the option was granted by the Company's Board of Directors. Since shares of the Company's Common Stock are not traded on an established securities market, the determination of their fair market value was made by the Company's Board of Directors or by an independent valuation firm retained by the Company. I acknowledge that there is no guarantee in either case that the Internal Revenue Service will agree with the valuation, and I will not make any claim against the Company or its Board of Directors, officers or employees in the event that the Internal Revenue Service asserts that the valuation was too low.
13. I agree to seek the consent of my spouse to the extent required by the Company to enforce the foregoing.
14. I consent, with respect to all shares of capital stock of the Company held by me, to receive any notice given by the Company under its certificate of incorporation or bylaws, as the same may be amended and/or restated from time to time, the General Corporation Law of the State of Delaware (the "General Corporation Law") or otherwise, by electronic transmission pursuant to Section 232 of the General Corporation Law at the email address set forth above. I further acknowledge and

agree that the Company may rely upon any expressions of my consent to proposed corporate actions received from the email address provided above. I hereby agree to notify the Company of any change to my email address set forth above, and further agree that the provision of such notice shall constitute my consent to receive notice and to provide my expression of consent as provided herein at such address. In the event that the Company is unable to deliver notice to me at the e-mail address set forth above, I shall, within five (5) days after a request by the Company, provide the Company with a valid e-mail address to which I consent to receive notice and to provide expressions of consent as provided herein.

SIGNATURE:

DATE:

PURPOSE OF THIS EXPLANATION

The purpose of this explanation is to provide you with a brief summary of the forms of legal ownership available for the shares that you are purchasing (the “Purchased Shares”). For a number of reasons, this explanation is no substitute for personal legal advice:

- To make the explanation short and readable, only the highlights are covered. Some legal rules are not addressed, even though they may be important in particular cases.
- While the summary attempts to deal with the most common situations, your own situation may well be different from the norm.
- The law may change, and the Company is not responsible for updating this summary.
- The form in which you own your shares may have a *substantial* impact on the estate tax treatment that applies to those shares when you die or the income tax treatment that applies when your survivors sell the shares after your death.

FOR THESE REASONS, THE COMPANY STRONGLY ENCOURAGES YOU TO CONSULT YOUR OWN ADVISER BEFORE EXERCISING YOUR OPTION AND BEFORE MAKING A DECISION ABOUT THE FORM OF OWNERSHIP FOR YOUR SHARES.

OVERVIEW

The Notice of Stock Option Exercise offers five forms of taking title to the Purchased Shares:

- In your name only,
- In your name and the name of your spouse as community property,
- In your name and the name of your spouse as community property with the right of survivorship,
- In your name and the name of your spouse as joint tenants with the right of survivorship, or
- In the name of an eligible revocable trust.

Title in the Purchased Shares depends upon (a) your marital status, (b) the marital property laws of your state of residence and (c) any agreement with your spouse altering the existing marital property laws of your state of residence. If you are not married, you generally will take title in your name alone. If you are married, title depends upon the marital property laws of your state of residence. In general, states are classified either as “community property” states or as “common-law property” states. (But individual state law may vary within these classifications.)

COMMUNITY PROPERTY AND JOINT TENANCY

Community property states include California, Texas, Washington, Arizona, Nevada, New Mexico, Idaho, Louisiana and Wisconsin. In a community property state, property acquired during marriage by either spouse is presumed to be one-half owned by each spouse. All other property is classified as the separate property of the spouse who acquires the property. While either spouse has equal management and control over the community property and may sell, spend or encumber all community property, neither spouse may gift community property or partition his/her one-half interest without the consent of the other spouse. Upon divorce, all community property is divided equally among the spouses and each spouse is entitled to retain all of his/her separate property. Upon the death of a spouse, one-half of the community property (and all of the decedent spouse's separate property) will pass to the decedent spouse's heirs. The other one-half of the community property remains the property of the surviving spouse.

Other states are common-law property states. In a common-law property state, each spouse is generally deemed to own whatever he/she earns or acquires.

A married couple may elect to alter the marital property rules by mutually agreeing to take title to property in other forms. For example, a couple residing in a community property state may generally enter into an agreement and transform what otherwise would be community property into the separate property of the spouse who earns or acquires the property.

In addition, many community property and common-law property states allow married couples to take joint title in property acquired during marriage. For example, California allows a married couple to take title in a joint tenancy with the right of survivorship. In a joint tenancy, each spouse owns a one-half interest in the property as separate property. This means that each spouse may transfer or sell his/her one-half interest in the property while he/she is alive. However, unlike traditional separate property, a spouse cannot transfer his/her one-half interest to heirs at death. Instead, the surviving spouse *automatically* receives the decedent spouse's one-half interest and becomes the full owner of the property. (This is called the "right of survivorship.") Both spouses must consent to taking property in a joint tenancy in lieu of having the community property laws apply.

California also allows a married couple to take title in the shares as community property with the right of survivorship. This means that the shares are treated like community property while both spouses are alive. However, if one spouse dies, then the other spouse automatically receives the decedent spouse's one-half interest and becomes the full owner of the shares. In other words, the decedent spouse's will or trust does *not* control the disposition of the shares.

If you have the Purchased Shares issued in a form other than those described above, then the transfer will be treated as a "disposition" for tax purposes. This means that the effect, for tax purposes, will be the same as selling the Purchased Shares. Please refer to the attached tax summary for additional information.

TRUSTS

A transfer to a trust generally should not be treated as a “disposition” of the Purchased Shares for tax purposes if the trust satisfies each of the following conditions:

- You are the sole grantor of the trust,
- You are the sole trustee, or you and your spouse are the sole co-trustees,
- The trustee or trustees are not required to distribute the income of the trust to any person other than you and/or your spouse while you are alive, and
- The trust permits you to revoke all or part of the trust and to have the trust’s assets returned to you, without the consent of any other person (including your spouse).

If you have the Purchased Shares issued to a trust that does not meet these requirements, then the transfer will be treated as a “disposition” for tax purposes. This means that the effect, for tax purposes, will be the same as selling the Purchased Shares. Please refer to the attached tax summary for additional information.

If you have the Purchased Shares issued to any trust, you will be required to sign a Stock Transfer Agreement in your capacity as trustee. Under the Stock Transfer Agreement, the Purchased Shares remain subject to the Company’s right of first refusal and may remain subject to the Company’s right of repurchase, all in accordance with the applicable Notice of Stock Option Grant and Stock Option Agreement.

THE COMPANY WILL NOT CHECK TO DETERMINE WHETHER THE FORM OF OWNERSHIP THAT YOU ELECT IN YOUR NOTICE OF STOCK OPTION EXERCISE IS APPROPRIATE. YOU SHOULD CONSULT YOUR OWN ADVISERS ON THIS SUBJECT. IF AN INAPPROPRIATE ELECTION IS MADE, THE FORM OF OWNERSHIP MAY NOT WITHSTAND LEGAL SCRUTINY OR MAY HAVE ADVERSE TAX CONSEQUENCES.

**EXPLANATION OF FEDERAL INCOME TAX CONSEQUENCES
AND SECTION 83(b) ELECTION
(Current as of January 2018)**

PURPOSE OF THIS EXPLANATION

The purpose of this explanation is to provide you with a brief summary of the tax consequences of exercising your option. For a number of reasons, this explanation is no substitute for personal tax advice:

- To make the explanation short and readable, only the highlights are covered. Some tax rules are not addressed, even though they may be important in particular cases.
- While the summary attempts to deal with the most common situations, your own tax situation may well be different from the norm.
- State and foreign income taxes are not addressed at all, even though they could have a significant impact on your tax planning. Likewise, federal gift and estate taxes and state inheritance taxes are not discussed.
- Tax planning involving incentive stock options is exceedingly complex, in part because of the possible application of the alternative minimum tax.
- The explanation assumes that you are paying the exercise price of your option in cash (or in the form of a full-recourse promissory note with an interest rate that meets IRS requirements). If you are paying the exercise price in the form of stock, you become subject to special rules that are not addressed here.
- This explanation assumes that your option is not subject to section 409A of the Internal Revenue Code. However, the Company cannot be certain that section 409A is inapplicable to your option. (Please refer to the last segment of this summary for more information about section 409A.)
- The tax rules change often, and the Company is not responsible for updating this summary. (Please refer to the date at the top of this page.)

FOR THESE REASONS, THE COMPANY STRONGLY ENCOURAGES YOU TO CONSULT YOUR OWN TAX ADVISER BEFORE EXERCISING YOUR OPTION AND BEFORE MAKING A DECISION ABOUT FILING OR NOT FILING A SECTION 83(b) ELECTION.

EXERCISE OF NSO TO PURCHASE VESTED SHARES

The Notice of Stock Option Grant indicates whether your Purchased Shares are already vested. Vested shares are no longer subject to the Company's right to repurchase them, although they are still subject to the Company's right of first refusal. If you know that your Purchased Shares are already vested, there is no need to file a section 83(b) election.

If you are exercising an NSO to purchase vested shares, you generally will be taxed at the time of exercise. You will recognize ordinary income in an amount equal to the excess of (a) the fair market value of the Purchased Shares on the date of exercise over (b) the exercise price you are paying. If you are an employee or former employee of the Company, this amount is subject to withholding for income and payroll taxes. Your tax basis in the Purchased Shares (to calculate capital gain when you sell the shares) is equal to the sum of the exercise price you paid for the Purchased Shares plus any additional amount you recognized as income on the exercise date.

EXERCISE OF NSO TO PURCHASE NON-VESTED SHARES

If you are exercising an NSO to purchase non-vested shares, and if you do not file a timely election under section 83(b) of the Internal Revenue Code, then you will not be taxed at the time of exercise. Instead, you will be taxed whenever an increment of Purchased Shares vests—in other words, when the Company no longer has the right to repurchase those shares. The Notice of Stock Option Grant indicates when this occurs, generally over a period of several years. Whenever an increment of Purchased Shares vests, you will recognize ordinary income in an amount equal to the excess of (a) the fair market value of those Purchased Shares on the date of vesting over (b) the exercise price you are paying for those Purchased Shares. If you are an employee or former employee of the Company, this amount will be subject to withholding for income and payroll taxes. Your tax basis in the Purchased Shares (to calculate capital gain when you sell the shares) will be equal to the sum of the exercise price you paid for the Purchased Shares plus any additional amount you recognized as income on each vesting date.

If you are exercising an NSO to purchase non-vested shares, and if you file a timely election under section 83(b) of the Internal Revenue Code, then you will be taxed at the time of exercise. You will recognize ordinary income in an amount equal to the excess of (a) the fair market value of the Purchased Shares on the date of exercise over (b) the exercise price you are paying. If you are an employee or former employee of the Company, this amount is subject to withholding for income and payroll taxes. Your tax basis in the Purchased Shares (to calculate capital gain when you sell the shares) is equal to the sum of the exercise price you paid for the Purchased Shares plus any additional amount you recognized as income as a result of filing the section 83(b) election. Even if the fair market value of the Purchased Shares on the date of exercise equals the exercise price (and thus no tax is payable), the section 83(b) election must be made in order to avoid having any subsequent appreciation taxed as ordinary income at the time of vesting.

YOU MUST FILE A SECTION 83(b) ELECTION WITH THE INTERNAL REVENUE SERVICE WITHIN 30 DAYS AFTER THE NOTICE OF STOCK OPTION EXERCISE IS SIGNED. The 30-day filing period cannot be extended. If you miss the deadline, you will be taxed as the Purchased Shares vest, based on the value of the shares at that time. (See above.) The form for making the 83(b) election is attached. Additional copies of the form must be filed with the Company.

DISPOSITION OF NSO SHARES

When you dispose of the Purchased Shares, you will recognize a capital gain equal to the excess of (a) the sale proceeds over (b) your tax basis in the Purchased Shares. If the sale proceeds are less than your tax basis, you will recognize a capital loss. The capital gain or loss will be long-term if you held the Purchased Shares for more than 12 months. The holding period normally starts when you exercise your NSO. In general, the maximum marginal federal income tax rate on long-term capital gains is 20% under current law, but lower long-term capital gain rates may apply to certain taxpayers.

Effective January 1, 2013, as a result of the Health Care and Education Reconciliation Act of 2010, an additional Medicare contribution tax is imposed at a rate of 3.8% on the “net investment income” of individuals with adjusted gross incomes in excess of \$200,000 (\$250,000 in the case of a joint return, and \$125,000 in the case of a married taxpayer filing separately). “Net investment income” includes income from interest, dividends, and capital gains, reduced by the deductions properly allocated to such income.

Depending on the level of your adjusted gross income, the additional Medicare contribution tax may be imposed on any short-term and long-term capital gain income and can increase your marginal tax rate.

LIMIT ON ISO TREATMENT

The Notice of Stock Option Grant indicates whether your option is a nonstatutory stock option (NSO) or an incentive stock option (ISO). The favorable tax treatment for ISOs is limited, regardless of what the Notice of Stock Option Grant indicates. Of the options that become exercisable in any calendar year, only options covering the first \$100,000 of stock are eligible for ISO treatment. The excess over \$100,000 automatically receives NSO treatment. For this purpose, stock is valued at the time of grant. This means that the value is generally equal to the exercise price.

For example, assume that you hold an option to buy 50,000 shares for \$4 per share. Assume further that the entire option is exercisable immediately after the date of grant. (It is irrelevant when the underlying stock vests.) Only the first 25,000 shares qualify for ISO treatment. (25,000 times \$4 equals \$100,000.) The remaining 25,000 shares will be treated as if they had been acquired by exercising an NSO. This is true regardless of when the option is *actually* exercised; what matters is when it first *could* have been exercised.

EXERCISE OF ISO AND ISO HOLDING PERIODS

If you are exercising an ISO, you will not be taxed under the *regular* tax rules until you dispose of the Purchased Shares.⁹ (The alternative minimum tax rules are described below.) The tax treatment at the time of disposition depends on how long you hold the shares. You will satisfy the ISO holding periods if you hold the Purchased Shares until the *later* of the following dates:

- More than two years after the ISO was granted, and
- More than one year after the ISO is exercised.

DISPOSITION OF ISO SHARES

If you dispose of the Purchased Shares after satisfying *both* of the ISO holding periods, then you will recognize only a long-term capital gain at the time of disposition. The amount of the capital gain is equal to the excess of (a) the sale proceeds over (b) the exercise price. In general, the maximum marginal federal income tax rate on long-term capital gains is 20% under current law, but lower long-term capital gain rates may apply to certain taxpayers.

Effective January 1, 2013, as a result of the Health Care and Education Reconciliation Act of 2010, an additional Medicare contribution tax is imposed at a rate of 3.8% on the “net investment income” of individuals with adjusted gross incomes in excess of \$200,000 (\$250,000 in the case of a joint return, and \$125,000 in the case of a married taxpayer filing separately). “Net investment income” includes income from interest, dividends, and capital gains, reduced by the deductions properly allocated to such income.

If you dispose of the Purchased Shares before either or both of the ISO holding periods are met, then you will recognize ordinary income at the time of disposition. The calculation of the ordinary income amount depends on whether the shares are vested at the time of exercise.

- **Shares Vested.** If the shares are vested at the time of exercise, the amount of ordinary income will be equal to the excess of (a) the fair market value of the Purchased Shares on the date of exercise over (b) the exercise price. But if the disposition is an arm’s length sale to an unrelated party, the amount of ordinary income will not exceed the total gain from the sale. Under current IRS rules, the ordinary income amount will not be subject to withholding for income or payroll taxes. Your tax basis in the Purchased Shares will be equal to the sum of the exercise price you paid for the Purchased Shares plus any additional amount you recognized as ordinary income. Any gain in excess of your basis will be taxed as a capital gain—either long-term or short-term, depending on how long you held the Purchased Shares after the date of exercise.
- **Shares Not Vested.** If the Purchased Shares are not vested at the time of exercise, then the amount of ordinary income will be equal to the excess of (a) the fair market value of the Purchased Shares on the date of *vesting* over (b) the exercise price. But if the disposition is an arm’s length sale to an unrelated party, the amount of ordinary income will not exceed the total gain from the sale. Under current IRS rules, the ordinary income amount will not be subject to withholding for income or payroll taxes. Your tax basis in the Purchased Shares will be equal to the sum of the exercise price you paid for the Purchased Shares plus any additional amount you recognized as ordinary income. Any gain in excess of your basis will be taxed as a capital gain—either long-term or short-term, depending on how long you held the Purchased Shares after the date of vesting. Please note that it makes no difference under the *regular* tax rules whether or not you filed a section 83(b) election at the time you exercised your ISO. In either case, your regular taxable income is measured as of the time of vesting rather than the time of exercise.

⁹ Generally, a “disposition” of shares purchased under an ISO encompasses any transfer of legal title, such as a transfer by sale, exchange or gift. It generally does not include a transfer to your spouse, a transfer into joint ownership with right of survivorship (if you remain one of the joint owners), a pledge, a transfer by bequest or inheritance, or certain tax-free exchanges permitted under the Internal Revenue Code. A transfer to a trust is a “disposition” unless the trust is an eligible revocable trust, as described in the attached explanation.

SUMMARY OF ALTERNATIVE MINIMUM TAX

The alternative minimum tax (AMT) must be paid to the extent that it exceeds your regular federal income tax for the year. For 2018, the first \$191,500 (\$95,750 for a married taxpayer filing a separate return) of your alternative minimum taxable income for the year over the allowable exemption amount (see below) is subject to alternative minimum taxation at the rate of 26%. The balance of your alternative minimum taxable income is subject to alternative minimum taxation at the rate of 28%. The dollar thresholds dividing the 26% and 28% rates are indexed for inflation in future years. Your alternative minimum tax base is equal to your alternative minimum taxable income (AMTI) minus your exemption amount.

- **Alternative Minimum Taxable Income.** Your AMTI is equal to your regular taxable income, subject to certain adjustments and increased by items of tax preference. Among the many adjustments made in computing AMTI are the following:
 - State and local income and property taxes are not allowed as a deduction.
 - Certain interest and other deductions are not allowed.
 - When an ISO is exercised, the spread is added to income for AMT purposes. (See discussion below.)
- **Exemption Amount.** Before AMT is calculated, AMTI is reduced by the exemption amount. Under current law, the exemption amount is as follows:

<u>(ii) Year:</u>	<u>(jj) Joint Returns:</u>	<u>Single Returns:</u>	<u>Separate Returns:</u>
2018 ¹⁰	(kk) \$ 109,400	\$ 70,300	\$ 54,700

The allowable exemption amount is reduced by \$0.25 for each \$1.00 by which alternative minimum taxable income for the year exceeds the following amounts:

<u>(ll) Year:</u>	<u>(mm) Joint Returns:</u>	<u>Single Returns:</u>	<u>Separate Returns:</u>
2018 ¹¹	(nn) \$ 1,000,000	\$ 500,000	\$ 500,000

This means, for example, in 2018, the \$109,400 exemption amount is phased out completely for married individuals filing joint returns when their alternative minimum taxable income reaches \$1,437,600 [$(\$109,400 \div \$0.25) + \$1,000,000$].

¹⁰ Amounts are indexed for inflation in future years.

¹¹ Amounts are indexed for inflation in future years.

APPLICATION OF AMT WHEN ISO IS EXERCISED

As noted above, when an ISO is exercised, the spread is included in AMTI at the time of exercise, unless the Purchased Shares are not yet vested at the time of exercise. If the Purchased Shares are not yet vested, the value of the shares minus the exercise price is included in AMTI when the shares vest. However, if you make an election under section 83(b) within 30 days after exercise, then the spread is included in AMTI at the time of exercise. **YOU MUST FILE AN 83(b) ELECTION WITH THE INTERNAL REVENUE SERVICE WITHIN 30 DAYS AFTER THE NOTICE OF STOCK OPTION EXERCISE IS SIGNED.** The 30-day filing period cannot be extended.

A special rule applies if you dispose of the Purchased Shares in the same year in which you exercised the ISO. If the amount you realize on the sale is less than the value of the stock at the time of exercise, then the amount includible in AMTI on account of the ISO exercise is limited to the gain realized on the sale.¹²

To the extent that your AMT is attributable to the spread on exercising an ISO (and certain other items), you may be able to apply the AMT that you paid as a credit against your income tax liability in future years. But the rules on calculating the available tax credits were amended frequently in recent years and have become extraordinarily complex. On this issue in particular, you must consult your own tax adviser.

When Purchased Shares are sold, your basis for purposes of computing the capital gain or loss under the AMT system is increased by the option spread that exists at the time of exercise. Again, an ISO is treated under the AMT system much like an NSO is treated under the regular tax system. But your basis in the ISO shares for purposes of computing gain or loss under the regular tax system does *not* reflect any AMT that you pay on the spread at exercise. Therefore, if you pay AMT in the year of the ISO exercise and regular income tax in the year of selling the Purchased Shares, you could pay tax twice on the same gain (except to the extent that you can use the AMT credit described above).

SECTION 409A OF THE INTERNAL REVENUE CODE

The preceding summary assumes that section 409A of the Internal Revenue Code does not apply to your option. In general, your option is exempt from section 409A if the exercise price per share is at least equal to the fair market value per share of the Company's Common Stock at the time the option was granted by the Board of Directors. Since shares of Common Stock are not traded on an established securities market, the determination of their fair market value generally is made by the Board of Directors or by an independent appraisal firm retained by the Company. In either case, there is no guarantee that the Internal Revenue Service will agree with the valuation.

If your option were found to be subject to section 409A, then you would be required to recognize ordinary income as early as the year in which the option (or portion thereof) vests. This amount would also be subject to a 20% federal tax *in addition to* the federal income tax at your usual marginal rate for ordinary income. Additional state income taxes may apply in some states.

¹² This is similar to the rule that applies under the regular tax system in the event of a disqualifying disposition of ISO stock. The amount of ordinary income that must be recognized in that case generally does not exceed the amount of the gain realized in the disposition.

DISCLAIMER UNDER IRS CIRCULAR 230

To ensure compliance with requirements imposed by U.S. tax authorities, we inform you that any U.S. tax advice contained in the foregoing summary is not intended or written to be used, and cannot be used, for the purpose of (i) avoiding United States federal, state or local tax penalties, or (ii) promoting, marketing or recommending to another party any matters addressed herein (including any attachments).

SECTION 83(b) ELECTION

The undersigned taxpayer hereby elects, pursuant to Sections 55 and 83(b) of the Internal Revenue Code of 1986, as amended, and pursuant to Treasury Regulations Section 1.83-2, to include in gross income as compensation for services the excess (if any) of the fair market value of the shares described below over an amount paid for those shares.

(t) The taxpayer who performed the services is:

Name: _____

Address: _____

Social Security No.: _____

(u) The property with respect to which the election is made is _____ shares of the common stock of T-Scan Therapeutics, Inc.

(v) The property was transferred to the taxpayer on _____, ____.

(w) The taxable year for which the election is made is the calendar year ____.

(x) The property is subject to a repurchase right pursuant to which the issuer has the right to acquire the property if for any reason taxpayer's service with the issuer terminates. The issuer's repurchase right lapses in a series of installments over a ____-year period ending on _____, ____.

(y) The fair market value of such property at the time of transfer (determined without regard to any restriction other than a restriction that by its terms will never lapse) is \$_____ per share x _____ shares = \$_____.

(z) For the property transferred, the taxpayer paid \$_____ per share x _____ shares = \$_____.

(aa) The amount to include in gross income is \$_____. *[The amount in Item F less the amount in Item G]*

(bb) This statement is executed on _____, ____.

Signature of Spouse (if any)

Signature of Taxpayer

Within 30 days after the date of transfer of the property, this election must be filed with the Internal Revenue Service office where the taxpayer files his or her annual federal income tax return. The filing should be made by registered or certified mail, return receipt requested. The taxpayer must deliver a copy of the completed form to the Company.

**T-SCAN THERAPEUTICS, INC. 2018 STOCK PLAN:
SUMMARY OF STOCK GRANT (FOR SERVICES)**

The Transferee is acquiring shares of the Common Stock of T-Scan Therapeutics, Inc. (the "Company") on the following terms:

Name of Transferee:	«Name»
Total Number of Transferred Shares:	«TotalShares»
Date of Transfer:	«DateTransfer»
Vesting Commencement Date:	«VestComDate»
Vesting Schedule:	«Percent»% of the Transferred Shares shall vest, and the Forfeiture Condition shall lapse with respect to such shares, when the Transferee completes «CliffPeriod» months of continuous Service beginning with the Vesting Commencement Date set forth above. An additional «Fraction»% of the Transferred Shares shall vest, and the Forfeiture Condition shall lapse with respect to such shares, when the Transferee completes each month of continuous Service thereafter.

By signing below or otherwise accepting this award in a manner acceptable to the Company, the Transferee and the Company agree that the acquisition of the Transferred Shares is governed by the terms and conditions of this Summary of Stock Grant, the 2018 Stock Plan and the Stock Grant Agreement. Both of these latter documents are attached to, and made a part of, this Summary of Stock Grant. Capitalized terms not otherwise defined herein or in the Stock Grant Agreement shall have the meanings set forth in the Plan.

By signing below, the Transferee consents, with respect to all shares of capital stock of the Company held by the Transferee, to receive any notice given by the Company under its certificate of incorporation or bylaws, as the same may be amended and/or restated from time to time, the General Corporation Law of the State of Delaware (the "**General Corporation Law**") or otherwise, by electronic transmission pursuant to Section 232 of the General Corporation Law at the email address set forth below. The Transferee further acknowledges and agrees that the Company may rely upon any expressions of the Transferee's consent to proposed corporate actions received from the email address provided below. The Transferee hereby agrees to notify the Company of any change to his or her email address set forth below, and further agrees that the provision of such notice shall constitute the Transferee's consent to receive notice and to provide the Transferee's expression of consent as provided herein at such address. In the event that the Company is unable to deliver notice to the Transferee at the e-mail address set forth below, the Transferee shall, within five (5) days after a request by the Company, provide the Company with a valid e-mail address to which the Transferee consents to receive notice and to provide expressions of consent as provided herein.

TRANSFEE:

Email Address:

Mailing Address:

T-SCAN THERAPEUTICS, INC.
By: _____
Title: _____

STOCK GRANT AGREEMENT (FOR SERVICES)

ACQUISITION OF SHARES.

Transfer. On the terms and conditions set forth in the Summary of Stock Grant, this Agreement and the Plan, the Company agrees to transfer to the Transferee the number of Shares set forth in the Summary of Stock Grant. The transfer shall occur at the offices of the Company on the date of transfer set forth in the Summary of Stock Grant or at such other place and time as the parties may agree.

Consideration. The Transferee and the Company agree that the Transferred Shares are being issued to the Transferee as consideration for a portion of the services performed by the Transferee for the Company. The value of such portion is agreed to be not less than 100% of the Fair Market Value of the Transferred Shares.

Stock Plan and Defined Terms. The transfer of the Transferred Shares is subject to the Plan, a copy of which the Transferee acknowledges having received. The provisions of the Plan are incorporated into this Agreement by this reference. Except as otherwise defined in this Agreement (including without limitation Section 12 hereof), capitalized terms shall have the meaning ascribed to such terms in the Plan.

FORFEITURE CONDITION.

Scope of Forfeiture Condition. Until they vest in accordance with Subsection (b) below, the Transferred Shares shall be subject to forfeiture to the Company and shall be referred to as “**Restricted Shares**.” The Transferee shall not transfer, assign, encumber or otherwise dispose of any Restricted Shares without the Company’s written consent, except as provided in the following sentence. The Transferee may transfer Restricted Shares to one or more members of the Transferee’s Immediate Family or to a trust or other entity established by the Transferee solely for the benefit of the Transferee and/or one or more members of the Transferee’s Immediate Family, provided in either case that the Transferee agrees in writing on a form prescribed by the Company to be bound by all provisions of this Agreement. If the Transferee transfers any Restricted Shares, then this Agreement shall apply to the Subsequent Transferee to the same extent as to the Transferee.

Vesting. The Transferred Shares shall vest, and the Forfeiture Condition shall lapse with respect to the Transferred Shares, in accordance with the vesting schedule set forth in the Summary of Stock Grant.

Execution of Forfeiture. The Forfeiture Condition shall be applicable only if the Transferee’s Service terminates for any reason, with or without cause, including (without limitation) death or disability, before all Transferred Shares have become vested. In the event that the Transferee’s Service terminates for any reason, any certificate(s) representing any remaining Restricted Shares shall be delivered to the Company. If the Restricted Shares are not represented by certificate, the forfeiture shall be effected by an appropriate book entry on the stock ledger for the Shares. The Company shall make no payment for Transferred Shares that are forfeited.

Additional or Exchanged Securities and Property. In the event of a merger or consolidation of the Company, a sale of all or substantially all of the Company's stock or assets, any other corporate reorganization, the declaration of a stock dividend, the declaration of an extraordinary dividend payable in a form other than stock, a spin-off, a stock split, an adjustment in conversion ratio, a recapitalization or a similar transaction affecting the Company's outstanding securities, any securities or other property (including cash or cash equivalents) that are by reason of such transaction exchanged for, or distributed with respect to, any Restricted Shares or into which such Restricted Shares thereby become convertible shall immediately be subject to the Forfeiture Condition. Appropriate adjustments to reflect the exchange or distribution of such securities or property shall be made to the number and/or class of the Restricted Shares.

Termination of Rights as Stockholder. If Transferred Shares are forfeited in accordance with this Section 2, then the person who is to forfeit such Transferred Shares shall no longer have any rights as a holder of such Transferred Shares. Such Transferred Shares shall be deemed to have been forfeited in accordance with the applicable provisions hereof, whether or not any certificate(s) therefor have been delivered as required by this Agreement.

Escrow. Upon issuance, any certificates for Restricted Shares shall be deposited in escrow with the Company to be held in accordance with the provisions of this Agreement. Any new, substituted or additional securities or other property described in Subsection (d) above shall immediately be delivered to the Company to be held in escrow, but only to the extent the Transferred Shares are at the time Restricted Shares. All regular cash dividends on Restricted Shares (or other securities at the time held in escrow) shall be paid directly to the Transferee and shall not be held in escrow. Restricted Shares, together with any other assets or securities held in escrow hereunder, shall be (i) surrendered to the Company for forfeiture and cancellation in the event that the Forfeiture Condition or Right of First Refusal applies or (ii) released to the Transferee upon the Transferee's request to the extent the Transferred Shares are no longer Restricted Shares (but not more frequently than once every six months). In any event, all Transferred Shares that have vested (and any other vested assets and securities attributable thereto) shall be released within 60 days after the earlier of (i) the termination of the Transferee's Service or (ii) the lapse of the Right of First Refusal.

Part-Time Employment and Leaves of Absence. If the Transferee commences working on a part-time basis, then the Company may adjust the vesting schedule set forth in the Summary of Stock Grant. If the Transferee goes on a leave of absence, then, to the extent permitted by applicable law, the Company may adjust or suspend the vesting schedule set forth in the Summary of Stock Grant. Except as provided in the preceding sentence, Service shall be deemed to continue while the Transferee is on a *bona fide* leave of absence approved by the Company in writing. Service shall be deemed to terminate when such leave ends, unless the Transferee immediately returns to active work when such leave ends.

RIGHT OF FIRST REFUSAL.

Right of First Refusal. In the event that the Transferee proposes to sell, pledge or otherwise transfer to a third party any Transferred Shares, or any interest in Transferred Shares, the Company shall have the Right of First Refusal with respect to all (and not less than all) of such Transferred Shares. If the Transferee desires to transfer Transferred Shares, the Transferee shall give a written Transfer Notice to the Company describing fully the proposed transfer, including the number of Transferred Shares proposed to be transferred, the proposed transfer price, the name and address of the proposed Subsequent Transferee and proof satisfactory to the Company that the proposed sale or transfer will not violate any applicable federal, State or foreign securities laws. The Transfer Notice shall be signed both by the Transferee and by the proposed Subsequent Transferee and must constitute a binding commitment of both parties to the transfer of the Transferred Shares. The Company shall have the right to purchase all, and not less than all, of the Transferred Shares on the terms of the proposal described in the Transfer Notice (subject, however, to any change in such terms permitted under Subsection (b) below) by delivery of a notice of exercise of the Right of First Refusal within 30 days after the date when the Transfer Notice was received by the Company.

Transfer of Shares. If the Company fails to exercise its Right of First Refusal within 30 days after receiving the Transfer Notice, the Transferee may, not later than 90 days after the Company received the Transfer Notice, conclude a transfer of the Transferred Shares subject to the Transfer Notice on the terms and conditions no less favorable to the Transferee than those described in the Transfer Notice, provided that any such sale is made in compliance with applicable federal, State and foreign securities laws and not in violation of any other contractual restrictions to which the Transferee is bound. Any proposed transfer on terms and conditions less favorable than those described in the Transfer Notice, as well as any subsequent proposed transfer by the Transferee, shall again be subject to the Right of First Refusal and shall require compliance with the procedure described in Subsection (a) above. If the Company exercises its Right of First Refusal, the parties shall consummate the sale of the Transferred Shares on the terms set forth in the Transfer Notice within 60 days after the Company received the Transfer Notice (or within such longer period as may have been specified in the Transfer Notice); provided, however, that in the event the Transfer Notice provided that payment for the Transferred Shares was to be made in a form other than cash or cash equivalents paid at the time of transfer, the Company shall have the option of paying for the Transferred Shares with cash or cash equivalents equal to the present value of the consideration described in the Transfer Notice.

Additional or Exchanged Securities and Property. In the event of a merger or consolidation of the Company, a sale of all or substantially all of the Company's stock or assets, any other corporate reorganization, a stock split, the declaration of a stock dividend, the declaration of an extraordinary dividend payable in a form other than stock, a spin-off, an adjustment in conversion ratio, a recapitalization or a similar transaction affecting the Company's outstanding securities, any securities or other property (including cash or cash equivalents) that are by reason of such transaction exchanged for, or distributed with respect to, any Transferred Shares subject to this Section 3 shall immediately be subject to the Right of First Refusal. Appropriate adjustments to reflect the exchange or distribution of such securities or property shall be made to the number and/or class of the Transferred Shares subject to this Section 3.

Termination of Right of First Refusal. Any other provision of this Section 3 notwithstanding, in the event that the Stock is readily tradable on an established securities market when the Transferee desires to transfer Transferred Shares, the Company shall have no Right of First Refusal, and the Transferee shall have no obligation to comply with the procedures prescribed by Subsections (a) and (b) above.

Permitted Transfers. This Section 3 shall not apply to (i) a transfer by beneficiary designation, will or intestate succession or (ii) a transfer to one or more members of the Transferee's Immediate Family or to a trust or other entity established by the Transferee solely for the benefit of the Transferee and/or one or more members of the Transferee's Immediate Family, provided in either case that the Transferee agrees in writing on a form prescribed by the Company to be bound by all provisions of this Agreement. If the Transferee transfers any Transferred Shares, either under this Subsection (e) or after the Company has failed to exercise the Right of First Refusal, then this Agreement shall apply to the Subsequent Transferee to the same extent as to the Transferee.

Termination of Rights as Stockholder. If the Company makes available, at the time and place and in the amount and form provided in this Agreement, the consideration for the Shares to be purchased in accordance with this Section 3, then after such time the person from whom such Shares are to be purchased shall no longer have any rights as a holder of such Shares (other than the right to receive payment of such consideration in accordance with this Agreement). Such Shares shall be deemed to have been purchased in accordance with the applicable provisions hereof, whether or not any certificate(s) therefor have been delivered as required by this Agreement.

Assignment of Right of First Refusal. The Board of Directors may freely assign the Company's Right of First Refusal, in whole or in part. Any person who accepts an assignment of the Right of First Refusal from the Company shall be entitled to and assume all of the Company's rights and obligations under this Section 3.

OTHER RESTRICTIONS ON TRANSFER.

Transferee Representations. In connection with the issuance and acquisition of Shares under this Agreement, the Transferee hereby represents and warrants to the Company as follows:

The Transferee is acquiring and will hold the Transferred Shares for investment for his or her account only and not with a view to, or for resale in connection with, any "distribution" thereof within the meaning of the Securities Act.

The Transferee understands that the Transferred Shares have not been registered under the Securities Act by reason of a specific exemption therefrom and that the Transferred Shares must be held indefinitely, unless their sale or other transfer is subsequently registered under the Securities Act or the Transferee obtains an opinion of counsel, in form and substance satisfactory to the Company and its counsel, that such registration is not required. The Transferee further acknowledges and understands that the Company is under no obligation to register the Transferred Shares.

The Transferee is aware of Rule 144 under the Securities Act, which permits limited public resales of securities acquired in a non-public offering, subject to the satisfaction of certain conditions. These conditions may include (without limitation) that certain current public information about the issuer be available, that the resale occur only after a holding period required by Rule 144 has been satisfied, that the sale occur through an unsolicited "broker's transaction," and that the amount of securities being sold during any three-month period not exceed specified limitations. The Transferee acknowledges and understands that the conditions for resale set forth in Rule 144 have not been satisfied as of the Date of Transfer and that the Company is not required to take action to satisfy any such conditions.

The Transferee will not sell, transfer or otherwise dispose of the Transferred Shares in violation of the Securities Act, the Securities Exchange Act of 1934, or the rules promulgated thereunder, including Rule 144 under the Securities Act. The Transferee agrees that he or she will not dispose of the Transferred Shares unless and until he or she has complied with all requirements of this Agreement applicable to the disposition of Transferred Shares and he or she has provided the Company with written assurances, in substance and form satisfactory to the Company, that (A) the proposed disposition does not require registration of the Transferred Shares under the Securities Act or all appropriate action necessary for compliance with the registration requirements of the Securities Act or with any exemption from registration available under the Securities Act (including Rule 144) has been taken and (B) the proposed disposition will not result in the contravention of any transfer restrictions applicable to the Transferred Shares under applicable state law.

The Transferee has received and has had access to such information as he or she considers necessary or appropriate for deciding whether to invest in the Transferred Shares, and the Transferee has had an opportunity to ask questions and receive answers from the Company regarding the terms and conditions of the issuance of the Transferred Shares.

The Transferee is aware that his or her investment in the Company is a speculative investment that has limited liquidity and is subject to the risk of complete loss. The Transferee is able, without impairing his or her financial condition, to hold the Transferred Shares for an indefinite period and to suffer a complete loss of his or her investment in the Transferred Shares.

General Restrictions. Unless the Stock is readily tradeable on an established securities market, the transfer of any Shares acquired pursuant to this Agreement (or any interest therein) shall, at the Company's request, be conditioned upon (i) effecting such transfer pursuant to a form of stock transfer agreement prescribed by the Company and (ii) payment of a transfer fee not to exceed \$5,000.

Securities Law Restrictions. Regardless of whether the offer and sale of Shares under the Plan have been registered under the Securities Act or have been registered or qualified under the securities laws of any State or other relevant jurisdiction, the Company at its discretion may impose restrictions upon the sale, pledge or other transfer of the Transferred Shares (including the placement of appropriate legends on the stock certificates (or electronic equivalent) or the imposition of stop-transfer instructions) and may refuse (or may be required to refuse) to transfer Shares acquired hereunder (or Shares proposed to be transferred in a subsequent transfer) if, in the judgment of the Company, such restrictions, legends or refusal are necessary or appropriate to achieve compliance with the Securities Act or other relevant securities or other laws, including without limitation under Regulation S of the Securities Act or pursuant to another available exemption from registration.

Market Stand-Off. In connection with any underwritten public offering by the Company of its equity securities pursuant to an effective registration statement filed under the Securities Act, including the Company's initial public offering, the Transferee or a Subsequent Transferee shall not directly or indirectly sell, make any short sale of, loan, hypothecate, pledge, offer, grant or sell any option or other contract for the purchase of, purchase any option or other contract for the sale of, or otherwise dispose of or transfer, or agree to engage in any of the foregoing transactions with respect to, any Transferred Shares without the prior written consent of the Company or its managing underwriter. Such restriction (the "Market Stand-Off") shall be in effect for such period of time following the date of the final prospectus for the offering as may be requested by the Company or such underwriter. In no event, however, shall such period exceed 180 days plus such additional period as may reasonably be requested by the Company or such underwriter to accommodate regulatory restrictions on (i) the publication or other distribution of research reports or (ii) analyst recommendations and opinions, including (without limitation) the restrictions set forth in Rule 2711(f)(4) of the National Association of Securities Dealers and Rule 472(f)(4) of the New York Stock Exchange, as amended, or any similar successor rules. The Market Stand-Off shall in any event terminate two years after the date of the Company's initial public offering. In the event of the declaration of a stock dividend, a spin-off, a stock split, an adjustment in conversion ratio, a recapitalization or a similar transaction affecting the Company's outstanding securities without receipt of consideration, any new, substituted or additional securities which are by reason of such transaction distributed with respect to any Shares subject to the Market Stand-Off, or into which such Shares thereby become convertible, shall immediately be subject to the Market Stand-Off. In order to enforce the Market Stand-Off, the Company may impose stop-transfer instructions with respect to the Transferred Shares until the end of the applicable stand-off period. The Company's underwriters shall be beneficiaries of the agreement set forth in this Subsection (d). This Subsection (d) shall not apply to Shares registered in the public offering under the Securities Act.

Rights of the Company. The Company shall not be required to (i) transfer on its books any Transferred Shares that have been sold or transferred in contravention of this Agreement or (ii) treat as the owner of Transferred Shares, or otherwise to accord voting, dividend or liquidation rights to, any Subsequent Transferee to whom Transferred Shares have been transferred in contravention of this Agreement.

SUCCESSORS AND ASSIGNS.

Except as otherwise expressly provided to the contrary, the provisions of this Agreement shall inure to the benefit of, and be binding upon, the Company and its successors and assigns and be binding upon the Transferee and the Transferee's legal representatives, heirs, legatees, distributees, assigns and transferees by operation of law, whether or not any such person has become a party to this Agreement or has agreed in writing to join herein and to be bound by the terms, conditions and restrictions hereof.

NO RETENTION RIGHTS.

Nothing in this Agreement or in the Plan shall confer upon the Transferee any right to continue providing services to the Company for any period of specific duration or interfere with or otherwise restrict in any way the rights of the Company (or any Parent or Subsidiary employing or retaining the Transferee) or of the Transferee, which rights are hereby expressly reserved by each, to terminate his or her Service at any time and for any reason, with or without cause.

TAX ELECTION.

The acquisition of the Transferred Shares may result in adverse tax consequences that may be avoided or mitigated by filing an election under Code Section 83(b). Such election may be filed only within 30 days after the date of transfer set forth in the Summary of Stock Grant. The form for making the Code Section 83(b) election is attached to this Agreement as an Exhibit. **The Transferee should consult with his or her tax advisor to determine the tax consequences of acquiring the Transferred Shares and the advantages and disadvantages of filing the Code Section 83(b) election. The Transferee acknowledges that it is his or her sole responsibility, and not the Company's, to file a timely election under Code Section 83(b), even if the Transferee requests the Company or its representatives to make this filing on his or her behalf.**

LEGENDS.

Any certificates (or electronic equivalent) evidencing Transferred Shares shall bear the following legends:

"THE SHARES REPRESENTED HEREBY (AND ANY INTEREST THEREIN) MAY NOT BE SOLD, ASSIGNED, TRANSFERRED, ENCUMBERED OR IN ANY MANNER DISPOSED OF, EXCEPT IN COMPLIANCE WITH THE TERMS OF THE STOCK GRANT AGREEMENT PURSUANT OT WHICH SUCH SHARES WERE ACQUIRED. SUCH AGREEMENT GRANTS TO THE COMPANY CERTAIN RIGHTS OF FIRST REFUSAL UPON AN ATTEMPTED TRANSFER OF THE SHARES AND IMPOSES CERTAIN FORFEITURE CONDITIONS UPON TERMINATION OF SERVICE WITH THE COMPANY. IN ADDITION, THE SHARES ARE SUBJECT TO RESTRICTIONS ON TRANSFER AS SET FORTH IN SUCH STOCK GRANT AGREEMENT. THE SECRETARY OF THE COMPANY WILL UPON WRITTEN REQUEST FURNISH A COPY OF SUCH STOCK GRANT AGREEMENT TO THE HOLDER HEREOF WITHOUT CHARGE."

Any certificates (or electronic equivalent) evidencing the Transferred Shares acquired under this Agreement in an unregistered transaction shall bear the following legend (and such other restrictive legends as are required or deemed advisable under the provisions of any applicable law):

“THE SHARES REPRESENTED HEREBY HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE “ACT”) OR ANY SECURITIES LAWS OF ANY U.S. STATE, AND MAY NOT BE SOLD, REOFFERED, PLEDGED, ASSIGNED, ENCUMBERED OR OTHERWISE TRANSFERRED OR DISPOSED WITHOUT AN EFFECTIVE REGISTRATION THEREOF UNDER SUCH ACT OR AN OPINION OF COUNSEL, SATISFACTORY TO THE COMPANY AND ITS COUNSEL, THAT SUCH REGISTRATION IS NOT REQUIRED. IN THE ABSENCE OF REGISTRATION OR THE AVAILABILITY (CONFIRMED BY OPINION OF COUNSEL) OF AN ALTERNATIVE EXEMPTION FROM REGISTRATION UNDER THE ACT (INCLUDING WITHOUT LIMITATION IN ACCORDANCE WITH REGULATIONS UNDER THE ACT), THESE SHARES MAY NOT BE SOLD, REOFFERED, PLEDGED, ASSIGNED, ENCUMBERED OR OTHERWISE TRANSFERRED OR DISPOSED OF. HEDGING TRANSACTIONS INVOLVING THESE SHARES MAY NOT BE CONDUCTED UNLESS IN COMPLIANCE WITH THE ACT.”

If required by the authorities of any State in connection with the issuance of the Transferred Shares, the legend or legends required by such State authorities shall also be endorsed on all such certificates.

DRAG ALONG RIGHT.

Required Actions. If the Requisite Parties approve a Sale of the Company, then Transferee hereby agrees with respect to all Shares which the Transferee own(s) or over which the Transferee otherwise exercises voting or dispositive authority:

if such Sale of the Company requires stockholder approval under the Certificate, the Bylaws of the Company or any law, rule or regulation applicable to the Company, to vote (in person, by proxy or by action by written consent, as applicable) such Shares in favor of such Sale of the Company (it being understood that, within five (5) days after the delivery of a proxy or consent solicitation statement (or similar document requesting the consent or approval of stockholders) in respect of any Sale of the Company, the Stockholder shall duly execute and deliver a proxy or consent, as the case may be, in favor of such Sale of the Company);

if such transaction is a Stock Sale, to sell the same proportion of shares of capital stock of the Company beneficially held by the Transferee as is being sold by the Selling Holders to the person to whom the Selling Holders propose to sell their Shares;

to refrain from exercising any dissenters' rights or rights of appraisal under applicable law at any time with respect to such Sale of the Company;

if the consideration for such Shares pursuant to the Sale of the Company includes any securities, accept in lieu thereof an amount of cash equal to the fair value (as determined in good faith by the Company) of such securities to the extent reasonably necessary (as determined in good faith by the Company) to comply with applicable federal and state securities laws;

if the Selling Holders appoint a stockholder representative (the "**Stockholder Representative**") for matters affecting the stockholders of the Company under the applicable definitive transaction agreements, to consent to (i) the appointment of such Stockholder Representative, (ii) the establishment of any applicable escrow, expense or similar fund in connection with any indemnification or similar obligations, and (iii) the payment of such Stockholder's pro rata portion (from the applicable escrow or expense fund or otherwise) of any and all reasonable fees and expenses to such Stockholder Representative in connection with such Stockholder Representative's services and duties in connection with such Sale of the Company and its related service as the representative of the Stockholders;

to agree to make representations and warranties and to agree to indemnify and other liability obligations in connection with the Sale of the Company on terms and conditions that, taken as a whole, are no less favorable to Transferee than to other holders of Common Stock of the Company; and

to execute and deliver all related documentation and take such other action in support of the Sale of the Company, as reasonably requested by the Company, including a written consent, release and/or joinder, and to not take any action inconsistent with the Sale of the Company.

Exceptions. Notwithstanding the foregoing, a Transferee will not be required to comply with Subsection (a) above in connection with any Sale of the Company unless (i) each holder of each class or series of the Company's stock will receive the same form of consideration for their shares of such class or series as is received by other holders in respect of their shares of such same class or series of stock and (ii) each holder of Common Stock will receive the same amount of consideration per share of Common Stock as is received by other holders in respect of their shares of Common Stock, subject, in each case, to any "rollover" or similar arrangements provided in the definitive documents relating to such Sale of the Company. If the consideration to be paid in exchange for the Shares pursuant to such Sale of the Company includes any securities and due receipt thereof by the Transferee would require under applicable law (x) the

registration or qualification of such securities or of any person as a broker or dealer or agent with respect to such securities; or (y) the provision to any Transferee of any information other than such information as a prudent issuer would generally furnish in an offering made solely to “accredited investors” as defined in Regulation D promulgated under the Securities Act, the Company may cause to be paid to any such Transferee in lieu thereof, against surrender of the Shares which would have otherwise been sold by such Transferee, an amount in cash equal to the fair value (as determined in good faith by the Company’s Board of Directors or the Requisite Parties, as applicable) of the securities which such Transferee would otherwise receive as of the date of the issuance of such securities in exchange for the Shares.

MISCELLANEOUS PROVISIONS.

Choice of Law. This Agreement shall be governed by, and construed in accordance with, the laws of the State of Delaware (except its choice-of-law provisions), as such laws are applied to contracts entered into and performed in such State.

Notice. Any notice required by the terms of this Agreement shall be given in writing. It shall be deemed effective upon (i) personal delivery, (ii) deposit with the United States Postal Service, by registered or certified mail, with postage and fees prepaid, (iii) deposit with Federal Express Corporation, with shipping charges prepaid or (iv) deposit with any internationally recognized express mail courier service, with shipping charges prepaid. Notice shall be addressed to the Company at its principal executive office and to the Transferee at the address that he or she most recently provided to the Company in accordance with this Subsection (b). In addition, to the extent required or permitted pursuant to rules established by the Company from time to time, notices may be delivered electronically.

Entire Agreement. The Summary of Stock Grant, this Agreement and the Plan constitute the entire contract between the parties hereto with regard to the subject matter hereof. They supersede any other agreements, representations or understandings (whether oral or written and whether express or implied) that relate to the subject matter hereof.

Modifications and Waivers. No provision of this Agreement shall be modified, waived or discharged unless the modification, waiver or discharge is agreed to in writing and signed by the Transferee and an authorized officer of the Company (other than the Transferee). No waiver by either party of any breach of, or of compliance with, any condition or provision of this Agreement by the other party shall be considered a waiver of any other condition or provision of or of the same condition or provision at another time.

Severability. Whenever possible, each provision of this Agreement shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Agreement shall be held to be prohibited by or invalid under applicable law, such provision shall be ineffective only to the extent of such prohibition or invalidity, without invalidating the remainder of such provision or the remaining provisions of this Agreement.

Binding Effect on Transferees, Heirs, Successors and Assigns. This Agreement shall be binding upon Transferee's permitted transferees, heirs, successors and assigns; provided that for any such transfer to be deemed effective, the transferee shall agree on a form prescribed by the Company to be bound by the terms and conditions of this Agreement, including the forfeiture condition in Section 2, the right of first refusal in Section 3, the restrictions on transfer in Section 4 and the drag along right in Section 9. The Company shall not record any transfer of Shares on its books or issue a new certificate representing any such Shares unless and until such transferee shall have complied with the terms of this Subsection (f).

ACKNOWLEDGEMENTS OF THE TRANSFEEE.

In addition to the other terms, conditions and restrictions imposed on the Shares acquired pursuant to this Agreement, the Transferee expressly acknowledges being subject to Sections 2 (Forfeiture Condition), 3 (Right of First Refusal), 4 (Other Restrictions on Transfer, including without limitation the Market Stand-Off) and 9 (Drag Along Right), as well as the following provisions:

Electronic Delivery of Documents. The Transferee acknowledges and agrees that the Company may, in its sole discretion, deliver all documents relating to the Company, the Plan or this award and all other documents that the Company is required to deliver to its security holders (including, without limitation, disclosures that may be required by the Securities and Exchange Commission) by email or other means of electronic transmission (including by posting them on a website maintained by the Company or a third party under contract with the Company). The Transferee acknowledges that he or she may incur costs in connection with any such delivery by means of electronic transmission, including the cost of accessing the internet and printing fees, and that an interruption of internet access may interfere with his or her ability to access the documents.

Tax Consequences and Withholding. The Transferee agrees that the Company does not have a duty to design or administer the Plan or its other compensation programs in a manner that minimizes the Transferee's tax liabilities. The Transferee shall not make any claim against the Company or its Board of Directors, officers or employees related to tax liabilities arising from this award or the Transferee's other compensation. In the event that the Company determines that it is required to withhold any tax (including without limitation any income tax, social insurance contributions, payroll tax, payment on account or other tax-related items arising in connection with the Transferee's participation in the Plan and legally applicable to the Transferee (the "**Tax-Related Items**")) as a result of the grant or vesting of the Transferred Shares, the Transferee, as a condition of this award, shall make arrangements satisfactory to the Company to enable it to satisfy all Tax-Related Items. The Transferee acknowledges that the responsibility for all Tax-Related Items is the Transferee's and may exceed the amount actually withheld by the Company (or its affiliate or agent).

Waiver of Statutory Information Rights. The Transferee acknowledges and agrees that, until the first sale of the Company's Stock to the general public pursuant to a registration statement filed under the Securities Act, he or she shall waive, and shall be deemed to have waived, any rights the Transferee would otherwise have under Section 220 of the Delaware General Corporation Law (or under similar rights pursuant to any other applicable law) to inspect for any purpose and to make copies and extracts from the Company's stock ledger, a list of its stockholders and its other books and records or the books and records of any subsidiary of the Company (the "**Inspection Rights**"). The Transferee acknowledges and understands that,

but for the waiver made herein, the Transferee would be entitled, upon compliance with the procedures set forth in Section 220 of the Delaware General Corporation Law, to Inspection Rights pursuant thereto, and further acknowledges and agrees that the waiver set forth herein is a knowing and voluntary waiver of such rights, that the Transferee has received sufficient consideration for such waiver and that the Company would not be willing to provide the benefits to the Transferee hereunder without the benefit of such waiver from the Transferee. This waiver applies only in the Transferee's capacity as a stockholder and does not affect any other inspection rights the Transferee may have pursuant to any written agreement with the Company.

Plan Discretionary. The Transferee understands and acknowledges that (i) the Plan is entirely discretionary, (ii) the Company and the Transferee's employer have reserved the right to amend, suspend or terminate the Plan at any time, (iii) the transfer of the Transferred Shares does not in any way create any contractual or other right to receive additional awards under the Plan at any time or in any amount and (iv) all determinations with respect to any additional awards, including (without limitation) the times when awards will be granted, the number of Shares offered and the vesting schedule, will be at the sole discretion of the Company.

Termination of Service. The Transferee understands and acknowledges that participation in the Plan ceases upon termination of his or her Service for any reason, except as may explicitly be provided otherwise in the Plan or this Agreement.

Extraordinary Compensation. The value of the Transferred Shares shall be an extraordinary item of compensation outside the scope of the Transferee's employment contract, if any, and shall not be considered a part of his or her normal or expected compensation for purposes of calculating severance, resignation, redundancy or end-of-service payments, bonuses, long-service awards, pension or retirement benefits or similar payments.

Authorization to Disclose. The Transferee hereby authorizes and directs the Transferee's employer to disclose to the Company or any Subsidiary any information regarding the Transferee's employment, the nature and amount of the Transferee's compensation and the fact and conditions of the Transferee's participation in the Plan, as the Transferee's employer deems necessary or appropriate to facilitate the administration of the Plan.

Personal Data Authorization. The Transferee consents to the collection, use and transfer of personal data as described in this Subsection (h). The Transferee understands and acknowledges that the Company, the Transferee's employer and the Company's other Subsidiaries hold certain personal information regarding the Transferee for the purpose of managing and administering the Plan, including (without limitation) the Transferee's name, home address, telephone number, date of birth, social insurance number, salary, nationality, job title, any Shares or directorships held in the Company and details of all options or any other entitlements to Shares awarded, canceled, exercised, vested, unvested or outstanding in the Transferee's favor (the "**Data**"). The Transferee further understands and acknowledges that the Company and/or its Subsidiaries will transfer Data among themselves as necessary for the purpose of implementation, administration and management of the Transferee's participation in the Plan and that the Company and/or any Subsidiary may each further transfer Data to any third party assisting the Company in the implementation, administration and management of the Plan. The Transferee understands and acknowledges that the recipients of Data may be located in the

United States or elsewhere. The Transferee authorizes such recipients to receive, possess, use, retain and transfer Data, in electronic or other form, for the purpose of administering the Transferee's participation in the Plan, including a transfer to any broker or other third party with whom the Transferee elects to deposit Shares acquired under the Plan of such Data as may be required for the administration of the Plan and/or the subsequent holding of Shares on the Transferee's behalf. The Transferee may, at any time, view the Data, require any necessary modifications of Data or withdraw the consents set forth in this Subsection (h) by contacting the Company in writing.

DEFINITIONS.

"Agreement" shall mean this Stock Grant Agreement.

"Board of Directors" shall mean the Board of Directors of the Company, as constituted from time to time or, if a Committee has been appointed, such Committee.

"Certificate" shall mean the Company's amended and restated certificate of incorporation, as in effect from time to time.

"Company" shall mean T-Scan Therapeutics, Inc., a Delaware corporation.

"Forfeiture Condition" shall mean the forfeiture condition described in Section 2.

"Immediate Family" shall mean any child, stepchild, grandchild, parent, stepparent, grandparent, spouse, sibling, mother-in-law, father-in-law, son-in-law, daughter-in-law, brother-in-law or sister-in-law and shall include adoptive relationships.

"Plan" shall mean the T-Scan Therapeutics, Inc. 2018 Stock Plan, as amended.

"Requisite Parties" shall mean both the Board of Directors and the Selling Holders.

"Restricted Share" shall mean a Transferred Share that is subject to the Forfeiture Condition.

"Right of First Refusal" shall mean the Company's right of first refusal described in Section 3.

"Sale of the Company" shall mean: (i) a transaction or series of related transactions in which a person, or a group of related persons, acquires from stockholders of the Company shares representing more than fifty percent (50%) of the outstanding voting power of the Company (a **"Stock Sale"**), (ii) a sale of all or substantially all of the assets of the Company or (iii) any other transaction that qualifies as a "Liquidation Event" as defined in the Certificate.

"Selling Holders" shall mean the holders of a majority of the then-outstanding shares of Common Stock (voting together as a single class and on an as-converted basis).

“**Service**” shall mean service as an Employee, Outside Director or Consultant.

“**Subsequent Transferee**” shall mean any person to whom the Transferee has directly or indirectly transferred any Transferred Shares.

“**Transferee**” shall mean the individual named in the Summary of Stock Grant.

“**Transfer Notice**” shall mean the notice of a proposed transfer of Transferred Shares described in Section 3.

“**Transferred Shares**” shall mean the Shares acquired by the Transferee pursuant to this Agreement.

SECTION 83(b) ELECTION

The undersigned taxpayer hereby elects, pursuant to Section 83(b) of the Internal Revenue Code of 1986, as amended, and pursuant to Treasury Regulations Section 1.83-2, to include in gross income as compensation for services the fair market value of the shares described below.

- (1) The taxpayer who performed the services is:
 Name: _____
 Address: _____

 Social Security No.: _____
- (2) The property with respect to which the election is made is _____ shares of the common stock of T-Scan Therapeutics, Inc.
- (3) The property was transferred to the taxpayer on _____, ____.
- (4) The taxable year for which the election is made is the calendar year _____.
- (5) The property is subject to forfeiture if for any reason taxpayer's service with the issuer terminates. The forfeiture condition lapses in a series of installments over a _____-year period ending on _____, ____.
- (6) The fair market value of such property at the time of transfer (determined without regard to any restriction other than a restriction that by its terms will never lapse) is \$_____ per share x _____ shares = \$_____.
- (7) No amount was paid for such property.
- (8) The amount to include in gross income is \$_____. **[The amount in Line 6.]**
- (9) A copy of this statement was furnished to T-Scan Therapeutics, Inc., for whom taxpayer rendered the services underlying the transfer of such property.
- (10) This statement is executed on _____, ____.

Spouse (if any)

Taxpayer

Within 30 days after the date of transfer of the property, this election must be filed with the Internal Revenue Service office where the taxpayer files his or her annual federal income tax return. The filing should be made by registered or certified mail, return receipt requested. The taxpayer must deliver a copy of the completed form to the Company.

TSCAN THERAPEUTICS, INC.
2021 EQUITY INCENTIVE PLAN
(As Adopted on April 22, 2021)

TSCAN THERAPEUTICS, INC.
2021 EQUITY INCENTIVE PLAN

ARTICLE 1. INTRODUCTION.

The Board adopted the Plan to become effective immediately, although no Awards may be granted prior to the IPO Date. The purpose of the Plan is to promote the long-term success of the Company and the creation of stockholder value by (a) encouraging Service Providers to focus on critical long-range corporate objectives, (b) encouraging the attraction and retention of Service Providers with exceptional qualifications and (c) linking Service Providers directly to stockholder interests through increased stock ownership. The Plan seeks to achieve this purpose by providing for Awards in the form of Options (which may be ISOs or NSOs), SARs, Restricted Shares and Restricted Stock Units. Capitalized terms used in this Plan are defined in Article 14.

ARTICLE 2. ADMINISTRATION.

2.1 General. The Plan may be administered by the Board or one or more Committees to which the Board (or an authorized Board committee) has delegated authority. If administration is delegated to a Committee, the Committee shall have the powers theretofore possessed by the Board, including, to the extent permitted by applicable law, the power to delegate to a subcommittee any of the administrative powers the Committee is authorized to exercise (and references in this Plan to either the Board or the Administrator shall hereafter also encompass the Committee or subcommittee, as applicable). The Board may abolish the Committee's delegation at any time and the Board shall at all times also retain the authority it has delegated to the Committee. The Administrator shall comply with rules and regulations applicable to it, including under the rules of any exchange on which the Common Shares are traded, and shall have the authority and be responsible for such functions as have been assigned to it.

2.2 Section 16. To the extent desirable to qualify transactions hereunder as exempt under Exchange Act Rule 16b-3, the transactions contemplated hereunder will be approved by the entire Board or a Committee of two or more "non-employee directors" within the meaning of Exchange Act Rule 16b-3.

2.3 Powers of Administrator. Subject to the terms of the Plan, and in the case of a Committee, subject to the specific duties delegated to the Committee, the Administrator shall have the authority to (a) select the Service Providers who are to receive Awards under the Plan, (b) determine the type, number, vesting requirements and other features and conditions of such Awards, (c) interpret the Plan and Awards granted under the Plan, (d) determine whether, when and to what extent an Award has become vested and/or exercisable and whether any performance-based vesting conditions have been satisfied, (e) make, amend and rescind rules relating to the Plan and Awards granted under the Plan, including rules relating to sub-plans established for the purposes of satisfying applicable foreign laws or for qualifying for favorable tax treatment under applicable foreign laws, (f) impose such restrictions, conditions or limitations as it determines appropriate as to the timing and manner of any resales by a Participant of any Common Shares issued pursuant to an Award, including restrictions under an insider trading policy and restrictions as to the use of a specified brokerage firm for such resales,

and (g) make all other decisions relating to the operation of the Plan and Awards granted under the Plan. In addition, with regard to the terms and conditions of Awards granted to Service Providers outside of the United States, the Administrator may vary from the provisions of the Plan (other than any requiring stockholder approval pursuant to Section 13.3) to the extent it determines it necessary and appropriate to do so.

2.4 Effect of Administrator's Decisions. The Administrator's decisions, determinations and interpretations shall be final and binding on all interested parties.

2.5 Governing Law. The Plan shall be governed by, and construed in accordance with, the laws of the State of Delaware (except its choice-of-law provisions).

ARTICLE 3. SHARES AVAILABLE FOR GRANTS.

3.1 Basic Limitation. Common Shares issued pursuant to the Plan may be authorized but unissued shares or treasury shares. The aggregate number of Common Shares issued under the Plan shall not exceed the sum of (a) 26,880,000 Common Shares, (b) any Common Shares subject to awards granted under the Predecessor Plan that are outstanding on the IPO Date that subsequently are forfeited, expire or lapse unexercised or unsettled and Common Shares issued pursuant to awards granted under the Predecessor Plan that are outstanding on the IPO Date and that are subsequently forfeited to or reacquired by the Company, (c) the number of Common Shares reserved under the Predecessor Plan that are not issued or subject to outstanding awards under the Predecessor Plan on the IPO Date and (d) the additional Common Shares described in Articles 3.2 and 3.3. The Company shall reserve and keep available such number of Common Shares as will be sufficient to satisfy the requirements of the Plan. The numerical limitations in this Article 3.1 shall be subject to adjustment pursuant to Article 9.

3.2 Annual Increase in Shares. On the first day of each fiscal year of the Company during the term of the Plan, commencing in 2022 and ending in (and including) 2031, the aggregate number of Common Shares that may be issued under the Plan shall automatically increase by a number equal to the lesser of (a) 5% of the total number of Common Shares actually issued and outstanding on the last day of the preceding fiscal year or (b) a number of Common Shares determined by the Board.

3.3 Shares Returned to Reserve. To the extent that Options, SARs, Restricted Stock Units or other Awards are forfeited, cancelled or expire for any reason before being exercised or settled in full, the Common Shares subject to such Awards shall again become available for issuance under the Plan. If SARs are exercised or Restricted Stock Units are settled, then only the number of Common Shares (if any) actually issued to the Participant upon exercise of such SARs or settlement of such Restricted Stock Units, as applicable, shall reduce the number of Common Shares available under Article 3.1 and the balance shall again become available for issuance under the Plan. If Restricted Shares or Common Shares issued upon the exercise of Options are reacquired by the Company pursuant to a forfeiture provision, repurchase right or for any other reason, then such Common Shares shall again become available for issuance under the Plan. Common Shares applied to pay the Exercise Price of Options or to satisfy tax withholding obligations related to any Award shall again become available for issuance under the Plan. To the extent that an Award is settled in cash rather than Common Shares, the cash settlement shall not reduce the number of Shares available for issuance under the Plan.

3.4 Awards Not Reducing Share Reserve. To the extent permitted under applicable exchange listing standards, any dividend equivalents paid or credited under the Plan with respect to Restricted Stock Units shall not be applied against the number of Common Shares that may be issued under the Plan, whether or not such dividend equivalents are converted into Restricted Stock Units. In addition, Common Shares subject to Substitute Awards granted by the Company shall not reduce the number of Common Shares that may be issued under Article 3.1, nor shall shares subject to Substitute Awards again be available for Awards under the Plan in the event of any forfeiture, expiration or cash settlement of such Substitute Awards.

3.5 Code Section 422 and Other Limits. Subject to adjustment in accordance with Article 9:

(a) No more than 26,880,000 Common Shares may be issued under the Plan upon the exercise of ISOs.

(b) The aggregate grant date fair value of Awards granted to an Outside Director during any one fiscal year of the Company, together with the value of any cash compensation paid to the Outside Director during such fiscal year, may not exceed \$750,000 (on a per-Director basis); provided however that the limitation that will apply in the fiscal year in which the Outside Director is initially appointed or elected to the Board shall instead be \$1,500,000. For purposes of this limitation, the grant date fair value of an Award shall be determined in accordance with the assumptions that the Company uses to estimate the value of share-based payments for financial reporting purposes. For the sake of clarity, neither Awards granted, nor compensation paid, to an individual for his or her service as an Employee or Consultant, but not as an Outside Director, shall count towards this limitation.

ARTICLE 4. ELIGIBILITY.

4.1 Incentive Stock Options. Only Employees who are common-law employees of the Company, a Parent or a Subsidiary shall be eligible for the grant of ISOs. In addition, an Employee who owns more than 10% of the total combined voting power of all classes of outstanding stock of the Company or any of its Parents or Subsidiaries shall not be eligible for the grant of an ISO unless the additional requirements set forth in Code Section 422(c)(5) are satisfied.

4.2 Other Awards. Awards other than ISOs may be granted to both Employees and other Service Providers.

ARTICLE 5. OPTIONS.

5.1 Stock Option Agreement. Each grant of an Option under the Plan shall be evidenced by a Stock Option Agreement between the Optionee and the Company. Such Option shall be subject to all applicable terms of the Plan and may be subject to any other terms that are not inconsistent with the Plan. The Stock Option Agreement shall specify whether the Option is intended to be an ISO or an NSO. The provisions of the various Stock Option Agreements entered into under the Plan need not be identical.

5.2 Number of Shares. Each Stock Option Agreement shall specify the number of Common Shares subject to the Option, which number shall adjust in accordance with Article 9.

5.3 Exercise Price. Each Stock Option Agreement shall specify the Exercise Price, which shall not be less than 100% of the Fair Market Value of a Common Share on the date of grant. The preceding sentence shall not apply to an Option that is a Substitute Award granted in a manner that would satisfy the requirements of Code Section 409A and, if applicable, Code Section 424(a).

5.4 Exercisability and Term. Each Stock Option Agreement shall specify the date or event when all or any installment of the Option is to become vested and/or exercisable. The vesting and exercisability conditions applicable to the Option may include service-based conditions, performance-based conditions, such other conditions as the Administrator may determine, or any combination of such conditions. The Stock Option Agreement shall also specify the term of the Option; provided that, except to the extent necessary to comply with applicable foreign law, the term of an Option shall in no event exceed 10 years from the date of grant. A Stock Option Agreement may provide for accelerated vesting and/or exercisability upon certain specified events and may provide for expiration prior to the end of its term in the event of the termination of the Optionee's service.

5.5 Death of Optionee. After an Optionee's death, any vested and exercisable Options held by such Optionee may be exercised by his or her beneficiary or beneficiaries. Each Optionee may designate one or more beneficiaries for this purpose by filing the prescribed form with the Company. A beneficiary designation may be changed by filing the prescribed form with the Company at any time before the Optionee's death. If no beneficiary was designated or if no designated beneficiary survives the Optionee, then any vested and exercisable Options held by the Optionee may be exercised by his or her estate.

5.6 Modification or Assumption of Options. Within the limitations of the Plan, the Administrator may modify, extend or assume outstanding options. The foregoing notwithstanding, no modification of an Option shall, without the consent of the Optionee, materially impair his or her rights or obligations under such Option. Notwithstanding anything in this Plan to the contrary, and except for the adjustments provided in Article 9, neither the Administrator nor any other person may (a) decrease the exercise price for any outstanding Option after the date of grant, (b) cancel or allow an Optionee to surrender an outstanding Option to the Company in exchange for cash or as consideration for the grant of a new Option with a lower exercise price or the grant of another type of Award the effect of which is to reduce the exercise price of any outstanding Option, or (c) take any other action with respect to an Option that would be treated as a repricing under the rules and regulations of the Nasdaq Stock Market (or such other principal U.S. national securities exchange on which the Common Shares are traded).

5.7 Buyout Provisions. Except to the extent prohibited by Article 5.6, the Administrator may at any time (a) offer to buy out for a payment in cash or cash equivalents an Option previously granted or (b) authorize an Optionee to elect to cash out an Option previously granted, in either case at such time and based upon such terms and conditions as the Administrator shall establish.

5.8 Payment for Option Shares. The entire Exercise Price of Common Shares issued upon exercise of Options shall be payable in cash or cash equivalents at the time when such Common Shares are purchased. In addition, the Administrator may, in its sole discretion

and to the extent permitted by applicable law, accept payment of all or a portion of the Exercise Price through any one or a combination of the following forms or methods:

- (a) Subject to any conditions or limitations established by the Administrator, by surrendering, or attesting to the ownership of, Common Shares that are already owned by the Optionee with a value on the date of surrender equal to the aggregate exercise price of the Common Shares as to which such Option will be exercised;
- (b) By delivering (on a form prescribed by the Company) an irrevocable direction to a securities broker approved by the Company to sell all or part of the Common Shares being purchased under the Plan and to deliver all or part of the sales proceeds to the Company;
- (c) Subject to such conditions and requirements as the Administrator may impose from time to time, through a net exercise procedure; or
- (d) Through any other form or method consistent with applicable laws, regulations and rules.

ARTICLE 6. STOCK APPRECIATION RIGHTS.

6.1 SAR Agreement. Each grant of a SAR under the Plan shall be evidenced by a SAR Agreement between the Optionee and the Company. Such SAR shall be subject to all applicable terms of the Plan and may be subject to any other terms that are not inconsistent with the Plan. The provisions of the various SAR Agreements entered into under the Plan need not be identical.

6.2 Number of Shares. Each SAR Agreement shall specify the number of Common Shares to which the SAR pertains, which number shall adjust in accordance with Article 9.

6.3 Exercise Price. Each SAR Agreement shall specify the Exercise Price, which shall in no event be less than 100% of the Fair Market Value of a Common Share on the date of grant. The preceding sentence shall not apply to a SAR that is a Substitute Award granted in a manner that would satisfy the requirements of Code Section 409A.

6.4 Exercisability and Term. Each SAR Agreement shall specify the date when all or any installment of the SAR is to become vested and exercisable. The vesting and exercisability conditions applicable to the SAR may include service-based conditions, performance-based conditions, such other conditions as the Administrator may determine, or any combination thereof. The SAR Agreement shall also specify the term of the SAR; provided that except to the extent necessary to comply with applicable foreign law, the term of a SAR shall not exceed 10 years from the date of grant. A SAR Agreement may provide for accelerated vesting and exercisability upon certain specified events and may provide for expiration prior to the end of its term in the event of the termination of the Optionee's service.

6.5 Exercise of SARs. Upon exercise of a SAR, the Optionee (or any person having the right to exercise the SAR after his or her death) shall receive from the Company (a) Common Shares, (b) cash or (c) a combination of Common Shares and cash, as the Administrator shall determine. The amount of cash and/or the Fair Market Value of Common Shares received upon exercise of SARs shall, in the aggregate, not exceed the amount by which the Fair Market Value

(on the date of surrender) of the Common Shares subject to the SARs exceeds the Exercise Price. If, on the date when a SAR expires, the Exercise Price is less than the Fair Market Value on such date but any portion of such SAR has not been exercised or surrendered, then such SAR shall automatically be deemed to be exercised as of such date with respect to such portion. A SAR Agreement may also provide for an automatic exercise of the SAR on an earlier date.

6.6 Death of Optionee. After an Optionee's death, any vested and exercisable SARs held by such Optionee may be exercised by his or her beneficiary or beneficiaries. Each Optionee may designate one or more beneficiaries for this purpose by filing the prescribed form with the Company. A beneficiary designation may be changed by filing the prescribed form with the Company at any time before the Optionee's death. If no beneficiary was designated or if no designated beneficiary survives the Optionee, then any vested and exercisable SARs held by the Optionee at the time of his or her death may be exercised by his or her estate.

6.7 Modification or Assumption of SARs. Within the limitations of the Plan, the Administrator may modify, extend or assume outstanding SARs. The foregoing notwithstanding, no modification of a SAR shall, without the consent of the Optionee, materially impair his or her rights or obligations under such SAR. Notwithstanding anything in this Plan to the contrary, and except for the adjustments provided in Article 9, neither the Administrator nor any other person may (a) decrease the exercise price for any outstanding SAR after the date of grant, (b) cancel or allow an Optionee to surrender an outstanding SAR to the Company in exchange for cash or as consideration for the grant of a new SAR with a lower exercise price or the grant of another type of Award the effect of which is to reduce the exercise price of any outstanding SAR, or (c) take any other action with respect to a SAR that would be treated as a repricing under the rules and regulations of the Nasdaq Stock Market (or such other principal U.S. national securities exchange on which the Common Shares are traded).

ARTICLE 7. RESTRICTED SHARES.

7.1 Restricted Stock Agreement. Each grant of Restricted Shares under the Plan shall be evidenced by a Restricted Stock Agreement between the recipient and the Company. Such Restricted Shares shall be subject to all applicable terms of the Plan and may be subject to any other terms that are not inconsistent with the Plan. The provisions of the various Restricted Stock Agreements entered into under the Plan need not be identical.

7.2 Payment for Awards. Restricted Shares may be sold or awarded under the Plan for such consideration as the Administrator may determine, including (without limitation) cash, cash equivalents, property, cancellation of other equity awards, promissory notes, past services and future services, and such other methods of payment as are permitted by applicable law.

7.3 Vesting Conditions. Each Award of Restricted Shares may or may not be subject to vesting and/or other conditions as the Administrator may determine. Vesting shall occur, in full or in installments, upon satisfaction of the conditions specified in the Restricted Stock Agreement. A Restricted Stock Agreement may provide for accelerated vesting upon certain specified events.

7.4 Voting and Dividend Rights. The holders of Restricted Shares awarded under the Plan shall have the same voting, dividend and other rights as the Company's other stockholders, unless the Administrator otherwise provides. A Restricted Stock Agreement,

however, may require that any cash dividends paid on Restricted Shares (a) be accumulated and paid when such Restricted Shares vest, or (b) be invested in additional Restricted Shares. Such additional Restricted Shares shall be subject to the same conditions and restrictions as the shares subject to the Award with respect to which the dividends were paid. In addition, if any dividends or other distributions are paid in Common Shares, such Common Shares shall be subject to the same restrictions on transferability and forfeitability as the Restricted Shares with respect to which they were paid.

7.5 Modification or Assumption of Restricted Shares. Within the limitations of the Plan, the Administrator may modify or assume outstanding Restricted Shares or may accept the cancellation of outstanding restricted shares (whether granted by the Company or by another issuer) in return for the grant of new Restricted Shares for the same or a different number of shares or in return for the grant of a different type of Award. The foregoing notwithstanding, no modification of Restricted Shares shall, without the consent of the Participant, materially impair his or her rights or obligations under such Restricted Shares.

ARTICLE 8. RESTRICTED STOCK UNITS.

8.1 Restricted Stock Unit Agreement. Each grant of Restricted Stock Units under the Plan shall be evidenced by a Restricted Stock Unit Agreement between the recipient and the Company. Such Restricted Stock Units shall be subject to all applicable terms of the Plan and may be subject to any other terms that are not inconsistent with the Plan. The provisions of the various Restricted Stock Unit Agreements entered into under the Plan need not be identical.

8.2 Payment for Awards. To the extent that an Award is granted in the form of Restricted Stock Units, no cash consideration shall be required of the Award recipients.

8.3 Vesting Conditions. Each Award of Restricted Stock Units may or may not be subject to vesting, as determined by the Administrator. Vesting shall occur, in full or in installments, upon satisfaction of the conditions specified in the Restricted Stock Unit Agreement. Vesting conditions may include service-based conditions, performance-based conditions, such other conditions as the Administrator may determine, or any combination thereof. A Restricted Stock Unit Agreement may provide for accelerated vesting upon certain specified events.

8.4 Voting and Dividend Rights. The holders of Restricted Stock Units shall have no voting rights. Prior to settlement or forfeiture, Restricted Stock Units awarded under the Plan may, at the Administrator's discretion, provide for a right to dividend equivalents. Such right entitles the holder to be credited with an amount equal to all cash dividends paid on one Common Share while the Restricted Stock Unit is outstanding. Dividend equivalents may be converted into additional Restricted Stock Units. Settlement of dividend equivalents may be made in the form of cash, in the form of Common Shares, or in a combination of both. Prior to distribution, any dividend equivalents shall be subject to the same conditions and restrictions as the Restricted Stock Units to which they attach.

8.5 Form and Time of Settlement of Restricted Stock Units. Settlement of vested Restricted Stock Units may be made in the form of (a) cash, (b) Common Shares or (c) any combination of both, as determined by the Administrator. The actual number of Restricted Stock Units eligible for settlement may be larger or smaller than the number included in the original

Award, based on predetermined performance factors. Methods of converting Restricted Stock Units into cash may include (without limitation) a method based on the average value of Common Shares over a series of trading days. Vested Restricted Stock Units shall be settled in such manner and at such time(s) as specified in the Restricted Stock Unit Agreement. Until an Award of Restricted Stock Units is settled, the number of such Restricted Stock Units shall be subject to adjustment pursuant to Article 9.

8.6 Death of Recipient. Any Restricted Stock Units that become payable after the recipient's death shall be distributed to the recipient's beneficiary or beneficiaries. Each recipient of Restricted Stock Units under the Plan may designate one or more beneficiaries for this purpose by filing the prescribed form with the Company. A beneficiary designation may be changed by filing the prescribed form with the Company at any time before the Award recipient's death. If no beneficiary was designated or if no designated beneficiary survives the Award recipient, then any Restricted Stock Units that become payable after the recipient's death shall be distributed to the recipient's estate.

8.7 Modification or Assumption of Restricted Stock Units. Within the limitations of the Plan, the Administrator may modify or assume outstanding restricted stock units or may accept the cancellation of outstanding restricted stock units (whether granted by the Company or by another issuer) in return for the grant of new Restricted Stock Units for the same or a different number of shares or in return for the grant of a different type of Award. The foregoing notwithstanding, no modification of a Restricted Stock Unit shall, without the consent of the Participant, materially impair his or her rights or obligations under such Restricted Stock Unit.

8.8 Creditors' Rights. A holder of Restricted Stock Units shall have no rights other than those of a general creditor of the Company. Restricted Stock Units represent an unfunded and unsecured obligation of the Company, subject to the terms and conditions of the applicable Restricted Stock Unit Agreement.

ARTICLE 9. ADJUSTMENTS; DISSOLUTIONS AND LIQUIDATIONS; CORPORATE TRANSACTIONS.

9.1 Adjustments. In the event of a subdivision of the outstanding Common Shares, a declaration of a dividend payable in Common Shares, a combination or consolidation of the outstanding Common Shares (by reclassification or otherwise) into a lesser number of Common Shares or any other increase or decrease in the number of issued Common Shares effected without receipt of consideration by the Company, proportionate adjustments shall be made to the following:

- (a) The number and kind of shares available for issuance under Article 3, including the numerical share limits in Articles 3.1 and 3.5;
- (b) The number and kind of shares covered by each outstanding Option, SAR, and Restricted Stock Unit; and/or
- (c) The Exercise Price applicable to each outstanding Option and SAR, and the repurchase price, if any, applicable to Restricted Shares.

In the event of a declaration of an extraordinary dividend payable in a form other than Common Shares in an amount that has a material effect on the price of Common Shares, a recapitalization,

a spin-off or a similar occurrence, the Administrator shall make such adjustments as it, in its sole discretion, deems appropriate to the foregoing. Any adjustment in the number of shares subject to an Award under this Article 9.1 shall be rounded down to the nearest whole share, although the Administrator in its sole discretion may make a cash payment in lieu of a fractional share. Except as provided in this Article 9, a Participant shall have no rights by reason of any issuance by the Company of stock of any class or securities convertible into stock of any class, any subdivision or consolidation of shares of stock of any class, the payment of any stock dividend or any other increase or decrease in the number of shares of stock of any class.

9.2 Dissolution or Liquidation. To the extent not previously exercised or settled, Options, SARs and Restricted Stock Units shall terminate immediately prior to the dissolution or liquidation of the Company.

9.3 Corporate Transactions. In the event that the Company is a party to a merger, consolidation, or a Change in Control (other than one described in Article 14.6(d)), all Common Shares acquired under the Plan and all Awards outstanding on the effective date of the transaction shall be treated in the manner described in the definitive transaction agreement (or, in the event the transaction does not entail a definitive agreement to which the Company is party, in the manner determined by the Administrator, with such determination having final and binding effect on all parties), which agreement or determination need not treat all Awards (or portions thereof) in an identical manner. Unless an Award Agreement provides otherwise, the treatment specified in the transaction agreement or by the Administrator may include (without limitation) one or more of the following with respect to each outstanding Award:

- (a) The continuation of such outstanding Award by the Company (if the Company is the surviving entity);
- (b) The assumption of such outstanding Award by the surviving entity or its parent, provided that the assumption of an Option or a SAR shall comply with applicable tax requirements;
- (c) The substitution by the surviving entity or its parent of an equivalent award for such outstanding Award (including, but not limited to, an award to acquire the same consideration paid to the holders of Common Shares in the transaction), provided that the substitution of an Option or a SAR shall comply with applicable tax requirements;
- (d) In the case of an Option or SAR, the cancellation of such Award without payment of any consideration. An Optionee shall be able to exercise his or her outstanding Option or SAR, to the extent such Option or SAR is then vested or become vested as of the effective time of the transaction, during a period of not less than five full business days preceding the closing date of the transaction, unless (i) a shorter period is required to permit a timely closing of the transaction and (ii) such shorter period still offers the Optionees a reasonable opportunity to exercise such Option or SAR. Any exercise of such Option or SAR during such period may be contingent on the closing of the transaction;
- (e) The cancellation of such Award and a payment to the Participant with respect to each share subject to the portion of the Award that is vested or

becomes vested as of the effective time of the transaction equal to the excess of (A) the value, as determined by the Administrator in its absolute discretion, of the property (including cash) received by the holder of a Common Share as a result of the transaction, over (if applicable) (B) the per-share Exercise Price of such Award (such excess, if any, the “**Spread**”). Such payment shall be made in the form of cash, cash equivalents, or securities of the surviving entity or its parent having a value equal to the Spread. In addition, any escrow, holdback, earn-out or similar provisions in the transaction agreement may apply to such payment to the same extent and in the same manner as such provisions apply to the holders of Common Shares. If the Spread applicable to an Award (whether or not vested) is zero or a negative number, then the Award may be cancelled without making a payment to the Participant. In the event that an Award is subject to Code Section 409A, the payment described in this clause (e) shall be made on the settlement date specified in the applicable Award Agreement, provided that settlement may be accelerated in accordance with Treasury Regulation Section 1.409A-3(j)(4); or

(f) The assignment of any reacquisition or repurchase rights held by the Company in respect of an Award of Restricted Shares to the surviving entity or its parent, with corresponding proportionate adjustments made to the price per share to be paid upon exercise of any such reacquisition or repurchase rights.

Unless an Award Agreement provides otherwise, each outstanding Award held by a Participant who remains a Service Provider as of the effective time of a merger, consolidation or Change in Control (other than one described in Article 14.6(d)) (a “**Current Participant**”) shall become fully vested and, if applicable, exercisable immediately prior to the effective time of the transaction and, in the case of an Award subject to performance-based vesting conditions, such performance-based vesting conditions shall be deemed achieved at 100% of target levels. However, the prior sentence shall not apply, and an outstanding Award shall not become vested and, if applicable, exercisable, if and to the extent the Award is continued, assumed or substituted as provided for in clauses (a), (b) or (c) above. In addition, the prior two sentences shall not apply to an Award held by a Participant who is not a Current Participant unless an Award Agreement provides otherwise or unless the Company and the acquirer agree otherwise.

For avoidance of doubt, the Administrator shall have the discretion, exercisable either at the time an Award is granted or at any time while the Award remains outstanding, to provide for the acceleration of vesting upon the occurrence of a Change in Control, whether or not the Award is to be assumed or replaced in the transaction, or in connection with a termination of the Participant’s service following a transaction.

Any action taken under this Article 9.3 shall either preserve an Award’s status as exempt from Code Section 409A or comply with Code Section 409A.

ARTICLE 10. OTHER AWARDS.

Subject in all events to the limitations under Article 3 above as to the number of Common Shares available for issuance under this Plan, the Company may grant other forms of Awards not specifically described herein and may grant awards under other plans or programs, where such awards are settled in the form of Common Shares issued under this Plan. Such Common Shares shall be treated for all purposes under the Plan like Common Shares issued in settlement of Restricted Stock Units and shall, when issued, reduce the number of Common Shares available under Article 3.

ARTICLE 11. LIMITATION ON RIGHTS.

11.1 Retention Rights. Neither the Plan nor any Award granted under the Plan shall be deemed to give any individual a right to remain a Service Provider. The Company and its Parents, Subsidiaries and Affiliates reserve the right to terminate the Service of any Service Provider at any time, with or without cause, subject to applicable laws, the Company's certificate of incorporation and by-laws and a written employment agreement (if any).

11.2 Stockholders' Rights. Except as set forth in Article 7.4 or 8.4 above, a Participant shall have no dividend rights, voting rights or other rights as a stockholder with respect to any Common Shares covered by his or her Award prior to the time when a stock certificate for such Common Shares is issued or, if applicable, the time when he or she becomes entitled to receive such Common Shares by filing any required notice of exercise and paying any required Exercise Price. No adjustment shall be made for cash dividends or other rights for which the record date is prior to such time, except as expressly provided in the Plan.

11.3 Regulatory Requirements. Any other provision of the Plan notwithstanding, the obligation of the Company to issue Common Shares under the Plan shall be subject to all applicable laws, rules and regulations and such approval by any regulatory body as may be required. The Company reserves the right to restrict, in whole or in part, the delivery of Common Shares pursuant to any Award prior to the satisfaction of all legal requirements relating to the issuance of such Common Shares, to their registration, qualification or listing or to an exemption from registration, qualification or listing. The inability of the Company to obtain authority from any regulatory body having jurisdiction, which authority is deemed necessary by the Company's counsel to be necessary to the lawful issuance and sale of any Common Shares hereunder, will relieve the Company of any liability in respect of the failure to issue or sell such Common Shares as to which such requisite authority will not have been obtained.

11.4 Transferability of Awards. The Administrator may, in its sole discretion, permit transfer of an Award in a manner consistent with applicable law. Unless otherwise determined by the Administrator, Awards shall be transferable by a Participant only by (a) beneficiary designation, (b) a will or (c) the laws of descent and distribution; provided that, in any event, an ISO may only be transferred by will or by the laws of descent and distribution and may be exercised during the lifetime of the Optionee only by the Optionee or by the Optionee's guardian or legal representative.

11.5 Recoupment Policy. All Awards granted under the Plan, all amounts paid under the Plan and all Common Shares issued under the Plan shall be subject to recoupment, clawback or recovery by the Company in accordance with applicable law and with Company policy (whenever adopted) regarding same, whether or not such policy is intended to satisfy the requirements of the Dodd-Frank Wall Street Reform and Consumer Protection Act, the Sarbanes-Oxley Act, or other applicable law, as well as any implementing regulations and/or listing standards thereunder.

11.6 Other Conditions and Restrictions on Common Shares. Any Common Shares issued under the Plan shall be subject to such forfeiture conditions, rights of repurchase, rights of

first refusal, other transfer restrictions and such other terms and conditions as the Administrator may determine. Such conditions and restrictions shall be set forth in the applicable Award Agreement and shall apply in addition to any restrictions that may apply to holders of Common Shares generally. In addition, Common Shares issued under the Plan shall be subject to such conditions and restrictions imposed either by applicable law or by Company policy, as adopted from time to time, designed to ensure compliance with applicable law or laws with which the Company determines in its sole discretion to comply including in order to maintain any statutory, regulatory or tax advantage.

ARTICLE 12. TAXES.

12.1 General. It is a condition to each Award under the Plan that a Participant or his or her successor shall make arrangements satisfactory to the Company for the satisfaction of any federal, state, local or foreign withholding tax obligations that arise in connection with any Award granted under the Plan. The Company shall not be required to issue any Common Shares or make any cash payment under the Plan unless such obligations are satisfied.

12.2 Share Withholding. To the extent that applicable law subjects a Participant to tax withholding obligations, the Administrator may permit such Participant to satisfy all or part of such obligations by having the Company withhold all or a portion of any Common Shares that otherwise would be issued to him or her or by surrendering all or a portion of any Common Shares that he or she previously acquired. Such Common Shares shall be valued on the date when they are withheld or surrendered. Any payment of taxes by assigning Common Shares to the Company may be subject to restrictions including any restrictions required by SEC, accounting or other rules.

12.3 Section 409A Matters. Except as otherwise expressly set forth in an Award Agreement, it is intended that Awards granted under the Plan either be exempt from, or comply with, the requirements of Code Section 409A. To the extent an Award is subject to Code Section 409A (a “**409A Award**”), the terms of the Plan, the Award and any written agreement governing the Award shall be interpreted to comply with the requirements of Code Section 409A so that the Award is not subject to additional tax or interest under Code Section 409A, unless the Administrator expressly provides otherwise. A 409A Award shall be subject to such additional rules and requirements as specified by the Administrator from time to time in order for it to comply with the requirements of Code Section 409A. In this regard, if any amount under a 409A Award is payable upon a “separation from service” to an individual who is considered a “specified employee” (as each term is defined under Code Section 409A), then no such payment shall be made prior to the date that is the earlier of (i) six months and one day after the Participant’s separation from service or (ii) the Participant’s death, but only to the extent such delay is necessary to prevent such payment from being subject to Code Section 409A(a)(1).

12.4 Limitation on Liability. Neither the Company nor any person serving as Administrator shall have any liability to a Participant in the event an Award held by the Participant fails to achieve its intended characterization under applicable tax law.

ARTICLE 13. FUTURE OF THE PLAN.

13.1 Term of the Plan. The Plan, as set forth herein, shall become effective on the date of its adoption by the Board, subject to approval of the Company’s stockholders under Article 13.3 below. The Plan shall terminate automatically 10 years after the date when the Board adopted the Plan.

13.2 Amendment or Termination. The Board may, at any time and for any reason, amend or terminate the Plan. No Awards shall be granted under the Plan after the termination thereof. The termination of the Plan, or any amendment thereof, shall not affect any Award previously granted under the Plan.

13.3 Stockholder Approval. To the extent required by applicable law, the Plan will be subject to the approval of the Company's stockholders within 12 months of its adoption date. An amendment of the Plan shall be subject to the approval of the Company's stockholders only to the extent required by applicable laws, regulations or rules.

ARTICLE 14. DEFINITIONS.

14.1 **"Administrator"** means the Board or any Committee administering the Plan in accordance with Article 2.

14.2 **"Affiliate"** means any entity other than a Subsidiary, if the Company and/or one or more Subsidiaries own not less than 50% of such entity.

14.3 **"Award"** means any award granted under the Plan, including as an Option, a SAR, a Restricted Share award, a Restricted Stock Unit award or another form of equity-based compensation award.

14.4 **"Award Agreement"** means a Stock Option Agreement, a SAR Agreement, a Restricted Stock Agreement, a Restricted Stock Unit Agreement or such other agreement evidencing an Award granted under the Plan.

14.5 **"Board"** means the Company's Board of Directors, as constituted from time to time and, where the context so requires, reference to the "Board" may refer to a Committee to whom the Board has delegated authority to administer any aspect of this Plan.

14.6 **"Change in Control"** means:

(a) Any "person" (as such term is used in Sections 13(d) and 14(d) of the Exchange Act) becomes the "beneficial owner" (as defined in Rule 13d-3 of the Exchange Act), directly or indirectly, of securities of the Company representing more than fifty percent (50%) of the total voting power represented by the Company's then-outstanding voting securities;

(b) The consummation of the sale or disposition by the Company of all or substantially all of the Company's assets;

(c) The consummation of a merger or consolidation of the Company with or into any other entity, other than a merger or consolidation which would result in the voting securities of the Company outstanding immediately prior thereto continuing to represent (either by remaining outstanding or by being converted into voting securities of the surviving entity or its parent) more than fifty percent (50%) of the total voting power represented by the voting securities of the Company or such surviving entity or its parent outstanding immediately after such merger or consolidation; or

(d) Individuals who are members of the Board (the “**Incumbent Board**”) cease for any reason to constitute at least a majority of the members of the Board over a period of 12 months; provided, however, that if the appointment or election (or nomination for election) of any new Board member was approved or recommended by a majority vote of the members of the Incumbent Board then still in office, such new member shall, for purposes of this Plan, be considered as a member of the Incumbent Board.

A transaction shall not constitute a Change in Control if its sole purpose is to change the state of the Company’s incorporation or to create a holding company that will be owned in substantially the same proportions by the persons who held the Company’s securities immediately before such transaction. In addition, if a Change in Control constitutes a payment event with respect to any Award which provides for a deferral of compensation and is subject to Code Section 409A, then notwithstanding anything to the contrary in the Plan or applicable Award Agreement the transaction with respect to such Award must also constitute a “change in control event” as defined in Treasury Regulation Section 1.409A-3(i)(5) to the extent required by Code Section 409A.

14.7 “**Code**” means the Internal Revenue Code of 1986, as amended.

14.8 “**Committee**” means a committee of one or more members of the Board, or of other individuals satisfying applicable laws, appointed by the Board to administer the Plan.

14.9 “**Common Share**” means one share of the Company’s common stock.

14.10 “**Company**” means TScan Therapeutics, Inc., a Delaware corporation.

14.11 “**Consultant**” means a consultant or adviser who provides *bona fide* services to the Company, a Parent, a Subsidiary or an Affiliate as an independent contractor and who qualifies as a consultant or advisor under Instruction A.1.(a)(1) of Form S-8 under the Securities Act.

14.12 “**Employee**” means a common-law employee of the Company, a Parent, a Subsidiary or an Affiliate.

14.13 “**Exchange Act**” means the Securities Exchange Act of 1934, as amended.

14.14 “**Exercise Price**,” in the case of an Option, means the amount for which one Common Share may be purchased upon exercise of such Option, as specified in the applicable Stock Option Agreement. “Exercise Price,” in the case of a SAR, means an amount, as specified in the applicable SAR Agreement, which is subtracted from the Fair Market Value of one Common Share in determining the amount payable upon exercise of such SAR.

14.15 “**Fair Market Value**” means the closing price of a Common Share on any established stock exchange or a national market system on the applicable date or, if the applicable date is not a trading day, on the last trading day prior to the applicable date, as reported in a source that the Administrator deems reliable. If Common Shares are not traded on an established stock exchange or a national market system, the Fair Market Value shall be determined by the Administrator in good faith on such basis as it deems appropriate. The Administrator’s determination shall be conclusive and binding on all persons. Notwithstanding the foregoing, the determination of the Fair Market Value in all cases shall be in accordance with the requirements set forth under Section 409A of the Code to the extent necessary for an Award to comply with, or be exempt from, Section 409A of the Code.

14.16 “**IPO Date**” means the effective date of the registration statement filed by the Company with the Securities and Exchange Commission for its initial offering of the Common Shares to the public.

14.17 “**ISO**” means an incentive stock option described in Code Section 422(b).

14.18 “**NSO**” means a stock option not described in Code Sections 422 or 423.

14.19 “**Option**” means an ISO or NSO granted under the Plan and entitling the holder to purchase Common Shares.

14.20 “**Optionee**” means an individual or estate holding an Option or SAR.

14.21 “**Outside Director**” means a member of the Board who is not an Employee.

14.22 “**Parent**” means any corporation (other than the Company) in an unbroken chain of corporations ending with the Company, if each of the corporations other than the Company owns stock possessing 50% or more of the total combined voting power of all classes of stock in one of the other corporations in such chain. A corporation that attains the status of a Parent on a date after the adoption of the Plan shall be considered a Parent commencing as of such date.

14.23 “**Participant**” means an individual or estate holding an Award.

14.24 “**Plan**” means this TScan Therapeutics, Inc. 2021 Equity Incentive Plan, as amended from time to time.

14.25 “**Predecessor Plan**” means the Company’s 2018 Stock Plan, as amended.

14.26 “**Restricted Share**” means a Common Share awarded under the Plan.

14.27 “**Restricted Stock Agreement**” means the agreement consistent with the terms of the Plan between the Company and the recipient of a Restricted Share that contains the terms, conditions and restrictions pertaining to such Restricted Share.

14.28 “**Restricted Stock Unit**” means a bookkeeping entry representing the equivalent of one Common Share, as awarded under the Plan.

14.29 “**Restricted Stock Unit Agreement**” means the agreement consistent with the terms of the Plan between the Company and the recipient of a Restricted Stock Unit that contains the terms, conditions and restrictions pertaining to such Restricted Stock Unit.

14.30 “**SAR**” means a stock appreciation right granted under the Plan.

14.31 “**SAR Agreement**” means the agreement consistent with the terms of the Plan between the Company and an Optionee that contains the terms, conditions and restrictions pertaining to his or her SAR.

14.32 “**Securities Act**” means the Securities Act of 1933, as amended.

14.33 “**Service Provider**” means any individual who is an Employee, Outside Director or Consultant, including any prospective Employee, Outside Director or Consultant who has accepted an offer of employment or service and will be an Employee, Outside Director or Consultant after the commencement of their service.

14.34 “**Stock Option Agreement**” means the agreement consistent with the terms of the Plan between the Company and an Optionee that contains the terms, conditions and restrictions pertaining to his or her Option.

14.35 “**Subsidiary**” means any corporation (other than the Company) in an unbroken chain of corporations beginning with the Company, if each of the corporations other than the last corporation in the unbroken chain owns stock possessing 50% or more of the total combined voting power of all classes of stock in one of the other corporations in such chain. A corporation that attains the status of a Subsidiary on a date after the adoption of the Plan shall be considered a Subsidiary commencing as of such date

14.36 “**Substitute Awards**” means Awards or Common Shares issued by the Company in assumption of, or substitution or exchange for, awards previously granted, or the right or obligation to make future awards, in each case by a corporation acquired by the Company or any Affiliate or with which the Company or any Affiliate combines to the extent permitted by the applicable exchange listing standards.

TSCAN THERAPEUTICS, INC.
2021 EMPLOYEE STOCK PURCHASE PLAN
(AS ADOPTED ON APRIL 22, 2021)

2021 EMPLOYEE STOCK PURCHASE PLAN

SECTION 1. PURPOSE OF THE PLAN.

The Board adopted the Plan effective as of the IPO Date. The purpose of the Plan is to provide Eligible Employees with an opportunity to increase their proprietary interest in the success of the Company by purchasing Stock from the Company on favorable terms and to pay for such purchases through payroll deductions or other approved contributions.

SECTION 2. ADMINISTRATION OF THE PLAN.

(a) **General.** The Plan may be administered by the Board or one or more Committees to which the Board (or an authorized Board committee) has delegated authority. If administration is delegated to a Committee, the Committee shall have the powers theretofore possessed by the Board, including, to the extent permitted by applicable law, the power to delegate to a sub-committee any of the administrative powers the Committee is authorized to exercise (and references in this Plan to either the Board or the Administrator shall hereafter also encompass the Committee or subcommittee, as applicable). The Board may abolish the Committee's delegation at any time and the Board shall at all times also retain the authority it has delegated to the Committee. Each Committee shall comply with rules and regulations applicable to it, including under the rules of any exchange on which the Stock is traded, and shall have the authority and be responsible for such functions as have been assigned to it.

(b) **Powers of the Administrator.** Subject to the terms of the Plan, and in the case of a Committee, subject to the specific duties delegated to the Committee, the Administrator shall have the power to establish the terms and conditions of Offering Periods (which need not be identical) under the Plan, to interpret the Plan and make all other policy decisions relating to the operation of the Plan. The Administrator may adopt such rules, guidelines and forms as it deems appropriate to implement the Plan.

(c) **Effects of Administrator's Decisions.** The Administrator's decisions, determinations and interpretations shall be final and binding on all interested parties.

(d) **Governing Law.** The Plan shall be governed by, and construed in accordance with, the laws of the State of Delaware (except its choice of law provisions).

SECTION 3. STOCK OFFERED UNDER THE PLAN.

(a) **Authorized Shares.** The number of shares of Stock available for purchase under the Plan shall be 2,086,000 shares of the Company's Stock (subject to adjustment pursuant to Subsection (c) below), plus the additional shares described in Subsection (b) below. Shares of Stock issued pursuant to the Plan may be authorized but unissued shares or treasury shares.

(b) **Annual Increase in Shares.** On the first day of each fiscal year of the Company during the term of the Plan, commencing on January 1, 2022 and ending on (and including) January 1, 2041, the aggregate number of shares of Stock that may be issued under the Plan shall automatically increase by a number equal to the least of (i) one percent (1%) of the total number of shares of Stock actually issued and outstanding on the last day of the preceding fiscal year, or (ii) a number of shares of Stock determined by the Board.

(c) **Anti-Dilution Adjustments.** In the event that any dividend or other distribution (whether in the form of cash, stock or other securities or other property), recapitalization, stock split, reverse stock split, reorganization, merger, consolidation, split-up, spin-off, combination, reclassification, repurchase, or exchange of Stock or other securities of the Company, or other similar change in the corporate structure of the Company affecting the Stock and effected without receipt or payment of consideration by the Company occurs, then in order to prevent dilution or enlargement of the benefits or potential benefits intended to be made available under the Plan, there will be a proportionate adjustment of the number and class of Stock that may be delivered under the Plan, the Purchase Price per share and the number of shares and class of Stock covered by each option under the Plan which has not yet been exercised, and the numerical limits of Sections 3(a), 3(b)(ii) and 9(c).

(d) **Reorganizations.** In the event of a Corporate Reorganization, the outstanding rights to purchase Stock under any Offering Period then in progress may be continued, assumed or substituted by the surviving entity or its parent. If such acquirer refuses to continue, assume or substitute for any such rights, then a new Purchase Date for such Offering Period(s) will be set prior to the effective time of the Corporate Reorganization, the Participants' accumulated contributions will be applied to purchase Stock on such date, and any such Offering Periods shall terminate immediately after such purchase. In the event a new Purchase Date is set under this Section 3(d), Participants will be given notice of the new Purchase Date. The Plan shall in no event be construed to restrict in any way the Company's right to undertake a dissolution, liquidation, merger, consolidation or other reorganization.

SECTION 4. ENROLLMENT AND PARTICIPATION.

(a) **Offering Periods and Purchase Periods.**

- (i) **Base Offering Periods.** The Administrator may from time to time establish Offering Periods (consisting of one or more Purchase Periods) of such frequency and duration as it may deem appropriate (the "**Base Offering Periods**"); provided that a Base Offering Period shall in no event be longer than 27 months (or such other period as may be imposed under applicable tax law). Each Base Offering Period shall contain such terms and conditions (consistent with the Plan) as the Administrator deems appropriate. Within the limits of the Plan, the Administrator may change the frequency, duration and other terms and conditions of the Base Offering Periods as it deems appropriate from time to time. The Base Offering Periods are intended to qualify under Code Section 423.

- (ii) **Additional Offering Periods.** At the discretion of the Administrator, additional Offering Periods (the “**Additional Offering Periods**”) may be conducted under the Plan including, if necessary or advisable in the sole discretion of the Administrator, under a separate sub-plan or sub-plans, permitting grants to Eligible Employees of certain Participating Companies (each, a “**Sub-Plan**”). Such Additional Offering Periods will be designed to achieve desired tax objectives in particular locations outside the United States or to comply with local laws applicable to offerings in such foreign jurisdictions and may, but need not, qualify under Code Section 423. The Administrator shall determine the commencement and duration of each Additional Offering Period, and Additional Offering Periods may be consecutive or overlapping. The other terms and conditions of each Additional Offering Period shall be those set forth in this Plan document or in terms and conditions approved by the Administrator with respect to such Additional Offering Period (whether or not set forth in a written Sub-Plan), with such changes or additional features as the Administrator determines necessary to comply with local law. Each Additional Offering Period (whether or not set forth in a written Sub-Plan) shall be considered a separate plan from the Plan (the “**Statutory Plan**”). The total number of Shares authorized to be issued under the Plan as provided in Section 3 above applies in the aggregate to both the Statutory Plan and any Additional Offering Period. Unless otherwise superseded by the terms and conditions approved by the Administrator with respect to an Additional Offering Period, the provisions of this Plan document shall govern the operation of any offering conducted hereunder.
- (iii) **Separate Offerings.** Each Base Offering Period and each Additional Offering Period conducted under the Plan is intended to constitute a separate “offering” for purposes of Code Section 423.
- (iv) **Equal Rights and Privileges.** To the extent an Offering Period is intended to qualify under Code Section 423, all participants in such Offering Period shall have the same rights and privileges with respect to their participation in such Offering Period in accordance with Code Section 423 and the regulations thereunder except for differences that may be mandated by local law and are consistent with the requirements of Code Section 423(b)(5).

(b) **Enrollment.** In the case of any individual who qualifies as an Eligible Employee on the first day of any Offering Period, he or she may elect to become a Participant on such day by filing the prescribed enrollment form with the Company. The enrollment form shall be filed in the prescribed manner during the applicable Enrollment Period for such Offering Period. The Administrator may establish other procedures for enrollment by Eligible Employees.

- (c) **Duration of Participation.** Once enrolled in the Plan, a Participant shall continue to participate in the Plan until he or she:
 - (i) Reaches the end of the Offering Period or Purchase Period, as applicable, in which his or her employee contributions were discontinued under Section 5(c) or 9(b);

- (ii) Withdraws from the Plan under Section 6(a); or
- (iii) Ceases to be an Eligible Employee.

A Participant whose employee contributions were discontinued automatically under Section 9(b) shall automatically resume participation as described therein. In all other cases, a former Participant may again become a Participant, if he or she then is an Eligible Employee, by following the procedure described in Subsection (b) above.

(d) **Applicable Offering Period.** For purposes of calculating the Purchase Price under Section 8(b), the applicable Offering Period shall be determined as follows:

- (i) Once a Participant is enrolled in the Plan for an Offering Period, such Offering Period shall continue to apply to him or her until the earliest of (A) the end of such Offering Period, (B) the end of his or her participation under Subsection (c) above, or (C) re-enrollment for a subsequent Offering Period under Paragraph (ii) or (iii) below.
- (ii) Any other provision of the Plan notwithstanding, the Administrator (at its sole discretion) may determine prior to the commencement of any new Offering Period that all Participants shall be re-enrolled for such new Offering Period. In addition, the Administrator may structure an Offering Period so that in the event that the Fair Market Value of a Share on the first day of the Offering Period for which the Participant is enrolled is higher than on the first day of any subsequent Offering Period, the Participant shall automatically be re-enrolled for such subsequent Offering Period.
- (iii) When a Participant reaches the end of an Offering Period but his or her participation is to continue, then such Participant shall automatically be re-enrolled for the Offering Period that commences immediately after the end of the prior Offering Period.

SECTION 5. EMPLOYEE CONTRIBUTIONS.

(a) **Commencement of Payroll Deductions.** A Participant may purchase shares of Stock under the Plan by means of payroll deductions or (if so approved by the Administrator with respect to all Participants in a Base Offering Period) other approved contributions in form and substance satisfactory to the Administrator. Payroll deductions or other approved contributions shall commence as soon as reasonably practicable after the Company has received the prescribed enrollment form. In jurisdictions where payroll deductions are not permitted under local law, Participants may purchase shares of Stock by making contributions in the form that is acceptable and approved by the Administrator.

(b) **Amount of Payroll Deductions.** An Eligible Employee shall designate on the prescribed enrollment form the portion of his or her Compensation that he or she elects to have withheld for the purchase of Stock. Such portion shall be a whole percentage of the Eligible Employee's Compensation, but not less than 1% nor more than 15% (or such lesser percentage established by the Administrator for an Offering Period).

(c) **Reducing Withholding Rate or Discontinuing Payroll Deductions.** If a Participant wishes to reduce his or her rate of payroll withholding, such Participant may do so by filing a new enrollment form with the Company in the manner prescribed by the Administrator. The new withholding rate shall be effective as soon as reasonably practicable after the Company has received such form. The new withholding rate may be 0% or any whole percentage of the Participant's Compensation, but not more than his or her old withholding rate. The Administrator may limit the number of times a Participant may elect to reduce his or her rate of withholding during any Offering Period and/or Purchase Period. Unless a different rule is established for an Offering Period, no Participant shall make more than one election under this Subsection (c) during any Purchase Period. (In addition, employee contributions may be discontinued automatically pursuant to Section 9(b).)

(d) **Increasing Withholding Rate.** Unless the Administrator establishes a different rule for an Offering Period, a Participant may not increase his or her rate of payroll withholding during a Purchase Period. If a Participant wishes to increase his or her rate of payroll withholding, such Participant may do so by filing a new enrollment form with the Company at least fifteen (15) calendar days prior to commencement of a Purchase Period (or such other period as is specified by the Administrator). The new withholding rate shall be effective on the first day of the next-upcoming Purchase Period in which the Participant participates. The new withholding rate may be any whole percentage of the Participant's Compensation, but not less than 1% nor more than the maximum amount established for the Offering Period.

SECTION 6. WITHDRAWAL FROM THE PLAN.

(a) **Withdrawal.** A Participant may elect to withdraw from the Plan (and the Offering Period in which he or she is participating) by filing the prescribed form with the Company in the prescribed manner at least fifteen (15) calendar days prior to a Purchase Date (or such other period as is specified by the Administrator). As soon as reasonably practicable thereafter, payroll deductions or other approved contributions shall cease and the entire amount credited to the Participant's Plan Account with respect to such Offering Period shall be refunded to him or her in cash, without interest (except as otherwise required by the laws of the local jurisdiction). No partial withdrawals from an Offering Period shall be permitted.

(b) **Re-Enrollment After Withdrawal.** A former Participant who has withdrawn from the Plan shall not be a Participant until he or she re-enrolls in the Plan under Section 4(b) during an Enrollment Period. Re-enrollment may be effective only at the commencement of an Offering Period.

SECTION 7. CHANGE IN EMPLOYMENT STATUS.

(a) **Termination of Employment.** Termination of employment as an Eligible Employee for any reason, including death, shall be treated as an automatic withdrawal from the Plan under Section 6(a).

(b) **Transfers of Employment.** If a Participant transfers employment from a Participating Company that is participating in a Base Offering Period to a Participating Company that is participating in an Additional Offering Period, he or she will immediately cease to participate in the Base Offering Period, as applicable; however, such Participant's Plan Account will be transferred to the Additional Offering Period, and such Participant will immediately join such Additional Offering Period on the terms and conditions applicable to such Additional Offering Period, except for any modifications required by applicable law. If a Participant transfers employment from a Participating Company that is participating in an Additional Offering Period to a Participating Company that is participating in the Base Offering Period, he or she will continue to participate in the Additional Offering Period until the earlier of (i) the end of such Additional Offering Period, or (ii) the commencement of the first Base Offering Period in which he or she is eligible. If a Participant transfers employment from a Participating Company to a Related Corporation that is not a Participating Company, he or she shall be deemed to have withdrawn from the Plan pursuant to Section 6(a).

(c) **Leave of Absence.** For purposes of the Plan, employment shall not be deemed to terminate when the Participant goes on a military leave, a sick leave or another *bona fide* leave of absence, if the leave was approved by the Company in writing. Employment, however, shall be deemed to terminate on the first day following three months after the Participant goes on a leave, unless a contract or statute guarantees his or her right to return to work. Employment shall be deemed to terminate in any event when the approved leave ends, unless the Participant immediately returns to work.

(d) **Death.** In the event of the Participant's death, the amount credited to his or her Plan Account shall be paid in cash, without interest (unless otherwise required by the laws of the local jurisdiction), to a beneficiary designated by him or her for this purpose on the prescribed form or, if none, to the Participant's estate. Such form shall be valid only if it was filed with the Company at the prescribed location before the Participant's death.

SECTION 8. PLAN ACCOUNTS AND PURCHASE OF SHARES.

(a) **Plan Accounts.** The Company shall maintain a Plan Account on its books in the name of each Participant. Whenever an amount is deducted from the Participant's Compensation under the Plan, such amount shall be credited to the Participant's Plan Account. Unless otherwise required by the laws of the local jurisdiction, (i) amounts credited to Plan Accounts shall not be trust funds and may be commingled with the Company's general assets and applied to general corporate purposes, and (ii) no interest shall be credited to Plan Accounts.

(b) **Purchase Price.** The Administrator shall establish the Purchase Price for each Offering Period; provided, however, that the Purchase Price for each share of Stock purchased on a Purchase Date shall not be less than the lower of:

- (i) 85% of the Fair Market Value of such share on the first trading day of such Offering Period; or

(ii) 85% of the Fair Market Value of such share on the Purchase Date.

(c) **Number of Shares Purchased.** On each Purchase Date, each Participant shall be deemed to have elected to purchase the number of shares of Stock calculated in accordance with this Subsection (c), unless the Participant has previously elected to withdraw from the Offering Period in accordance with Section 6(a). The amount then in the Participant's Plan Account shall be divided by the Purchase Price, and the number of shares that results shall be purchased from the Company with the funds in the Participant's Plan Account. The foregoing number of shares of Stock that may be purchased by a Participant are subject to the limitations set forth in Subsection (d) below and in Section 9. The Administrator may determine with respect to all Participants in an Offering Period that any fractional share, as calculated under this Subsection (c), shall be (i) rounded down to the next lower whole share or (ii) credited as a fractional share.

(d) **Available Shares Insufficient.** In the event that the aggregate number of shares that all Participants elect to purchase with respect to a particular Purchase Period exceeds (i) the number of shares of Stock that were available under Section 3 above for sale under the Plan on the first day of the applicable Offering Period, or (ii) the number of shares that were available under Section 3 above for sale under the Plan on the applicable Purchase Date, then the number of shares to which each Participant is entitled shall be determined by multiplying the number of shares available for issuance by a fraction. The numerator of such fraction is the number of shares that such Participant has elected to purchase, and the denominator of such fraction is the number of shares that all Participants have elected to purchase. The Company may make a pro rata allocation of the shares available on the first day of an applicable Offering Period pursuant to the preceding sentence, notwithstanding any authorization of additional shares for issuance under the Plan by the Company's stockholders subsequent to such date. In the event of a pro-rata allocation under this Section (d), the Administrator may determine in its discretion to continue all Offering Periods then in effect or terminate all Offering Periods then in effect pursuant to Section 14.

(e) **Issuance of Stock.** The shares of Stock purchased by a Participant under the Plan will be registered in the name of such Participant. The Company may permit or require that shares be deposited directly with a broker designated by the Company or to a designated agent of the Company, and the Company may utilize electronic or automated methods of share transfer. The Company may require that shares be retained with such broker or agent for a designated period of time and/or may establish other procedures to permit tracking of disqualifying dispositions of such shares. (The two preceding sentences shall apply whether or not the Participant is required to pay income tax in the United States.)

(f) **Tax Withholding.** To the extent required by applicable federal, state, local or foreign law, a Participant shall make arrangements satisfactory to the Company for the satisfaction of any withholding tax obligations that arise in connection with the Plan. The Company shall not be required to issue any shares of Stock under the Plan until such obligations, if any, are satisfied.

(g) **Unused Cash Balances.** Subject to the final sentence of Section 8(c), any amount remaining in a Participant's Plan Account at the end of a Purchase Period solely by reason of the inability to purchase a fractional share will be carried over to the next Offering Period or Purchase Period, as applicable. Any amount remaining in the Participant's Plan Account that represents the Purchase Price for whole shares that could not be purchased by reason of Subsections (c) or (d) above or Section 9(b) shall be refunded to the Participant in cash, without interest (except as otherwise required by the laws of the local jurisdiction).

(h) **Stockholder Approval.** Any other provision of the Plan notwithstanding, no shares of Stock shall be purchased under the Plan unless and until the Company's stockholders have approved the adoption of the Plan.

SECTION 9. PLAN LIMITATIONS.

(a) **Five Percent Limit.** Any other provision of the Plan notwithstanding, no Participant shall be granted a right to purchase Stock under the Plan if, immediately after such right is granted, such Participant would own stock possessing 5% or more of the total combined voting power or value of all classes of stock of the Company or any Related Corporation, applying the stock attribution rules of Code Section 424(d), and including any stock in which the Participant may purchase under outstanding options as stock owned by such Participant.

(b) **Dollar Limit.** As specified by Code Section 423(b)(8), no Participant shall be entitled to accrue rights to purchase Stock pursuant to any such rights outstanding under the Plan if and to the extent such accrual, when aggregated with (i) rights to purchase Stock accrued under any other right to purchase Stock under the Plan, and (ii) similar rights accrued under other employee stock purchase plans (within the meaning of Code Section 423) of the Company or any Related Corporation, would otherwise permit such Participant to purchase more than \$25,000 worth of Stock of the Company or any Related Corporation (determined on the basis of the Fair Market Value per share on the date such rights are granted, and which, with respect to the Plan, will be determined as of the beginning of the respective Offering Period) for each calendar year such rights are at any time outstanding.

If a Participant is precluded by this Subsection (b) from purchasing additional Stock under the Plan, then his or her employee contributions shall automatically be discontinued and shall automatically resume at the beginning of the next Purchase Period with a scheduled Purchase Date in the next calendar year, provided that he or she is an Eligible Employee at the beginning of such Purchase Period.

(c) **Purchase Period Share Purchase Limit.** The Administrator may establish one or more limits on the number of shares of Stock that may be purchased during any Offering Period and/or Purchase Period, including individual limits and/or aggregate limits. Unless the Administrator provides otherwise with respect to an Offering Period, any other provision of the Plan notwithstanding, no Participant shall purchase more than 7,500 shares of Stock with respect to any Purchase Period.

SECTION 10. RIGHTS NOT TRANSFERABLE.

The rights of any Participant under the Plan, or any Participant's interest in any Stock or moneys to which he or she may be entitled under the Plan, shall not be transferable by voluntary or involuntary assignment or by operation of law, or in any other manner other than by beneficiary designation or the laws of descent and distribution. If a Participant in any manner attempts to transfer, assign or otherwise encumber his or her rights or interest under the Plan, other than by beneficiary designation or the laws of descent and distribution, then such act shall be treated as an election by the Participant to withdraw from the Plan under Section 6(a).

SECTION 11. NO RIGHTS AS AN EMPLOYEE.

Nothing in the Plan or in any right granted under the Plan shall confer upon the Participant any right to continue in the employ of a Participating Company for any period of specific duration or interfere with or otherwise restrict in any way the rights of the Participating Companies or of the Participant, which rights are hereby expressly reserved by each, to terminate his or her employment at any time and for any reason, with or without cause.

SECTION 12. NO RIGHTS AS A STOCKHOLDER.

A Participant shall have no rights as a stockholder with respect to any shares of Stock that he or she may have a right to purchase under the Plan until such shares have been purchased on the applicable Purchase Date.

SECTION 13. SECURITIES LAW REQUIREMENTS.

Shares of Stock shall not be issued, and the Company shall have no liability for failure to issue shares of Stock, under the Plan unless the issuance and delivery of such shares comply with (or are exempt from) all applicable requirements of law, including (without limitation) the Securities Act of 1933, as amended, the rules and regulations promulgated thereunder, state securities laws and regulations, and the regulations of any stock exchange or other securities market on which the Company's securities may then be traded.

SECTION 14. AMENDMENT OR DISCONTINUANCE.

(a) **General Rule.** The Administrator, in its sole discretion, may amend, suspend, or terminate the Plan, or any part thereof, at any time and for any reason. If the Plan is terminated, the Administrator, in its discretion, may elect to terminate all outstanding Offering Periods either immediately or upon completion of the purchase of shares of Stock on the next Purchase Date, or may elect to permit Offering Periods to expire in accordance with their terms (and subject to any adjustment pursuant to Section 3(c) or (d)). If the Offering Periods are terminated prior to expiration, all amounts then credited to Participants' accounts which have not been used to purchase shares of Stock will be returned to the Participants (without interest thereon, except as otherwise required by the laws of the local jurisdiction) as soon as administratively practicable.

(b) **Administrator's Discretion.** Without stockholder consent and without limiting Subsection (a) above, the Administrator will be entitled to change the Offering Periods, limit the frequency and/or number of changes in the amount withheld during an Offering Period, establish the exchange ratio applicable to amounts withheld in a currency other than U.S. dollars, permit payroll withholding in excess of the amount designated by a Participant in order to adjust for delays or mistakes in the Company's processing of properly completed withholding elections, establish reasonable waiting and adjustment periods and/or accounting and crediting procedures to ensure that amounts applied toward the purchase of Stock for each Participant properly correspond with amounts withheld from the Participant's Compensation, amend any outstanding purchase rights or clarify any ambiguities regarding the terms of any Offering Period to enable the purchase rights to qualify under and/or comply with Section 423 of the Code, and establish such other limitations or procedures as it determines in its sole discretion advisable which are consistent with the Plan. The actions of the Administrator pursuant to this paragraph will not be considered to alter or impair the purchase rights granted under an Offering Period as they are to be deemed part of the initial terms of such Offering Period and purchase rights.

(c) **Accounting Consideration.** In the event the Administrator determines that the ongoing operation of the Plan may result in unfavorable financial accounting consequences, the Administrator may, in its discretion and, to the extent necessary or desirable, modify, amend or terminate the Plan to reduce or eliminate such accounting consequence including, but not limited to:

- (i) Amending the Plan to conform with the safe harbor definition under Financial Accounting Standards Board Accounting Standards Codification Topic 718 (or successor provision), including with respect to an Offering Period underway at the time;
- (ii) Altering the Purchase Price for any Offering Period including an Offering Period underway at the time of the change in Purchase Price;
- (iii) Shortening any Offering Period (and any Purchase Periods encompassed by such Offering Period) by setting a new Purchase Date, including with respect to an Offering Period underway at the time of the Administrator's action;
- (iv) Reducing the maximum percentage of Compensation a Participant may elect to set aside as payroll deductions; and
- (v) Reducing the maximum number of shares of Stock a Participant may purchase during any Purchase Period.

Such modifications or amendments will not require stockholder approval or the consent of any Plan Participants. The actions of the Administrator pursuant to this paragraph will not be considered to alter or impair the purchase rights granted under an Offering Period as they are to be deemed part of the initial terms of such Offering Period and purchase rights.

(d) **Stockholder Approval.** Except as provided in Section 3, any increase in the aggregate number of shares of Stock that may be issued under the Plan shall be subject to the

approval of the Company's stockholders. In addition, any other amendment of the Plan shall be subject to the approval of the Company's stockholders to the extent required under Section 14(e) or by any applicable law or regulation.

(e) **Plan Termination.** The Plan shall terminate automatically 20 years after its adoption by the Board, unless (i) the Plan is extended by the Board and (ii) the extension is approved within 12 months by a vote of the stockholders of the Company.

SECTION 15. DEFINITIONS.

(a) **"Administrator"** means the Board or any Committee administering the Plan in accordance with Section 2.

(b) **"Board"** means the Board of Directors of the Company, as constituted from time to time.

(c) **"Code"** means the Internal Revenue Code of 1986, as amended.

(d) **"Committee"** means a committee of one or more members of the Board, or of other individuals satisfying applicable laws, appointed by the Board to administer the Plan.

(e) **"Company"** means TScan Therapeutics, Inc., a Delaware corporation.

(f) **"Compensation"** means, unless otherwise determined by the Administrator with respect to an Offering Period, those components of a Participant's cash compensation (prior to reductions pursuant to Code Sections 125, 132(f) or 401(k)) that are regular and recurring, *including* cash base salary or base hourly pay *but* excluding any overtime pay or shift differentials, commissions, annual cash incentive compensation, and annual cash bonuses, and *further excluding* extraordinary cash items (such as one-time bonuses), as well as all non-cash items, moving or relocation allowances, cost-of-living or tax equalization payments, car allowances, tuition reimbursements, imputed income attributable to cars or life insurance, severance pay, fringe benefits, contributions or benefits received under employee benefit plans, payments for or related to equity compensation, and any similar items. The Administrator shall determine whether a particular item is included in Compensation.

(g) **"Corporate Reorganization"** means:

- (i) The consummation of a merger or consolidation of the Company with or into another entity or any other corporate reorganization; or
- (ii) The sale, transfer or other disposition of all or substantially all of the Company's assets or the complete liquidation or dissolution of the Company.

(h) **"Eligible Employee"** means a common law employee of a Participating Company, provided, however, that the Administrator may exclude one or more of the following categories of employees (where exclusion of such employees is permitted by applicable law) from any Offering Period:

(i) employees who have been employed less than two years (or any

shorter period of time established for an Offering Period), (ii) employees who are customarily employed twenty (20) or less hours per week (or any lesser number of hours per week established for an Offering Period), (iii) employees who are customarily employed for five (5) months or less in a calendar year (or any lesser number of months in a calendar year established for an Offering Period), (iv) “highly compensated employees” (within the meaning of Code Section 414(q)) or (v) “highly compensated employees” (within the meaning of Code Section 414(q)) with compensation above a certain level and/or who are subject to the disclosure requirements of Section 16(a) of the Exchange Act. In addition, an individual shall not be considered an Eligible Employee if his or her participation in the Plan is prohibited by the law of any country that has jurisdiction over him or her or if complying with the laws of the applicable foreign jurisdiction would cause the Plan or an Offering Period to violate the requirements of Code Section 423. With respect to a Base Offering Period, any criteria used to determine Eligible Employees shall be determined in a manner consistent with Code Section 423. In the case of an Offering Period that is not intended to qualify under Code Section 423, the Administrator may exclude any individual(s) from participation if the Administrator determines the participation of such individual(s) is not advisable or practicable.

(i) **“Enrollment Period”** means a period prior to the start of an Offering Period during which Eligible Employees must submit the required enrollment forms to participate in such Offering Period, which period shall end at least five (5) business days (or such other date as may be specified in advance by the Administrator) prior to the start of the Offering Period.

(j) **“Exchange Act”** means the Securities Exchange Act of 1934, as amended.

(k) **“Fair Market Value”** means the price at which Stock was last sold in the principal U.S. market for the Stock on the applicable date or, if the applicable date was not a trading day, on the last trading day prior to the applicable date. If Stock is no longer traded on a public U.S. securities market, the Fair Market Value shall be determined by the Administrator in good faith on such basis as it deems appropriate. The Administrator’s determination shall be conclusive and binding on all persons.

(l) **“IPO Date”** means the effective date of the registration statement filed by the Company with the Securities and Exchange Commission for its initial offering of Stock to the public.

(m) **“Offering Period”** means any period, including as the context requires the Base Offering Periods and Additional Offering Periods, with respect to which the right to purchase Stock may be granted under the Plan, as determined pursuant to Section 4(a).

(n) **“Participant”** means an Eligible Employee who participates in the Plan or any Sub-Plan, as provided in Section 4.

(o) **“Participating Company”** means (i) the Company and (ii) each present or future Subsidiary designated by the Administrator as a Participating Company.

(p) **“Plan”** means this TScan Therapeutics, Inc. 2021 Employee Stock Purchase Plan, as it may be amended from time to time.

-
- (q) “**Plan Account**” means the account established for each Participant pursuant to Section 8(a).
- (r) “**Purchase Date**” means the last trading day of a Purchase Period.
- (s) “**Purchase Period**” means a period within an Offering Period (which for an Offering Period with only a single Purchase Period would be coterminous with the Offering Period) during which contributions may be made toward the purchase of Stock under the Plan, as determined pursuant to Section 4(a).
- (t) “**Purchase Price**” means the price at which Participants may purchase Stock under the Plan, as determined pursuant to Section 8(b).
- (u) “**Related Corporation**” means any “parent corporation” of the Company as defined in Code Section 424(e) or any Subsidiary.
- (v) “**Stock**” means the common stock of the Company.
- (w) “**Subsidiary**” means any corporation (other than the Company) in an unbroken chain of corporations beginning with the Company, if each of the corporations other than the last corporation in the unbroken chain owns stock possessing 50% or more of the total combined voting power of all classes of stock in one of the other corporations in such chain.

CERTAIN IDENTIFIED INFORMATION HAS BEEN OMITTED FROM THIS DOCUMENT BECAUSE IT IS BOTH NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE REGISTRANT IF PUBLICLY DISCLOSED, AND HAS BEEN MARKED WITH “[***]” TO INDICATE WHERE OMISSIONS HAVE BEEN MADE.

THE BRIGHAM AND WOMEN’S HOSPITAL, INC.

AMENDED AND RESTATED EXCLUSIVE PATENT LICENSE AGREEMENT

BWH Agreement No: A225271

BWH Case No: 24002

This Amended and Restated Exclusive Patent License Agreement (“Agreement”) is made as of the 20th day of April 2021 (“Signature Date”), by and between TScan Therapeutics, Inc., a Delaware corporation, having a principal place of business at 830 Winter Street, Waltham MA 02451 (“Company”) and The Brigham and Women’s Hospital, Inc., a not-for-profit Massachusetts corporation, with a principal place of business at 75 Francis Street, Boston, Massachusetts 02115 (“Hospital”). Company and Hospital are each referred to herein individually as a “Party” and collectively as the “Parties”.

RECITALS

Hospital, as a center for patient care, research and education, is the owner of certain Patent Rights (defined below) developed at least in part by Dr. Stephen Elledge, an Investigator of the Howard Hughes Medical Institute (“HHMI”), and Hospital desires to grant a license of those Patent Rights to Company in order to benefit the public by disseminating the results of its research via the commercial development, manufacture, distribution and use of Products and Processes (defined below).

Company has the capability to commercially develop, manufacture, distribute and use Products and Processes for public use and benefit and desires to license such Patent Rights.

Hospital and Company are parties to a Non-Exclusive Materials License Agreement, BWH Ref. No. A225422, dated October 30, 2018 (“Material License”) and that certain Exclusive Patent License Agreement, BWH Agreement No: A225271, dated December 5, 2018 (“Effective Date”), as previously amended effective as of July 26, 2019 (“Original Agreement”).

The Parties now desire to modify their arrangements under the Original Agreement pursuant to the terms and conditions of this Agreement.

For good and valuable consideration, the sufficiency of which is hereby acknowledged, the Parties hereby agree as follows:

0. AMENDMENT AND RESTATEMENT

Hospital and Company hereby agree that, as of the Effective Date, the Original Agreement is hereby amended and restated in its entirety as set forth in this Agreement, and the Original Agreement shall be of no further force or effect from and after the Effective Date.

1. CERTAIN DEFINITIONS

As used in this Agreement, the following terms shall have the following meanings, unless the context requires otherwise.

1.1 “Affiliate” with respect to either Party shall mean any corporation or other legal entity other than that Party in whatever country organized, controlling, controlled by or under common control with that Party, whether on or after the Effective Date, but only so long as such control exists. The term “control” shall mean (i) in the case of Company, direct or indirect ownership of fifty percent (50%) or more of the voting securities having the right to elect directors, or (ii) in the case of Hospital, the power, direct or indirect, to elect or appoint fifty percent (50%) or more of the directors or trustees, or to cause direction of management and policies, whether through the ownership of voting securities, by contract or otherwise.

1.2 “Assay Process” shall mean any process, method or service the use, sale, or performance of which, in whole or in part, absent the license granted hereunder, would infringe, or is covered by, one or more Claims of Patent Rights.

1.3 “Assay Product” shall mean any article, device or composition of matter, the use, sale, or performance of which, in whole or in part, absent the license granted hereunder, would infringe, or is covered by, one or more Claims of Patent Rights.

1.4 “Autoimmune Product” shall mean a Therapeutic Product or Therapeutic Process directed to the treatment of any disease resulting from a disordered immune reaction in which an immune response is produced against one’s own tissues.

1.5 “Biological Materials” shall mean the cell lines and reagents as further described in Appendix B, and any components, fragments, subunits, and includes Progeny and Unmodified Derivatives (each as defined below) thereof.

1.6 “Biological Materials Field” shall mean use of the Biological Materials for internal research at, and for, the Company, including, without limitation internal drug discovery and internal pre-clinical development in the License Field and specifically to control gene expression and shall exclude any use for Commercial Purpose. For clarity, the Biological Materials, or any Progeny or Unmodified Derivatives, shall not be used in humans or animals for any purposes, including but not limited to therapeutic or diagnostic purposes.

1.7 “Cancer Product” shall mean a Therapeutic Product or Therapeutic Process directed to the treatment of any disease characterized by invasive growths or tumors.

1.8 “Claim” shall mean any pending or issued claim of any Patent Right that has not expired, been permanently revoked, nor held unenforceable or invalid by a decision of a court or other

governmental agency of competent jurisdiction that is unappealable or unappealed in the time allowed for appeal; provided that a pending claim of any Patent Right will only be considered a "Claim" for purposes of the Agreement if it (i) has not been pending for more than [***] years from the date of the first substantive office action with respect to the pending claim, (ii) continues to be prosecuted in good faith and (iii) has not been abandoned or finally rejected without the possibility of appeal or refiling. For any patent application containing a pending claim that is not considered a "Claim" for the purposes of the Agreement under this Section 1.8(i-iii), such U.S. or foreign patent application or patent shall thereupon cease to be a Patent Right hereunder, Company shall have no further rights therein and Hospital shall be free to license its rights to that particular U.S. or foreign patent application or patent to any other party on any terms. Company and Hospital agree that both Parties shall use good faith negotiations to execute a written amendment to this Agreement that amends the definition of Patent Rights to remove such pending application(s).

1.9 "Clinical Process" shall mean any Therapeutic Process and/or Diagnostic Process.

1.10 "Clinical Product" shall mean any Therapeutic Product and/or Diagnostic Product.

1.11 "Collaborator" shall mean any third party who has entered into a binding written agreement with Company a purpose of which agreement is for the Company to use or practice Assay Products or Assay Processes in connection with the parties' research or development of one or more Clinical Products or Clinical Processes (such agreement, "Collaboration Agreement"). For the avoidance of doubt, any third party that meets the definition of a Collaborator under this Agreement may also be considered a Sublicensee if and to the extent that the scope and purpose of the agreement between Company and such third party meets the criteria of both a sublicense and a Collaboration Agreement.

1.12 "Commercially Reasonable Efforts" shall mean, with respect to a party's obligations under this Agreement as to a Product, the carrying out of such obligations with a level of efforts and resources consistent with those typically expended by a similarly situated company in the applicable industry for the research, development and/or commercialization of a similarly situated therapeutic or diagnostic product at a similar stage of development and/or commercialization as such Product, taking into account the anticipated value of the commercial opportunity (disregarding any payments under this Agreement), the prevailing regulatory environment.

1.13 "Commercial Purposes" shall mean the (i) sale, lease, license, or other transfer of Biological Materials to a for-profit organization; (ii) incorporation of the Biological Materials in any product, or the manufacture of any product for sale, which product is sold or otherwise distributed; or (iii) use of the Biological Materials in the provision of any service.

1.14 "Diagnostic Process" shall mean any process, method or service developed by or for (a) Company or any of its Affiliates or Sublicensees (provided that such development by Company or any of its Affiliates or Sublicensees is more than a de minimis amount and is conducted at their own cost without any agreement for reimbursement from a third party) or (b) Collaborators, as applicable, in each case of (a) and (b), that is used or performed for diagnostic or prognostic purposes and is directed to any Identified Target. For clarity, the definition of Diagnostic Process shall not be deemed to include any Therapeutic Process.

- 1.15 “Diagnostic Product” shall mean any article, device or composition of matter or other diagnostic agent developed by or for (a) Company or any of its Affiliates or Sublicensees (provided that such development by Company or any of its Affiliates or Sublicensees is more than a de minimis amount and is conducted at their own cost without any agreement in place with a third party for reimbursement for such development) or (b) Collaborators, as applicable, in each case of (a) and (b), that is used for diagnostic or prognostic purposes and is directed to any Identified Target. For clarity, the definition of Diagnostic Product shall not be deemed to include any Therapeutic Product.
- 1.16 “Distributor” shall mean any third party entity to whom Company, a Company, Affiliate or a Sublicensee has granted, express or implied, only the right to Sell any Product or Process pursuant to Section 2.1(b)(ii).
- 1.17 “FDA” shall mean the United States Food and Drug Administration and any successor agency thereto.
- 1.18 “First Commercial Sale” shall mean the initial Sale anywhere in the applicable License Territory of any Product or Process.
- 1.19 “First Cut-Off Date” shall mean December 31, 2019.
- 1.20 “Identified Targets” means biological targets whose epitope sequences are first identified (i) prior to the Second Cut-Off Date and (ii) through Company’s performance of an Assay Process; provided, however, that such biological targets identified under and/or in performance of a Collaboration Agreement will still be considered “Identified Targets” if identified after the Second Cut-Off Date.
- 1.21 “IND” shall mean an investigational new drug application filed with the FDA prior to beginning clinical trials in humans in the United States, or any comparable application filed with the applicable Regulatory Authority in or for a country or jurisdiction other than the United States.
- 1.22 “Infectious Disease Product” shall mean a Therapeutic Product or Therapeutic Process directed to the treatment of any disease resulting from the presence and activity of a pathogenic microbial agent.
- 1.23 “License Field” shall mean the MHC Class I License Field and MHC Class II License Field.
- 1.24 “License Territory” shall mean worldwide.
- 1.25 “MHC Class I” shall mean major histocompatibility complex molecules recognized by CD8 co-receptors.

- 1.26 “MHC Class II” shall mean major histocompatibility complex molecules recognized by CD4 co-receptors.
- 1.27 “MHC Class I License Field” shall mean any and all MHC Class I uses and applications to identify biological targets that become the basis for therapeutic or diagnostic products or processes.
- 1.28 “MHC Class II License Field” shall mean any and all MHC Class II uses and applications to identify biological targets that become the basis for therapeutic or diagnostic products or processes.
- 1.29 “Modifications” shall mean substances created by Company that contain and/or incorporate the Biological Materials, and include, without limitation, modified derivatives.
- 1.30 “Net Sales” shall be calculated as set forth in this Section 1.30.
- (a) Subject to the conditions set forth below, “Net Sales” shall mean:
- (i) the gross amount billed or invoiced or, if no such bill or invoice is issued, the amount received, whichever is greatest, by Company and its Affiliates, Sublicensees, and Collaborators (each, an “Invoicing Entity”) for or on account of Sales of Products and Processes,
- (ii) less the following amounts [***].
- (b) Specifically excluded from the definition of “Net Sales” are amounts attributable to any Sale of any Product or Process between or among Company and any Company Affiliate and/or Sublicensee, unless the transferee is the end purchaser, user or consumer of such Product or Process.
- (c) Specifically excluded from the definition of “Net Sales” is consideration included within Other Income.
- (d) No deductions shall be made for any commissions paid to any individuals or for any costs or expenses of collections.
- (e) Net Sales shall be deemed to have occurred and the applicable Product or Process “Sold” on the earliest of the date of billing, invoicing, delivery or payment or the due date for payment.
- (f) If any Assay Product or Assay Process is Sold at a discounted price that is lower than the customary price charged or for non-cash consideration (whether or not at a discount), Net Sales of such Assay Product or Assay Process shall be calculated based on the non-discounted cash amount charged to any independent third party(ies) for such Assay Product or Assay Process during the same Reporting

Period or, in the absence of any such transaction with independent third parties, on the fair market value of such Assay Product or Assay Process. Non-cash consideration that could affect any payment due to Hospital hereunder shall not be accepted as consideration for the Sale of any Assay Product or Assay Process without the prior written consent of Hospital.

- (g) If any Clinical Product or Clinical Process is Sold for non-cash consideration (whether or not at a discount), Net Sales of such Clinical Product or Clinical Process shall be calculated based on the non-discounted cash amount charged to any independent third party(ies) for such Clinical Product or Clinical Process during the same Reporting Period or, in the absence of any such transaction with independent third parties, on the fair market value of such Clinical Product or Clinical Process. Non-cash consideration that could affect any payment due to Hospital hereunder shall not be accepted as consideration for the Sale of any Clinical Product or Clinical Process without the prior written consent of Hospital.
- (h) All reasonable, documented fully-burdened costs incurred by Company or its Affiliates invoiced for an Invoicing Entity's costs in performing an Assay Process to identify targets are excluded from Net Sales.

1.31 "Other Income" shall mean monetary or non-monetary consideration received by Company from a Collaborator under a Collaboration Agreement. Subject to Section 4.5(g), Other Income shall include, without limitation, any signing fee, annual fee, upfront fee, milestone payment (less any amount owed or paid by Company to Hospital pursuant to Section 4.4 in connection with achievement of the same milestone for which such milestone payment was received from the Collaborator), or option fee but shall exclude:

- (a) consideration included within Net Sales;
- (b) payments received by Company as reimbursements for out-of-pocket costs incurred by Company after the execution of such agreement and not otherwise reimbursed in the preparation, filing, prosecution and maintenance of the Patent Rights, to the extent such amounts are stipulated to be allocated specifically to reimburse such costs under the terms of the applicable agreement;
- (c) amounts actually paid, and/or stipulated to be paid, specifically to cover future reasonable, documented fully-burdened research and development costs for Clinical Products or Clinical Processes incurred by Company after the execution of such agreement, as indicated by inclusion as specific line items in a written agreement between Company and such Collaborator;
- (d) consideration included within Sublicense Income; and
- (e) consideration for the issuance of equity or debt interests in Company to the extent the amount paid for such equity or debt does not exceed fair market value.

1.32 “Patent Rights” shall mean Hospital’s rights in: (a) the patents and/or patent applications (including provision patent applications) listed in Appendix A and/or the equivalent of such applications; (b) any patent applications claiming priority to a provisional application listed in Appendix A and is directed specifically to subject matter described in at least one of the patents or patent applications identified above; (c) any divisional or continuation of any of the foregoing patent applications; (d) any claim of a continuation-in-part application that is entitled to the priority date of any of the patents or patent applications referenced in clause (a) or (b), but only to the extent the claims are directed to subject matter specifically described in at least one of those patents or patent applications; (e) any foreign counterparts of any of the foregoing patents or patent applications or claims thereof; (f) any patents issuing from any of the foregoing patent applications; and (g) any reissues, reexaminations, or extensions (and their relevant international equivalents) of any of the foregoing patents.

1.33 “Phase I Clinical Trial” shall mean a study of a Product or Process in human subjects to determine the initial tolerance, safety or pharmacokinetic information to generate sufficient data (if successful) to commence a Phase II Clinical Trial, as defined in 21 C.F.R. 312.21(a), as amended from time to time, or a similar clinical study prescribed by the relevant Regulatory Authorities in a country other than the United States.

1.34 “Phase III Clinical Trial” shall mean a study of a Product or Process in human patients designed to establish that the Product or Process is safe and efficacious for its intended use and to support approval of the NDA for the commercialization of the Product or Process, as defined in 21 C.F.R. 312.21(c), as amended from time to time, or a similar clinical study prescribed by the relevant Regulatory Authorities in a country other than the United States.

1.35 “Process” shall mean any Assay Process, Diagnostic Process or Therapeutic Process, as the context requires.

1.36 “Product” shall mean any Assay Product, Diagnostic Product or Therapeutic Product, as the context requires.

1.37 “Progeny” shall mean unmodified descendants from the Biological Materials, such as virus from virus, cell from cell, or organism from organism.

1.38 “Regulatory Approval” shall mean any and all approvals (including pricing and reimbursement approvals), product and establishment licenses, registrations, clearances, waivers or authorizations of any kind of a Regulatory Authority necessary for the manufacture, storage, importation, export, transport, marketing and/or sale of a Product (or any component thereof) in the applicable country or other jurisdiction.

1.39 “Regulatory Authority” means any national or supranational government regulatory authority or entity having the legal authority to grant Regulatory Approval for Products, including without limitation the FDA or the European Medicines Agency.

1.40 “Reporting Period” shall mean each three month period ending March 31, June 30, September 30 and December 31.

1.41 “Second Cut-Off Date” shall mean (a) with respect to biological targets within the MHC Class I License Field, December 31, 2022 and (b) with respect to biological targets within the MHC Class II License Field, September 30, 2023.

1.42 “Sell” (and “Sale” and “Sold” as the case may be) shall mean to sell or have sold, to lease or have leased, or otherwise to transfer or have transferred a Product or Process for valuable consideration (in the form of cash or otherwise), and further in the case of a Process to use or perform such Process for the benefit of a third party for valuable consideration. For Clinical Products and/or Clinical Processes, Sale shall exclude any sale or other transfer for use in a clinical study or experimental use. For the avoidance of doubt, Sale of Assay Products and/or Assay Processes shall include any sale or other transfer of an Assay Product or Assay Process, respectively, to a third party for use thereof in a clinical study or experimental use.

1.43 “Subcontractor” means a third party whom Company, its Affiliate or a Sublicensee directly engages to research, develop, manufacture or commercialize Assay Products or Assay Processes solely on behalf of and under the direction of Company, its Affiliate or such Sublicensee, as applicable, and solely on a fee-for-service basis; provided, that the term “Subcontractor” shall not include any third party who pays Company, its Affiliate or a Sublicensee any consideration with respect to such engagement.

1.44 “Sublicense Income” shall mean consideration in any form received by Company and/or Company’s Affiliate(s) in connection with or otherwise attributable to a grant of a sublicense or any other right, license, privilege or immunity (regardless of whether such grantee is referred to as a “Sublicensee” as defined in this Agreement) to make, have made, use, have used, Sell or have Sold Assay Products or Assay Processes. Sublicense Income shall include without limitation any license signing fee, license maintenance fee, unearned portion of any minimum royalty payment, distribution or joint marketing fee), but shall exclude: [***].

1.45 “Sublicensee” shall mean any sublicensee of the rights granted in accordance with Section 2.1(a)(ii) (other than to a Subcontractor). For purpose of this Agreement, a Distributor of an Assay Product or Assay Process shall not be included in the definition of Sublicensee unless such Distributor (i) is granted any right to make, have made, use or have used Assay Products or Assay Processes in accordance with Section 2.1(a)(ii), or (ii) has agreed to pay to Company or its Affiliate(s) royalties on such Distributor’s sales of Assay Products or Assay Processes, in which case such Distributor shall be a Sublicensee for all purposes of this Agreement.

1.46 “Therapeutic Process” shall mean any process, method or service, including all formulations, indications, dosage forms and strengths, and delivery modes thereof, that is (a) developed by or for (i) Company or any of its Affiliates or Sublicensees (provided that such development by Company or any of its Affiliates or Sublicensees is more than a de minimis amount and is conducted at their own cost without any agreement in place with a third party for reimbursement for such development) or (ii) Collaborators, as applicable, (b) used for therapeutic or prophylactic purposes and (c) is directed to Identified Targets. The term “Therapeutic Process” shall not include any therapeutic or prophylactic process, method or service that: (A) is directed to a biological target identified for a third party pursuant to a Sale of

an Assay Process, provided that such third party is not a Collaborator; or (B) (1) is marketed for use with a Diagnostic Product and (2) but for the use of or its association with such Diagnostic Product, would not otherwise qualify as a Therapeutic Process. For clarity, different formulations, indications or dosage strengths of a given Therapeutic Process shall be considered the same Therapeutic Process for purposes of this Agreement.

1.47 “Therapeutic Product” shall mean any article, device or composition, including all formulations, indications, dosage forms and strengths, and delivery modes thereof, that is (a) developed by or for (i) Company or any of its Affiliates or Sublicensees (provided that such development by Company or any of its Affiliates or Sublicensees is more than a de minimis amount and is conducted at their own cost without any agreement in place with a third party for reimbursement for such development) or (ii) Collaborators, as applicable, (b) used for therapeutic or prophylactic purposes and (c) is directed to Identified Targets. The term “Therapeutic Product” shall not include any therapeutic or prophylactic article, device or composition (including a large or small molecule) that: (A) is directed to a biological target identified for a third party pursuant to a Sale of an Assay Process, provided that such third party is not a Collaborator; or (B) (1) is marketed for use with a Diagnostic Product and (2) but for the use of or its association with such Diagnostic Product, would not otherwise qualify as a Therapeutic Product. For clarity, different formulations, indications or dosage strengths of a given Therapeutic Product shall be considered the same Therapeutic Product for purposes of this Agreement.

1.48 “Unmodified Derivatives” shall mean substances created by Company that constitute an unmodified functional subunit or product expressed by the Biological Materials.

2. LICENSE

2.1 Grant of License.

- (a) Subject to the terms of this Agreement and Hospital’s rights in the Patent Rights (including, without limitation, Section 2.5), Hospital hereby grants to Company in the License Field in the License Territory:
 - (i) an exclusive, royalty-bearing license under its rights in Patent Rights to make, have made, use, have used, Sell and have Sold, import and offer for sale Assay Products and Assay Processes; and
 - (ii) the right to grant sublicenses under the rights granted in Section 2.1(a)(i) to Sublicensees, provided that in each case Company shall be responsible for the performance of any obligations of Sublicensees relevant to this Agreement as if such performance were carried out by Company itself, including, without limitation, the payment of any royalties or other payments provided for hereunder, regardless of whether the terms of any sublicense provide for such amounts to be paid by the Sublicensee directly to Hospital.

- (b) The license granted in Section 2.1(a) above includes, without limitation:
- (i) the right to grant to the final purchaser, user or consumer of Assay Products the right to use such purchased Assay Products in a method coming within the scope of Patent Rights within the License Field and License Territory;
 - (ii) the right to grant a Distributor the right to Sell (but not to make, have made, use or have used) such Assay Products and/or Assay Processes for or on behalf of Company, its Affiliates and Sublicensees in a manner consistent with this Agreement; and
 - (iii) for the avoidance of doubt, the right to practice the claims of the Patent Rights (e.g., to use an Assay Process or Assay Product) for any and all MHC Class I and MHC Class II uses and applications to identify biological targets that become the basis for products or processes, including Clinical Products and Clinical Processes.
- (c) The foregoing license grant shall include the grant of such license to any Affiliate of Company, provided that such Affiliate shall assume the same obligations as those of Company and be subject to the same terms and conditions hereunder; and further provided that Company shall be responsible for the performance of all of such obligations and for compliance with all of such terms and conditions by Affiliate. Company shall provide to Hospital a fully signed, non-redacted copy of each agreement with each Affiliate that assumes the aforesaid obligations, including all exhibits, attachments and related documents and any amendments, within [***] days of request by Hospital.
- (d) Grant of Biological Materials License.
- (i) Hospital hereby grants and Company hereby accepts a non-exclusive, non-transferable, non-assignable, non-sublicensable right to use the Biological Materials in accordance with the terms of this Agreement, under Hospital's rights in the Biological Materials, solely in the Biological Materials Field. The Parties understand and agree that rights granted herein do not include the right of the Company to use such Biological Materials or Modifications for Commercial Purposes.
 - (ii) The Biological Materials are for use only by or on behalf of Company and are to remain under Company's immediate and direct control, provided, however, that Company may conduct any of the activities contemplated by this Agreement through or with its Affiliates or Subcontractors provided, however, that: (i) prior to any Affiliate exercising or performing any rights or obligations under this Agreement, such Affiliate shall agree in writing with Company to be bound by the terms and conditions of this Agreement

as if it were Company hereunder, including specific written agreement (a) to indemnify, defend and hold HHMI Indemnitees harmless, and carry insurance, under the same terms as Section 8 of this Agreement, and (b) that HHMI is an express third party beneficiary of such writing; and (ii) any act or omission taken or made by an Affiliate of Company under this Agreement will be deemed an act or omission by Company under this Agreement.

- (iii) Company shall not sell, lease, license, gift, assign, or otherwise transfer the rights granted by Hospital under this Section 2.1(d) to any third party, except as provided in Section 2.1(d)(ii) with respect to Affiliates.
- (iv) Hospital hereby retains all rights, title, and ownership of the Biological Materials and any Biological Materials incorporated into Modifications. Company shall own all portions of the Modifications not including the Biological Materials. Use of any Modifications shall be subject to the terms of this Agreement.
- (v) The license granted hereunder in this Section 2.1(d) is non-exclusive and shall in no way prevent or restrict the right of Hospital and Hospital's Affiliates and academic, government and not-for-profit institutions to make, to use and to distribute the Biological Materials for any purposes.

2.2 Sublicenses. Each sublicense granted hereunder shall be in writing and consistent with and comply with all terms of this Agreement, and shall incorporate terms and conditions sufficient to enable Company to comply with this Agreement. Each sublicense granted hereunder shall also incorporate obligations, terms and conditions in favor of HHMI and the HHMI Indemnitees, as applicable, that are substantially similar to those undertaken by Company in favor of HHMI and the HHMI Indemnitees, as applicable, under this Agreement and intended for the protection of the HHMI Indemnitees, including, without limitation, the obligations, terms and conditions regarding indemnification, insurance and HHMI's third party beneficiary status. Any sublicense granted by Company shall be subject to the prior written approval of Hospital, which approval shall not be unreasonably withheld, conditioned or delayed. A Sublicensee may not grant further sublicenses under this Agreement without the prior written approval of Hospital, which approval shall not be unreasonably withheld, conditioned or delayed provided that Hospital and HHMI are third party beneficiaries thereof and that the sublicense further meets all requirements of this Agreement. Company shall provide to Hospital a fully signed non-redacted copy of all sublicense agreements and amendments thereto, including all exhibits, attachments and related documents, within [***] days of executing the same. All such copies shall be treated as Company's Confidential Information in accordance with Appendix F hereto. Upon termination of this Agreement or any license granted hereunder for any reason, any sublicenses shall be addressed in accordance with Section 10.7. Any sublicense which is not in accordance with the forgoing provisions shall be null and void.

2.3 Collaboration Agreements. Each Collaboration Agreement shall be in writing and consistent with and comply with all terms of this Agreement, and shall incorporate terms and

conditions sufficient to enable Company to comply with this Agreement. Each Collaboration Agreement must include a research and development plan mutually agreed upon between Company and such Collaborator, detailing any consideration to Company by Collaborator for the express purpose of funding, at reasonable cost, the expenses of bona fide prospective research and development of Clinical Products and/or Clinical Processes. Company shall provide Hospital with a reasonable opportunity to review and consult with Company in regards to the terms and conditions of any proposed Collaboration Agreement, including without limitation for purposes of confirming Company's compliance with the first sentence of this Section 2.3, prior to Company's execution thereof. In addition, Company shall provide to Hospital a fully signed non-redacted copy of each Collaboration Agreement and amendments thereto, including all exhibits, attachments and related documents, within [***] days of executing the same. All such copies shall be treated as Company's Confidential Information in accordance with Appendix F hereto.

- (i) Novartis Collaboration Agreement. For clarity, notwithstanding anything in this Agreement to the contrary, the Parties acknowledge that Company has entered into that certain Collaboration and License Agreement with Novartis Institutes for Biomedical Research, Inc. ("Novartis") as of March 27, 2020 (the "Novartis Agreement") and that Company has previously provided Hospital with a version of the Novartis Agreement which version is deemed to satisfy Company's obligations under the first sentence of Section 2.3. In addition, the Parties agree that (a) the Novartis Agreement is deemed to be a Collaboration Agreement and Novartis is a Collaborator for purposes of this Agreement and (b) the execution of the Novartis Agreement and the receipt by Company of consideration thereunder constitutes the First Commercial Sale by the Company of an Assay Process in the MHC Class I Field. Consequently, Company will pay to Hospital (1) [***] of Other Income received by Company under the Novartis Agreement in accordance with Section 4.5(c) below and therefore will make a payment to Hospital within [***] days after the Signature Date in the amount of [***] and (2) [***] within [***] days after the Signature Date pursuant to Section 4.4(a)(i). Upon Hospital's receipt of such payments from Company, such payments will constitute full and final satisfaction of, and Company is hereby released from, any payment obligation with respect to: (x) [***] payment received by Company under the Novartis Agreement; and (y) the milestone payable by Company pursuant to Section 4.4(a)(i).

2.4 Rights to Certain Future Inventions. For [***] years from the Effective Date, Hospital, through its Office of Innovation, may in its sole discretion, inform Company, in confidence, of any new patent applications for inventions that (i) are conceived or reduced to practice, in whole or in part, by Dr. Stephen Elledge as an inventor, and (ii) are improvements to the subject matter disclosed in the Patent Rights ("Improvements"). Subject to any pre-existing third party obligations, Hospital may in its sole discretion offer such patent applications to the Company for licensing in the License Field in the License Territory in such case, Hospital and Company may engage in good faith negotiation on the terms of such license, which shall be consistent with the terms of this Agreement. For clarity, Hospital has no obligation under this Agreement to identify or discuss Improvements to or with Company, or negotiate or enter into any license agreement with respect to the applicable Improvement.

2.5 Retained Rights; Requirements. Any and all licenses granted hereunder are subject to:

- (a) the right of Hospital and Hospital's Affiliates and academic, government and not-for-profit institutions to make and to use the subject matter described and/or claimed in the Patent Rights for research and educational purposes; provided, however, that such research and educational purposes shall not include the production or manufacture of Products for sale; and
- (b) for Patent Rights supported by federal funding, the rights, conditions and limitations imposed by U.S. law (*see* 35 U.S.C. § 202 *et seq.* and regulations pertaining thereto), including without limitation:
 - (i) the royalty-free non-exclusive license granted to the U.S. government; and
 - (ii) the requirement that any Assay Products used or sold in the United States shall be manufactured substantially in the United States.

2.6 HHMI License. Company acknowledges that it has been informed that the Patent Rights and the Biological Materials were developed, at least in part, by employees of HHMI and that HHMI has a fully paid-up, non-exclusive, irrevocable, worldwide license to exercise any intellectual property rights with respect to the Patent Rights and Biological Materials for research purposes, with the right to sublicense to non-profit and governmental entities, but with no other rights to assign or sublicense (the "HHMI License"). The licenses granted under this Agreement are explicitly made subject to the HHMI License.

2.7 No Additional Rights. It is understood that nothing in this Agreement shall be construed to grant Company or any of its Affiliates a license, express or implied, under any patent owned solely or jointly by Hospital other than the Patent Rights expressly licensed hereunder. Hospital shall have the right to license any Patent Rights to any other party for any purpose outside of the License Field or the License Territory.

2.8 Provision of Biological Materials. Hospital shall provide Company with the Biological Materials. The Parties acknowledge and agree that Hospital has provided the Biological Materials as of the Signature Date.

- (a) Company shall reimburse Hospital for the reasonable cost of preparation and shipping of the Biological Materials.
- (b) Company agrees to provide Hospital with a written notice including the serial number and copy of any patent application, as filed, for any patent application claiming any invention generated by Company's or its Affiliates' use of the Biological Materials. Such notice shall be provided to Hospital within [***] days of filing. Hospital shall use such disclosures to determine what role, if any, Hospital had in creating the invention and Hospital shall maintain the application

in confidence in accordance with Appendix F until such application is published. Disputes involving inventorship of any such inventions shall be determined in accordance with United States patent law.

- (c) The provision of the Biological Materials to Company shall in no way prevent or restrict Hospital's right to publish relating to the Biological Materials.
- (d) In accordance with scientific custom, Company may publish the results of its research with the Biological Materials, any Product, or Modifications, and agrees to acknowledge Hospital's contributions, as appropriate, in publications describing the research utilizing the Biological Materials or any Product or Modifications.
- (e) Company shall not use, and it shall ensure that its Affiliates will not use, the Biological Materials in humans, animals, or in any food products, including, without limitation, for treatment, diagnosis, prognosis, prophylaxis or other evaluation of patients.
- (f) Company shall use, and it shall ensure that its Affiliates will use, the Biological Materials and any Modifications in compliance with all applicable Federal, State, and local laws and regulations.

3. DUE DILIGENCE OBLIGATIONS

3.1 Diligence Requirements. Company shall use, or shall cause its Affiliates, Collaborators or Sublicensees, as applicable, to use, Commercially Reasonable Efforts to develop and make available to the public (i) one or more Assay Products or Assay Processes in the License Territory in the License Field and (ii) one or more Clinical Products or Clinical Processes. In addition, Company, by itself or through its Affiliates or any Collaborator(s) or Sublicensee(s), as applicable, shall use Commercially Reasonable Efforts to achieve the following objectives within the time periods designated below following the Effective Date:

- (a) Pre-Sales Requirements.

[***]

- (b) Post-Sales Requirements.

[***]

Achievement of the objectives set forth in Section 3.1(a) and Section 3.1(b) shall be deemed to satisfy Company's obligations to use Commercially Reasonable Efforts under this Section 3.1. The Parties acknowledge and agree that Company has achieved the milestones in clauses (i)-(iv) and (vi) of Section 3.1(a) as of the Signature Date.

3.2 Diligence Failures.

- (a) If Company has a good faith belief that it may not achieve any of the milestones set forth in Section 3.1 (the “Milestones”) due to delays beyond Company’s reasonable control (including action, inaction or delay by the FDA or any Regulatory Authority), it may notify Hospital in writing in advance of the relevant deadline. Company shall include with such notice (a) a reasonable explanation of the reasons for such failure (and lack of finances alone will not constitute reasonable basis for such failure) (“Explanation”), and (b) a reasonable, detailed, written plan for promptly achieving a reasonable extended and/or amended milestone (“Plan”).
- (i) If Company so notifies Hospital and provides Hospital with an Explanation and Plan, both of which are acceptable to Hospital in its reasonable discretion, then the Milestones will be amended by written amendment to incorporate the extended and/or amended milestone set forth in the Plan.
- (ii) If Company so notifies Hospital and provides Hospital with an Explanation and Plan, but the Plan is not acceptable to Hospital in its reasonable discretion, then Hospital will explain to Company why the Plan is not acceptable and provide Company with suggestions for a Plan acceptable to Hospital. Company will have [***] days to provide Hospital with a Plan acceptable to Hospital, during which time Hospital agrees to work with Company in good faith in its effort to develop a Plan acceptable to Hospital. If, within such [***] days, Company provides Hospital with a Plan acceptable to Hospital, then the Milestones will be amended by written amendment to incorporate the extended and/or amended milestone set forth in the Plan. If, within such [***] days, Company fails to provide a Plan acceptable to Hospital, then Company will have until the original deadline of the relevant Development Milestone to meet such milestone. Company’s failure to do so shall constitute a material breach of this Agreement and Hospital shall have the right to terminate this Agreement forthwith in accordance with Section 10.4. Hospital’s sole and exclusive remedy for any breach of Section 3 is termination of this Agreement pursuant to Section 10.4.
- (b) If the delay is not due to circumstances described in Section 3.2(a), Company may, once and only once, at Company’s election and upon the issuance of written notice to Hospital, extend any or all of its diligence obligations set forth in Section 3.1(a) by up to [***], provided that Company pays Hospital an extension fee of [***] within [***] days after its issuance of the aforementioned written notice to Hospital.
- (c) If Company fails to achieve a diligence requirement set forth in Section 3.1 and does not avail itself of the procedures set forth in this Section 3.2, then Hospital may treat such failure as a default and may terminate this Agreement in accordance with Section 10.4.

3.3 Diligence Reports. Company shall provide all reports with respect to its obligations under Section 3.1 as set forth in Section 5.

4. PAYMENTS AND ROYALTIES

4.1 License Issue Fee. Company shall pay Hospital a one-time, non-refundable license issue fee in the amount of [***] upon execution of this Agreement.

4.2 Patent Cost Reimbursement. Company shall reimburse Hospital for all costs associated with the preparation, filing, prosecution and maintenance of all Patent Rights (“Patent Costs”). Any Patent Costs incurred after the Effective Date shall be shared on a pro rata basis by Company and each additional licensee of the Patent Rights, if any, as of the Effective Date of such additional license. As of the Effective Date, Hospital has incurred approximately [***] in Patent Costs, which amount Company shall pay to Hospital upon execution of this Agreement. Company shall pay to Hospital, or at Hospital’s request directly to patent counsel, all other Patent Costs within thirty (30) days of Company’s receipt of an invoice for such Patent Costs either from Hospital or Hospital’s patent counsel. Company agrees to indemnify, defend and hold Hospital harmless (in accordance with the mechanisms set forth in Section 8) from and against any and all liabilities, damages, costs and expenses claimed by third parties arising from the failure of Company to timely pay such invoices and Patent Costs. Hospital shall instruct patent counsel to provide copies to Hospital for Hospital’s administrative files of all invoices detailing Patent Costs which are sent directly to Company. If Company pays any Patent Costs directly, Company shall advise patent counsel that Hospital is and shall remain patent counsel’s client.

4.3 Annual License Fee; Annual Minimum Royalty.

- (a) Before First Commercial Sale. Prior to the First Commercial Sale, Company shall pay to Hospital a non-refundable amount of [***] as an annual license fee within [***] days after each anniversary of the Effective Date.
- (b) After First Commercial Sale. Following the First Commercial Sale of any Product, Company shall pay Hospital a non-refundable minimum annual royalty in the amount of [***] per year within [***] days after each annual anniversary of the Effective Date. The annual minimum royalty shall be credited against royalties subsequently due on Net Sales made during the same calendar year, if any, but shall not be credited against royalties due on Net Sales made in any other year.

4.4 Milestone Payments. In addition to the payments set forth in Sections 4.1 through 4.3 above, Company shall pay Hospital the following milestone payments within [***] days of Company’s, Company’s Affiliates’, Sublicensees’, or Collaborators’ achievement of each milestone: [***]

Company will pay the foregoing amounts only with respect to (a) the first [***] Cancer Products to achieve Section 4.4(b) through Section 4.4(g) (and only for the first indication(s) for each of such Products), (b) the first indication for the first two Autoimmune Product to achieve Section 4.4(b) through Section 4.4(g) and (c) the first indication for the first [***] Infectious Disease Product to achieve Section 4.4(b) through Section 4.4(g). For clarity, the total amount payable by Company pursuant to this Section 4.4 shall not exceed (i) [***] for any particular

Therapeutic Product or Therapeutic Process (which is the total amount that would be paid by Company if all of the foregoing milestones are achieved for such Therapeutic Product or Therapeutic Process eligible for a milestone); or (ii) [***] for all Therapeutic Products and Therapeutic Processes (which is the total amount that would be paid by Company if all of the foregoing milestones are achieved for all Therapeutic Products or Therapeutic Processes eligible for a milestone).

4.5 Royalties; Sublicense Income; Other Income.

(a) Royalties

(i) Assay Products and Processes: Beginning with the First Commercial Sale of any Assay Product or Assay Process in any country in the License Territory which Sales are not pursuant to a Collaboration Agreement, Company shall pay Hospital during the term of any license granted under Section 2.1(a)(i) a running royalty of [***] of the Net Sales of all Assay Products and Assay Processes.

(ii) Therapeutic Products and Therapeutic Processes: Beginning with the First Commercial Sale of any Therapeutic Product or Therapeutic Process in any country in the License Territory, and terminating with the [***] anniversary of the First Commercial Sale of a Therapeutic Product or Therapeutic Process, as applicable, Company shall pay Hospital a running royalty of:

- (1) [***] of the Net Sales of all Therapeutic Products and Therapeutic Processes, if such Therapeutic Products and Therapeutic Processes are directed to Identified Targets identified on or prior the First Cut-Off Date; or
- (2) [***] of the Net Sales of all Therapeutic Products and Therapeutic Processes developed by or for Company or any of its Affiliates or Sublicensees if such Therapeutic Products and Therapeutic Processes are directed to Identified Targets identified after the First Cut-Off Date but on or prior to the Second Cut-Off Date; or
- (3) [***] of the Collaborator's Net Sales of all Therapeutic Products and Therapeutic Processes that are directed to Identified Targets identified under and/or in the performance of a Collaboration Agreement.

For clarity, notwithstanding anything in this Agreement to the contrary, the Parties acknowledge that Company has entered into that certain Research Collaboration and License Agreement with Poseida Therapeutics, Inc. ("Poseida") as of October 19, 2020 (the "Poseida Agreement") and that Company has previously provided Hospital with a version of the Poseida Agreement. In addition, the Parties agree that the rights granted by Company to Poseida under the Poseida Agreement constitute the Sale of a Therapeutic Product which is directed to an Identified Target that was identified prior to the Second Cut-Off Date and Poseida is not a Collaborator. Consequently, Company will pay to

Hospital [***] of the Net Sales received by Company under the Poseida Agreement in accordance with this Section 4.5(a)(ii)(2) and therefore will make a payment to Hospital within [***] days after the Signature Date in the amount of [***], which is equal to [***] of the up-front payment of [***] received by Company from Poseida under the Poseida Agreement. Upon Hospital's receipt of such payment from Company, such payment will constitute full and final satisfaction of, and Company is hereby released from, any payment obligation with respect to such up-front [***] payment received by Company under the Poseida Agreement.

(iii) **Diagnostic Products and Diagnostic Processes:** Beginning with the First Commercial Sale of any Diagnostic Product or Diagnostic Process in any country in the License Territory, and terminating with the [***] anniversary of the First Commercial Sale of a Diagnostic Product or Diagnostic Process, as applicable, Company shall pay Hospital a running royalty of:

- (1) [***] of the Net Sales of all Diagnostic Products and Diagnostic Processes, if such Diagnostic Products and Diagnostic Processes are directed to Identified Targets identified on or prior to the First Cut-Off Date; or
- (2) [***] of the Net Sales of all Diagnostic Products and Diagnostic Processes developed by or for Company or any of its Affiliates or Sublicensees, if such Diagnostic Products and Diagnostic Processes are directed to Identified Targets identified after the First Cut-Off Date but on or prior to the Second Cut-Off Date; or
- (3) [***] of the Collaborator's Net Sales of all Diagnostic Products and Diagnostic Processes that are directed to Identified Targets identified under and/or in the performance of a Collaboration Agreement.

For clarity, notwithstanding anything in this Agreement to the contrary, the Parties acknowledge that Company has entered into that certain Option & Exclusive License Agreement with QIAGEN Sciences, LLC ("Qiagen") as of November 5, 2020 (the "Qiagen Agreement") and that Company has previously provided Hospital with a version of the Qiagen Agreement. In addition, the Parties agree that the rights granted by Company to Qiagen under the Qiagen Agreement constitute the Sale of a Diagnostic Product which is directed to an Identified Target that was identified prior to the Second Cut-Off Date and Qiagen is not a Collaborator. Consequently, Company will pay to Hospital [***] of the Net Sales received by Company under the Qiagen Agreement in accordance with this Section 4.5(a)(iii)(2) and therefore will make a payment to Hospital within [***] days after the Signature Date in the amount of [***], which is equal to [***] of the up-front payment of [***] received by Company from Qiagen under the Qiagen Agreement. Upon Hospital's receipt of such payment from Company, such payment will constitute full and final satisfaction of, and Company is hereby released from, any payment obligation with respect to such up-front [***] payment received by Company under the Qiagen Agreement.

- (b) In the event that Company is legally or contractually required to make royalty payments to one or more third parties in order to practice Patent Rights or make, use, or sell any Assay Product or Assay Process, Company may offset a total of [***] of such third-party payments against any royalty payments that are due to Hospital in the same Reporting Period, provided that in no event shall the royalty payments for Assay Products or Assay Processes be reduced by more than [***] in any Reporting Period.
- (c) Other Income. Company shall pay Hospital [***] of any and all Other Income.
- (d) Sublicense Income.
- (i) Company shall pay Hospital [***] of any and all Sublicense Income.
- (ii) In the event that Company (a) sublicenses Patent Rights together with intellectual property owned by a third party that is legally required for Sublicensee to practice Patent Rights in a single agreement, and (b) is legally required to pay a percentage of Sublicense Income to such third party, Company may offset a total of [***] of such third party payments against any payments that are due under this Section 4.5(c) to Hospital in the same Reporting Period, provided that in no event shall the offsets allowed under clause (iii) of this Section 4.5(c), be less than [***] of Sublicense Income in any Reporting Period. No other offsets or credits for Sublicense Income shall be allowed.
- (e) All payments due to Hospital under this Section 4.5 shall be due and payable by Company within [***] days after the end of the Reporting Period in which the applicable Net Sales, Other Income or Sublicense Income is received, and shall be accompanied by a report as set forth in Sections 5.4, 5.5 and 5.6.
- (f) For clarity, Company's obligation to pay royalties to Hospital under this Section 4.5 is imposed only once with respect to the same Product or Process, as applicable, regardless of the number of Patent Rights pertaining thereto and, with respect to any Clinical Products and Clinical Processes only, regardless of the number of Identified Targets to which such Product or Process is directed.
- (g) In the event that Company enters into an agreement with a third party that constitutes both a Collaboration Agreement and a Sublicense and Company receives any consideration from such third party which could be construed as both Other Income and Sublicense Income, Company shall allocate such amount(s) between Other Income and Sublicense Income for purposes of calculating the amount of the payment(s) owed by Company to Hospital under Section 4.5(c) and Section 4.5(d), respectively, in good faith in a manner that:
- (i) appropriately reflects the value of the Patent Rights Sublicensed by Company in the context of

the entire transaction or series of related transactions of which the Sublicense is a part and (ii) is supported by a detailed written analysis and justification delivered to Hospital containing information reasonably sufficient to demonstrate the appropriateness of such valuation. Company shall provide Hospital with any additional information reasonably requested by Hospital to demonstrate the appropriateness of such valuation in a form and format reasonably acceptable to Hospital. In the event that Hospital disputes the appropriateness of such allocation, Hospital shall have the right to request that an independent third party, mutually agreed to by the Parties, conduct and certify an allocation of any such payment(s) between Other Income and Sublicense Income at Company's expense (the "Independent Valuation"). The Independent Valuation, or such other allocation to which the Parties may mutually agree, shall then be used as the basis for calculating the payment(s) owed by Company to Hospital under Section 4.5(c) and Section 4.5(d), as applicable.

- (h) For the avoidance of doubt, (i) in the event that the Company or any of its Affiliates or Sublicensees Sells a Product or Process to a third party and no more than a de minimis amount of development of such Product or Process has occurred by or on behalf of the Company or such Affiliate or Sublicensee, as applicable, with respect to such Product or Process prior to such Sale, then such Sale shall constitute the Sale of an Assay Process or Assay Product, respectively, under this Agreement for which royalties will be payable to Hospital pursuant to Section 4.5(a)(i), (a)(ii)(3) or (a)(iii)(3), as applicable; (ii) any Product which (A) is directed to a biologic target that is identified pursuant to a Collaboration Agreement after the applicable Second Cut-Off Date, (B) reverts from the Collaborator to Company, its Affiliate or Sublicensee, as applicable, at any time after the effective date of such Collaboration Agreement and (C) is developed more than a de minimis amount by or on behalf of Company or any of its Affiliates or Sublicensees following such reversion shall not be considered a Clinical Product or Clinical Process or an Assay Product or Assay Process, and no payments of any kind (e.g., royalties, milestones, etc.) shall be owed by Company to Hospital under Article 4, including under Section 4.5(a)(i), with respect to such Product; and (iii) no royalties or milestones will be payable by Company to Hospital with respect to any Clinical Product or Clinical Process developed by or for Company or any of its Affiliates or Sublicensees, if such Clinical Product or Clinical Process is directed to Identified Targets identified after the applicable Second Cut-Off Date. For further clarity, in the case of clause (ii), if the criteria in sub-clauses (A) and (B) are both met but the Product is Sold to a third party by Company, its Affiliate or Sublicensee without having performed de minimis development on such Product prior to such Sale, then such Sale shall constitute the Sale of an Assay Process notwithstanding that the Company, its Affiliate or Sublicensee did not practice any Claims of the Patent Rights after such reversion and prior to such Sale.

4.6 Form of Payment. All payments due under this Agreement shall be drawn on a United States bank and shall be payable in United States dollars. Each payment shall reference this

Agreement and its Agreement Number and identify the obligation under this Agreement that the payment satisfies. Conversion of foreign currency to U.S. dollars shall be made at the conversion rate existing in the United States, as reported in The Wall Street Journal, on the last working day of the applicable Reporting Period. Such payments shall be without deduction of exchange, collection or other charges, and, specifically, without deduction of withholding or similar taxes or other government imposed fees or taxes, except as permitted in the definition of Net Sales.

Checks for all payments due to the Hospital under this Agreement shall be made payable to the Hospital and addressed as set forth below:

[***]

Payments via wire transfer should be made as follows:

[***]

4.7 Overdue Payments. The payments due under this Agreement shall, if overdue, bear interest beginning on the first day following the Reporting Period to which such payment was incurred and until payment thereof at a per annum rate equal to [***] above the prime rate in effect on the due date as reported by The Wall Street Journal, such interest rate being compounded on the last day of each Reporting Period, not to exceed the maximum permitted by law. Any such overdue payments when made shall be accompanied by all interest so accrued. Said interest and the payment and acceptance thereof shall not preclude Hospital from exercising any other rights it may have as a consequence of the lateness of any payment.

4.8 Complex Consideration. The Parties acknowledge and agree that the royalty rates chosen by the Parties in Section 4.5(a)(ii) and Section 4.5(a)(iii) reflect that certain products and processes may not be covered by the Claims of the Patent Rights but may be derived from certain use of the Patent Rights, so that Company, unless explicitly provided otherwise in this Agreement, shall not be entitled to a reduction in such royalty rates, even if it does not at all times need or use a license to specific Patent Rights, until such royalty payments are no longer payable in accordance with the applicable terms of Section 4.5(a)(ii) and Section 4.5(a)(iii).

5. REPORTS AND RECORDS

5.1 Diligence Reports. Within [***] days after the end of each calendar year, Company shall report in writing to Hospital on progress made toward the objectives set forth in Section 3.1 during such preceding twelve (12) month period, including, without limitation, progress on research and development, status of applications for regulatory approvals, manufacturing, sublicensing and the number of sublicenses entered into and marketing.

5.2 Identified Target Reports. Within [***] days after the end of each Reporting Period, Company shall report in writing to Hospital on any and all Identified Targets identified during such preceding [***] month period.

5.3 Milestone Achievement Notification. Company shall report to Hospital the dates on which it achieves the milestones set forth in Section 4.4 within [***] days of each such occurrence.

5.4 Sales Reports. Company shall report to Hospital the date of the First Commercial Sale in each country of the License Territory within [***] days of each such occurrence. Following the First Commercial Sale, Company shall deliver reports to Hospital within [***] days after the end of each Reporting Period. Each report under this Section 5.4 shall have substantially the format outlined in Appendix C, shall be certified as correct by an officer of Company and shall contain at least the following information as may be pertinent to a royalty accounting hereunder for the immediately preceding Reporting Period:

- (a) the number of Products and Processes Sold by Company, its Affiliates, Collaborators and Sublicensees in each country;
- (b) the amounts billed, invoiced and received by Company, its Affiliates, Collaborators and Sublicensees for each Product and Process, in each country, and total billings or payments due or made for all Products and Processes;
- (c) calculation of Net Sales for the applicable Reporting Period in each country, including an itemized listing of permitted offsets and deductions;
- (d) total royalties payable on Net Sales in U.S. dollars, together with the exchange rates used for conversion; and
- (e) any other payments due to Hospital under this Agreement.

If no amounts are due to Hospital for any Reporting Period, the report shall so state.

5.5 Sublicense Income Reports. Company shall, along with delivering payment as set forth in Section 4.6, report to Hospital within [***] days of receipt the amount of all Sublicense Income received by Company, and Company's calculation of the amount due and paid to Hospital from such income, including an itemized listing of the source of income comprising such consideration, and the name and address of each entity making such payments in substantially the format outlined in Appendix D.

5.6 Other Income Reports. Company shall, along with delivering payment as set forth in Section 4.6, report to Hospital within [***] days of receipt the amount of all Other Income received by Company, and Company's calculation of the amount due and paid to Hospital from such income, including an itemized listing of the source of income comprising such consideration, and the name and address of each entity making such payments in substantially the format outlined in Appendix E.

5.7 Audit Rights. Company shall maintain, and shall cause each of its Affiliates, Sublicensees, and Collaborators to maintain, complete and accurate records relating to the rights and obligations under this Agreement and any amounts payable to Hospital in relation to this

Agreement, which records shall contain sufficient information to permit Hospital and its representatives reasonably acceptable to Company to confirm the accuracy of any payments and reports delivered to Hospital and compliance in all other respects with this Agreement. Company shall retain and make available, and shall cause each of its Affiliates and Sublicensees to retain and make available, such records for at least [***] years following the end of the calendar year to which they pertain, to Hospital and/or such representatives and upon at least [***] days' advance written notice, for inspection during normal business hours, to verify any reports and payments made and/or compliance in other respects under this Agreement. If any examination conducted by Hospital or its representatives pursuant to the provisions of this Section reveals an underreporting or underpayment of [***] or more in any payment due to Hospital hereunder, Company shall bear the full cost of such audit and shall remit any amounts due to Hospital (including interest due in accordance with Section 4.7) within [***] days of receiving notice thereof from Hospital. Hospital may exercise its rights under this Section 5.6 only once per year for each audited entity.

5.8 Confidentiality. All information, records and reports provided or otherwise made available to Hospital and/or its representatives by or on behalf of Company or on behalf of any of its Affiliates, Collaborators or Sublicensees pursuant to this Section 5 shall be treated as Company's Confidential Information in accordance with Appendix F hereto. For clarity, Hospital's representatives may share information, records and reports from Company and/or its Affiliates, Collaborators and/or Sublicensees with Hospital in accordance with Section 5.6.

6. PATENT PROSECUTION AND MAINTENANCE

6.1 Prosecution. Hospital shall be responsible for the preparation, filing, prosecution and maintenance of all patent applications and patents included in Patent Rights. Company shall reimburse Hospital for Patent Costs incurred by Hospital relating thereto in accordance with Section 4.2.

6.2 Copies of Documents. With respect to any Patent Right licensed hereunder, Hospital shall instruct the patent counsel prosecuting such Patent Right to (i) copy Company on patent prosecution documents that are received from or filed with the United States Patent and Trademark Office and foreign equivalent, as applicable; (ii) provide Company with copies of draft submissions to the USPTO prior to filing; and (iii) give consideration to the comments and requests of Company or its patent counsel.

6.3 Company's Election Not to Proceed. Company may elect to surrender any patent or patent application in Patent Rights in any country upon [***] days advance written notice to Hospital. Such notice shall relieve Company from the obligation to pay for future Patent Costs but shall not relieve Company from responsibility to pay Patent Costs incurred prior to the expiration of the [***] day notice period. Such U.S. or foreign patent application or patent shall thereupon cease to be a Patent Right hereunder, Company shall have no further rights therein and Hospital shall be free to license its rights to that particular U.S. or foreign patent application or patent to any other party on any terms.

6.4 Continued Prosecution and Maintenance. Hospital shall instruct patent counsel to file, prosecute and maintain patent applications included in Patent Rights in any country or region requested by Company as long as Company continues to support patent costs.

6.5 Confidentiality of Prosecution and Maintenance Information. Company agrees to treat all information related to prosecution and maintenance of Patent Rights as Confidential Information in accordance with the provisions of Appendix F.

7. THIRD PARTY INFRINGEMENT AND LEGAL ACTIONS

7.1 Company Right to Prosecute. Company shall have the first right, but not the obligation, to take action to enforce the Patent Rights against any third-party infringers in the Field in the Territory. Accordingly, Company may, upon notice to Hospital, initiate legal proceedings against the infringer at Company's expense with respect to a claim of a Patent Right in the License Field in the License Territory.

Before commencing such action and without limiting Company's right to enforce the Patent Rights in any way, Company and, as applicable, any Affiliate, shall consult with Hospital, concerning, among other things, Company's standing to bring suit, the advisability of bringing suit, the selection of counsel and the jurisdiction for such action (provided Company must have Hospital's prior written consent with respect to selection of jurisdiction for any action in which Hospital may be joined as a party-plaintiff) and shall give careful consideration to the views of Hospital regarding the proposed action, including without limitation with respect to potential effects on the public interest. Company shall be responsible for all costs, expenses and liabilities in connection with any such action and shall indemnify and hold Hospital harmless therefrom, regardless of whether Hospital is a party-plaintiff, except for the expense of any independent counsel retained by Hospital in accordance with Section 7.5 below.

7.2 Hospital Right to Prosecute. If Hospital notifies Company that a third party is infringing the Patent Rights in the Licensed Field in the Licensed Territory and, within [***] days after its receipt of such notice, Company neither commences action to enforce the Patent Rights against such third party nor commences negotiations with such third party to discontinue its infringing activity, then Hospital may enforce the Patent Rights against such infringer.

7.3 Hospital Joined as Party-Plaintiff. If Company elects to commence an action as described in Section 7.1 above, Hospital shall, to the extent reasonably determined by Company to be required under applicable law to establish standing for the initiation or maintenance of such action, join such action as a party-plaintiff. Alternatively, if (and only if) (a) Hospital requests in writing not to join Company's action as a party-plaintiff and (b) Company determines that Hospital's assignment to Company of all Hospital's right, title and interest in and to the Patent Rights to be enforced would allow Company to establish the necessary standing without diminishing Company's ability to assert such Patent Rights and (c) Company is willing to grant the Hospital's request conditioned on such an assignment being effected, and (d) subject to HHMI's prior written approval (which may be withheld or granted in HHMI's sole discretion), then Hospital shall assign to Company all of Hospital's right, title and interest in and to such Patent Rights rather than join Company's action as a party-plaintiff. If Hospital makes such an

assignment, such action by Company shall thereafter be brought or continued without Hospital as a party; provided, however, that Hospital shall continue to have all rights of prosecution and maintenance with respect to Patent Rights and Company shall continue to meet all of its obligations under this Agreement as if the assigned Patent Right were still licensed to Company hereunder.

7.4 Notice of Actions; Settlement. Company shall promptly inform Hospital of any action or suit relating to Patent Rights and shall not enter into any settlement, consent judgment or other voluntary final disposition of any action relating to Patent Rights, including but not limited to appeals without the prior written consent of Hospital (which shall not be unreasonably withheld, conditioned or delayed).

7.5 Cooperation. Each Party agrees to cooperate reasonably in any action under Section 7 which is controlled by the other Party, provided that the controlling party reimburses the cooperating party for any costs and expenses incurred by the cooperating party in connection with providing such assistance, except for the expense of any independent counsel retained by the cooperating party in accordance with this Section 7.5. Such controlling party shall keep the cooperating party informed of the progress of such proceedings and shall make its counsel available to the cooperating party. The cooperating party shall also be entitled to independent counsel in such proceedings but at its own expense, said expense to be offset against any damages received by the Party bringing suit in accordance with Section 7.6.

7.6 Recovery. Any award paid by third parties as the result of such proceedings (whether by way of settlement or otherwise) to the extent relating to the Patent Rights shall first be applied to reimbursement of any legal fees and expenses incurred by either Party and then the remainder shall be divided between the Parties as follows:

- (a) (i) Company shall receive an amount equal to its lost profits or a reasonable royalty on the infringing sales, or whichever measure of damages the court shall have applied; and
 - (ii) Hospital shall receive an amount equal to the royalties and other amounts that Company would have paid to Hospital if Company had Sold the infringing Products and Services rather than the infringer; and
- (b) the balance, if any, remaining after Company and Hospital have been compensated under Section 7.6(a) shall be split [***] to the Party bringing suit and [***] to the other Party.

8. INDEMNIFICATION AND INSURANCE

8.1 Indemnification.

- (a) Company shall indemnify, defend and hold harmless Hospital and its Affiliates and their respective trustees, directors, officers, medical and professional staff,

employees, and agents and their respective successors, heirs and assigns (the “Indemnitees”), against any liability, damage, loss or expense (including reasonable attorney’s fees and expenses of litigation) incurred by or imposed upon the Indemnitees or any one of them in connection with any third party claims, suits, actions, demands or judgments (each, a “Claim”) arising out of (i) the practice by Company, its Affiliates and Sublicensees of the Patent Rights, (ii) the development, manufacture, distribution, sale or use of Products or Processes, including without limitation any theory of product liability (including, but not limited to, actions in the form of contract, tort, warranty, or strict liability) concerning any product, process or service made, used, or sold or performed pursuant to any right or license granted under this Agreement or Collaboration Agreement or (iii) the use, storage, handling, or disposal of the Biological Materials by Company or its Affiliates; provided, however, that the above indemnification shall not apply to any Claim to the extent that it is directly attributable to the gross negligence or willful misconduct of any Indemnitee.

- (b) The Indemnitees agree to provide Company with prompt written notice of any Claim for which indemnification is sought under this Agreement. Company agrees, at its own expense, to provide attorneys reasonably acceptable to the Hospital to defend against any Claims brought or filed against any party indemnified hereunder with respect to the subject of indemnity contained herein, whether or not such actions are rightfully brought; provided, however, that the Indemnitees collectively shall have the right to retain their own counsel, at the expense of Company, if representation of such Indemnitees by counsel retained by Company would be inappropriate because of conflict of interests of such Indemnitee and Company. Company agrees to keep Hospital informed of the progress in the defense and disposition of such Claim and to consult with Hospital prior to any proposed settlement. Neither Company nor Hospital shall settle any such Claim without the prior written consent of the other, which consent shall not be unreasonably withheld.
- (c) HHMI and its trustees, officers, employees, and agents (collectively, “HHMI Indemnitees”), will be indemnified, defended by counsel acceptable to HHMI, and held harmless by Company from and against any claim, liability, cost, expense, damage, deficiency, loss, or obligation, of any kind or nature (including, without limitation, reasonable attorneys’ fees and other costs and expenses of defense) (collectively, “HHMI Claims”), based upon, arising out of, or otherwise relating to this Agreement or any Sublicense or any Collaboration Agreement or the use, handling, storage, or disposition of the Biological Material by Company or others who possess the Biological Material through a chain of possession leading back, directly or indirectly, to Company, including without limitation any cause of action relating to product liability. The previous sentence will not apply to any HHMI Claim that is determined with finality by a court of competent jurisdiction to result solely from the gross negligence or willful misconduct of an HHMI Indemnitee. Notwithstanding any other provision of this Agreement, Company’s obligation to defend, indemnify and hold harmless the HHMI

Indemnitees under this paragraph will not be subject to any limitation or exclusion of liability or damages or otherwise limited in any way. An HHMI Indemnitee shall provide Company with notice of any claim for which indemnification may be sought pursuant to this Agreement reasonably promptly following actual receipt of written notice thereof by an officer or attorney of HHMI. Notwithstanding the foregoing, the delay or failure of any HHMI Indemnitee to give reasonably prompt notice to Company of any such claim shall not affect the rights of such HHMI Indemnitee unless, and then only to the extent that, such delay or failure is prejudicial to or otherwise adversely affects Company. Company agrees not to settle any HHMI Claim against an HHMI Indemnitee without HHMI's written consent, where (a) such settlement would include any admission of liability on the part of any HHMI Indemnitee, (b) such settlement would impose any restriction on any HHMI Indemnitee's conduct of any of its activities, or (c) such settlement would not include an unconditional release of all HHMI Indemnitees from all liability for claims that are the subject matter of the settled HHMI Claim.

- (d) This Section 8.1 shall survive expiration or termination of this Agreement.

8.2 Insurance.

- (a) Beginning at such time as any such Product or Process (including any service that practices such Process) is being commercially distributed, sold, leased or otherwise transferred, or performed or used (other than for the purpose of obtaining regulatory approvals), by Company, an Affiliate or Sublicensee, Company shall, at its sole cost and expense, procure and maintain commercial general liability insurance in amounts not less than [***] per incident and [***] annual aggregate and naming the Indemnitees and HHMI Indemnitees as additional insureds. Such commercial general liability insurance shall provide (i) product liability coverage and (ii) broad form contractual liability coverage for Company's indemnification under Section 8.1 of this Agreement. If Company elects to self-insure all or part of the limits described above (including deductibles or retentions which are in excess of [***] annual aggregate) such self-insurance program must be acceptable to the Hospital and the Risk Management Foundation. The minimum amounts of insurance coverage required under this Section 8.2 shall not be construed to create a limit of Company's liability with respect to its indemnification under Section 8.1 of this Agreement.
- (b) Company shall provide Hospital with written evidence of such insurance upon request of Hospital. Company shall provide Hospital with written notice at least [***] days prior to the cancellation, non-renewal or material change in such insurance; if Company does not obtain replacement insurance providing comparable coverage prior to the expiration of such [***] day period, Hospital shall have the right to terminate this Agreement effective at the end of such [***] day period without notice or any additional waiting periods.

- (c) Company shall maintain such commercial general liability insurance beyond the expiration or termination of this Agreement during (i) the period that any such product, process, or service is being commercially distributed, sold, leased or otherwise transferred, or performed or used (other than for the purpose of obtaining regulatory approvals), by Company or by a licensee, affiliate or agent of Company and (ii) a reasonable period after the period referred to in (c) (i) above which in no event shall be less than [***] years.
- (d) This Section 8.2 shall survive expiration or termination of this Agreement.
- (e) Any limitation of liability within this Agreement shall not limit the extent of the Company's and its assigns' and successors' insurance obligations indicated within Section 8.2.

9. DISCLAIMER OF WARRANTIES; LIMITATION OF LIABILITY

9.1 Title to Patent Rights. To the best knowledge of Hospital's Innovation office as of the Effective Date: (a) Hospital is the sole and exclusive owner by assignment of the Patent Rights from Mohammad Haj Dezfulian, and Tomasz Kula, and by assignment from Stephen J. Elledge to HHMI and from HHMI to Hospital in accordance with and subject to the conditions of the HHMI License; (b) Hospital has the authority to enter into this Agreement and license the Patent Rights to Company hereunder; (c) Hospital has not received any notice challenging the validity, enforceability, effectiveness, or ownership of any of the Patent Rights; (d) the Patent Rights are not the subject of any litigation procedure, discovery process, interference, reissue, reexamination, opposition, appeal proceedings or any other legal dispute; and (e) Hospital has not received any notice about any individual who is not currently listed as an inventor of any of the Patent Rights that such individual should be listed as an inventor of any of the Patent Rights. For clarity, the Parties acknowledge that the U.S. patent application with serial number 62/516,977 will first publish in December 2018.

9.2 No Warranties. HOSPITAL MAKES NO REPRESENTATIONS OR WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, CONCERNING THE PATENT RIGHTS AND THE RIGHTS GRANTED HEREUNDER, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT, VALIDITY OF PATENT RIGHTS CLAIMS, WHETHER ISSUED OR PENDING, AND THE ABSENCE OF LATENT OR OTHER DEFECTS, WHETHER OR NOT DISCOVERABLE, AND HEREBY DISCLAIMS THE SAME. SPECIFICALLY, AND NOT TO LIMIT THE FOREGOING, HOSPITAL MAKES NO WARRANTY OR REPRESENTATION (i) REGARDING THE VALIDITY OR SCOPE OF ANY OF THE CLAIM(S), WHETHER ISSUED OR PENDING, OF ANY OF THE PATENT RIGHTS, AND (ii) THAT THE EXPLOITATION OF THE PATENT RIGHTS OR ANY PRODUCT WILL NOT INFRINGE ANY PATENTS OR OTHER INTELLECTUAL PROPERTY RIGHTS OF HOSPITAL OR OF ANY THIRD PARTY.

9.3 Limitation of Liability. EXCEPT FOR COMPANY'S INDEMNIFICATION OBLIGATIONS PURSUANT TO SECTION 8 AND FOR COMPANY'S WILLFUL MISCONDUCT AND/OR GROSS NEGLIGENCE, IN NO EVENT SHALL EITHER PARTY OR ANY OF ITS AFFILIATES OR ANY OF THEIR RESPECTIVE TRUSTEES, DIRECTORS, OFFICERS, MEDICAL OR PROFESSIONAL STAFF, EMPLOYEES AND AGENTS BE LIABLE TO THE OTHER PARTY OR ANY OF ITS AFFILIATES, COLLABORATORS, SUBLICENSEES OR DISTRIBUTORS FOR INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND ARISING IN ANY WAY OUT OF THIS AGREEMENT OR THE LICENSE OR RIGHTS GRANTED HEREUNDER, HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, INCLUDING WITHOUT LIMITATION ECONOMIC DAMAGES OR INJURY TO PROPERTY OR LOST PROFITS, REGARDLESS OF WHETHER SUCH PARTY SHALL BE ADVISED, SHALL HAVE OTHER REASON TO KNOW, OR IN FACT SHALL KNOW OF THE POSSIBILITY OF THE FOREGOING.

9.4 BECAUSE THE BIOLOGICAL MATERIALS ARE EXPERIMENTAL IN NATURE, THEY ARE PROVIDED "AS IS" AND WITHOUT ANY REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. HOSPITAL HAS MADE NO INVESTIGATION AND MAKES NO REPRESENTATION THAT THE BIOLOGICAL MATERIALS, PRODUCT AND MODIFICATIONS, THEIR USE, OR THE METHODS USED IN MAKING OR USING SUCH BIOLOGICAL MATERIALS, PRODUCT AND MODIFICATIONS WILL NOT INFRINGE OR VIOLATE ANY PATENT OR OTHER INTELLECTUAL PROPERTY RIGHTS. HOSPITAL SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, INDIRECT, PUNITIVE OR SPECIAL DAMAGES SUFFERED BY COMPANY, ANY LICENSEE, ANY AFFILIATE OR ANY OTHERS RESULTING FROM COMPANY'S AND/OR ITS AFFILIATES' USE AND/OR POSSESSION OF THE BIOLOGICAL MATERIALS, PRODUCT, AND MODIFICATIONS.

10. TERM AND TERMINATION

10.1 Term. The term of this Agreement shall commence on the Effective Date and shall remain in effect until the later of:

- (a) the date on which all issued patents and filed patent applications within the Patent Rights have expired or been abandoned, and
- (b) [***] year after the last Sale for which a royalty is due under Section 4.5(a)(ii) and Section 4.5(a)(iii);

unless this Agreement is terminated earlier in accordance with any of the other provisions of Section 10.

10.2 Termination for Failure to Pay. If Company fails to make any payment due hereunder, Hospital shall have the right to terminate this Agreement upon [***] days written notice, unless Company makes such payments plus any interest due, as set forth in Section 4.7, within said

[***] day notice period. If such payments are not made, Hospital may immediately terminate this Agreement at the end of said [***] day period. Company shall be entitled to only one such cure period in a calendar year; for a second failure to make an undisputed payment on time, Hospital shall have the right to terminate this Agreement immediately upon written notice.

10.3 Termination for Insurance and Insolvency.

- (a) Insurance. Hospital shall have the right to terminate this Agreement in accordance with Section 8.2(b) if Company fails to maintain the insurance required by Section 8.2.
- (b) Insolvency and other Bankruptcy Related Events. Hospital shall have the right to terminate this Agreement immediately upon written notice to Company with no further notice obligation or opportunity to cure if Company is judicially determined to be insolvent, is adjudged bankrupt, makes an assignment for the benefit of its creditors, voluntarily files for bankruptcy or has a receiver or trustee (or the like) in bankruptcy appointed by reason of its insolvency, or in the event an involuntary bankruptcy action is filed against Company and not dismissed within [***] days, or if Company becomes the subject of liquidation or dissolution proceedings or otherwise discontinues business without a successor.

10.4 Termination for Non-Financial Default. If Company (either directly or through any of its Affiliates, Collaborators or any Sublicensee) shall default in the performance of any of Company's obligations under this Agreement not otherwise covered by the provisions of Section 10.2 and 10.3, and if such default has not been cured within [***] days after notice by Hospital in writing of such default, Hospital may immediately terminate this Agreement, and/or any license granted hereunder with respect to the country or countries in which such default has occurred, at the end of said [***] day cure period.

Notwithstanding the foregoing or anything to the contrary in this Agreement, in the event that Company defaults in the performance of its obligations under this Agreement solely with respect to a particular Product Category or License Field (e.g., if Company breaches its diligence obligations under Section 3.1 with respect to the Sale of any Assay Product or Assay Process which is not a Sale to a Collaborator pursuant to a Collaboration Agreement in respect of any License Field and if such default has not been cured within [***] days after notice by Hospital in writing of such default), then Hospital shall have the right to terminate this Agreement and/or any such license solely with respect to such Product Category and such License Field, as applicable, and Company's rights and licenses hereunder with respect to the other Product Category and License Field, as applicable, will remain in effect. In addition, Hospital shall have the right to terminate this Agreement and/or any such license, each on a Product Category-by-Product Category and License Field-by-License Field basis, immediately upon written notice, in the event of repeated defaults with respect to the same Product Category or License Field, as applicable, even if such defaults are cured within the applicable [***] day periods. For the purposes of this Section 10.4, the term "Product Category" is understood by the Parties to refer to each of the following groups of Products and Processes: (i) the research, development and commercialization of Clinical Products and Clinical Processes, and (ii) Sale of an Assay Product

or Assay Process which is both (a) not a Sale to a Collaborator pursuant to a Collaboration Agreement and (b) the use or performance of such Assay Product or Process, as applicable, as a commercial service, on a fee-for-service basis, solely on behalf of or for the benefit of a third party.

10.5 Challenging Validity. If Company or any of its Affiliates (“Challenging Party”) commences an action in which it challenges the validity, enforceability or scope of any of the Patent Rights (a “Challenge Proceeding”) or assists a Sublicensee in bringing a Challenge Proceeding, in each case, except as required under a court order or subpoena or as a defense against a claim, action or proceeding asserted by Hospital against Company, its Affiliates, or their Sublicensees, Hospital shall have the right to terminate this Agreement and any license granted hereunder immediately. If a Sublicensee brings a Challenge Proceeding (except as required under a court order or subpoena or as a defense against a claim, action or proceeding asserted by Hospital against such Sublicensee), then Hospital may send a written demand to Company to terminate such sublicense. If Company fails to terminate such sublicense within [***] days after receipt of Hospital’s demand, Company shall be deemed to be assisting such Sublicensee in bringing a Challenge Proceeding for purposes of this Section 10.5. If Company complies with such demand and terminates the applicable sublicense, then Company shall not be deemed to be assisting such Sublicensee in bring a Challenge Proceeding (except to the extent Company is otherwise actively assisting such Sublicensee in bringing such Challenge Proceeding).

During the Challenge Proceeding, Company will continue to pay all royalties due at the applicable rate during the pendency of such action and Company’s obligations under Section 4.2 shall continue during the pendency of such action including the obligation for Company to reimburse Hospital for all costs actually incurred by Hospital in connection with the applicable legal proceedings. Should the outcome of a Challenge Proceeding determine that any contested claim of a Patent Right challenged by Company or Company Affiliates or Sublicensee is valid and enforceable, Company will (a) thereafter pay the royalties due hereunder at the rate of [***] times the applicable rate for all Assay Products and Assay Processes Sold; and (b) within [***] days after the date of such resolution of such action (i) pay to Hospital the amount equal to [***] of the amount paid or payable by Company to Hospital as royalties on Net Sales of Assay Products and Assay Processes under Section 4.5 of this Agreement during the pendency of such Challenge Proceeding. Should the outcome of a Challenge Proceeding described in the first sentence of this Section result in claims that are narrowed and/or invalidated (“Successful Challenge”), Company will have no right to recoup any royalties or other amounts paid to Hospital and Hospital shall have the right to terminate this Agreement immediately, solely with respect to the patent family relating to the same invention as the Patent Rights that were the subject of such Successful Challenge, where each member of the patent family has for the basis of its priority right exactly the same originating application or applications.

For all purposes of the foregoing, the term Challenge Proceeding shall not be deemed to include (a) Company payments of patent costs to another licensor or assignor of patents or patent applications owned, licensed, or controlled by Company as required by the agreement under which the Company obtained rights to such patent rights, even if the licensor or assignor is engaging in behavior or presenting arguments that would themselves be considered a Challenge

Proceeding if done by the Company, (b) Company or its Affiliates being an essential party in any patent interference proceeding before the United States Patent and Trademark Office, which interference Company or its Affiliates acts in good faith to try to settle, or (c) Company, due to its status as an exclusive licensee of patent rights other than the Patent Rights, being named by the licensor of such patent rights as a real party in interest in such an interference, so long as Company either abstains from participation in, or acts in good faith to settle, the interference, or (d) arguments made by Company that distinguish the inventions claimed in patents or patent applications owned or controlled by Company ("Company Patents") from those claimed in the Patent Rights but do not disparage the Patent Rights or raise any issue of Patent Rights' compliance with or sufficiency under applicable patent laws, regulations or administrative rules, in each case (i) in the ordinary course of ex parte prosecution of the Company Patents or (ii) in inter partes proceedings before the United States Patent and Trademark Office or other agency or tribunal in any jurisdiction (excluding interferences or derivation proceedings), or in arbitration, wherein the Company Patents have been challenged.

10.6 Termination by Company. Company shall have the right to terminate this Agreement and/or, on a country-by-country basis, any license granted hereunder by giving [***] days advance written notice to Hospital and upon such termination shall immediately cease all use and Sales of Assay Products and Assay Processes in the countries for which such license is terminated, subject to Section 10.9.

10.7 Effect of Termination on Sublicenses. Except as set forth in this Section 10.7, all sublicenses granted by Company under the Patent Rights shall terminate upon termination of this Agreement. Hospital may elect, in its sole discretion, upon the written request of any Sublicensee, such request to be made within [***] days of such Sublicensee's receipt of a written notice of termination of this Agreement from either Company or Hospital, to enter into negotiation of a license agreement with such Sublicensee, effective as of the effective date of termination of this Agreement which shall be co-extensive with the then-current scope of the sublicense granted by Company to such Sublicensee with respect to the Patent Rights, provided, however, that such Sublicensee is not at that time in material breach of its sublicense.

10.8 Effects of Termination of Agreement. Upon termination of this Agreement or any of the licenses hereunder for any reason, final reports in accordance with Section 5 (including Identified Target Reports under Section 5.2) shall be submitted to Hospital and all royalties and other payments, including without limitation any unreimbursed Patent Costs, accrued or due to Hospital as of the termination date shall become immediately payable. Company shall cease, and shall cause its Affiliates and Sublicensees (subject to Section 10.7) to cease under any sublicense granted by Company, all Sales and uses of Assay Products and Assay Processes upon such termination, subject to Section 10.9. The termination or expiration of this Agreement or any license granted hereunder shall not relieve Company, its Affiliates or Sublicensees of obligations arising before such termination or expiration.

10.9 Inventory. Upon early termination of this Agreement other than for Company default, Company, Company Affiliates and Sublicensees may complete and sell any work-in-progress and inventory of Assay Products that exist as of the effective date of termination provided that (i) Company pays Hospital the applicable running royalty or other amounts due on such Net Sales in accordance with the terms and conditions of this Agreement, and (ii) Company,

Company Affiliates and Sublicensees whose sublicense has terminated shall complete and sell all work-in-progress and inventory of Assay Products within [***] months after the effective date of termination. Upon expiration of this Agreement, Company shall pay to Hospital the royalties set forth in Section 4.5(a) for Sales of any Assay Product that was in inventory or was a work-in-progress on the date of expiration of the Agreement.

10.10 Escalation. If a dispute arises between the Parties relating to, arising out of, or in any way connected with this Agreement or any term or condition hereof, including the performance by any Party of its obligations hereunder, whether before or after termination of this Agreement (“Dispute”), the Parties shall discuss the matter in good faith. In the event that the Parties are unable to resolve such Dispute within [***] days after notice of such Dispute is given by one Party to another Party in writing, then either Party can escalate (“Escalation”) such Dispute for discussion between the CEO of Company (or his or her designee) and an executive leader of Hospital, each of whom is authorized to settle a Dispute on behalf of their respective companies (the “Senior Officers”). Upon such escalation, the Senior Officers shall discuss the Dispute in good faith and how such Dispute may be remediated. If the Dispute is not resolved by the Senior Officers within [***] days after the commencement of their discussions (which periods may be extended by mutual agreement), subject to any rights to injunctive relief and unless otherwise specifically provided for herein, the Dispute shall be finally resolved by judicial process commenced by either Party.

10.11 Effects of Termination on Biological Materials. Upon expiration or termination of this Agreement by Hospital, for any reason, Company shall destroy Biological Materials, and shall provide written certification to Hospital within [***] days after the effective date of any such expiration or termination that the Biological Materials have been destroyed. The termination or expiration of this Agreement shall not relieve Company or its Affiliates of any obligations with respect to the Biological Materials arising before such termination or expiration.

11. COMPLIANCE WITH LAW

11.1 Compliance. Company shall have the sole obligation for compliance with, and shall ensure that any Affiliates, Collaborators and Sublicensees comply with, all government statutes and regulations that relate to Products and Processes, including, but not limited to, those of the Food and Drug Administration and the Export Administration, as amended, and any applicable laws and regulations of any other country in the License Territory. Company agrees that it shall be solely responsible for obtaining any necessary licenses to export, re-export, or import Products or Processes covered by Patent Rights and/or Confidential Information. Subject to the procedures set forth in Section 8.1(b), Company shall indemnify and hold harmless Hospital for third party claims resulting from any breach of Company’s obligations under this Section 11.1. Subject to the procedures set forth in Section 8.1(c), Company shall indemnify, defend and hold harmless HHMI Indemnitees for any HHMI Claims resulting from any breach of Company’s obligations under this Section 11.1.

11.2 Patent Numbers. Company shall cause all Assay Products sold in the United States to be marked with all applicable U.S. Patent Numbers, to the full extent required by United States law. Company shall similarly cause all Assay Products shipped to or sold in any other country to be marked in such a manner as to conform with the patent laws and practices of such country.

12. MISCELLANEOUS

12.1 Entire Agreement. This Agreement constitutes the entire understanding between the Parties with respect to the subject matter hereof, superseding the Material License.

12.2 Notices. Any notices, reports, waivers, correspondences or other communications required under or pertaining to this Agreement shall be in writing and shall be delivered by hand, or sent by a reputable overnight mail service (e.g., Federal Express), or by first class mail (certified or registered), or by facsimile confirmed by one of the foregoing methods, to the other party. Notices will be deemed effective (a) [***] working days after deposit, postage prepaid, if mailed, (b) the next day if sent by overnight mail, or (c) the same day if sent by facsimile and confirmed as set forth above or delivered by hand. Unless changed in writing in accordance with this Section, the notice address for Hospital shall be as follows:

Chief Innovation Officer, Innovation
Brigham and Women's Hospital
215 First Street, Suite 500
Cambridge, MA 02142

12.3 Amendment; Waiver. This Agreement may be amended and any of its terms or conditions may be waived only by a written instrument executed by an authorized signatory of the Parties or, in the case of a waiver, by the Party waiving compliance. The failure of either Party at any time or times to require performance of any provision hereof shall in no manner affect its rights at a later time to enforce the same. No waiver by either Party of any condition or term shall be deemed as a further or continuing waiver of such condition or term or of any other condition or term.

12.4 Binding Effect. This Agreement shall be binding upon and inure to the benefit of and be enforceable by the Parties hereto and their respective permitted successors and assigns.

12.5 Assignment. Company shall not assign this Agreement or any of its rights or its obligations under this Agreement without the prior written consent of Hospital; provided, however, that if Company is not in breach of its diligence obligations as set forth in Section 3.1(a) and 3.1(b) as of the effective date of assignment, no such consent will be required to assign this Agreement to: (a) a successor of the Company's business to which this Agreement pertains or to a purchaser of substantially all of the Company's assets related to this Agreement, so long as such successor or purchaser shall agree in writing to be bound by all of the terms and conditions hereof prior to such assignment; or (b) an Affiliate of Company so long as such Affiliate shall agree in writing to be bound by all of the terms and conditions hereof prior to such assignment. Company shall notify Hospital in writing of any such assignment and provide a copy of all assignment documents and related agreements to Hospital within [***] days after such assignment. Failure of an assignee to agree to be bound by the terms hereof or failure of Company to notify Hospital and provide copies of assignment documentation shall be grounds for termination of this Agreement for default subject to Section 10. Further, neither any rights granted under this Agreement nor any sublicense may be assigned by any Sublicensee without the prior written consent of Hospital.

12.6 Force Majeure. Neither Party shall be responsible for delays resulting from causes beyond the reasonable control of such Party, including without limitation fire, explosion, flood, war, sabotage, strike or riot, provided that the nonperforming Party uses commercially reasonable efforts to avoid or remove such causes of nonperformance and continues performance under this Agreement with reasonable dispatch whenever such causes are removed.

12.7 Use of Name. Neither Party shall use the name of the other Party or of any trustee, director, officer, staff member, employee, student or agent of the other Party or any adaptation thereof in any advertising, promotional or sales literature, publicity or in any document employed to obtain funds or financing without the prior written approval of the Party or individual whose name is to be used. For Hospital, such approval shall be obtained from Hospital's VP of Public Affairs. Notwithstanding the foregoing or anything in this Agreement to the contrary, Company will be permitted to disclose the terms and existence of this Agreement to its Affiliates and its and their prospective and actual acquirers, licensees, Collaborators, Sublicensees, Distributors, investors, accountants, lawyers, advisors, consultants, contractors, lenders, underwriters, and collaborators, each of which prior to disclosure will be required to enter into a confidentiality agreement to discuss a business relationship related to the Patent Rights that is consistent with the provisions of Appendix F. Company acknowledges that under HHMI policy, Company may not use the name of HHMI or of any HHMI employee (including Dr. Elledge) in a manner that reasonably could constitute an endorsement of a commercial product or service; but that use for other purposes, even if commercially motivated, is permitted provided that (1) the use is limited to accurately reporting factual events or occurrences, and (2) any reference to the name of HHMI or any HHMI employees in press releases or similar materials intended for public release is approved by HHMI in advance. For HHMI, such approval shall be obtained from HHMI's Office of General Counsel.

12.8 Governing Law. This Agreement shall be governed by and construed and interpreted in accordance with the laws of the Commonwealth of Massachusetts, excluding with respect to conflict of laws, except that questions affecting the construction and effect of any patent shall be determined by the law of the country in which the patent shall have been granted. Each Party agrees to submit to the exclusive jurisdiction of the Superior Court for Suffolk County, Massachusetts, and the United States District Court for the District of Massachusetts with respect to any claim, suit or action in law or equity arising in any way out of this Agreement or the subject matter hereof.

12.9 Hospital Policies. Company acknowledges that Hospital's employees and medical and professional staff members and faculty and the employees and staff members and faculty of Hospital's Affiliates are subject to the applicable policies of Hospital and such Affiliates, including, without limitation, policies regarding conflicts of interest, intellectual property and other matters. Company shall provide Hospital with any agreement it proposes to enter into with any employee or staff member or faculty of Hospital or any of Hospital's Affiliates for Hospital's prior review and shall not enter into any oral or written agreement with such employee or staff member or faculty which conflicts with any such policy. Hospital shall provide Company, at Company's request, with copies of any such policies applicable to any such employee or staff member or faculty.

12.10 Severability. If any provision(s) of this Agreement are or become invalid, are ruled illegal by any court of competent jurisdiction or are deemed unenforceable under then current applicable law from time to time in effect during the term hereof, it is the intention of the parties that the remainder of this Agreement shall not be effected thereby. It is further the intention of the parties that in lieu of each such provision which is invalid, illegal or unenforceable, there be substituted or added as part of this Agreement a provision which shall be as similar as possible in economic and business objectives as intended by the parties to such invalid, illegal or enforceable provision, but shall be valid, legal and enforceable.

12.11 Survival. In addition to any specific survival references in this Agreement, Sections 1, 2.5, 4.2 (but only with respect to Patent Costs incurred while Company retained a license to the corresponding Patent Rights), 4.4, 4.5(a)(ii) (but only for the remainder of any applicable ten (10) year royalty period referenced therein), 4.5(a)(iii) (but only for the remainder of any applicable ten (10) year royalty period referenced therein), 4.5(f), 4.6, 4.7, 4.8, 5.2 (but only with respect to Company's obligation to provide a final Identified Target Report, which shall be reported in writing to Hospital within sixty (60) days after the effective date of termination of the Agreement), 5.3, 5.4, 5.5, 5.6, 5.7, 5.8, 6.5, 8.1, 8.2, 9.2, 9.3, 10.7, 10.8, 10.9, 12.1, 12.2, 12.3, 12.4, 12.7, 12.8, 12.9, 12.10, 12.11, 12.12, 12.13 and 12.14 shall survive termination or expiration of this Agreement.

12.12 Interpretation. The Parties hereto are sophisticated, have had the opportunity to consult legal counsel with respect to this transaction and hereby waive any presumptions of any statutory or common law rule relating to the interpretation of contracts against the drafter.

12.13 Headings. All headings are for convenience only and shall not affect the meaning of any provision of this Agreement.

12.14 Third Party Beneficiary. HHMI is not a party to this Agreement and has no liability to any Company, Sublicensee, Collaborator or user of anything covered by this Agreement, but HHMI is an intended third-party beneficiary of this Agreement and certain of its provisions are for the benefit of HHMI and are enforceable by HHMI in its own name.

[Remainder of page intentionally left blank.]

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their duly authorized representatives, effective as of the Effective Date.

TSCAN THERAPEUTICS, INC.

BY: /s/ David P. Southwell
Name: David P. Southwell

TITLE: President and CEO

DATE: April 20, 2021

THE BRIGHAM AND WOMEN'S HOSPITAL, INC.

BY: /s/ Jeanneatte Fiala, PhD
Name: Jeannette Fiala, PhD

Director, Licensing
TITLE: Mass General Brigham, Innovation

DATE: April 20, 2021

Appendix A

DESCRIPTION OF PATENT RIGHTS

[***]

[Remainder of page intentionally left blank.]

Appendix B

BIOLOGICAL MATERIALS

- *******

[Remainder of page intentionally left blank.]

**Appendix C
SALES REPORTS**

**Appendix D
FORM OF SUBLICENSE INCOME REPORT**

Appendix F
CONFIDENTIALITY TERMS AND CONDITIONS

1. Definition of Confidential Information. “Confidential Information” shall mean any information, including but not limited to data, techniques, protocols or results, or business, financial, commercial or technical information, disclosed by one Party (each a “Discloser” as applicable) to the other Party (each a “Recipient” as applicable) in connection with the terms of that certain Exclusive Patent License Agreement dated December 5th, 2018 (the “License Agreement”) and identified as confidential at the time of disclosure (the “Purpose”). Hospital’s Confidential Information shall also include all information disclosed by Hospital to Company in connection with the Patent Rights. Capitalized terms used in this Appendix that are not otherwise defined herein have the meanings ascribed in the License Agreement to which this Appendix is attached and made a part thereof.

2. Exclusions. “Confidential Information” under this Agreement shall not include any information that (i) is or becomes publicly available through no wrongful act of Recipient; (ii) was known by Recipient prior to disclosure by Discloser, as evidenced by tangible records; (iii) becomes known to Recipient after disclosure from a third party having an apparent bona fide right to disclose it; (iv) is independently developed or discovered by Recipient without use of Discloser’s Confidential Information, as evidenced by tangible records; or (v) is disclosed to another party by Discloser without restriction on further disclosure. The obligations of confidentiality and non-use set forth in this Appendix F shall not apply with respect to any information that Recipient is required to disclose or produce pursuant to applicable law, court order or other valid legal process provided that Recipient promptly notifies Discloser prior to such required disclosure, discloses such information only to the extent so required and cooperates reasonably with Discloser’s efforts to contest or limit the scope of such disclosure.

3. Permitted Purpose. Recipient shall have the right to, and agrees that it will, use Discloser’s Confidential Information solely for the Purpose as described in the License Agreement, except as may be otherwise specified in a separate definitive written agreement negotiated and executed between the parties.

4. Restrictions. For the term of the License Agreement and a period of [***] years thereafter (and indefinitely with respect to any individually identifiable health information disclosed by Hospital to Company, if any), each Recipient agrees that: (i) it will not use such Confidential Information for any purpose other than as specified herein, including without limitation for its own benefit or the benefit of any other person or entity; and (ii) it will use reasonable efforts (but no less than the efforts used to protect its own confidential and/or proprietary information of a similar nature) not to disclose such Confidential Information to any other person or entity except as expressly permitted hereunder.

Notwithstanding the foregoing or anything in this Appendix F or in the License Agreement to the contrary, Recipient may, however, disclose Discloser’s Confidential Information (a) on a

need-to-know basis to its and its Affiliates officers, directors, employees, consultants, advisers, staff members and agents (“Receiving Individuals”) who are directly participating in the Purpose and who are informed of the confidential nature of such information, provided Recipient shall be responsible for compliance by Receiving Individuals with the terms of this Agreement and any breach thereof, (b) in connection with prosecuting or defending litigation in accordance with Section 7 of the License Agreement; provided that the party making a disclosure under this Section 4 shall seek confidential treatment, a protective order, or seek to file under seal if reasonably requested by the other party, and (c) in the case of Hospital, to HHMI provided that, prior to disclosure, HHMI must agree to obligations of confidentiality and non-use of substantially equivalent or greater scope and duration than those set forth in this Appendix F, and (d) in the case of Company, (i) in connection with making filings with the Securities and Exchange Commission or foreign equivalent, any stock exchange or market, or any regulatory authorities, which shall include publicly disclosing or filing the License Agreement as a “material agreement” in accordance with applicable law or applicable stock exchange regulations or (ii) to its Affiliates and its and their prospective and actual acquirers, licensees, sublicensees, distributors, investors, accountants, lawyers, advisors, consultants, contractors, lenders and underwriters, each of which prior to disclosure must be bound by written or legally enforceable obligations of confidentiality and non-use of substantially equivalent or greater scope and duration than those set forth in this Appendix F.

Each party further agrees not to use the name of the other party or any of its Affiliates or any of their respective trustees, directors, officers, staff members, employees, students or agents in any advertising, promotional or sales literature, publicity or in any document employed to obtain funds or financing without the prior written approval of the party or individual whose name is to be used, in the case of Hospital such approval to be given by the Public Affairs Department. This Section 4 shall survive termination or expiration of the License Agreement.

5. Right to Disclose. Discloser represents that to the best of its knowledge it has the right to disclose to each Recipient all of Discloser’s Confidential Information that will be disclosed hereunder.

6. Ownership. All Confidential Information disclosed pursuant to this Agreement, including without limitation all written and tangible forms thereof, shall be and remain the property of the Discloser. Upon termination of this Agreement, if requested by Discloser, Recipient shall return or destroy at Discloser’s discretion all of Discloser’s Confidential Information, provided that Recipient shall be entitled to keep one copy of such Confidential Information in a secure location solely for the purpose of determining Recipient’s legal obligations hereunder.

7. No License. Nothing in this Appendix F shall be construed as granting or conferring, expressly or impliedly, any rights by license or otherwise, under any patent, copyright, or other intellectual property rights owned or controlled by Discloser relating to Confidential Information, except as specifically set forth in the License Agreement.

8. Remedies. Each party acknowledges that any breach of this Appendix F by it may cause irreparable harm to the other Party and that each party is entitled to seek injunctive relief and any other remedy available at law or in equity.

9. General. This Appendix F, along with the License Agreement, contain the entire understanding of the Parties with respect to the subject matter hereof, and supersede any prior oral or written understandings between the Parties relating to confidential treatment of information. Sections 1, 2, 4, 6, 8 and 9 of this Appendix F shall survive any expiration or termination of the License Agreement.

**830 WINTER STREET
WALTHAM, MASSACHUSETTS**

LEASE SUMMARY SHEET

Execution Date: August 13 , 2019

Tenant: T-Scan Therapeutics, Inc., a Delaware corporation

Tenant's Mailing Address Prior to Occupancy: Harvard Institutes of Medicine 4 Blackfan Circle, 8th Floor Boston, MA 02115-5713

Landlord: PPF OFF 828-830 Winter Street LLC, a Delaware limited liability company

Building: 830 Winter Street, Waltham, Massachusetts (the "**Building**"). The Building consists of approximately 186,135 rentable square feet (the "**Building Rentable Area**"), including a one-story garage with 87 spaces (the "**830 Garage**"). The land on which the Building, the 830 Garage, the 828 Building and the 828 Garage (both as hereinafter defined) are located (the "**Land**") is more particularly described in **Exhibit 2** attached hereto and made a part hereof.

Premises: **Prime Premises:** Approximately 24,826 rentable square feet of space on the third (3rd) floor of the Building, as shown on **Exhibit 1A**.

Basement Premises: Approximately 646 rentable square feet of space, consisting of the following areas located in the basement of the Building, all as shown on **Exhibit 1B** attached hereto and dedicated for Tenant's exclusive use:

- PH System Premises, and
- Hazardous Waste and Chemical Storage Premises

Rooftop Premises: As defined and described in **Section 1.3(e)**

Generator Area: As defined and described in **Exhibit 12**

Premises Rentable Area: 25,472 rentable square feet. Landlord and Tenant stipulate and agree that the Building Rentable Area and the Premises Rentable Area are correct and shall not be remeasured.

Property: The Building, the Land, and the other improvements located on, and to be constructed on, the Land, including the building known as 828 Winter Street, Waltham, Massachusetts (the "**828 Building**") which consists of approximately 144,910 rentable square feet, including a four-story garage with 523 spaces (the "**828 Garage**"). The Property is part of the Waltham Woods/Reservoir Woods area (the "**Waltham Woods/Reservoir Woods Park**") which, as of the date hereof, consists of the following properties and such other properties as may from time to time participate in the sharing of common exterior maintenance expenses: 840 Winter Street, Waltham Woods (860, 870, 880, and 890 Winter Street), and Reservoir Woods (920, 930, and 940 Winter Street).

Parking Areas: The 830 Garage and the surface parking spaces adjacent to the Building and the 828 Building, and, as specifically set forth in Section 1.3(b) hereof, the 828 Garage.

Term Commencement Date: The date Landlord delivers possession of the Premises to Tenant, which is estimated to be the Execution Date.

Rent Commencement Date: The earlier to occur of (i) the date that occurs three (3) months after the Term Commencement Date, and (ii) the date that Tenant first commences business operations in the Premises.

Expiration Date: Five (5) years after the Rent Commencement Date, except that if the Rent Commencement Date occurs on a day other than the first day of a calendar month, then the Expiration Date shall be the last day of the calendar month in which the fifth (5th) anniversary of the Rent Commencement Date occurs.

Extension Term: Subject to **Section 1.2** below, one (1) extension term of three (3) years

Permitted Uses: Subject to Legal Requirements, general office, research, development and laboratory use, including but not limited to accessory manufacturing of clinical materials, and all lawfully permitted ancillary uses thereto.

Base Rent:

	RENT YEAR ¹	ANNUAL BASE RENT	MONTHLY PAYMENT
Term Commencement Date - Rent Commencement Date *		\$ 0.00	\$ 0.00
Rent Year 1		\$ 765,000.00*	\$ 63,750.00
Rent Year 2	Months 1-6 Months 7-12	\$1,050,600.00+ \$1,338,044.16	\$ 87,550.00 \$111,503.68
Rent Year 3		\$1,378,289.92	\$114,857.49
Rent Year 4		\$1,419,554.56	\$118,296.21
Rent Year 5		\$1,462,092.80	\$121,841.07

¹ For the purposes of this Lease, the first “**Rent Year**” shall be defined as the period commencing as of the Rent Commencement Date and ending on the date immediately preceding the first (1st) anniversary of the Rent Commencement Date; except that if the Rent Commencement Date occurs on the a day other than the first day of a calendar month, the first Rent Year shall expire as the last day of the calendar month in which the first (1st) anniversary of the Rent Commencement Date occurs. Thereafter, “Rent Year” shall be defined as any subsequent twelve (12) month period during the Term of this Lease.

- * Tenant shall be entitled to an abatement of Base Rent, Operating Expenses and Taxes for the period commencing as of the Term Commencement Date, and ending on the Rent Commencement Date (the “**Base Rent Abatement Period**”).
- ^ Notwithstanding anything in this Section of the Lease to the contrary, during Rent Year 1, Tenant shall pay Base Rent, Operating Costs, and Taxes on 15,000 rentable square feet of the Premises only.
- + Notwithstanding anything in this Section of the Lease to the contrary, during the first six (6) months of Rent Year 2, Tenant shall pay Base Rent, Operating Costs, and Taxes on 20,000 rentable square feet of the Premises only, provided that commencing as of the first day of the seventh (7th) month of Rent Year 2, through the expiration of the Term, Tenant shall pay Base Rent, Operating Costs, and Taxes on the entire Rentable Area of the Premises.

Operating Costs and Taxes:

See **Sections 5.2** and **5.3**

Tenant’s Share:

13.68% (i.e., a fraction, the numerator of which is the Premises Rentable Area and the denominator of which is the Building Rentable Area), provided that during Rent Year 1, Tenant’s Share shall be deemed to mean 8.06%, and further provided that during the first six (6) months of Rent Year 2, Tenant’s Share shall be deemed to mean 10.74%.

Notwithstanding the foregoing, with respect to Cafeteria Costs, as defined in Section 1.3(c), Tenant’s Share shall be defined as a fraction, the numerator of which is the number of employees of Tenant located in the Building and the denominator of which is the number of employees of all tenants in the Property (including Tenant) that have the right to use the Cafeterias.

**Security Deposit/
Letter of Credit:**

\$595,408.00, to be held in accordance with Section 7.1.

EXHIBITS:

EXHIBIT 1A	LEASE PLAN - PRIME PREMISES
EXHIBIT 1B	LEASE PLAN - BASEMENT PREMISES
EXHIBIT 2	LEGAL DESCRIPTION - LAND
EXHIBIT 3	[INTENTIONALLY OMITTED]
EXHIBIT 4	TENANT'S WORK
EXHIBIT 5	[INTENTIONALLY OMITTED]
EXHIBIT 6	FORM OF LETTER OF CREDIT
EXHIBIT 7	LANDLORD'S SERVICES
EXHIBIT 7-1	TENANT'S SHARE OF BASE BUILDING HVAC AND POWER CAPACITY
EXHIBIT 8	TENANT'S HAZARDOUS MATERIALS EXHIBIT 8-1 CONTROL AREAS
EXHIBIT 9	RULES AND REGULATIONS
EXHIBIT 9-1	BUILDING RULES AND REGULATIONS
EXHIBIT 9-2	CONSTRUCTION RULES AND REGULATIONS
EXHIBIT 10	TENANT WORK INSURANCE SCHEDULE
EXHIBIT 11	PROPOSED PARKING AND TRAFFIC DEMAND MANAGEMENT PLAN
EXHIBIT 11-1	840 WINTER PARKING OVERFLOW PLAN
EXHIBIT 12	GENERATOR PROVISIONS
EXHIBIT 12-1	GENERATOR LOCATION PLAN

TABLE OF CONTENTS

1.	LEASE GRANT; TERM; APPURTENANT RIGHTS; EXCLUSIONS	1
1.1	Lease Grant	1
1.2	Extension Term	1
1.3	Appurtenant Rights	2
1.4	Tenant's Access	5
1.5	No recording // Notice of Lease	5
1.6	Exclusions	5
1.7	Acid Neutralization Tank	6
2.	RIGHTS RESERVED TO LANDLORD	6
2.1	Additions and Alterations	6
2.2	Additions to the Property	7
2.3	Name and Address of Building	7
2.4	Landlord's Access	7
2.5	Pipes, Ducts and Conduits	8
2.6	Minimize Interference	8
3.	CONDITION OF PREMISES	8
3.1	Condition of Premises	8
4.	USE OF PREMISES	8
4.1	Permitted Uses	8
4.2	Prohibited Uses	9
4.3	Intentionally Omitted	9
4.4	MWRA Permit	9
4.5	Parking and Traffic Demand Management Plan	10
5.	RENT; ADDITIONAL RENT	10
5.1	Base Rent	10
5.2	Operating Costs	10
5.3	Taxes	14
5.4	Late Payments	16
5.5	No Offset; Independent Covenants; Waiver	17
5.6	Survival	17
6.	INTENTIONALLY OMITTED	17
7.	LETTER OF CREDIT	17
7.1	Amount	17
7.2	Application of Proceeds of Letter of Credit	18
7.3	Transfer of Letter of Credit	18
7.4	Cash Proceeds of Letter of Credit	19
7.5	Return of Security Deposit or Letter of Credit	19
8.	[INTENTIONALLY DELETED]	19

9.	UTILITIES, LANDLORD’S SERVICES	19
9.1	Electricity	19
9.2	Water	19
9.3	Gas	20
9.4	Other Utilities	20
9.5	Interruption or Curtailment of Utilities	20
9.6	Landlord’s Services	20
10.	MAINTENANCE AND REPAIRS	21
10.1	Maintenance and Repairs by Tenant	21
10.2	Maintenance and Repairs by Landlord	21
10.3	Accidents to Sanitary and Other Systems	21
10.4	Floor Load--Heavy Equipment	21
10.5	Premises Cleaning	22
10.6	Pest Control	22
10.7	Service Interruptions	22
10.8	Abatement of Rent	22
11.	ALTERATIONS AND IMPROVEMENTS BY TENANT	23
11.1	Landlord’s Consent Required	23
11.2	After-Hours	24
11.3	Harmonious Relations	24
11.4	Liens	24
11.5	General Requirements	25
12.	SIGNAGE	25
12.1	Restrictions	25
12.2	Monument Signage	25
13.	ASSIGNMENT, MORTGAGING AND SUBLETTING	25
13.1	Landlord’s Consent Required	25
13.2	Landlord’s Recapture Right	26
13.3	Standard of Consent to Transfer	26
13.4	Listing Confers no Rights	27
13.5	Profits In Connection with Transfers	27
13.6	Prohibited Transfers	27
13.7	Exceptions to Requirement for Consent	27
14.	INSURANCE; INDEMNIFICATION; EXCULPATION	28
14.1	Tenant’s Insurance	28
14.2	Indemnification	30
14.3	Property of Tenant	30
14.4	Limitation of Landlord’s Liability for Damage or Injury	31
14.5	Waiver of Subrogation; Mutual Release	31
14.6	Tenant’s Acts--Effect on Insurance	31
14.7	Landlord’s Insurance	32

15.	CASUALTY; TAKING	32
15.1	Damage	32
15.2	Termination Rights	33
15.3	Rent Abatement	34
15.4	Taking for Temporary Use	34
15.5	Disposition of Awards	34
16.	ESTOPPEL CERTIFICATE	34
17.	HAZARDOUS MATERIALS	35
17.1	Prohibition	35
17.2	Environmental Laws	36
17.3	Hazardous Material Defined	36
17.4	Chemical Safety Program	36
17.5	Testing	36
17.6	Indemnity; Remediation	37
17.7	Disclosures	38
17.8	Removal	39
18.	RULES AND REGULATIONS	39
18.1	Rules and Regulations	39
18.2	Energy Conservation	39
18.3	Recycling	39
19.	LAWS AND PERMITS	40
19.1	Legal Requirements	40
20.	DEFAULT	41
20.1	Events of Default	41
20.2	Remedies	42
20.3	Damages - Termination	43
20.4	Landlord's Self-Help; Fees and Expenses	44
20.5	Waiver of Redemption, Statutory Notice and Grace Periods	44
20.6	Landlord's Remedies Not Exclusive	44
20.7	No Waiver	45
20.8	Restrictions on Tenant's Rights	45
20.9	Landlord Default	45
21.	SURRENDER; ABANDONED PROPERTY; HOLD-OVER	45
21.1	Surrender	45
21.2	Abandoned Property	47
21.3	Holdover	47
21.4	Warranties	48
22.	MORTGAGEE RIGHTS	48
22.1	Subordination	48
22.2	Notices	48

22.3	Mortgagee Consent	48
22.4	Mortgagee Liability	48
23.	QUIET ENJOYMENT	49
24.	NOTICES	49
25.	CONDOMINIUM CONVERSION	50
26.	MISCELLANEOUS	51
26.1	Separability	51
26.2	Captions	51
26.3	Broker	51
26.4	Entire Agreement	51
26.5	Governing Law	51
26.6	Representation of Authority	51
26.7	Expenses Incurred by Landlord Upon Tenant Requests	51
26.8	Survival	51
26.9	Limitation of Liability	52
26.10	Binding Effect	52
26.11	Landlord Obligations upon Transfer	52
26.12	No Grant of Interest	52
26.13	Financial Information	52
26.14	OFAC Certificate and Indemnity	53
26.15	Confidentiality	53
26.16	Force Majeure	53

THIS INDENTURE OF LEASE (this "**Lease**") is hereby made and entered into on the Execution Date by and between Landlord and Tenant.

Each reference in this Lease to any of the terms and titles contained in any Exhibit attached to this Lease shall be deemed and construed to incorporate the data stated under that term or title in such Exhibit. All capitalized terms not otherwise defined herein shall have the meanings ascribed to them as set forth in the Lease Summary Sheet which is attached hereto and incorporated herein by reference.

1. LEASE GRANT; TERM; APPURTENANT RIGHTS; EXCLUSIONS

1.1 Lease Grant. Landlord hereby leases to Tenant, and Tenant hereby leases from Landlord, the Premises upon and subject to terms and conditions of this Lease, for a term of years commencing on the Term Commencement Date and, unless earlier terminated or extended pursuant to the terms hereof, ending on the Expiration Date (the "**Initial Term**"; the Initial Term and any duly exercised Extension Terms are hereinafter collectively referred to as the "**Term**").

1.2 Extension Term.

(a) Provided that the following conditions, which may be waived by Landlord in its sole discretion, are satisfied (i) Tenant, an Affiliated Entity (hereinafter defined) and/or a Successor (hereinafter defined) is/are then occupying at least seventy-five percent (75%) of the Premises; and (ii) no Event of Default then exists (1) as of the date of the Extension Notice (hereinafter defined), and (2) at the commencement of the Extension Term (hereinafter defined), Tenant shall have the option to extend the Term for one (1) additional term of three (3) years (the "**Extension Term**"), commencing as of the expiration of the Initial Term. Tenant must exercise such option to extend, if at all, by giving Landlord written notice (the "**Extension Notice**") on or before the date that is no earlier than eighteen (18) months and not later than twelve (12) months prior to the expiration of the current term of this Lease, *time being of the essence*. Upon the timely giving of such notice, the Term shall be deemed extended upon all of the terms and conditions of this Lease, except that (x) Base Rent during the Extension Term shall be calculated in accordance with this **Section 1.2**, (y) Landlord shall have no obligation to construct or renovate the Premises and (z) Tenant shall have no further right to extend the Term. If Tenant fails to give timely notice, as aforesaid, Tenant shall have no further right to extend the Term. Notwithstanding the fact that Tenant's proper and timely exercise of such option to extend the Term shall be self-executing, the parties shall promptly execute a lease amendment reflecting such Extension Term after Tenant exercises such option. The execution of such lease amendment shall not be deemed to waive any of the conditions to Tenant's exercise of its rights under this **Section 1.2**.

(b) The Base Rent during the Extension Term (the "**Extension Term Base Rent**") shall be determined in accordance with the process described hereafter. Extension Term Base Rent shall be the fair market rental value of the Premises then demised to Tenant as of the commencement of the Extension Term as determined in accordance with the process described below, for extensions and renewals of combination laboratory and office space in the Winter Street area of Waltham of equivalent quality, size, utility and location, with the length of the Extension Term, the credit standing of Tenant and all other relevant factors to be taken into

account. Within thirty (30) days after receipt of the Extension Notice, Landlord shall deliver to Tenant written notice of its determination of the Extension Term Base Rent for the Extension Term. Tenant shall, within thirty (30) days after receipt of such notice, notify Landlord in writing whether Tenant accepts or rejects Landlord's determination of the Extension Term Base Rent ("**Tenant's Response Notice**"). If Tenant fails timely to deliver Tenant's Response Notice, Landlord's determination of the Extension Term Base Rent shall be binding on Tenant.

(c) If and only if Tenant's Response Notice is timely delivered to Landlord and indicates that Tenant rejects Landlord's determination of the Extension Term Base Rent, Landlord and Tenant shall negotiate in good faith as to the Extension Term Base Rent for a thirty (30) day period from Tenant's delivery of the Tenant's Response Notice (the "Negotiation Period"). If the parties are unable to agree on the Extension Term Base Rent by the expiration of the Negotiation Period, then the Extension Term Base Rent shall be determined in accordance with the procedure set forth in this **Section 1.2(c)**. In such event, within ten (10) days after the expiration of the Negotiation Period, Tenant and Landlord shall each notify the other, in writing, of their respective selections of an appraiser (respectively, "**Landlord's Appraiser**" and "**Tenant's Appraiser**"). Landlord's Appraiser and Tenant's Appraiser shall then jointly select a third appraiser (the "**Third Appraiser**") within ten (10) days of their appointment. All of the appraisers selected shall be individuals with at least five (5) consecutive years' commercial appraisal experience in the area in which the Premises are located, shall be members of the Appraisal Institute (M.A.I.), and, in the case of the Third Appraiser, shall not have acted in any capacity for either Landlord or Tenant within five (5) years of his or her selection. The three appraisers shall determine the Extension Term Base Rent in accordance with the requirements and criteria set forth in **Section 1.2(b)** above, employing the method commonly known as Baseball Arbitration, whereby Landlord's Appraiser and Tenant's Appraiser each sets forth its determination of the Extension Term Base Rent as defined above, and the Third Appraiser must select one or the other (it being understood that the Third Appraiser shall be expressly prohibited from selecting a compromise figure). Landlord's Appraiser and Tenant's Appraiser shall deliver their determinations of the Extension Term Base Rent to the Third Appraiser within five (5) days of the appointment of the Third Appraiser and the Third Appraiser shall render his or her decision within ten (10) days after receipt of both of the other two determinations of the Extension Term Base Rent. The Third Appraiser's decision shall be binding on both Landlord and Tenant. Each party shall bear the cost of its own appraiser and the one-half of the cost of the Third Appraiser shall be paid by each party.

1.3 Appurtenant Rights.

(a) **Common Areas.** Subject to the terms of this Lease and the Rules and Regulations (hereinafter defined), Tenant shall have, as appurtenant to the Premises, rights to use in common with others entitled thereto, the following areas (such areas are hereinafter referred to as the "**Common Areas**"): (i) the common loading docks, hallways, lobby, and elevator of the Building serving the Premises, (ii) the common lavatories located on the floor(s) on which the Premises are located, (iii) common walkways and driveways necessary for access to the Building, (iv) the Parking Areas and (v) other areas and facilities designated by Landlord from time to time for the common use of tenants of the Building and others entitled thereto; and no other appurtenant rights or easements.

(b) **Parking.** During the Term, Landlord shall, subject to the terms hereof, make available up to sixty-four (64) unreserved parking spaces in the aggregate for Tenant's use, eleven (11) of which will be located within the 830 Garage, with the remaining fifty-three (53) located within the 828 Garage and the surface parking areas serving the Building. The parking spaces in the parking areas allocated to Tenant, as modified pursuant to this Lease or as otherwise permitted by Landlord, are hereinafter referred to as the "**Parking Spaces**." Tenant shall have no right to hypothecate or encumber the Parking Spaces, and shall not sublet, assign, or otherwise transfer the Parking Spaces other than to employees of Tenant occupying the Premises or to a Successor (hereinafter defined), an Affiliated Entity (hereinafter defined) or a transferee pursuant to an approved Transfer under **Section 13** of this Lease. Subject to Landlord's right to reserve parking for other tenants of the Building, said Parking Spaces will be on an unassigned, non-reserved basis, and shall be subject to such reasonable rules and regulations as may be in effect for the use of the parking areas from time to time. If Landlord provides reserved parking to any other tenant of the Building, such that Tenant's rights under this Section 1.3(b) are materially and adversely affected by the location and amount of such reserved parking spaces, Landlord shall provide Tenant with a reasonable number of reserved parking spaces in a mutually agreeable location. In addition, Landlord may, at its election, implement valet and tandem parking in order to accommodate the parking needs of the Property from time to time. Tenant hereby acknowledges that Landlord has granted to an adjacent property owner the right to park up to 120 vehicles in the parking facilities serving the Building, for overflow parking, in the location shown on the plan attached hereto as Exhibit 11-1, on a daily basis between the hours of 7 p.m. to 7 a.m. (the "**Off Business Hours Parking Hours**"). The foregoing acknowledgement shall not affect Tenant's rights under this **Section 1.3(b)** with respect to any time period other than during the Off Business Hours Parking Hours.

(c) **Cafeterias.** Subject to the provisions of this Section 1.3(c), Tenant, its employees, contractors, and visitors shall have the right to use in common with others entitled thereto: (i) the existing cafeteria currently being operated in the Building ("**830 Cafeteria**"), and the cafeteria in the 828 Building (the "**828 Cafeteria**"), for so long as Landlord or any third party operator shall operate each Cafeteria (the 828 Cafeteria and the 830 Cafeteria are referred to collectively herein as the "**Cafeterias**", so long as Tenant has the right the right to use them). Notwithstanding the foregoing, the 828 Cafeteria may not be in operation prior to the time when the 828 Building has achieved occupancy of at least thirty-five (35%) percent of the rentable area of the 828 Building. Subject to the provisions of Section 5.2, any amounts paid by Landlord to such third party operator(s) on account of its operation of the Cafeteria(s) in excess of the net revenues derived from the operation of the Cafeteria(s) shall be included in Operating Costs, as shall all of Landlord's costs of cleaning, maintaining, and repairing the Cafeteria(s) (collectively referred to herein as ("**Cafeteria Costs**"). If for any reason Landlord or the owner of the 828 Building decides to cease operating a Cafeteria, then within thirty (30) days after delivery of written notice from Landlord to Tenant of Landlord's decision, then Tenant shall no longer have the right to use such Cafeteria and that portion of the Building shall be removed from the calculation of Common Areas and Tenant's Proportionate Shares shall be adjusted accordingly.

(d) **Shower and Changing Rooms.** During the Term, Tenant, its employees, contractors, and visitors shall have the right to use in common with others entitled thereto, at no additional charge, the shower and changing rooms located in the 828 Building (the "**Shower and Changing Rooms**"), for so long as Landlord or any third party operator shall operate the Shower

and Changing Rooms. Landlord shall, at its expense, install and maintain card readers at appropriate access points to the Shower and Changing Rooms and issue identification cards to authorized users. Any amounts paid by Landlord on account of its operation of the Shower and Changing Rooms (including, without limitation, Landlord's costs of cleaning, maintaining, and repairing the Shower and Changing Rooms) shall be included in Operating Costs. If for any reason Landlord decides to cease operating the Shower and Changing Rooms, then within thirty (30) days after delivery of written notice from Landlord to Tenant of Landlord's decision, then Tenant shall no longer have the right to use the Shower and Changing Rooms and that portion of the Building shall be removed from the calculation of Common Areas and Tenant's Proportionate Shares shall be adjusted accordingly.

(e) Rooftop Premises. During the Term, Tenant shall have the right to use a portion of the rooftop of the Building designated by Landlord (the "**Rooftop Premises**") for the purpose of maintaining an existing dedicated air-handler unit exclusively serving the Premises (which air handler Landlord is delivering in its "AS IS," "WHERE IS" condition and with all faults on the Execution Date), as well as for the installation of certain supplemental HVAC equipment and a cell phone repeater, to be approved by Landlord and purchased and installed by Tenant in accordance with the terms of this Lease (any equipment existing as of the Execution Date or subsequently installed within the Rooftop Premises, as the same may be modified, altered or replaced during the Term, is collectively referred to herein as "**Tenant's Rooftop Equipment**"). Landlord's approval of such equipment shall not be unreasonably withheld, conditioned or delayed provided Tenant demonstrates to Landlord's reasonable satisfaction that the proposed equipment (i) does not interfere with any base Building equipment operated by Landlord on the roof; (ii) will not affect the structural integrity of the Building or impact the roof or the roof membrane in any manner; (iii) shall be adequately screened so as to minimize the visibility of such equipment; and (iv) shall be adequately sound-proofed to meet all requirements of Legal Requirements and Landlord's specified maximum decibel levels for equipment operations. Tenant shall not install or operate Tenant's Rooftop Equipment until Tenant has obtained and submitted to Landlord copies of all required governmental permits, licenses, and authorizations necessary for the installation and operation thereof. In addition, Tenant shall comply with all reasonable construction rules and regulations promulgated by Landlord in connection with the installation, maintenance and operation of Tenant's Rooftop Equipment. Landlord shall have no obligation to provide any services including, without limitation, electric current or gas service, to the Rooftop Premises or to Tenant's Rooftop Equipment; provided, however, that the existing air handler is currently connected to electrical service. Tenant shall be responsible for the cost of repairing and maintaining Tenant's Rooftop Equipment and the cost of repairing any damage to the Building, or the cost of any necessary improvements to the Building, caused by or as a result of the installation, replacement and/or removal of Tenant's Rooftop Equipment. Landlord makes no warranties or representations to Tenant as to the suitability of the Rooftop Premises for the installation and operation of Tenant's Rooftop Equipment. In the event that at any time during the Term, Landlord determines, in its sole but bona fide business judgment, that the operation and/or periodic testing of Tenant's Rooftop Equipment interferes with the operation of the Building or the business operations of any of the occupants of the Building, then Tenant shall, upon notice from Landlord, cause all further testing of Tenant's Rooftop Equipment to occur after normal business hours (hereinafter defined). Tenant shall have no right of access to the roof of the Building unless Tenant has given Landlord reasonable advance notice and unless Tenant's representatives are accompanied by a representative of

Landlord. At the expiration or prior termination of this Lease, Tenant shall remove from the roof of the Building any of the Tenant's Rooftop Equipment installed by or on behalf of Tenant, and Tenant shall be responsible for the cost of repairing any damage to the roof of the Building caused by the installation or removal of such Tenant's Rooftop Equipment. Tenant shall have no right to transfer or assign its rights hereunder, other than to a permitted assignee or sublessee of all or substantially all of the Premises. To the maximum extent permitted by law, the Tenant's Rooftop Equipment and all other related installations shall be at the sole risk of Tenant, and except to the extent caused by negligent acts or willful misconduct by Landlord or its agents, employees or contractors, Landlord shall have no liability to Tenant in the event that the Tenant's Rooftop Equipment or any related installations are damaged for any reason. In addition to the indemnification provisions set forth in this Lease (which indemnification provisions shall be applicable to the use by Tenant of the Tenant's Rooftop Equipment) Tenant shall, to the maximum extent permitted by law, indemnify, defend, and hold Landlord harmless from any and all claims, losses, demands, actions or causes of actions suffered by any person, firm, corporation, or other entity to the extent that the same arises out of or results from Tenant's use of the Tenant's Rooftop Equipment and the rights granted to Tenant hereunder.

1.4 Tenant's Access. From and after the Term Commencement Date and until the end of the Term, Tenant shall have access to the Premises twenty-four (24) hours a day, seven (7) days a week, subject to Landlord's reasonable Building security requirements, causes beyond Landlord's reasonable control, Legal Requirements, the Rules and Regulations, the terms of this Lease, Force Majeure (hereinafter defined) and matters of record.

1.5 No recording // Notice of Lease. Neither party shall record this Lease. Tenant shall not record a memorandum of this Lease and/or a notice of this Lease. Notwithstanding the foregoing, if the Initial Term plus any Extension Term(s) exceed in the aggregate seven (7) years, Landlord agrees to join in the execution, in recordable form, of a statutory notice of lease and/or written declaration in which shall be stated the Term Commencement Date, the Rent Commencement Date, the number and length of the Extension Term(s) and the Expiration Date, which notice of lease may be recorded by Tenant with the Middlesex South Registry of Deeds and/or filed with the Middlesex South Registry District of the Land Court, as appropriate (alternatively and collectively, the "Registry") at Tenant's sole cost and expense. If a notice of lease was previously recorded with the Registry, upon the expiration or earlier termination of this Lease, Landlord shall deliver to Tenant a notice of termination of lease and Tenant shall promptly execute, acknowledge, and deliver the same (together with any other instrument(s) that may be necessary in order to record and/or file same with the Registry) to Landlord for Landlord's execution and recordation with the Registry, which obligation shall survive the expiration or earlier termination of the Lease.

1.6 Exclusions. The following are expressly excluded from the Premises and reserved to Landlord: all the perimeter walls of the Premises (except the inner surfaces thereof), the Common Areas, and any space in or adjacent to the Premises used for shafts, stacks, pipes, conduits, wires and appurtenant fixtures, fan rooms, ducts, electric or other utilities, sinks or other Building facilities, and the use of all of the foregoing, except as expressly permitted pursuant to Section 1.3(a) above.

1.7 Acid Neutralization Tank.

(a) The provisions of this Section 1.7 are subject to Section 10.1 below:

(b) There currently exists an acid neutralization tank (the "**Acid Neutralization Tank**") that is located in the PH System Premises. Tenant acknowledges and agrees that Tenant is leasing the Acid Neutralization Tank in its "AS IS," "WHERE IS" condition and with all faults on the Execution Date, without representations or warranties, express or implied, in fact or by law, of any kind, or recourse to Landlord. Tenant shall have the exclusive right, throughout the Term of the Lease, as the same may be extended, to use the Acid Neutralization Tank in accordance with Legal Requirements. Tenant shall obtain, and maintain all governmental permits and approvals necessary for the operation and maintenance of the Acid Neutralization Tank. Tenant shall be responsible for all costs, charges and expenses incurred from time to time in connection with or arising out of the operation, use, maintenance, repair or refurbishment of the Acid Neutralization Tank, including all clean-up costs relating to the Acid Neutralization Tank (collectively, "**Tank Costs**"), except, subject to Section 14.5, to the extent such costs are caused by the negligence or willful misconduct of any of the Landlord Parties (as hereinafter defined).

(c) Tenant shall be responsible for the operation, cleanliness, maintenance and replacement of the Acid Neutralization Tank and the appurtenances, all of which shall be the personal property of Tenant. Such maintenance and operation shall be performed in a manner to avoid any unreasonable interference with any other tenants or Landlord. Tenant shall take the Acid Neutralization Tank "as is" in the condition in which the Acid Neutralization Tank Premises is in as of the Commencement Date, without any obligation on the part of Landlord to prepare or construct the PH System Premises for Tenant's use or occupancy. Without limiting the foregoing, Landlord makes no warranties or representations to Tenant as to the suitability of the Acid Neutralization and the PH System Premises for the operation of the Acid Neutralization Tank. Tenant shall have no right to make any changes, alterations, additions, decorations or other improvements to the PH System Premises without Landlord's prior written consent which shall not be unreasonably withheld, conditioned or delayed. Tenant agrees to maintain the Acid Neutralization Tank in good condition and repair. At the expiration or earlier termination of the Term, Tenant shall decommission the Acid Neutralization Tank in accordance with applicable Legal Requirements and shall provide any associated documentation of decommissioning to Landlord upon request therefor. Landlord shall have no obligation to provide any services, including, without limitation, electric current, to the Acid Neutralization Tank.

2. RIGHTS RESERVED TO LANDLORD

2.1 Additions and Alterations. Landlord reserves the right, at any time and from time to time, to make such changes, alterations, additions, improvements, repairs or replacements in or to the Property (including the Premises but, with respect to the Premises, only for purposes of repairs, maintenance, replacements and the exercise of any other rights expressly reserved to Landlord herein) and the fixtures and equipment therein, as well as in or to the street entrances and/or the Common Areas, as it may deem necessary or desirable, provided, however, that there be no material obstruction of access to, or material interference with the use and enjoyment of, the Premises by Tenant. Subject to the foregoing, Landlord expressly reserves the right to temporarily close all, or any portion, of the Common Areas for the purpose of making repairs or changes thereto.

2.2 Additions to the Property.

(a) Landlord may at any time or from time to time (i) construct additional improvements and related site improvements (collectively, "**Future Development**") in all or any part of the Property, (ii) change the location or arrangement of any improvement outside the Building in or on the Property or all or any part of the Common Areas, or add or deduct any land to or from the Property; provided that there shall be no material increase in Tenant's obligations or material interference with Tenant's rights under this Lease in connection with the exercise of the foregoing reserved rights.

(b) In case any excavation shall be made for building or improvements or for any other purpose upon the land adjacent to or near the Premises, Tenant will afford without charge to Landlord, or the person or persons, firms or corporations causing or making such excavation, license to enter upon the Premises for the purpose of doing such work as Landlord or such person or persons, firms or corporation shall deem to be necessary to preserve the walls or structures of the Building from injury, and to protect the Building by proper securing of foundations.

2.3 Name and Address of Building. Landlord reserves the right at any time and from time to time to change the name or address of the Building and/or the Property, provided Landlord gives Tenant at least three (3) months' prior written notice thereof.

2.4 Landlord's Access. Subject to the terms hereof, Tenant shall (a) upon reasonable advance notice, which may be oral (except that no notice shall be required in emergency situations), permit Landlord and any holder of a Mortgage (hereinafter defined) (each such holder, a "**Mortgagee**"), and the agents, representatives, employees and contractors of each of them, to have reasonable access to the Premises at all reasonable hours for the purposes of inspection, making repairs, replacements or improvements in or to the Premises or the Building or equipment therein (including, without limitation, sanitary, electrical, heating, air conditioning or other systems), complying with all applicable laws, ordinances, rules, regulations, statutes, by-laws, court decisions and orders and requirements of all public authorities (collectively, "**Legal Requirements**"), or exercising any right reserved to Landlord under this Lease (including without limitation the right to take upon or through, or to keep and store within the Premises all necessary materials, tools and equipment); (b) permit Landlord and its agents and employees, at reasonable times, upon reasonable advance notice, to show the Premises during normal business hours (i.e. Monday – Friday 8 A.M.—6 P.M., Saturday 8 A.M. – 1 P.M., excluding holidays) to any prospective Mortgagee or purchaser of the Building and/or the Property or of the interest of Landlord therein, and, during the last twelve (12) months of the Term or at any time after the occurrence of an Event of Default, prospective tenants; and (c) upon reasonable prior written notice from Landlord, permit Landlord and its agents, at Landlord's sole cost and expense, to perform environmental audits, environmental site investigations and environmental site assessments ("**Site Assessments**") in, on, under and at the Premises and the Land, it being understood that Landlord shall repair any damage arising as a result of the Site Assessments, and such Site Assessments may include both above and below the ground testing and such other tests as may be necessary or appropriate to conduct the Site Assessments. All such access by Landlord or any Mortgagee to the laboratory portion of the Premises shall be subject to Tenant's reasonable security measures. In addition, to the extent that it is necessary to enter the Premises

in order to access any area that serves any portion of the Building outside the Premises, then Tenant shall, upon as much advance notice as is practical under the circumstances, and in any event at least twenty-four (24) hours' prior written notice (except that no notice shall be required in emergency situations), permit contractors engaged by other occupants of the Building to pass through the Premises in order to access such areas but only if accompanied by a representative of Landlord. The parties agree and acknowledge that, despite reasonable and customary precautions (which Landlord agrees it shall exercise), any property or equipment in the Premises of a delicate, fragile or vulnerable nature may nevertheless be damaged in the course of performing Landlord's obligations. Accordingly, Tenant shall take reasonable protective precautions with unusually fragile, vulnerable or sensitive property and equipment. In connection with any non-emergency access under this Section 2.4, Tenant shall be entitled to have a representative present for any access by Landlord or any Landlord Parties.

2.5 Pipes, Ducts and Conduits. Tenant shall permit Landlord to erect, use, maintain and relocate pipes, ducts and conduits in and through the Premises, provided the same do not materially reduce the floor area or materially adversely affect the appearance thereof.

2.6 Minimize Interference. Except in the event of an emergency, Landlord shall use commercially reasonable efforts to minimize any interference with Tenant's business operations and use and occupancy of the Premises in connection with the exercise any of the foregoing rights under this **Section 2**.

3. CONDITION OF PREMISES.

3.1 Condition of Premises. Landlord shall deliver the Premises to Tenant in vacant, broom-clean condition, and Tenant acknowledges and agrees that Tenant is leasing the Premises in their "AS IS," "WHERE IS" condition and with all faults on the Execution Date, without representations or warranties, express or implied, in fact or by law, of any kind (except as otherwise set forth in this Lease), and without recourse to Landlord. As of the Term Commencement Date all base Building systems serving the Premises shall be in good working order and condition. To Landlord's knowledge, there are no outstanding notices of any violation of applicable Legal Requirements with respect to the Premises. Landlord has previously provided Tenant with evidence that the Premises have been decommissioned in accordance with applicable Legal Requirements. The foregoing shall not limit or detract from Landlord's repair and maintenance obligations set forth herein.

4. USE OF PREMISES

4.1 Permitted Uses. During the Term, Tenant shall use the Premises only for the Permitted Uses and for no other purposes. Service and utility areas (whether or not a part of the Premises) shall be used only for the particular purpose for which they are designed. Tenant shall keep the Premises equipped with appropriate safety appliances to the extent required by applicable laws or insurance requirements.

4.2 Prohibited Uses.

(a) Notwithstanding any other provision of this Lease, Tenant shall not use the Premises or the Building, or any part thereof, or suffer or permit the use or occupancy of the Premises or the Building or any part thereof by any of the Tenant Parties (i) in a manner which would violate any of the covenants, agreements, terms, provisions and conditions of this Lease or otherwise applicable to or binding upon the Premises; (ii) for any unlawful purposes or in any unlawful manner; (iii) which, in the reasonable judgment of Landlord (taking into account the use of the Building as a combination laboratory, research and development and office building and the Permitted Uses) shall (a) impair the appearance or reputation of the Building; (b) impair, interfere with or otherwise diminish the quality of any of the Building services or the proper and economic heating, cleaning, ventilating, air conditioning or other servicing of the Building or Premises, or the use or occupancy of any of the Common Areas; (c) occasion discomfort, inconvenience or annoyance in any material respect (and Tenant shall not install or use any electrical or other equipment of any kind which, in the reasonable judgment of Landlord, will cause any such impairment, interference, discomfort, inconvenience, annoyance or injury), or cause any injury or damage to any occupants of the Premises or other tenants or occupants of the Building or their property; or (d) cause harmful air emissions, laboratory odors or noises or any unusual or other objectionable odors, noises or emissions to emanate from the Premises; (iv) in a manner which is inconsistent with the operation and/or maintenance of the Building as a first-class combination office, research, development and laboratory facility; (v) [intentionally deleted]; or (vi) in a manner which shall increase such insurance rates on the Building or on property located therein over that applicable when Tenant first took occupancy of the Premises hereunder, unless Tenant otherwise agrees in writing to be responsible for the increased cost of such insurance rates. Notwithstanding the foregoing, Landlord agrees that Tenant's use of the Premises for the Permitted Use (as opposed to the particular manner of Tenant's use of the Premises) shall not, in and of itself, be deemed to breach the provisions of this Section 4.2.

(b) With respect to the use and occupancy of the Premises and the Common Areas, Tenant will not: (i) place or maintain any signage (except as set forth in **Section 12.2** below), trash, refuse or other articles in any vestibule or entry of the Premises, on the footwalks or corridors adjacent thereto or elsewhere on the exterior of the Premises, nor obstruct any driveway, corridor, footwalk, parking area, mall or any other Common Areas; (ii) permit undue accumulations of or burn garbage, trash, rubbish or other refuse within or without the Premises; (ii) permit the parking of vehicles so as to interfere with (x) the ability of others, entitled thereto, to park in the common parking areas, or (y) the use of any driveway, corridor, footwalk, parking area, or other Common Areas; (iv) receive or ship articles of any kind outside of those areas reasonably designated by Landlord; (v) conduct or permit to be conducted any auction, going out of business sale, bankruptcy sale (unless directed by court order), or other similar type sale in or connected with the Premises; (vi) use the name of Landlord, or any of Landlord's affiliates in any publicity, promotion, trailer, press release, advertising, printed, or display materials without Landlord's prior written consent; or (vii) except in connection with Alterations (hereinafter defined) approved by Landlord, cause or permit any hole to be drilled or made in any part of the Building.

4.3 Intentionally Omitted.

4.4 MWRA Permit. Tenant shall establish and maintain with respect to its use of wastewater facilities exclusively serving the Leased Premises, an MWRA waste water discharge program administered by a licensed, qualified individual (which individual may be (i) a third party contractor/consultant approved by Landlord, which approval shall not be

unreasonably withheld, or (ii) an employee of Tenant or Tenant's affiliate) in accordance with the requirements of the Massachusetts Water Resources Authority ("**MWRA**") and any other applicable governmental authority. Tenant shall be solely responsible for all costs incurred in connection with such MWRA waste water discharge, and Tenant shall provide Landlord with such documentation as Landlord may reasonably require evidencing Tenant's compliance with the requirements of (a) the MWRA and any other applicable governmental authority with respect to such chemical safety program and (b) this Section. Tenant shall obtain and maintain during the Term (i) any permit required by the MWRA ("**MWRA Permit**") and (ii) a wastewater treatment operator license from the Commonwealth of Massachusetts with respect to Tenant's use of any acid neutralization tank exclusively serving the Leased Premises in the Building. Tenant shall not introduce anything into the acid neutralization tank serving the Premises, if any (x) in violation of the terms of the MWRA Permit, (y) in violation of Legal Requirements or (z) that would interfere with the proper functioning of any such acid neutralization tank.

4.5 Parking and Traffic Demand Management Plan. The Property is subject to a Parking and Traffic Demand Management Plan with the City of Waltham, a copy of which is attached hereto as **Exhibit 11** (the "**PTDM**"). Tenant agrees, at its sole expense, to comply with the requirements of the PTDM, only insofar as they apply to the Premises and/or Tenant's use and occupancy thereof. In the event that the PTDM is ever modified, supplemented, amended or replaced ("**PTDM Modifications**"), Tenant agrees, at its sole expense, to comply with the requirements of the PTDM Modifications, only insofar as they apply to the Premises and/or Tenant's use and occupancy thereof.

5. RENT; ADDITIONAL RENT

5.1 Base Rent. During the Term, Tenant shall pay to Landlord Base Rent in equal monthly installments, in advance and without demand on the first day of each month for and with respect to such month. Unless otherwise expressly provided herein, the payment of Base Rent, additional rent and other charges reserved and covenanted to be paid under this Lease with respect to the Premises (collectively, "**Rent**") shall commence on the Rent Commencement Date, and shall be prorated for any partial months. Rent shall be payable to Landlord or, if Landlord shall so direct in writing, to Landlord's agent or nominee, in lawful money of the United States which shall be legal tender for payment of all debts and dues, public and private, at the time of payment.

5.2 Operating Costs.

(a) "**Operating Costs**" shall mean all costs incurred and expenditures of whatever nature made by Landlord in the operation, management, repair, replacement, maintenance and insurance (including, without limitation, environmental liability insurance and property insurance on Landlord-supplied leasehold improvements for tenants, but not property insurance on tenants' equipment) of the Property or allocated to the Property, including without limitation all costs of labor (wages, salaries, fringe benefits, etc.) up to and including the Property manager, however denominated, any costs for utilities supplied to exterior areas and the Common Areas, and any costs for repair and replacements, cleaning and maintenance of exterior areas and the Common Areas (including, without limitation, the Building's share of Common Expenses under the Condominium Documents and costs of maintaining and operating the

exterior common areas and facilities of the Waltham Woods/Reservoir Woods Park allocable to the Building), related equipment, facilities and appurtenances and HVAC equipment, security services, a management fee paid to Landlord's property manager in an amount not to exceed four percent (4%) of gross revenues of the Building, the costs, including, without limitation, a commercially reasonable rental factor, of Landlord's management office for the Property, which management office may be located outside the Property and which may serve other properties in addition to the Property (in which event such costs shall be equitably allocated among the properties served by such office), the cost of operating any amenities in the Property available to all tenants of the Property and any subsidy provided by Landlord for or with respect to any such amenity, all costs of applying and reporting for the Building or any part thereof to seek or maintain certification under the U.S. EPA's Energy Star® rating system, the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) rating system or a similar system or standard and Permitted Capital Expenditures subject to Section 5.2(b). For costs and expenditures made by Landlord in connection with the operation, management, repair, replacement, maintenance and insurance of the Building as a whole, Landlord shall make a reasonable allocation thereof between the retail and non-retail portions of the Building, if applicable. Operating Costs shall not include Excluded Costs (hereinafter defined).

(b) **Capital Expenditures.** Permitted Capital Expenditures (as hereinafter defined) shall only be included in Operating Costs for each fiscal year during the Term to the extent of the Annual Charge-Off, as hereinafter defined, for such fiscal year with respect to such capital expenditure. Operating Costs shall not include any Annual Charge-Off with respect to Excluded Costs, as hereinafter defined. For the purposes hereof:

(i) "**Annual Charge-Off**" means the annual amount of principal and interest payments which would be required to repay a loan in equal monthly installments over the Useful Life, as defined below, of the capital item in question on a direct reduction basis at an annual interest rate equal to the Capital Interest Rate, as defined below, where the initial principal balance is the cost of the capital item in question.

(ii) "**Useful Life**" shall be reasonably determined by Landlord in accordance with generally accepted accounting principles and practices in effect at the time of acquisition of the capital item.

(iii) "**Capital Interest Rate**" shall be defined as an annual rate of either one percentage point over the AA bond rate (Standard & Poor's corporate composite or, if unavailable, its equivalent) as reported in the financial press at the time the capital expenditure is made or, if the capital item is acquired through third-party financing, then the actual (including fluctuating) rate paid by Landlord in financing the acquisition of such capital item.

(c) "**Excluded Costs**" shall be defined as (i) any fixed or percentage ground rent payable to any ground lessor, or any mortgage charges (including interest, principal, points and fees); (ii) brokerage commission and legal fees incurred in negotiating and enforcing tenant leases, or any other obligations of tenants; (iii) salaries of executives and owners not directly employed in the management/operation of the Property; (iv) the cost of work done or services provided by Landlord for a particular tenant; (v) the cost of items which, by generally accepted

accounting principles, would be capitalized on the books of Landlord or are otherwise not properly chargeable against income, except to the extent such capital item is (A) required by any Legal Requirements enacted after the date of this Lease, (B) reasonably projected to reduce Operating Costs, or (C) reasonably expected to improve the management and/or operation of the Building (collectively, "**Permitted Capital Expenditures**"); (vi) any contributions made by Landlord to any tenant of the Property in connection with the build-out of its premises; (vii) franchise or income taxes imposed on Landlord; (viii) costs paid directly by individual tenants to suppliers, including tenant electricity, telephone and other utility costs; (ix) increases in premiums for insurance when such increase is caused by the use of the Building by Landlord or any other tenant of the Building; (x) depreciation of the Building; (xi) costs relating to maintaining Landlord's existence as a corporation, partnership or other entity or related solely to the ownership (as opposed to the use, occupancy, operation, maintenance, repair, or management) of the Property; (xii) advertising and other fees and costs incurred in procuring tenants; (xiii) the cost of any items for which Landlord is reimbursed by insurance, condemnation awards, refund, rebate or otherwise, and any expenses for repairs or maintenance to the extent covered by warranties, guaranties and service contracts; (xiv) costs incurred in connection with any disputes between Landlord and its employees, between Landlord and Building management, or between Landlord and other tenants or occupants; (xv) depreciation; (xvi) any amount paid by Landlord or Landlord's managing agent to a subsidiary or affiliate of Landlord or Landlord's managing agent, or to any party as a result of a non-competitive selection process, for management or other services to the Building, or for supplies or other materials, to the extent the cost of such services, supplies, or materials exceed the cost that would have been paid had the services, supplies or materials been provided by parties unaffiliated with the Landlord or Landlord's managing agent on a competitive basis and are consistent with those incurred by similar buildings in the same metropolitan area in which the Building is located; (xvii) fines or penalties which Landlord is obligated to pay by reason of Landlord's violation of applicable law or its lease obligations; (xviii) the cost of remediating Hazardous Materials from the Building or the Campus other than Included Hazardous Materials, as hereinafter defined; "**Included Hazardous Materials**" shall be defined as all Hazardous Materials, other than: (A) any material or substance located in the Building or the Property on the Execution Date which, as of the Execution Date, is not considered under then existing Legal Requirements, to be Hazardous Material, but which is subsequently determined to be a Hazardous Material by reason of a Legal Requirement which first becomes effective after the Execution Date of this Lease, and (B) any material or substance that is introduced to the Building or the Property after the Execution Date which, when introduced to the Building or the Property, is not then (i.e., at the time of introduction to the Building or the Property) considered, as a matter of any Legal Requirement, to be a Hazardous Material, but which is subsequently determined to be a Hazardous Material by reason of Legal Requirements which first becomes effective after the date of introduction of such material or substance to the Building or Property; (xx) repair, for sculptures, paintings, fountains or other objects of art or the display of such item.

(d) **Payment of Operating Costs.** Commencing as of the Rent Commencement Date and continuing thereafter throughout the remainder of the Term of the Lease, Tenant shall pay to Landlord, as additional rent, Tenant's Share of Operating Costs. Landlord may make a good faith estimate of Tenant's Share of Operating Costs for any fiscal year or part thereof during the term, and Tenant shall pay to Landlord, on the Rent Commencement Date and on the first (1st) day of each calendar month thereafter, an amount

equal to Tenant's Share of Operating Costs for such fiscal year and/or part thereof divided by the number of months therein. Landlord may estimate and re-estimate Tenant's Share of Operating Costs and deliver a copy of the estimate or re-estimate to Tenant. Thereafter, the monthly installments of Tenant's Share of Operating Costs shall be appropriately adjusted in accordance with the estimations so that, by the end of the fiscal year in question, Tenant shall have paid all of Tenant's Share of Operating Costs as estimated by Landlord. Any amounts paid based on such an estimate shall be subject to adjustment as herein provided when actual Operating Costs are available for each fiscal year. As of the Execution Date, the Property's fiscal year is January 1 – December 31.

(e) Annual Reconciliation. Landlord shall, within one hundred twenty (120) days after the end of each fiscal year, deliver to Tenant a reasonably detailed statement of the actual amount of Operating Costs for such fiscal year ("**Year End Statement**"). Failure of Landlord to provide the Year End Statement within the time prescribed shall not relieve Tenant from its obligations hereunder. If the total of such monthly remittances on account of any fiscal year is greater than Tenant's Share of Operating Costs actually incurred for such fiscal year, then, provided no monetary Event of Default, nor any event which, with the passage of time and/or the giving of notice would constitute a monetary Event of Default, then exists, Tenant may credit the difference against the next installment of additional rent on account of Operating Costs due hereunder, except that if such difference is determined after the end of the Term, Landlord shall refund such difference to Tenant within thirty (30) days after such determination to the extent that such difference exceeds any amounts then due from Tenant to Landlord. If the total of such remittances is less than Tenant's Share of Operating Costs actually incurred for such fiscal year, Tenant shall pay the difference to Landlord, as additional rent hereunder, within ten (10) days of Tenant's receipt of an invoice therefor. Landlord's estimate of Operating Costs for the next fiscal year shall be based upon the Operating Costs actually incurred for the prior fiscal year as reflected in the Year-End Statement plus a reasonable adjustment based upon estimated increases in Operating Costs. The provisions of this Section 5.2(d) shall survive the expiration or earlier termination of this Lease.

(f) Part Years. If the Rent Commencement Date or the Expiration Date occurs in the middle of a fiscal year, Tenant shall be liable for only that portion of the Operating Costs with respect to such fiscal year within the Term.

(g) Gross-Up. If, during any fiscal year, less than 95% of the Building is occupied by tenants or if Landlord was not supplying all tenants with the services being supplied to Tenant hereunder, actual Operating Costs incurred shall be reasonably extrapolated by Landlord on an item-by-item basis to the reasonable Operating Costs that would have been incurred if the Building was 95% occupied and such services were being supplied to all tenants, and such extrapolated Operating Costs shall, for all purposes hereof, be deemed to be the Operating Costs for such fiscal year. This "gross up" treatment shall be applied only with respect to variable Operating Costs arising from services provided to Common Areas or to space in the Building being occupied by tenants (which services are not provided to vacant space or may be provided only to some tenants) in order to allocate equitably such variable Operating Costs to the tenants receiving the benefits thereof.

(h) **Audit Right.** Provided there is no Event of Default, Tenant may, upon at least sixty (60) days' prior written notice, inspect or audit Landlord's records relating to Operating Costs for any periods of time within the previous fiscal year before the audit or inspection. However, no audit or inspection shall extend to periods of time before the Rent Commencement Date. If Tenant fails to object to the calculation of Tenant's Share of Operating Costs on the Year- End Statement within ninety (90) days after such statement has been delivered to Tenant and/or fails to complete any such audit or inspection within one-hundred twenty (120) days after receipt of the Year End Statement, then Tenant shall be deemed to have waived its right to object to the calculation of Tenant's Share of Operating Costs for the year in question and the calculation thereof as set forth on such statement shall be final. Tenant's audit or inspection shall be conducted only at Landlord's offices or the offices of Landlord's property manager during business hours reasonably designated by Landlord. Tenant shall pay the cost of such audit or inspection. Tenant may not conduct an inspection or have an audit performed more than once during any fiscal year. If, after such inspection or audit has been performed, it is finally determined or mutually agreed that there has been an underpayment by Tenant, then Tenant shall pay to Landlord, as Additional Rent hereunder, any underpayment of any such costs, as the case may be, within thirty (30) days after receipt of an invoice therefor. In the event the Landlord disagrees in good faith with the results of the audit, Landlord shall notify Tenant within fifteen (15) days of the audit, and Landlord and Tenant shall mutually select a neutral third party to evaluate the charges for Tenant's Share of Operating Costs, and the results of such third party's evaluation shall bind Landlord and Tenant and shall be final. Costs charged by any such third party shall be shared equally by Landlord and Tenant. If, after such inspection or audit has been performed, it is finally determined or mutually agreed that there has been overpayment by Tenant, then Landlord shall credit such overpayment against the next installment(s) of Base Rent thereafter payable by Tenant, except that if such overpayment is determined after the termination or expiration of the Term, Landlord shall promptly refund to Tenant the amount of such overpayment less any amounts then due from Tenant to Landlord. Tenant shall maintain the results of any such audit or inspection confidential and shall not be permitted to use any third party to perform such audit or inspection, other than an independent firm of certified public accountants (A) reasonably acceptable to Landlord, (B) which is not compensated on a contingency fee basis or in any other manner which is dependent upon the results of such audit or inspection, and (C) which executes Landlord's standard confidentiality agreement whereby it shall agree to maintain the results of such audit or inspection confidential. All expenses of such audit shall be borne by Tenant unless such audit shall disclose an overstatement of Tenant's share of Operating Costs of five percent (5%) or more, in which case all reasonable expenses of such audit shall be borne by Landlord. The provisions of this Section 5.2(h) shall survive the expiration or earlier termination of this Lease.

5.3 Taxes.

(a) "**Taxes**" shall mean the real estate taxes and other taxes, levies and assessments imposed upon the Building and the Land, and upon any personal property of Landlord used in the operation thereof, or on Landlord's interest therein or such personal property; charges, fees and assessments for transit, housing, police, fire or other services or purported benefits to the Building and the Land (including without limitation any community preservation assessments); service or user payments in lieu of taxes; and any and all other taxes, levies, betterments, assessments and charges arising from the ownership, leasing, operation, use

or occupancy of the Building and the Land or based upon rentals derived therefrom, which are or shall be imposed by federal, state, county, municipal or other governmental authorities. Notwithstanding anything to the contrary contained in this Lease, in the event that any betterment or special assessment shall be payable in installments, whether or not Landlord elects to pay the same over the longest period permitted, Tenant's payments shall be based on the installments payable with respect to each year during the Term as if Landlord had elected to pay the same over the longest period permitted. From and after substantial completion of any occupiable improvements constructed as part of a Future Development, if such improvements are not separately assessed, Landlord shall reasonably allocate Taxes between the Building and such improvements and the land area associated with the same. Taxes shall not include any interest due to late payment of Taxes by Landlord, or any inheritance, estate, succession, gift, franchise, rental, income or profit tax, capital stock tax, capital levy or excise, or any income taxes arising out of or related to the ownership and operation of the Building and the Land, provided, however, that any of the same and any other tax, excise, fee, levy, charge or assessment, however described, that may in the future be levied or assessed as a substitute for or an addition to, in whole or in part, any tax, levy or assessment which would otherwise constitute Taxes, whether or not now customary or in the contemplation of the parties on the Execution Date of this Lease, shall constitute Taxes, but only to the extent calculated as if the Building and the Land were the only real estate owned by Landlord. "**Taxes**" shall also include reasonable expenses (including without limitation reasonable legal and consultant fees) of tax abatement or other proceedings contesting assessments or levies.

(b) "**Tax Period**" shall be any fiscal/tax period in respect of which Taxes are due and payable to the appropriate governmental taxing authority (i.e., as mandated by the governmental taxing authority), any portion of which period occurs during the Term of this Lease.

(c) Payment of Taxes. Commencing as of the Rent Commencement Date and continuing thereafter throughout the remainder of the Term of the Lease, Tenant shall pay to Landlord, as additional rent, Tenant's Share of Taxes. Landlord may make a good faith estimate of the Taxes to be due by Tenant for any Tax Period or part thereof during the Term, and Tenant shall pay to Landlord, on the Rent Commencement Date and on the first (1st) day of each calendar month thereafter, an amount equal to Tenant's Share of Taxes for such Tax Period or part thereof divided by the number of months therein. Landlord may estimate and re-estimate Tenant's Share of Taxes and deliver a copy of the estimate or re-estimate to Tenant. Thereafter, the monthly installments of Tenant's Share of Taxes shall be appropriately adjusted in accordance with the estimations so that, by the end of the Tax Period in question, Tenant shall have paid all of Tenant's Share of Taxes as estimated by Landlord. Any amounts paid based on such an estimate shall be subject to adjustment as herein provided when actual Taxes are available for each Tax Period. If the total of such monthly remittances is greater than Tenant's Share of Taxes actually due for such Tax Period, then, provided no monetary Event of Default, nor any event which, with the passage of time and/or the giving of notice would constitute a monetary Event of Default, then exists Tenant may credit the difference against the next installment of additional rent on account of Taxes due hereunder, except that if such difference is determined after the end of the Term, Landlord shall refund such difference to Tenant within thirty (30) days after such determination to the extent that such difference exceeds any amounts then due from Tenant to Landlord. If the total of such remittances is less than Tenant's Share of

Taxes actually due for such Tax Period, Tenant shall pay the difference to Landlord, as additional rent hereunder, within ten (10) days of Tenant's receipt of an invoice therefor. Landlord's estimate for the next Tax Period shall be based upon actual Taxes for the prior Tax Period plus a reasonable adjustment based upon estimated increases in Taxes. The provisions of this **Section 5.3(c)** shall survive the expiration or earlier termination of this Lease.

(d) **Effect of Abatements.** Appropriate credit against Taxes shall be given for any refund obtained by reason of a reduction in any Taxes by the assessors or the administrative, judicial or other governmental agency responsible therefor after deduction of Landlord's expenditures for reasonable legal fees and for other reasonable expenses incurred in obtaining the Tax refund.

(e) **Part Years.** If the Rent Commencement Date or the Expiration Date occurs in the middle of a Tax Period, Tenant shall be liable for only that portion of the Taxes, as the case may be, with respect to such Tax Period within the Term.

5.4 Late Payments.

(a) Any payment of Rent due hereunder not paid when due shall bear interest for each month or fraction thereof from the due date until paid in full at the annual rate of twelve percent (12%), or at any applicable lesser maximum legally permissible rate for debts of this nature (the "**Default Rate**"); provided, however, that the foregoing shall not apply for the first such instance in any given twelve (12) month period that any payment of Rent is not paid when due.

(b) Additionally, if Tenant fails to make any payment within five (5) days after the due date therefor, Landlord may charge Tenant a fee, which shall constitute liquidated damages, equal to three (3%) of any such late payment.

(c) For each Tenant payment check to Landlord that is returned by a bank for any reason, Tenant shall pay a returned check charge equal to the amount as shall be customarily charged by Landlord's bank at the time.

(d) Money paid by Tenant to Landlord shall be applied to Tenant's account in the following order: first, to any unpaid additional rent, including without limitation late charges, returned check charges, legal fees and/or court costs chargeable to Tenant hereunder; and then to unpaid Base Rent.

(e) The parties agree that the late charge referenced in **Section 5.4(b)** represents a fair and reasonable estimate of the costs that Landlord will incur by reason of any late payment by Tenant, and the payment of late charges and interest are distinct and separate in that the payment of interest is to compensate Landlord for the use of Landlord's money by Tenant, while the payment of late charges is to compensate Landlord for Landlord's processing, administrative and other costs incurred by Landlord as a result of Tenant's delinquent payments. Acceptance of a late charge or interest shall not constitute a waiver of Tenant's default with respect to the overdue amount or prevent Landlord from exercising any of the other rights and remedies available to Landlord under this Lease or at law or in equity now or hereafter in effect.

5.5 No Offset; Independent Covenants; Waiver. Rent shall be paid without notice or demand, and without setoff, counterclaim, defense, abatement, suspension, deferment, reduction or deduction, except as expressly provided herein. **TENANT WAIVES ALL RIGHTS (I) TO ANY ABATEMENT, SUSPENSION, DEFERMENT, REDUCTION OR DEDUCTION OF OR FROM RENT, AND (II) TO QUIT, TERMINATE OR SURRENDER THIS LEASE OR THE PREMISES OR ANY PART THEREOF, EXCEPT IN EITHER CASE AS EXPRESSLY PROVIDED HEREIN. TENANT HEREBY ACKNOWLEDGES AND AGREES THAT THE OBLIGATIONS OF TENANT HEREUNDER SHALL BE SEPARATE AND INDEPENDENT COVENANTS AND AGREEMENTS, THAT RENT SHALL CONTINUE TO BE PAYABLE IN ALL EVENTS AND THAT THE OBLIGATIONS OF TENANT HEREUNDER SHALL CONTINUE UNAFFECTED, UNLESS THE REQUIREMENT TO PAY OR PERFORM THE SAME SHALL HAVE BEEN TERMINATED PURSUANT TO AN EXPRESS PROVISION OF THIS LEASE. LANDLORD AND TENANT EACH ACKNOWLEDGES AND AGREES THAT THE INDEPENDENT NATURE OF THE OBLIGATIONS OF TENANT HEREUNDER REPRESENTS FAIR, REASONABLE, AND ACCEPTED COMMERCIAL PRACTICE WITH RESPECT TO THE TYPE OF PROPERTY SUBJECT TO THIS LEASE, AND THAT THIS AGREEMENT IS THE PRODUCT OF FREE AND INFORMED NEGOTIATION DURING WHICH BOTH LANDLORD AND TENANT WERE REPRESENTED BY COUNSEL SKILLED IN NEGOTIATING AND DRAFTING COMMERCIAL LEASES IN MASSACHUSETTS, AND THAT THE ACKNOWLEDGEMENTS AND AGREEMENTS CONTAINED HEREIN ARE MADE WITH FULL KNOWLEDGE OF THE HOLDING IN WESSON V. LEONE ENTERPRISES, INC., 437 MASS. 708 (2002). SUCH ACKNOWLEDGEMENTS, AGREEMENTS AND WAIVERS BY TENANT ARE A MATERIAL INDUCEMENT TO LANDLORD ENTERING INTO THIS LEASE.**

5.6 Survival. Any obligations under this **Section 5** which shall not have been paid at the expiration or earlier termination of the Term shall survive such expiration or earlier termination and shall be paid when and as the amount of same shall be determined and be due.

6. INTENTIONALLY OMITTED.

7. LETTER OF CREDIT

7.1 Amount. Contemporaneously with the execution of this Lease, Tenant shall deliver to Landlord either (i) cash in the amount specified in the Lease Summary Sheet (the "**Cash Security Deposit**"), which shall be held by Landlord in accordance with **Section 7.5** below, or (ii) an irrevocable letter of credit (the "**Letter of Credit**") that shall (a) be in the initial amount of \$595,408.00; (b) be issued on substantially the form attached hereto as **Exhibit 6**; (c) name Landlord as its beneficiary; (d) be drawn on an FDIC insured financial institution reasonably satisfactory to Landlord that both (x) has an office in the greater Boston metropolitan area that will accept presentation of, and pay against, the Letter of Credit and (y) satisfies both the Minimum Rating Agency Threshold and the Minimum Capital Threshold (as those terms are defined below), Landlord hereby approving of Silicon Valley Bank. The "**Minimum Rating Agency Threshold**" shall mean that the issuing bank has outstanding unsecured, uninsured and unguaranteed senior long-term indebtedness that is then rated (without regard to qualification of

such rating by symbols such as “+” or “-” or numerical notation) “Baa” or better by Moody’s Investors Service, Inc. and/or “BBB” or better by Standard & Poor’s Rating Services, or a comparable rating by a comparable national rating agency designated by Landlord in its discretion. The “**Minimum Capital Threshold**” shall mean that the issuing bank has combined capital, surplus and undivided profits of not less than \$10,000,000,000. The Letter of Credit (and any renewals or replacements thereof) shall be for a term of not less than one (1) year. If the issuer of the Letter of Credit gives notice of its election not to renew such Letter of Credit for any additional period, Tenant shall be required to deliver a substitute Letter of Credit satisfying the conditions hereof at least thirty (30) days prior to the expiration of the term of such Letter of Credit. If the issuer of the Letter of Credit fails to satisfy either or both of the Minimum Rating Agency Threshold or the Minimum Capital Threshold, Tenant shall be required to deliver a substitute letter of credit from another issuer reasonably satisfactory to the Landlord and that satisfies both the Minimum Rating Agency Threshold and the Minimum Capital Threshold not later than ten (10) business days after Landlord notifies Tenant of such failure. Tenant agrees that it shall from time to time, as necessary, whether as a result of a draw on the Letter of Credit by Landlord pursuant to the terms hereof or as a result of the expiration of the Letter of Credit then in effect, renew or replace the original and any subsequent Letter of Credit so that a Letter of Credit, in the amount required hereunder, is in effect until a date which is at least sixty (60) days after the Expiration Date. If Tenant fails to furnish such renewal or replacement at least sixty (60) days prior to the stated expiration date of the Letter of Credit then held by Landlord, Landlord may draw upon such Letter of Credit and hold the proceeds thereof (and such proceeds need not be segregated) as a Security Deposit pursuant to the terms of this Article 7. Any renewal or replacement of the original or any subsequent Letter of Credit shall meet the requirements for the original Letter of Credit as set forth above, except that such replacement or renewal shall be issued by a national bank reasonably satisfactory to Landlord at the time of the issuance thereof.

7.2 Application of Proceeds of Letter of Credit. Upon an Event of Default, or if any proceeding shall be instituted by or against Tenant pursuant to any of the provisions of any Act of Congress or State law relating to bankruptcy, reorganizations, arrangements, compositions or other relief from creditors (and, in the case of any proceeding instituted against it, if Tenant shall fail to have such proceedings dismissed within thirty (30) days) or if Tenant is adjudged bankrupt or insolvent as a result of any such proceeding, Landlord at its sole option may draw down all or a part of the Letter of Credit. The balance of any Letter of Credit cash proceeds shall be held in accordance with **Section 7.5** below. Should the entire Letter of Credit, or any portion thereof, be drawn down by Landlord, Tenant shall, upon the written demand of Landlord, deliver a replacement Letter of Credit in the amount drawn, and Tenant’s failure to do so within ten (10) days after receipt of such written demand shall constitute an additional Event of Default hereunder. The application of all or any part of the cash proceeds of the Letter of Credit to any obligation or default of Tenant under this Lease shall not deprive Landlord of any other rights or remedies Landlord may have nor shall such application by Landlord constitute a waiver by Landlord.

7.3 Transfer of Letter of Credit. In the event that Landlord transfers its interest in the Premises, Tenant shall upon notice from and at no cost to Landlord, deliver to Landlord an amendment to the Letter of Credit or a replacement Letter of Credit naming Landlord’s successor as the beneficiary thereof. If Tenant fails to deliver such amendment or replacement within ten (10) days after written notice from Landlord, Landlord shall have the right to draw down the entire amount of the Letter of Credit and hold the proceeds thereof in accordance with **Section 7.5** below.

7.4 Cash Proceeds of Letter of Credit. Landlord shall hold the Cash Security Deposit and/or the balance of proceeds remaining after a draw on the Letter of Credit (each hereinafter referred to as the “**Security Deposit**”) as security for Tenant’s performance of all its Lease obligations. After an Event of Default, Landlord may apply the Security Deposit, or any part thereof, to Landlord’s damages without prejudice to any other Landlord remedy. Landlord has no obligation to pay interest on the Security Deposit and may co-mingle the Security Deposit with Landlord’s funds. If Landlord conveys its interest under this Lease, the Security Deposit, or any part not applied previously, may be turned over to the grantee in which case Tenant shall look solely to the grantee for the proper application and return of the Security Deposit.

7.5 Return of Security Deposit or Letter of Credit. Should Tenant comply with all of such terms, covenants and conditions and promptly pay all sums payable by Tenant to Landlord hereunder, the Security Deposit and/or Letter of Credit or the remaining proceeds therefrom, as applicable, shall be returned to Tenant within sixty (60) days after the end of the Term, less any portion thereof which may have been utilized by Landlord to cure any default or applied to any actual damage suffered by Landlord.

8. [INTENTIONALLY DELETED]

9. UTILITIES, LANDLORD’S SERVICES

9.1 Electricity. Landlord shall contract with the utility provider for electric service to the Property, including the Premises, subject to the capacity limitations set forth in Exhibit 7-1. Commencing on the Term Commencement Date, Tenant shall pay all charges for electricity furnished to the Premises and any equipment exclusively serving the Premises, as additional rent, as measured by a submeter, based on Landlord’s reasonable estimates or any applicable metering equipment. At Tenant’s request, Landlord shall provide Tenant with reasonable back-up documentation regarding the total charges and the method of allocating the charges to Tenant. Tenant shall, at Tenant’s sole cost and expense, maintain and keep in good order, condition and repair the metering equipment used to measure electricity furnished to the Premises and any equipment exclusively serving the same.

9.2 Water. Landlord shall contract with the utility provider for water service to the Property, including the Premises. Except as otherwise provided below, the cost of providing water service to the Premises and all other portions of the Building (including, without limitation, the premises of other tenants or occupants of the Building) shall be included in Operating Costs. Notwithstanding the foregoing, if Landlord determines that Tenant is using water in excess of its proportionate share (by floor area) of the total water usage in the Building, Landlord may elect, at Tenant’s expense, to furnish and install in a location in or near the Premises metering equipment to measure water furnished to the Premises and any equipment exclusively serving the same. In such event, Tenant shall, within thirty (30) days after Landlord’s written demand therefor from time to time, pay to Landlord, as additional rent, the full amount of any water service charges attributable to such meter.

9.3 Gas. Landlord shall contract with the utility provider for gas service to the Property, including the Premises. The cost of gas used to serve base building plumbing, mechanical and electrical systems shall be included in the costs reimbursed by Tenant pursuant to **Section 9.6** below. If Tenant requires gas service for the operation of Tenant's laboratory equipment in the Premises, Tenant shall pay Tenant's pro rata share of all charges for gas furnished to the Building and/or any equipment exclusively serving the Premises as additional rent, based, at Landlord's election, (i) on Landlord's reasonable estimate of such gas usage or (ii) on metering or submetering equipment installed by Landlord at Tenant's expense. In the event that the Premises shall be separately metered for gas service, Tenant shall pay the full amount of any charges attributable to such meter on or before the due date therefor directly to the supplier thereof.

9.4 Other Utilities. Subject to Landlord's reasonable rules and regulations governing the same, Tenant shall obtain and pay, as and when due, for all other utilities and services consumed in and/or furnished to the Premises, together with all taxes, penalties, surcharges and maintenance charges pertaining thereto.

9.5 Interruption or Curtailment of Utilities. When necessary by reason of accident or emergency, or for repairs, alterations, replacements or improvements which in the reasonable judgment of Landlord are desirable or necessary to be made, Landlord reserves the right, upon as much prior notice to Tenant as is practicable under the circumstances and no less than twenty- four (24) hours' notice except in the event of an emergency, to interrupt, curtail, or stop (i) the furnishing of hot and/or cold water, and (ii) the operation of the plumbing and electric systems. Landlord shall exercise reasonable diligence to eliminate the cause of any such interruption, curtailment, stoppage or suspension, but, except as set forth in **Section 10.7**, there shall be no diminution or abatement of Rent or other compensation due from Landlord to Tenant hereunder, nor shall this Lease be affected or any of Tenant's obligations hereunder reduced, and Landlord shall have no responsibility or liability for any such interruption, curtailment, stoppage, or suspension of services or systems.

9.6 Landlord's Services. Subject to reimbursement pursuant to **Section 5.2** above, Landlord shall provide the services described in **Exhibit 7** attached hereto and made a part hereof ("**Landlord's Services**"), at the level of service set forth therein. All costs incurred in connection with the provision of Landlord's Services shall be included in Operating Costs. Tenant shall pay such costs monthly, together with monthly installments of Base Rent, on an estimated basis in amounts from time to time reasonably determined by Landlord. After the close of each fiscal year, Landlord shall determine the actual amount of such costs for such year and deliver to Tenant a reasonably detailed statement thereof, together with a statement of the amounts paid by Tenant on an estimated basis toward such costs as aforesaid. If such statement indicates that the estimated amounts paid by Tenant are less than Tenant's allocable share of the actual amount of such costs for such fiscal year, then Tenant shall pay the amount of such shortfall to Landlord within thirty (30) days after delivery of such statement. If such statement indicates that Tenant's estimated payments for such year exceed the actual amount of such costs for such year, then Landlord shall credit the excess against the next due installment(s) of additional rent payable under this **Section 9.6**, except that if such difference is determined after the end of the Term, Landlord shall refund such difference to Tenant within thirty (30) days after such determination to the extent that such difference exceeds any amounts then due from Tenant to Landlord.

10. MAINTENANCE AND REPAIRS

10.1 Maintenance and Repairs by Tenant. Tenant shall keep neat and clean and free of insects, rodents, vermin and other pests and in good repair, order and condition the Premises, including without limitation the entire interior of the Premises, all electronic, phone and data cabling and related equipment (other than building service equipment) that is installed by or for the exclusive benefit of the Tenant (whether located in the Premises or other portions of the Building), all fixtures, equipment and specialty lighting therein, electrical equipment wiring, doors, non-structural walls, windows and floor coverings, and all laboratory specific systems and equipment that exclusively serve the Premises, including, without limitation, equipment critical to laboratory operations, reasonable wear and tear and damage by Casualty excepted.

10.2 Maintenance and Repairs by Landlord. Except as otherwise provided in **Section 15**, and subject to Tenant's obligations in **Section 10.1** above, Landlord shall maintain and keep in good working order: (i) the foundation, the roof, structure, structural floor slabs and columns of the Building, and (ii) the base Building systems, including, without limitation, all common mechanical, electrical and HVAC systems serving the Building and the Premises (other than those systems exclusively serving the Premises) in good repair, order and condition. In addition, Landlord shall operate and maintain the Common Areas in substantially the same manner as comparable combination office and laboratory facilities in the vicinity of the Premises. All costs incurred by Landlord under this **Section 10.2** shall be included in Operating Costs as provided in **Section 5.2**.

10.3 Accidents to Sanitary and Other Systems. Tenant shall give to Landlord prompt notice of any fire or accident in the Premises or in the Building and of any damage to, or defective condition in, any part or appurtenance of the Building including, without limitation, sanitary, electrical, ventilation, heating and air conditioning or other systems located in, or passing through, the Premises. Except as otherwise provided in **Section 15**, and subject to Tenant's obligations in **Section 10.1** above, such damage or defective condition shall be remedied by Landlord with reasonable diligence, but, subject to **Section 14.5** below, if such damage or defective condition was caused by any of the Tenant Parties, the cost to remedy the same shall be paid by Tenant, subject to the provisions of Section 14.5.

10.4 Floor Load—Heavy Equipment. Tenant shall not place a load upon any floor of the Premises exceeding the floor load per square foot of area which such floor was designed to carry and which is allowed by Legal Requirements. Landlord reserves the right to prescribe the weight and position of all safes, heavy machinery, heavy equipment, freight, bulky matter or fixtures (collectively, "**Heavy Equipment**"), which shall be placed so as to distribute the weight. Heavy Equipment shall be placed and maintained by Tenant at Tenant's expense in settings sufficient in Landlord's reasonable judgment to absorb and prevent vibration, noise and annoyance. Tenant shall not move any Heavy Equipment into or out of the Building without giving Landlord prior written notice thereof and observing all of Landlord's Rules and Regulations with respect to the same. If such Heavy Equipment requires special handling, Tenant agrees to employ only persons holding a Master Rigger's License to do said work, and that all

work in connection therewith shall comply with Legal Requirements. Any such moving shall be at the sole risk and hazard of Tenant and Tenant will defend, indemnify and save Landlord and Landlord's agents (including without limitation its property manager), contractors and employees (collectively with Landlord, the "**Landlord Parties**") harmless from and against any and all claims, damages, losses, penalties, costs, expenses and fees (including without limitation reasonable legal fees) (collectively, "**Claims**") resulting directly or indirectly from such moving. Proper placement of all Heavy Equipment in the Premises shall be Tenant's responsibility.

10.5 Premises Cleaning. Tenant shall be responsible, at its sole cost and expense, for janitorial and trash removal services and other biohazard disposal services for the Premises, including the laboratory areas thereof. Such services shall be performed by licensed (where required by law or governmental regulation), insured and qualified contractors approved in advance, in writing, by Landlord (which approval shall not be unreasonably withheld, delayed or conditioned) and on a sufficient basis to ensure that the Premises are at all times kept neat and clean. Landlord shall provide a dumpster and/or compactor at the Building loading dock for Tenant's disposal of non-biohazard material. All costs incurred by Landlord in connection with such dumpster and/or compactor shall be included in Operating Costs as provided in **Section 5.2**.

10.6 Pest Control. Tenant, at Tenant's sole cost and expense, shall cause the Premises to be exterminated as reasonably necessary and to Landlord's reasonable satisfaction and shall cause all portions of the Premises used for the storage, preparation, service or consumption of food or beverages to be cleaned daily in a manner reasonably satisfactory to Landlord, and to be treated against infestation by insects, rodents and other vermin and pests whenever there is evidence of any infestation. Tenant shall not permit any person to enter the Premises for the purpose of providing such extermination services, unless such persons have been approved by Landlord. If requested by Landlord, Tenant shall, at Tenant's sole cost and expense, store any refuse generated in the Premises by the consumption of food or beverages in a cold box or similar facility.

10.7 Service Interruptions.

10.8 Abatement of Rent. In the event that: (i) there shall be an interruption, curtailment or suspension of any service or failure to perform any obligation required to be provided or performed by Landlord pursuant to **Sections 9** and/or **10** (and no reasonably equivalent alternative service or supply is provided by Landlord) that shall materially interfere with Tenant's use and enjoyment of the Premises, or any portion thereof (any such event, a "**Service Interruption**"), and (ii) such Service Interruption shall continue for five (5) consecutive business days following receipt by Landlord of written notice (the "**Service Interruption Notice**") from Tenant describing such Service Interruption ("**Abatement Service Interruption Cure Period**"), and (iii) such Service Interruption shall not have been caused by an act or omission of Tenant or Tenant's agents, employees, contractors or invitees (an event that satisfies the foregoing conditions (i)-(iii) being referred to hereinafter as a "**Material Service Interruption**") then, Tenant, subject to the next following sentence, shall be entitled to an equitable abatement of Base Rent, Operating Costs and Taxes based on the nature and duration of the Material Service Interruption and the area of the Premises affected, for any and all days following the Material Service Interruption Cure Period that both (x) the Material Service Interruption is continuing and (y) Tenant does not use such affected areas of the Premises for a

bona fide business purpose. Any efforts by Tenant to respond or react to any Material Service Interruption, including, without limitation, any activities by Tenant to remove its personal property from the affected areas of the Premises, shall not constitute a use that precludes abatement pursuant to this **Section 10.7(a)**. The Abatement Service Interruption Cure Period shall be extended by reason of any delays in Landlord's ability to cure the Service Interruption in question caused by Landlord's Force Majeure, provided however, that in no event shall the Abatement Service Interruption Cure Period with respect to any Service Interruption be longer than fifteen (15) consecutive business days after Landlord receives the applicable Service Interruption Notice.

(a) The provisions of this **Section 10.7** shall not apply in the event of a Service Interruption caused by Casualty or Taking (see **Section 15** hereof).

(b) The provisions of this **Section 10.7** set forth Tenant's sole rights and remedies, both in law and in equity, in the event of any Service Interruption.

11. ALTERATIONS AND IMPROVEMENTS BY TENANT

11.1 Landlord's Consent Required. Tenant shall not make any alterations, decorations, installations, removals, additions or improvements (collectively, with the Tenant's Work, "**Alterations**") in or to the Premises without Landlord's prior written approval of the contractor(s), written plans and specifications and a time schedule therefor. Landlord reserves the right to require that Tenant use Landlord's preferred vendor(s) for any Alterations that involve roof penetrations, alarm tie-ins, sprinklers, fire alarm and other life safety equipment. Tenant shall not make any amendments or additions to plans and specifications approved by Landlord without Landlord's prior written consent. Landlord's approval of non-structural Alterations shall not be unreasonably withheld, conditioned or delayed, and Landlord's consent for purely cosmetic alterations, such as painting and carpeting, shall be not be required (except to the extent such alterations are visible from outside the Premises), but Tenant shall provide at least ten (10) days prior notice of any such cosmetic alteration. Notwithstanding the foregoing, Landlord may withhold its consent in its sole discretion (a) to any Alteration to or affecting the, roof and/or building systems, (b) with respect to matters of aesthetics relating to Alterations to or affecting the exterior of the Building, and (c) to any Alteration affecting the Building structure. Tenant shall be responsible for all elements of the design of Tenant's plans (including, without limitation, compliance with Legal Requirements, functionality of design, the structural integrity of the design, the configuration of the Premises and the placement of Tenant's furniture, appliances and equipment), and Landlord's approval of Tenant's plans shall in no event relieve Tenant of the responsibility for such design. In seeking Landlord's approval, Tenant shall provide Landlord, at least fourteen (14) business days in advance of any proposed construction, with plans, specifications, bid proposals, certified stamped engineering drawings and calculations by Tenant's engineer of record or architect of record, (including connections to the Building's structural system, modifications to the Building's envelope, non-structural penetrations in slabs or walls, and modifications or tie-ins to life safety systems), work contracts, requests for laydown areas and such other information concerning the nature and cost of the Alterations as Landlord may reasonably request. Landlord shall have no liability or responsibility for any claim, injury or damage alleged to have been caused by the particular materials (whether building standard or non-building standard), appliances or equipment selected by Tenant in

connection with any work performed by or on behalf of Tenant. Except as otherwise expressly set forth herein, all Alterations shall be done at Tenant's sole cost and expense and at such times and in such manner as Landlord may from time to time reasonably designate. Tenant shall, within thirty (30) days following Landlord's demand, reimburse Landlord for all out-of-pocket costs incurred by Landlord in the review and approval of Tenant's plans and specifications in connection with proposed Alterations to be made by Tenant to the Premises (provided that the reimbursement associated with any single project shall not exceed \$5,000.00). Such costs shall be deemed to be additional rent under this Lease. If Tenant shall make any Alterations, then Landlord may elect to require Tenant at the expiration or sooner termination of the Term to restore the Premises to substantially the same condition as existed immediately prior to the Alterations, provided that Landlord's election shall be made in writing at the time it grants its consent to the particular Alteration. Tenant shall provide Landlord with reproducible record drawings (in CAD format) of all Alterations (other than cosmetic Alterations) within sixty (60) days after completion thereof. Tenant shall not be required to restore the initial Tenant Alterations at the expiration or earlier termination of the Lease.

11.2 After-Hours. Landlord and Tenant recognize that to the extent Tenant elects to perform some or all of the Alterations during times other than normal construction hours (i.e., Monday-Friday, 7:00 a.m. to 3:00 p.m., excluding holidays), Landlord may need to make arrangements to have supervisory personnel on site. Accordingly, Landlord and Tenant agree as follows: Tenant shall give Landlord at least two (2) business days' prior written notice of any time outside of normal construction hours when Tenant intends to perform any Alterations (the "**After-Hours Work**"). Tenant shall reimburse Landlord, within ten (10) days after demand therefor, for the reasonable cost of Landlord's supervisory personnel overseeing the After-Hours Work. In addition, if construction during normal construction hours unreasonably disturbs other tenants of the Building, in Landlord's sole discretion, Landlord may require Tenant to stop the performance of Alterations during normal construction hours and to perform the same after hours, subject to the foregoing requirement to pay for the cost of Landlord's supervisory personnel.

11.3 Harmonious Relations. Tenant agrees that it will not, either directly or indirectly, use any contractors and/or materials if their use will create any difficulty, whether in the nature of a labor dispute or otherwise, with other contractors and/or labor engaged by Tenant or Landlord or others in the construction, maintenance and/or operation of the Building, the Property or any part thereof. In the event of any such difficulty, upon Landlord's request, Tenant shall cause all contractors, mechanics or laborers causing such difficulty to leave the Property immediately.

11.4 Liens. No Alterations shall be undertaken by Tenant until (i) Tenant has made provision for written waiver of liens from all contractors for such Alteration and taken other appropriate protective measures reasonably approved and/or required by Landlord; and (ii) solely with respect to Alterations costing more than \$500,000.00, in the aggregate, Tenant has procured appropriate surety payment and performance bonds which shall name Landlord as an additional obligee and has filed lien bond(s) (in jurisdictions where available) on behalf of such contractors. Any mechanic's lien filed against the Premises or the Building for work claimed to have been done for, or materials claimed to have been furnished to, Tenant shall be discharged by Tenant within ten (10) days thereafter, at Tenant's expense by filing the bond required by law or otherwise.

11.5 General Requirements. Unless Landlord and Tenant otherwise agree in writing, Tenant shall (a) procure or cause others to procure on its behalf all necessary permits before undertaking any Alterations in the Premises (and provide copies thereof to Landlord); (b) perform all of such Alterations in a good and workmanlike manner, employing materials of good quality and in compliance with Landlord's construction rules and regulations, all insurance requirements of this Lease, and Legal Requirements; and (c) defend, indemnify and hold the Landlord Parties harmless from and against any and all Claims occasioned by or growing out of such Alterations.

12. SIGNAGE

12.1 Restrictions. Tenant shall have the right to install Building standard signage identifying Tenant's business at the entrance to the Premises, which signage shall be subject to Landlord's prior written consent (which consent shall not be unreasonably withheld, conditioned or delayed). Subject to the foregoing, and subject to Section 12.2 below, Tenant shall not place or suffer to be placed or maintained on the exterior of the Premises, or any part of the interior visible from the exterior thereof (other than any identification or logo signage within the Premises), any sign, banner, advertising matter or any other thing of any kind (including, without limitation, any hand-lettered advertising), and shall not place or maintain any decoration, letter or advertising matter on the glass of any window or door of the Premises without first obtaining Landlord's written approval. No signs may be put on or in any window or elsewhere if visible from the exterior of the Building.

12.2 Monument Signage. For so long as the Lease is in full force and effect (the "Monument Signage Condition"), then Tenant shall have the right to require Landlord to (i) list, at Landlord's initial cost and expense, Tenant's name ("Tenant's Monument Signage") on the existing exterior monument sign (the "Monument Sign") serving the Property at the entrance from the MWF Road during the initial Term of the Lease, and any extensions thereof, subject to the provisions of this Section 12.2. The parties hereby agree that the maintenance and removal of such Tenant's Monument Signage (including, without limitation, the repair and cleaning of the existing monument façade upon removal of Tenant's Monument Signage) shall be performed by Landlord and the costs incurred by Landlord shall be included in Operating Costs in accordance with Section 5.2, except that Tenant shall be responsible for the cost of any change in Tenant's Monument Signage during the initial Term of the lease.

13. ASSIGNMENT, MORTGAGING AND SUBLETTING

13.1 Landlord's Consent Required. Tenant shall not mortgage or encumber this Lease or in whole or in part whether at one time or at intervals, operation of law or otherwise. Except as expressly otherwise set forth herein, Tenant shall not, without Landlord's prior written consent, assign, sublet, license or transfer this Lease or the Premises in whole or in part whether by changes in the ownership or control of Tenant, or any direct or indirect owner of Tenant, whether at one time or at intervals, by sale or transfer of stock, partnership or beneficial interests, operation of law or otherwise, or permit the occupancy of all or any portion of the

Premises by any person or entity other than Tenant's employees (each of the foregoing, a "**Transfer**"). Notwithstanding the foregoing, a change of control or ownership resulting from the investment of additional equity capital in Tenant shall not constitute a Transfer so long as the current principals of the controlling interest in Tenant continue to retain a controlling interest in Tenant. Any purported Transfer made without Landlord's consent, if required hereunder, shall be void and confer no rights upon any third person, provided that if there is a Transfer, Landlord may after the occurrence of an Event of Default, collect rent from the transferee without waiving the prohibition against Transfers, accepting the transferee, or releasing Tenant from full performance under this Lease. In the event of any Transfer in violation of this **Article 13**, Landlord shall have the right to terminate this Lease upon thirty (30) days' written notice to Tenant given within sixty (60) days after receipt of written notice from Tenant to Landlord of any Transfer, or within one (1) year after Landlord first learns of the Transfer if no notice is given. No Transfer shall relieve Tenant of its primary obligation as party Tenant hereunder, nor shall it reduce or increase Landlord's obligations under this Lease.

13.2 Landlord's Recapture Right

(a) Except as for Permitted Transfers, as provided in **Section 13.7** below, Tenant shall, prior to offering or advertising the Premises or any portion thereof for a Transfer, give a written notice (the "**Recapture Notice**") to Landlord which: (i) states that Tenant desires to make a Transfer, (ii) identifies the affected portion of the Premises (the "**Recapture Premises**"), (iii) identifies the period of time (the "**Recapture Period**") during which Tenant proposes to sublet the Recapture Premises, or indicates that Tenant proposes to assign its interest in this Lease, and (iv) offers to Landlord to (x) terminate this Lease with respect to the Recapture Premises (in the case of a proposed assignment of Tenant's interest in this Lease or a subletting of any portion of the Premises for all or substantially all of the remainder of the Term of this Lease) or (y) suspend the Term for the Recapture Period (in the case of a proposed subletting of more than fifty percent (50%) of the Premises, i.e. the Term with respect to such Recapture Premises shall be terminated during the Recapture Period and Tenant's rental obligations shall be proportionately reduced). Landlord shall have fifteen (15) business days within which to respond to the Recapture Notice.

(b) Notwithstanding anything to the contrary contained herein, if Landlord notifies Tenant that it accepts the offer contained in the Recapture Notice or any subsequent Recapture Notice, Tenant shall have the right, for a period of fifteen (15) days following receipt of such notice from Landlord, *time being of the essence*, to notify Landlord in writing that it wishes to withdraw such offer and this Lease shall continue in full force and effect.

13.3 Standard of Consent to Transfer. If Landlord does not timely give written notice to Tenant accepting a Recapture Offer or declines to accept the same, then Landlord agrees that, subject to the provisions of this **Article 13**, Landlord shall not unreasonably withhold, condition or delay its consent to a Transfer on the terms contained in the Recapture Notice to an entity which will use the Premises for the Permitted Uses and, in Landlord's reasonable opinion: (a) has a tangible net worth and other financial indicators sufficient to meet the Transferee's obligations under the Transfer instrument in question; (b) has a business reputation compatible with the operation of a first-class combination laboratory, research, development and office building; and (c) the intended use of such entity does not violate any restrictive use provisions then in effect with respect to space in the Building.

13.4 Listing Confers no Rights. The listing of any name other than that of Tenant, whether on the doors of the Premises or on the Building directory, or otherwise, shall not operate to vest in any such other person, firm or corporation any right or interest in this Lease or in the Premises or be deemed to effect or evidence any consent of Landlord, it being expressly understood that any such listing is a privilege extended by Landlord revocable at will by written notice to Tenant.

13.5 Profits In Connection with Transfers. Tenant shall, within thirty (30) days of receipt thereof, pay to Landlord fifty percent (50%) of any rent, sum or other consideration to be paid or given in connection with any Transfer, either initially or over time, after deducting reasonable actual out-of-pocket legal, and brokerage expenses incurred by Tenant and unamortized improvements paid for by Tenant in connection therewith, in excess of Rent hereunder as if such amount were originally called for by the terms of this Lease as additional rent.

13.6 Prohibited Transfers. Notwithstanding any contrary provision of this Lease, Tenant shall have no right to make a Transfer unless on both (i) the date on which Tenant notifies Landlord of its intention to enter into a Transfer and (ii) the date on which such Transfer is to take effect, Tenant is not in default of any of its obligations under this Lease beyond the expiration of any applicable grace or cure period. Notwithstanding anything to the contrary contained herein, Tenant agrees that in no event shall Tenant make a Transfer to (a) any government agency; (b) any tenant, subtenant or occupant of other space in the Building, unless Landlord does not have comparable space available to such tenant, subtenant or occupant; or (c) any entity with whom Landlord shall have negotiated for space in the Property in the six (6) months immediately preceding such proposed Transfer, unless Landlord did not have comparable space available to such prospective tenant.

13.7 Exceptions to Requirement for Consent. Notwithstanding anything to the contrary herein contained, Tenant shall have the right, without obtaining Landlord's consent and without giving Landlord a Recapture Notice, to (a) make a Transfer to an Affiliated Entity (hereinafter defined) so long as such entity remains in such relationship to Tenant, and (b) assign all of Tenant's interest in and to the Lease to a Successor (each of the forgoing Transfers described in (a) and (b), a "**Permitted Transfer**"), provided that prior to or simultaneously with any assignment pursuant to this **Section 13.7**, such Affiliated Entity or Successor, as the case may be, and Tenant execute and deliver to Landlord an assignment and assumption agreement in form and substance reasonably acceptable to Landlord whereby such Affiliated Entity or Successor, as the case may be, shall agree to be independently bound by and upon all the covenants, agreements, terms, provisions and conditions set forth in the Lease on the part of Tenant to be performed, and whereby such Affiliated Entity or Successor, as the case may be, shall expressly agree that the provisions of this **Article 13** shall, notwithstanding such Transfer, continue to be binding upon it with respect to all future Transfers. For the purposes hereof, an "**Affiliated Entity**" shall be defined as any entity (a) that has a net worth and other financial indicators demonstrating such entity's ability to perform all of Tenant's obligations hereunder, as evidenced by financial statements that are audited or prepared by a CPA and certified by a

financial officer of such entity; and (b) which is controlled by, is under common control with, or which controls Tenant. For the purposes hereof, a “**Successor**” shall be defined as any entity into or with which Tenant is merged or with which Tenant is consolidated or which acquires all or substantially all of Tenant’s stock or assets, provided that the surviving entity shall have a net worth and other financial indicators sufficient to meet Tenant’s obligations hereunder.

14. INSURANCE; INDEMNIFICATION; EXCULPATION

14.1 Tenant’s Insurance.

(a) Tenant covenants and agrees that from and after the date of delivery of the Premises from Landlord to Tenant, Tenant will carry and maintain, at its sole cost and expense, the following types of insurance, in the amounts specified and in the form hereinafter provided for:

(i) Commercial General Liability (“CGL”) Insurance written on an occurrence basis, covering the Premises and all operations of the Tenant in or about the Premises against claims for bodily injury, property damage and product liability and to include contractual liability coverage insuring Tenant’s indemnification obligations under this Lease, to be in combined single limits of not less than \$1,000,000 each occurrence for bodily injury and property damage, \$1,000,000 for personal injury, and to have general aggregate limits of not less than \$2,000,000 (per location) and Umbrella Liability Insurance in an amount not less than \$10,000,000 for each policy year. The general aggregate limits under the Commercial General Liability insurance policy or policies shall apply separately to the Premises and to Tenant’s use thereof (and not to any other location or use of Tenant) and such policy shall contain an endorsement to that effect. The certificate of insurance evidencing the CGL form of policy shall specify all endorsements required herein and shall specify on the face thereof that the limits of such policy apply separately to the Premises.

(ii) Insurance covering (i) all items or components of Alterations (collectively, the “**Tenant-Insured Improvements**”), and (ii) all of Tenant’s furniture, equipment, fixtures and property of every kind, nature and description related or arising out of Tenant’s leasehold estate hereunder, which may be in or upon the Premises or the Building, including without limitation Tenant’s Rooftop Equipment (collectively, “**Tenant’s Property**”), in an amount not less than one hundred percent (100%) of their full replacement value from time to time during the Term, providing protection against perils included within the standard form of “all-risks” fire and casualty insurance policy. Any policy proceeds from such insurance shall be held in trust by Tenant’s insurance company for the repair, construction and restoration or replacement of the property damaged or destroyed unless this Lease shall cease and terminate under the provisions of Section 15 of this Lease. The insurance required to be maintained by Tenant pursuant to this Section **14.1(a)(ii)** is referred to herein as “**Tenant Property Insurance**.”

(iii) Workers’ Compensation and Employer’s Liability insurance affording statutory coverage and containing statutory limits with the Employer’s Liability portion thereof to have minimum limits of \$500,000.00.

(iv) Business Interruption Insurance with limits not less than an amount equal to one (1) year's rent hereunder of Tenant at the Premises which insurance shall be issued on an "all risks" basis (or its equivalent).

(b) All policies of the insurance provided for in this Section 14.1 (collectively, as "**Tenant's Insurance Policies**") shall be issued in form reasonably acceptable to Landlord by insurance companies with a rating and financial size of not less than A IX in the most current available "Best's Insurance Reports", and licensed to do business in the state in which the Building is located. Each and every such policy:

(i) shall name Landlord as an additional insured (as well as any mortgagee of Landlord and any other party reasonably designated by Landlord), except with respect to the insurance described in Section 14.1(a)(iii) above;

(ii) shall (and a certificate thereof shall be delivered to Landlord at or prior to the execution of the Lease) be delivered to each of Landlord and any such other parties in interest within thirty (30) days after delivery of possession of the Premises to Tenant and thereafter within five (5) days after the inception (or renewal) of each new policy, and as often as any such policy shall expire or terminate. Renewal or additional policies shall be procured and maintained by Tenant in like manner and to like extent;

(iii) shall contain a provision that the insurer will give to Landlord and such other parties in interest at least thirty (30) days' notice in writing (and ten days in the case of non-payment) in advance of any material change, cancellation, termination or lapse, or the effective date of any reduction in the amounts of insurance to the extent that the same is reasonably available in the insurance industry provided, however, that if such notice is not provided by any insurance company, then Tenant shall be responsible for providing such notice to Landlord;

(iv) shall include deductibles in an amount no greater than \$25,000; and

(v) shall be written as a primary policy which does not contribute to and is not in excess of coverage which Landlord may carry.

(c) Any insurance provided for in Section 14.1(a) may be maintained by means of a policy or policies of blanket insurance, covering additional items or locations or insureds, provided, however, that:

(i) Landlord and any other parties in interest from time to time designated by Landlord to Tenant shall be named as an additional insured thereunder as its interest may appear;

(ii) the coverage afforded Landlord and any such other parties in interest will not be reduced or diminished by reason of the use of such blanket policy of insurance; and

(iii) the requirements set forth in this Section 14 are otherwise satisfied.

(d) During periods when Tenant's Work and/or any Alterations are being performed, Tenant shall maintain, or cause to be maintained, so-called all risk or special cause of loss property insurance or its equivalent and/or builders risk insurance on 100% replacement cost coverage basis, including hard and soft costs coverages. Such insurance shall protect and insure Landlord, Landlord's agents, Tenant and Tenant's contractors, as their interests may appear, against loss or damage by fire, water damage, vandalism and malicious mischief, and such other risks as are customarily covered by so-called all risk or special cause of loss property / builders risk coverage or its equivalent.

(e) Tenant shall procure and maintain at its sole expense such additional insurance as may be necessary to comply with any Legal Requirements.

(f) Tenant shall cause all contractors and subcontractors to maintain during the performance of any Alterations the insurance described in **Exhibit 10** attached hereto.

(g) In the event of any claim, and upon Landlord's request, Tenant shall deliver to Landlord complete copies of Tenant's Insurance Policies. Upon request of Landlord, Tenant shall deliver to any Mortgagee copies of the foregoing documents.

14.2 Indemnification. Except to the extent caused by the negligence or willful misconduct of any of the Landlord Parties, and subject to the provisions of Section 14.5, Tenant shall defend, indemnify and save the Landlord Parties harmless from and against any and all Claims asserted by or on behalf of any person, firm, corporation or public authority arising from:

(a) Tenant's breach of any covenant or obligation under this Lease;

(b) Any injury to or death of any person, or loss of or damage to property, sustained or occurring in, upon, at or about the Premises;

(c) Any injury to or death of any person, or loss of or damage to property arising out of the use or occupancy of the Premises by or the negligence or willful misconduct of any of the Tenant Parties; and

(d) On account of or based upon any work or thing whatsoever done (other than by Landlord or any of the Landlord Parties) at the Premises during the Term and during the period of time, if any, prior to the Term Commencement Date that any of the Tenant Parties may have been given access to the Premises.

14.3 Property of Tenant. Tenant covenants and agrees that, to the maximum extent permitted by Legal Requirements, all of Tenant's Property at the Premises shall be at the sole risk and hazard of Tenant, and that if the whole or any part thereof shall be damaged, destroyed, stolen or removed from any cause or reason whatsoever, no part of said damage or loss shall be charged to, or borne by, Landlord, except, subject to **Section 14.5** hereof, to the extent such damage or loss is due to the negligence or willful misconduct of any of the Landlord Parties.

14.4 Limitation of Landlord's Liability for Damage or Injury. Landlord shall not be liable for any injury or damage to persons or property resulting from fire, explosion, falling plaster, steam, gas, air contaminants or emissions, electricity, electrical or electronic emanations or disturbance, water, rain or snow or leaks from any part of the Building or from the pipes, appliances, equipment or plumbing works or from the roof, street or sub-surface or from any other place or caused by dampness, vandalism, malicious mischief or by any other cause of whatever nature, except, subject to **Section 14.5**, to the extent caused by or due to the negligence or willful misconduct of any of the Landlord Parties, and then, where notice and an opportunity to cure are appropriate (i.e., where Tenant has an opportunity to know or should have known of such condition sufficiently in advance of the occurrence of any such injury or damage resulting therefrom as would have enabled Landlord to prevent such damage or loss had Tenant notified Landlord of such condition) only after (i) notice to Landlord of the condition claimed to constitute negligence or willful misconduct, and (ii) the expiration of a reasonable time after such notice has been received by Landlord without Landlord having commenced to take all reasonable and practicable means to cure or correct such condition; and pending such cure or correction by Landlord, Tenant shall take all reasonably prudent temporary measures and safeguards to prevent any injury, loss or damage to persons or property. Notwithstanding the foregoing, in no event shall any of the Landlord Parties be liable for any loss which is covered by insurance policies actually carried or required to be so carried by this Lease; nor shall any of the Landlord Parties be liable for any such damage caused by other tenants or persons in the Building or caused by operations in construction of any private, public, or quasi-public work; nor shall any of the Landlord Parties be liable for any latent defect in the Premises or in the Building.

14.5 Waiver of Subrogation; Mutual Release. Landlord and Tenant each hereby waives on behalf of itself and its property insurers (none of which shall ever be assigned any such claim or be entitled thereto due to subrogation or otherwise) any and all rights of recovery, claim, action, or cause of action against the other and its agents, officers, servants, partners, shareholders, or employees (collectively, the "**Related Parties**") for any loss or damage that may occur to or within the Premises or the Building or any improvements thereto, or any personal property of such party therein which is insured against under any Property Insurance (as defined in **Section 14.7**) policy actually being maintained by the waiving party from time to time, even if not required hereunder, or which would be insured against under the terms of any Property Insurance policy required to be carried or maintained by the waiving party hereunder, whether or not such insurance coverage is actually being maintained, including, in every instance, such loss or damage that may be caused by the negligence of the other party hereto and/or its Related Parties. Landlord and Tenant each agrees to cause appropriate clauses to be included in its Property Insurance policies necessary to implement the foregoing provisions.

14.6 Tenant's Acts—Effect on Insurance. Tenant shall not do or permit any Tenant Party to do any act or thing upon the Premises or elsewhere in the Building which will invalidate or be in conflict with any insurance policies covering the Building and the fixtures and property therein; and shall not do, or permit to be done, any act or thing upon the Premises which shall subject Landlord to any liability or responsibility for injury to any person or persons or to property by reason of any business or operation being carried on upon said Premises or for any other reason. If by reason of the failure of Tenant to comply with the provisions hereof the insurance rate applicable to any policy of insurance shall at any time thereafter be higher than it otherwise would be, Tenant shall reimburse Landlord upon demand for that part of any insurance premiums which shall have been charged because of such failure by Tenant, together with interest at the Default Rate until paid in full, within ten (10) days after receipt of an invoice therefor. In addition, Tenant shall reimburse Landlord for any increase in insurance premium arising as a result of Tenant's use and/or storage of any Hazardous Materials in the Premises.

14.7 Landlord's Insurance. During the Term hereof, Landlord shall in a manner comparable to other comparable office and laboratory buildings in the market where the Building is located keep in effect (i) commercial property insurance on the Building, its fixtures and equipment, and rent loss insurance for a period and amount of not less than one (1) year of rent (such commercial property insurance policy shall, at a minimum, cover the perils insured under the ISO special causes of loss form which provides "all risk" coverage, and include replacement cost coverage), and (ii) a policy or policies of commercial general liability insurance insuring against liability arising out of the risks of death, bodily injury, property damage and personal injury liability with respect to the Building and Property ("**Landlord Property Insurance**"). Any and all such insurance: (x) may be maintained under a blanket policy affecting other properties of Landlord and/or its affiliated business organizations, and (y) may be written with commercially reasonable deductibles as determined by Landlord. The costs incurred by Landlord related to such insurance shall be included in Operating Costs. Tenant Property Insurance and Landlord Property Insurance are referred to collectively herein as "**Property Insurance**".

15. CASUALTY; TAKING

15.1 Damage. If the Premises are damaged in whole or part because of fire or other insured casualty ("**Casualty**"), or if the Premises are subject to a taking in connection with the exercise of any power of eminent domain, condemnation, or purchase under threat or in lieu thereof (any of the foregoing, a "**Taking**"), then unless this Lease is terminated in accordance with **Section 15.2** below, Landlord shall restore the Building and/or the Premises to substantially the same condition as existed as of the Term Commencement Date, or in the event of a partial Taking which affects the Building and the Premises, restore the remainder of the Building and the Premises not so Taken to substantially the same condition as is reasonably feasible. If, in Landlord's reasonable judgment, any element of the Tenant-Insured Improvements can more effectively be restored as an integral part of Landlord's restoration of the Building or the Premises, such restoration shall also be made by Landlord, and Tenant shall turn over any insurance proceeds received by Tenant in connection with the Tenant-Insured Improvements; provided, however, that to the extent such insurance proceeds are insufficient to cover the cost of restoring the Tenant-Insured Improvements, Tenant shall be required to reimburse Landlord for any deficiency. Notwithstanding the foregoing to the contrary, if Landlord's costs in restoring the Tenant-Insured Improvements are materially greater than what Tenant could reasonably expect to pay if Tenant had performed such restoration at its sole cost and expense, Tenant shall only be responsible for reimbursing Landlord to the extent the applicable insurance proceeds are insufficient to cover the reasonable (i.e., market) costs of restoring the applicable Tenant-Insured Improvements. Subject to rights of Mortgagees, Tenant Delays, Legal Requirements then in existence and to delays for adjustment of insurance proceeds or Taking awards, as the case may be, and instances of Force Majeure, Landlord shall substantially complete such restoration within nine (9) months after Landlord's receipt of all required permits therefor with substantial reconstruction of at least 50% of the Building, or, within one hundred eighty (180) days after Landlord's receipt of all required permits therefor in the case of restoration of less than 50% of

the Building. Upon substantial completion of such restoration by Landlord, Tenant shall use diligent efforts to complete restoration of the Premises to substantially the same condition as existed immediately prior to such Casualty or Taking, as the case may be, as soon as reasonably possible. Tenant agrees to cooperate with Landlord in such manner as Landlord may reasonably request to assist Landlord in collecting insurance proceeds due in connection with any Casualty which affects the Premises or the Building. In no event shall Landlord be required to expend more than the Net (hereinafter defined) insurance proceeds Landlord receives for damage to the Premises and/or the Building or the Net Taking award attributable to the Premises and/or the Building. "**Net**" means the insurance proceeds or Taking award actually paid to Landlord (and not paid over to a Mortgagee) less all costs and expenses, including reasonable adjusters and attorney's fees, of obtaining the same. In the Operating Year in which a Casualty occurs, there shall be included in Operating Costs Landlord's deductible under its property insurance policy. Except as Landlord may elect pursuant to this Section 15.1, under no circumstances shall Landlord be required to repair any damage to, or make any repairs to or replacements of, any Tenant-Insured Improvements.

15.2 Termination Rights.

(a) Landlord's Termination Rights. Landlord may terminate this Lease upon thirty (30) days' prior written notice to Tenant if:

(i) any material portion of the Building or any material means of access thereto is taken;

(ii) more than thirty-five percent (35%) of the Building is damaged by Casualty; or

(iii) if the estimated time to complete restoration exceeds one (1) year from the date on which Landlord receives all required permits for such restoration.

(b) Tenant's Termination Right. If Landlord is so required but fails to complete restoration of the Premises within the time frames and subject to the conditions set forth in Section 15.1 above, then Tenant may terminate this Lease upon thirty (30) days' written notice to Landlord; provided, however, that if Landlord completes such restoration within thirty (30) days after receipt of any such termination notice, such termination notice shall be null and void and this Lease shall continue in full force and effect. The remedies set forth in this Section 15.2(b) and in Section 15.2(c) below are Tenant's sole and exclusive rights and remedies based upon Landlord's failure to complete the restoration of the Premises as set forth herein. Notwithstanding anything to the contrary contained herein, Tenant shall not have the right to terminate this Lease pursuant to this Article 15 if the Casualty was caused by the negligence or intentional misconduct of any Tenant Party.

(c) Either Party May Terminate. In the case of any Casualty or Taking affecting the Premises and occurring during the last twelve (12) months of the Term, then (i) if such Casualty or Taking results in more than twenty-five percent (25%) of the floor area of the Premises being unsuitable for the Permitted Uses, or (ii) the damage to the Premises costs more than \$250,000 to restore, then either Landlord or Tenant shall have the option to terminate this

Lease upon thirty (30) days' written notice to the other. In addition, if Landlord's Mortgagee does not release sufficient insurance proceeds to cover the cost of Landlord's restoration obligations, then Landlord shall (i) notify Tenant thereof, and (ii) have the right to terminate this Lease. If Landlord does not terminate this Lease pursuant to the previous sentence and such notice by Landlord does not include an agreement by Landlord to pay for the difference between the cost of such restoration and such released insurance proceeds, then Tenant may terminate this Lease by written notice to Landlord on or before the date that is thirty (30) days after such notice. Notwithstanding anything to the contrary contained in this **Article 15**, in no event may Tenant elect to terminate this Lease hereunder if the Casualty that would otherwise give rise to such right results from the gross negligence or willful misconduct of Tenant, its agents, contractors, or employees.

(d) **Automatic Termination.** In the case of a Taking of the entire Premises, then this Lease shall automatically terminate as of the date of possession by the Taking authority.

15.3 Rent Abatement. In the event of a Casualty affecting the Premises, there shall be an equitable adjustment of Base Rent, Operating Costs and Taxes based upon the degree to which Tenant's ability to conduct its business in the Premises is impaired by reason of such Casualty from and after the date of a Casualty, and continuing until the following portions of the repair and restoration work to be performed by Landlord, as set forth above, are substantially completed: (i) any repair and restoration work to be performed by Landlord within the Premises, and (ii) repair and restoration work with respect to the Common Areas to the extent that damage to the Common Areas caused by such Casualty materially adversely affects Tenant's use of, or access to, the Premises.

15.4 Taking for Temporary Use. If the Premises are Taken for temporary use, this Lease and Tenant's obligations, including without limitation the payment of Rent, shall continue. For purposes hereof, a "**Taking for temporary use**" shall mean a Taking of ninety (90) days or less.

15.5 Disposition of Awards. Except for any separate award for Tenant's movable trade fixtures, relocation expenses, and unamortized leasehold improvements paid for by Tenant (provided that the same may not reduce Landlord's award), all Taking awards to Landlord or Tenant shall be Landlord's property without Tenant's participation, and Tenant hereby assigns to Landlord Tenant's interest, if any, in such award. Tenant may pursue its own claim against the Taking authority.

16. ESTOPPEL CERTIFICATE.

Tenant shall at any time and from time to time upon not less than ten (10) business days' prior notice from Landlord, execute, acknowledge and deliver to Landlord a statement in writing certifying that this Lease is unmodified and in full force and effect (or if there have been modifications, that the same is in full force and effect as modified and stating the modifications), and the dates to which Rent has been paid in advance, if any, stating whether or not Landlord is in default in performance of any covenant, agreement, term, provision or condition contained in this Lease and, if so, specifying each such default, and such other facts as Landlord may reasonably request, it being intended that any such statement delivered pursuant hereto may be

relied upon by Landlord, any prospective purchaser of the Building or of any interest of Landlord therein, any Mortgagee or prospective Mortgagee thereof, any lessor or prospective lessor thereof, any lessee or prospective lessee thereof, or any prospective assignee of any mortgage thereof. *Time is of the essence with respect to any such requested certificate*, Tenant hereby acknowledging the importance of such certificates in mortgage financing arrangements, prospective sales and the like. If Tenant shall fail to execute and deliver to Landlord any such statement within such ten-business-day period, Tenant hereby appoints Landlord as Tenant's attorney-in-fact in its name and behalf to execute such statement, such appointment being coupled with an interest.

17. HAZARDOUS MATERIALS

17.1 Prohibition. Tenant shall not, without the prior written consent of Landlord, bring or permit to be brought or kept in or on the Premises or elsewhere in the Building or the Property (i) any inflammable, combustible or explosive fluid, material, chemical or substance (except for standard office supplies stored in proper containers); and (ii) any Hazardous Material (hereinafter defined), other than the types and quantities of Hazardous Materials which are listed on **Exhibit 8** attached hereto ("**Tenant's Hazardous Materials**"), provided that the same shall at all times be brought upon, kept or used in so-called 'control areas', as described in, and in accordance with, **Exhibit 8-1** attached hereto, and in accordance with all applicable Legal Requirements, including, without limitation, all applicable Environmental Laws (hereinafter defined), and prudent environmental practice and (with respect to medical waste and so-called "biohazard" materials) good scientific and medical practice. Tenant shall be responsible for assuring that all laboratory uses are adequately and properly vented. On or before each anniversary of the Rent Commencement Date, and on any earlier date during the 12-month period on which Tenant intends to add a new Hazardous Material or materially increase the quantity of any Hazardous Material to the list of Tenant's Hazardous Materials, Tenant shall submit to Landlord an updated list of Tenant's Hazardous Materials for Landlord's review and approval, which approval shall not be unreasonably withheld, conditioned or delayed. Landlord shall have the right, from time to time, to inspect the Premises for compliance with the terms of this **Section 17.1**. Notwithstanding the foregoing, with respect to any of Tenant's Hazardous Materials which Tenant does not properly handle, store or dispose of in compliance with all applicable Environmental Laws (hereinafter defined), prudent environmental practice and (with respect to medical waste and so-called "biohazard materials") good scientific and medical practice, Tenant shall, upon written notice from Landlord, no longer have the right to bring such material into the Building or the Property until Tenant has demonstrated, to Landlord's reasonable satisfaction, that Tenant has implemented programs to thereafter properly handle, store or dispose of such material. In order to induce Landlord to waive its otherwise applicable requirement that Tenant maintain insurance in favor of Landlord against liability arising from the presence of radioactive materials in the Premises, and without limiting the foregoing, Tenant hereby represents and warrants to Landlord that at no time during the Term will Tenant bring upon, or permit to be brought upon, the Premises any radioactive materials whatsoever.

17.2 Environmental Laws. For purposes hereof, “**Environmental Laws**” shall mean all laws, statutes, ordinances, rules and regulations of any local, state or federal governmental authority having jurisdiction concerning environmental, health and safety matters, including but not limited to any discharge by any of the Tenant Parties into the air, surface water, sewers, soil or groundwater of any Hazardous Material (hereinafter defined) whether within or outside the Premises, including, without limitation (a) the Federal Water Pollution Control Act, 33 U.S.C. Section 1251 et seq., (b) the Federal Resource Conservation and Recovery Act, 42 U.S.C. Section 6901 et seq., (c) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. Section 9601 et seq., (d) the Toxic Substances Control Act of 1976, 15 U.S.C. Section 2601 et seq., and (e) Chapter 21E of the General Laws of Massachusetts. Tenant, at its sole cost and expense, shall comply with (i) Environmental Laws, and (ii) any rules, requirements and safety procedures of the Massachusetts Department of Environmental Protection, the City of Waltham and any insurer of the Building or the Premises with respect to Tenant’s use, storage and disposal of any Hazardous Materials.

17.3 Hazardous Material Defined. As used herein, the term “**Hazardous Material**” means asbestos, oil or any hazardous, radioactive or toxic substance, material or waste or petroleum derivative which is or becomes regulated by any Environmental Law, including without limitation live organisms, viruses and fungi, medical waste and any so-called “biohazard” materials. The term “**Hazardous Material**” includes, without limitation, oil and/or any material or substance which is (i) designated as a “hazardous substance,” “hazardous material,” “oil,” “hazardous waste” or toxic substance under any Environmental Law.

17.4 Chemical Safety Program. Tenant shall establish and maintain a chemical safety program administered by a licensed, qualified individual in accordance with the requirements of any applicable governmental authority. Tenant shall be solely responsible for all costs incurred in connection with such chemical safety program, and Tenant shall provide Landlord with such documentation as Landlord may reasonably require evidencing Tenant’s compliance with the requirements of (a) any applicable governmental authority with respect to such chemical safety program and (b) this Section. Tenant shall obtain and maintain during the Term any permit required by any such applicable governmental authority.

17.5 Testing. If any Mortgagee or governmental authority requires testing to determine whether there has been any release of Hazardous Materials and such testing is required as a result of the acts or omissions of any of the Tenant Parties, then Tenant shall reimburse Landlord upon demand, as additional rent, for the reasonable costs thereof, together with interest at the Default Rate until paid in full. Tenant shall execute affidavits, certifications and the like, as may be reasonably requested by Landlord from time to time concerning Tenant’s best knowledge and belief concerning the presence of Hazardous Materials in or on the Premises, the Building or the Property. In addition to the foregoing, if Landlord reasonably believes that any Hazardous Materials have been released on the Premises in violation of this Lease or any Legal Requirement, Landlord shall have the right, upon reasonable advance notice to Tenant, to conduct appropriate tests of the Premises or any portion thereof to demonstrate that Hazardous Materials are present or that contamination has occurred due to the acts or omissions of any of the Tenant Parties. Tenant shall pay all reasonable costs of such tests if such tests reveal that Hazardous Materials exist at the Premises in violation of this Lease or any Legal Requirement. Further, Landlord shall have the right to cause a third party consultant retained by Landlord, at Landlord’s expense (provided, however, that such costs shall be included in Operating Costs), to review, but not more than once in any calendar year, Tenant’s lab operations, procedures and permits to ascertain whether or not Tenant is complying with law and adhering to best industry

practices. Tenant agrees to cooperate in good faith with any such review and to provide to such consultant any information requested by such consultant and reasonably required in order for such consultant to perform such review, but nothing contained herein shall require Tenant to provide proprietary or confidential information to such consultant.

17.6 Indemnity; Remediation.

(a) Tenant hereby covenants and agrees to indemnify, defend and hold the Landlord Parties harmless from and against any and all Claims against any of the Landlord Parties arising out of contamination of any part of the Property or other adjacent property, which contamination arises as a result of: (i) the presence of Hazardous Material in the Premises, the presence of which is caused by any act or omission of any of the Tenant Parties, or (ii) from a breach by Tenant of its obligations under this **Article 17**. This indemnification of the Landlord Parties by Tenant includes, without limitation, reasonable costs incurred in connection with any investigation of site conditions or any cleanup, remedial, removal or restoration work or any other response actions required by any federal, state or local governmental agency or political subdivision because of Hazardous Material present in the soil, soil vapor or ground water on or under or any indoor air in the Building based upon the circumstances identified in the first sentence of this **Section 17.6**. The indemnification and hold harmless obligations of Tenant under this **Section 17.6** shall survive the expiration or any earlier termination of this Lease. Without limiting the foregoing, if the presence of any Hazardous Material in the Building or otherwise in the Property is caused or permitted by any of the Tenant Parties and results in any contamination of any part of the Property or any adjacent property, Tenant shall promptly take all actions at Tenant's sole cost and expense as are necessary to return the Property and/or the Building or any adjacent property to their condition as of the date of this Lease, provided that Tenant shall first obtain Landlord's written approval of such actions, which approval shall not be unreasonably withheld, conditioned or delayed so long as such actions, in Landlord's reasonable discretion, would not potentially have any adverse effect on the Property, and, in any event, Landlord shall not withhold its approval of any proposed actions which are required by applicable Environmental Laws.

(b) Without limiting the obligations set forth in **Section 17.6(a)** above, if any Hazardous Material is in, on, under, at or about the Building or the Property as a result of the acts or omissions of any of the Tenant Parties and results in any contamination of any part of the Property or any adjacent property that is in violation of any applicable Environmental Law or that requires the performance of any response action pursuant to any Environmental Law, Tenant shall promptly take all actions at Tenant's sole cost and expense as are necessary to reduce such Hazardous Material to amounts below any applicable Reportable Quantity, any applicable Reportable Concentration and any other applicable standard set forth in any Environmental Law such that no further response actions are required; provided that Tenant shall first obtain Landlord's written approval of such actions, which approval shall not be unreasonably withheld, conditioned or delayed so long as such actions would not be reasonably expected to have an adverse effect on the market value or utility of the Property for the Permitted Uses, and in any event, Landlord shall not withhold its approval of any proposed actions which are required by applicable Environmental Laws (such approved actions, "**Tenant's Remediation**").

(c) In the event that Tenant fails to complete Tenant's Remediation prior to the end of the Term, then:

(i) until the completion of Tenant's Remediation (as evidenced by the certification of Tenant's Licensed Site Professional (as such term is defined by applicable Environmental Laws), who shall be reasonably acceptable to Landlord) (the "**Remediation Completion Date**"), Tenant shall pay to Landlord, with respect to the portion of the Premises which reasonably cannot be occupied by a new tenant until completion of Tenant's Remediation, (A) Additional Rent on account of Operating Costs and Taxes and (B) Base Rent in an amount equal to the greater of (1) the fair market rental value of such portion of the Premises (determined in substantial accordance with the process described in **Section 1.2** above), and (2) Base Rent attributable to such portion of the Premises in effect immediately prior to the end of the Term; and

(ii) Tenant shall maintain responsibility for Tenant's Remediation and Tenant shall complete Tenant's Remediation as soon as reasonably practicable in accordance with Environmental Laws. If Tenant does not diligently pursue completion of Tenant's Remediation, Landlord shall have the right to either (A) assume control for overseeing Tenant's Remediation, in which event Tenant shall pay all reasonable costs and expenses of Tenant's Remediation (it being understood and agreed that all costs and expenses of Tenant's Remediation incurred pursuant to contracts entered into by Tenant shall be deemed reasonable) within thirty (30) days of demand therefor (which demand shall be made no more often than monthly), and Landlord shall be substituted as the party identified on any governmental filings as the party responsible for the performance of such Tenant's Remediation or (B) require Tenant to maintain responsibility for Tenant's Remediation, in which event Tenant shall complete Tenant's Remediation as soon as reasonably practicable in accordance with Environmental Laws, it being understood that Tenant's Remediation shall not contain any requirement that Tenant remediate any contamination to levels or standards more stringent than those associated with the Property's current office, research and development, AND laboratory uses.

(d) If Hazardous Materials are discovered in, on or under the Property which are not in compliance with applicable Environmental Laws or that require reporting, investigation, remediation or other response under Chapter 21E or other Environmental Laws, and which are not the responsibility of Tenant pursuant to this Article 17, then Landlord shall remove or remediate the same, when, if, and in the manner required by applicable Environmental Laws.

(e) The provisions of this **Section 17.6** shall survive the expiration or earlier termination of this Lease.

17.7 Disclosures. Prior to bringing any Hazardous Material into any part of the Property, Tenant shall deliver to Landlord the following information with respect thereto: (a) a description of handling, storage, use and disposal procedures; (b) all plans or disclosures and/or emergency response plans which Tenant has prepared, including without limitation Tenant's Spill Response Plan, and all plans which Tenant is required to supply to any governmental agency or authority pursuant to any Environmental Laws; (c) copies of all Required Permits relating thereto; and (d) other information reasonably requested by Landlord.

17.8 Removal. Tenant shall be responsible, at its sole cost and expense, for Hazardous Material and other biohazard disposal services for the Premises. Such services shall be performed by contractors reasonably acceptable to Landlord and on a sufficient basis to ensure that the Premises are at all times kept neat, clean and free of Hazardous Materials and biohazards except in appropriate, specially marked containers reasonably approved by Landlord.

18. RULES AND REGULATIONS.

18.1 Rules and Regulations. Tenant will faithfully observe and comply with the Rules and Regulations attached hereto as **Exhibit 9** (“**Current Rules and Regulations**”) and reasonable rules and regulations as may be promulgated, from time to time, with respect to the Building, the Property and construction within the Property (collectively, the “**Rules and Regulations**”). The Current Rules and Regulations consist of the Building Rules and Regulations attached hereto as **Exhibit 9-1** and the Construction Rules and Regulations attached hereto as **Exhibit 9-2**. In the case of any conflict between the provisions of this Lease and any future rules and regulations, the provisions of this Lease shall control. Nothing contained in this Lease shall be construed to impose upon Landlord any duty or obligation to enforce the Rules and Regulations or the terms, covenants or conditions in any other lease as against any other tenant and Landlord shall not be liable to Tenant for violation of the same by any other tenant, its servants, employees, agents, contractors, visitors, invitees or licensees; provided however that Landlord will not enforce the rules and regulations against similarly situated tenants in the Building, including Tenant, in a discriminating manner.

18.2 Energy Conservation. Landlord may institute upon written notice to Tenant such policies, programs and measures as may be necessary, required, or expedient for the conservation and/or preservation of energy or energy services (collectively, the “**Conservation Program**”), provided however, that the Conservation Program does not, by reason of such policies, programs and measures, reduce the level of energy or energy services being provided to the Premises below the level of energy or energy services then being provided in comparable combination laboratory, research and development and office buildings in the vicinity of the Premises, or as may be necessary or required to comply with Legal Requirements or standards or the other provisions of this Lease. Upon receipt of such notice, Tenant shall comply with the Conservation Program.

18.3 Recycling. Upon written notice, Landlord may establish reasonable policies, programs and measures for the recycling of paper, products, plastic, tin and other materials (a “**Recycling Program**”). Upon receipt of such notice, Tenant will comply with the Recycling Program at Tenant’s sole cost and expense.

19. LAWS AND PERMITS.

19.1 Legal Requirements. Tenant shall not cause or permit the Premises, or cause the Property or the Building to be used in any way that violates any Legal Requirement, order, permit, approval, variance, covenant or restrictions of record or any provisions of this Lease, interferes with the rights of tenants of the Building, or constitutes a nuisance or waste. Tenant shall obtain, maintain and pay for all permits and approvals needed for the operation of Tenant's business and/or Tenant's Rooftop Equipment, as soon as reasonably possible, and in any event shall not undertake any operations or use of Tenant's Rooftop Equipment unless all applicable permits and approvals are in place and shall, promptly take all actions necessary to comply with all Legal Requirements, including, without limitation, the Occupational Safety and Health Act, applicable to Tenant's use of the Premises, the Property or the Building. Tenant shall maintain in full force and effect all certifications or permissions required by any authority having jurisdiction to authorize, franchise or regulate Tenant's use of the Premises. Tenant shall be solely responsible for procuring and complying at all times with any and all necessary permits and approvals directly or indirectly relating or incident to: the conduct of its activities on the Premises; its scientific experimentation, transportation, storage, handling, use and disposal of any chemical or radioactive or bacteriological or pathological substances or organisms or other hazardous wastes or environmentally dangerous substances or materials or medical waste or animals or laboratory specimens. Within ten (10) days of a request by Landlord, which request shall be made not more than once during each period of twelve (12) consecutive months during the Term hereof, unless otherwise requested by any mortgagee of Landlord or unless Landlord reasonably suspects that Tenant has violated the provisions of this **Section 19.1**, Tenant shall furnish Landlord with copies of all such permits and approvals that Tenant possesses or has obtained together with a certificate certifying that such permits are all of the permits that Tenant possesses or has obtained with respect to the Premises. Tenant shall promptly give written notice to Landlord of any warnings or violations relative to the above received from any federal, state or municipal agency or by any court of law and shall promptly cure the conditions causing any such violations. Tenant shall not be deemed to be in default of its obligations under the preceding sentence to promptly cure any condition causing any such violation in the event that, in lieu of such cure, Tenant shall contest the validity of such violation by appellate or other proceedings permitted under applicable law, provided that: (i) any such contest is made reasonably and in good faith, (ii) Tenant makes provisions, including, without limitation, posting bond(s) or giving other security, reasonably acceptable to Landlord to protect Landlord, the Building and the Property from any liability, costs, damages or expenses arising in connection with such alleged violation and failure to cure, (iii) Tenant shall agree to indemnify, defend (with counsel reasonably acceptable to Landlord) and hold Landlord harmless from and against any and all liability, costs, damages, or expenses arising in connection with such condition and/or violation, (iv) Tenant shall promptly cure any violation in the event that its appeal of such violation is overruled or rejected, and (v) Tenant's decision to delay such cure shall not, in Landlord's good faith determination, be likely to result in any actual or threatened bodily injury, property damage, or any civil or criminal liability to Landlord, any tenant or occupant of the Building or the Property, or any other person or entity. Nothing contained in this **Section 19.1** shall be construed to expand the uses permitted hereunder beyond the Permitted Uses. Landlord shall comply with any Legal Requirements and with any direction of any public office or officer relating to the maintenance or operation of the structural elements of the Building and the Common Areas, and the costs so incurred by Landlord shall be included in Operating Costs in accordance with the provisions of **Section 5.2**.

20. DEFAULT

20.1 Events of Default. The occurrence of any one or more of the following events shall constitute an “**Event of Default**” hereunder by Tenant:

(a) If Tenant fails to make any payment of Rent or any other payment required hereunder, as and when due, and such failure shall continue for a period of five (5) days after notice thereof from Landlord to Tenant; provided, however, an Event of Default shall occur hereunder without any obligation of Landlord to give any notice if (i) Tenant fails to make any payment within five (5) days after the due date therefor, and (ii) Landlord has given Tenant written notice under this **Section 20.1(a)** on more than one (1) occasion during the twelve (12) month interval preceding such failure by Tenant;

(b) If Tenant shall abandon the Premises (whether or not the keys shall have been surrendered or the Rent shall have been paid);

(c) If Tenant shall fail to execute and deliver to Landlord an estoppel certificate pursuant to **Article 16** above or a subordination and attornment agreement pursuant to **Article 22** below, within the timeframes set forth therein, which failure is not cured within three (3) business days from written notice by Landlord;

(d) If Tenant shall fail to maintain any insurance required hereunder;

(e) If Tenant shall fail to restore the Security Deposit to its original amount or deliver a replacement Letter of Credit as required under **Article 7** above;

(f) If Tenant causes or suffers any release of Hazardous Materials in or near the Property and Tenant fails to comply with the covenants and obligations set forth in Article 17 above within the time periods required therein;

(g) If Tenant shall make a Transfer in violation of the provisions of **Article 13** above, or if any event shall occur or any contingency shall arise whereby this Lease, or the term and estate thereby created, would (by operation of law or otherwise) devolve upon or pass to any person, firm or corporation other than Tenant, except as expressly permitted under **Article 13** hereof;

(h) [Intentionally Deleted];

(i) The failure by Tenant to observe or perform any of the covenants or provisions of this Lease to be observed or performed by Tenant, other than as specified above, and such failure continues for more than thirty (30) days after notice thereof from Landlord; provided, further, that if the nature of Tenant’s default is such that more than thirty (30) days are reasonably required for its cure, then Tenant shall not be deemed to be in default if Tenant shall commence such cure within said thirty (30) day period and thereafter diligently prosecute such cure to completion, which completion shall occur not later than ninety (90) days from the date of such notice from Landlord;

(j) Tenant shall be involved in financial difficulties as evidenced by an admission in writing by Tenant of Tenant's inability to pay its debts generally as they become due, or by the making or offering to make a composition of its debts with its creditors;

(k) Tenant shall make an assignment or trust mortgage, or other conveyance or transfer of like nature, of all or a substantial part of its property for the benefit of its creditors,

(l) [Intentionally Deleted];

(m) [Intentionally Deleted];

(n) the leasehold hereby created shall be taken on execution or by other process of law and shall not be revested in Tenant within thirty (30) days thereafter;

(o) a receiver, sequesterer, trustee or similar officer shall be appointed by a court of competent jurisdiction to take charge of all or any part of Tenant's Property and such appointment shall not be vacated within thirty (30) days; or

(p) any proceeding shall be instituted by or against Tenant pursuant to any of the provisions of any Act of Congress or State law relating to bankruptcy, reorganizations, arrangements, compositions or other relief from creditors, and, in the case of any proceeding instituted against it, if Tenant shall fail to have such proceedings dismissed within ninety (90) days or if Tenant is adjudged bankrupt or insolvent as a result of any such proceeding.

Wherever "Tenant" is used in subsections (i), (j), (k), (l), (n) or (o) of this **Section 20.1**, it shall be deemed to include any parent entity of Tenant of any of Tenant's obligations under this Lease.

20.2 Remedies. Upon an Event of Default, Landlord may, by notice to Tenant, elect to terminate this Lease; and thereupon (and without prejudice to any remedies which might otherwise be available for arrears of Rent or preceding breach of covenant or agreement and without prejudice to Tenant's liability for damages as hereinafter stated), upon the giving of such notice, this Lease shall terminate as of the date specified therein as though that were the Expiration Date. Upon such termination, Landlord shall have the right to utilize the Security Deposit or draw down the entire Letter of Credit, as applicable, and apply the proceeds thereof to its damages hereunder. Without being taken or deemed to be guilty of any manner of trespass or conversion, and without being liable to indictment, prosecution or damages therefor, Landlord may, by lawful process, enter into and upon the Premises (or any part thereof in the name of the whole); repossess the same, as of its former estate; and expel Tenant and those claiming under Tenant. The words "re-entry" and "re-enter" as used in this Lease are not restricted to their technical legal meanings.

20.3 Damages—Termination.

(a) Upon the termination of this Lease under the provisions of this **Article 20**, Tenant shall pay to Landlord Rent up to the time of such termination, shall continue to be liable for any preceding breach of covenant, and in addition, shall pay to Landlord as damages, at the election of Landlord, either:

(i) the amount (discounted to present value at the rate of five percent (5%) per annum) by which, at the time of the termination of this Lease (or at any time thereafter if Landlord shall have initially elected damages under **Section 20.3(a)(ii)** below), (x) the aggregate of Rent projected over the period commencing with such termination and ending on the Expiration Date, exceeds (y) the aggregate projected rental value of the Premises for such period, taking into account a reasonable time period during which the Premises shall be unoccupied, plus all Reletting Costs (hereinafter defined); or

(ii) amounts equal to Rent which would have been payable by Tenant had this Lease not been so terminated, payable upon the due dates therefor specified herein following such termination and until the Expiration Date, *provided, however*, if Landlord shall re-let the Premises during such period, that Landlord shall credit Tenant with the net rents received by Landlord from such re-letting, such net rents to be determined by first deducting from the gross rents as and when received by Landlord from such re-letting the expenses incurred or paid by Landlord in terminating this Lease, as well as the expenses of re-letting, including altering and preparing the Premises for new tenants, brokers' commissions, and all other similar and dissimilar expenses properly chargeable against the Premises and the rental therefrom (collectively, "**Reletting Costs**"), it being understood that any such re-letting may be for a period equal to or shorter or longer than the remaining Term; and *provided, further*, that (x) in no event shall Tenant be entitled to receive any excess of such net rents over the sums payable by Tenant to Landlord hereunder and (y) in no event shall Tenant be entitled in any suit for the collection of damages pursuant to this **Section 20.3(a)(ii)** to a credit in respect of any net rents from a re-letting except to the extent that such net rents are actually received by Landlord prior to the commencement of such suit. If the Premises or any part thereof should be re-let in combination with other space, then proper apportionment on a square foot area basis shall be made of the rent received from such re-letting and of the expenses of re-letting. Landlord agrees to use reasonable efforts to relet the Premises after Tenant vacates the Premises in the event that the Lease is terminated based upon an Event of Default by Tenant hereunder. Marketing of the Premises in a manner similar to the manner in which Landlord markets other premises within Landlord's control in the Building shall be deemed to have satisfied Landlord's obligation to use "reasonable efforts." In no event shall Landlord be required to (i) solicit or entertain negotiations with any other prospective tenants for the Premises until Landlord obtains full and complete possession of the Premises including, without limitation, the final and unappealable legal right to re-let the Premises free of any claim of Tenant, (ii) relet the Premises before leasing other vacant space in the Building, (iii) lease the Premises for a rental less than the current fair market rental then prevailing for similar office space in the Building, or (iv) enter into a lease with any proposed tenant that does not have, in Landlord's reasonable opinion, sufficient financial resources or operating experience to operate the Premises in a first-class manner.

(b) In calculating the amount due under **Section 20.3(a)(i)**, above, there shall be included, in addition to the Base Rent, all other considerations agreed to be paid or performed by Tenant, including without limitation Tenant's Share of Operating Costs and Taxes, on the assumption that all such amounts and considerations would have increased at the rate of five percent (5%) per annum for the balance of the full term hereby granted.

(c) Suit or suits for the recovery of such damages, or any installments thereof, may be brought by Landlord from time to time at its election, and nothing contained herein shall be deemed to require Landlord to postpone suit until the date when the Term would have expired if it had not been terminated hereunder.

(d) Nothing herein contained shall be construed as limiting or precluding the recovery by Landlord against Tenant of any sums or damages to which, in addition to the damages particularly provided above, Landlord may lawfully be entitled by reason of any Event of Default hereunder. Notwithstanding anything contained herein to the contrary however, except as set forth in Section 21.3, in no event shall Tenant be liable for any of Landlord's indirect, punitive, special or consequential damages as a result of any default by Tenant.

(e) In lieu of any other damages or indemnity and in lieu of full recovery by Landlord of all sums payable under all the foregoing provisions of this **Section 20.3**, Landlord may, by written notice to Tenant, at any time after this Lease is terminated under any of the provisions herein contained or is otherwise terminated for breach of any obligation of Tenant and before such full recovery, elect to recover, and Tenant shall thereupon pay, as liquidated damages, an amount equal to the aggregate of (x) an amount equal to the lesser of (1) Rent accrued under this Lease in the twelve (12) months immediately prior to such termination, or (2) Rent payable during the remaining months of the Term if this Lease had not been terminated, plus (y) the amount of Rent accrued and unpaid at the time of termination, less (z) the amount of any recovery by Landlord under the foregoing provisions of this **Section 20.3** up to the time of payment of such liquidated damages.

20.4 Landlord's Self-Help; Fees and Expenses. If Tenant shall default in the performance of any covenant on Tenant's part to be performed in this Lease contained, including without limitation the obligation to maintain the Premises in the required condition pursuant to **Section 10.1** above, Landlord may, upon reasonable advance notice, except that no notice shall be required in an emergency, immediately, or at any time thereafter, perform the same for the account of Tenant. Tenant shall pay to Landlord upon demand therefor any reasonable costs incurred by Landlord in connection therewith, together with interest at the Default Rate until paid in full. In addition, Tenant shall pay all of Landlord's reasonable costs and expenses, including without limitation reasonable attorneys' fees, incurred in enforcing any obligation of Tenant under this Lease.

20.5 Waiver of Redemption, Statutory Notice and Grace Periods. Tenant does hereby waive and surrender all rights and privileges which it might have under or by reason of any present or future Legal Requirements to redeem the Premises or to have a continuance of this Lease for the Term hereby demised after being dispossessed or ejected therefrom by process of law or under the terms of this Lease or after the termination of this Lease as herein provided. Except to the extent prohibited by Legal Requirements, any statutory notice and grace periods provided to Tenant by law are hereby expressly waived by Tenant.

20.6 Landlord's Remedies Not Exclusive. The specified remedies to which Landlord may resort hereunder are cumulative and are not intended to be exclusive of any remedies or means of redress to which Landlord may at any time be lawfully entitled, and Landlord may invoke any remedy (including the remedy of specific performance) allowed at law or in equity as if specific remedies were not herein provided for.

20.7 No Waiver. Landlord's failure to seek redress for violation, or to insist upon the strict performance, of any covenant or condition of this Lease, or any of the Rules and Regulations promulgated hereunder, shall not prevent a subsequent act, which would have originally constituted a violation, from having all the force and effect of an original violation. The receipt by Landlord of Rent with knowledge of the breach of any covenant of this Lease shall not be deemed a waiver of such breach. The failure of Landlord to enforce any of such Rules and Regulations against Tenant and/or any other tenant in the Building shall not be deemed a waiver of any such Rules and Regulations. No provisions of this Lease shall be deemed to have been waived by either party unless such waiver be in writing signed by such party. No payment by Tenant or receipt by Landlord of a lesser amount than the Rent herein stipulated shall be deemed to be other than on account of the stipulated Rent, nor shall any endorsement or statement on any check or any letter accompanying any check or payment as Rent be deemed an accord and satisfaction, and Landlord may accept such check or payment without prejudice to Landlord's right to recover the balance of such Rent or pursue any other remedy in this Lease provided.

20.8 Restrictions on Tenant's Rights. During the continuation of any Event of Default, (a) Landlord shall not be obligated to provide Tenant with any notice pursuant to Sections 2.3 and 2.4 above; and (b) Tenant shall not have the right to make, nor to request Landlord's consent or approval with respect to, any Alterations or Transfers.

20.9 Landlord Default. Notwithstanding anything to the contrary contained in the Lease, Landlord shall in no event be in default in the performance of any of Landlord's obligations under this Lease unless Landlord shall have failed to perform such obligations within thirty (30) days (or such additional time as is reasonably required to correct any such default, provided Landlord commences cure within 30 days) after notice by Tenant to Landlord properly specifying wherein Landlord has failed to perform any such obligation. Except as expressly set forth in this Lease, Tenant shall not have the right to terminate or cancel this Lease or to withhold rent or to set-off or deduct any claim or damages against rent as a result of any default by Landlord or breach by Landlord of its covenants or any warranties or promises hereunder, except in the case of a wrongful eviction of Tenant from the Premises (constructive or actual) by Landlord, and then only if the same continues after notice to Landlord thereof and an opportunity for Landlord to cure the same as set forth above. In addition, Tenant shall not assert any right to deduct the cost of repairs or any monetary claim against Landlord from rent thereafter due and payable under this Lease.

21. SURRENDER; ABANDONED PROPERTY; HOLD-OVER

21.1 Surrender

(a) Upon the expiration or earlier termination of the Term, Tenant shall (i) peaceably quit and surrender to Landlord the Premises (including without limitation all fixed lab benches and fume hoods then existing in the Premises), Alterations, electric, plumbing, heating and sprinkling systems, fixtures and outlets, vaults, paneling, molding, shelving, radiator

enclosures, cork, rubber, linoleum and composition floors, ventilating, silencing, air conditioning and cooling equipment therein and all other furniture, fixtures, and equipment that was either provided by Landlord or paid for in whole or in part by any allowance provided to Tenant by Landlord under this Lease) broom clean, in good order, repair and condition excepting only ordinary wear and tear and damage by fire or other insured Casualty; (ii) remove all of Tenant's Property, all autoclaves and cage washers (to the extent installed by or on behalf of Tenant) and, to the extent specified by Landlord in accordance with Section 11.1, Alterations made by Tenant; and (iii) repair any damages to the Premises or the Building caused by the installation or removal of Tenant's Property and/or such Alterations. Tenant's obligations under this **Section 21.1(a)** shall survive the expiration or earlier termination of this Lease.

(b) Prior to the expiration of this Lease (or within thirty (30) days after any earlier termination), Tenant shall clean and otherwise decommission all interior surfaces (including floors, walls, ceilings, and counters), piping, supply lines, waste lines, acid neutralization systems and plumbing in and/or exclusively serving the Premises, and all exhaust or other ductwork in and/or exclusively serving the Premises, in each case which has carried or released or been contacted by any Hazardous Materials or other chemical or biological materials used in the operation of the Premises, and shall otherwise clean the Premises so as to permit the Surrender Plan (defined below) to be issued. At least thirty (30) days prior to the expiration of the Term (or, if applicable, within five (5) business days after any earlier termination of this Lease), Tenant shall deliver to Landlord a reasonably detailed narrative description of the actions proposed (or required by any Legal Requirements) to be taken by Tenant in order to render the Premises (including any Alterations permitted or required by Landlord to remain therein) free of Hazardous Materials and otherwise released for unrestricted use and occupancy including without limitation causing the Premises to be decommissioned in accordance with the regulations of the U.S. Nuclear Regulatory Commission and/or the Massachusetts Department of Public Health (the "**MDPH**") for the control of radiation, and cause the Premises to be released for unrestricted use by the Radiation Control Program of the MDPH (the "**Surrender Plan**"). The Surrender Plan (i) shall be accompanied by a current list of (A) all Required Permits held by or on behalf of any Tenant Party with respect to Hazardous Materials in, on, under, at or about the Premises, and (B) Tenant's Hazardous Materials, and (ii) shall be subject to the review and approval of Landlord's environmental consultant, which approval shall not be unreasonably withheld. In connection with review and approval of the Surrender Plan, upon request of Landlord, Tenant shall deliver to Landlord or its consultant such additional non-proprietary information concerning the use of and operations within the Premises as Landlord shall request. On or before the expiration of the Term (or within thirty (30) days after any earlier termination of this Lease, during which period Tenant's use and occupancy of the Premises shall be governed by **Section 21.3** below), Tenant shall (i) perform or cause to be performed all actions described in the approved Surrender Plan, and (ii) deliver to Landlord a certification from a third party certified industrial hygienist reasonably acceptable to Landlord certifying that the Premises do not contain any Hazardous Materials and evidence that the approved Surrender Plan shall have been satisfactorily completed by a contractor acceptable to Landlord, and Landlord shall have the right, subject to reimbursement at Tenant's expense if Tenant has breached its obligations under this paragraph, to cause Landlord's environmental consultant to inspect the Premises and perform such additional procedures as may be deemed reasonably necessary to confirm that the Premises are, as of the expiration of the Term (or, if applicable, the date which is thirty (30) days after any earlier termination of this Lease), free of Hazardous Materials and otherwise available

for unrestricted use and occupancy as aforesaid. Landlord shall have the unrestricted right to deliver the Surrender Plan and any report by Landlord's environmental consultant with respect to the surrender of the Premises to third parties. Such third parties and the Landlord Parties shall be entitled to rely on the Surrender Report. If Tenant shall fail to prepare or submit a Surrender Plan approved by Landlord, or if Tenant shall fail to complete the approved Surrender Plan, or if such Surrender Plan, whether or not approved by Landlord, shall fail to adequately address the use of Hazardous Materials by any of the Tenant Parties in, on, at, under or about the Premises, Landlord shall have the right to take any such actions as Landlord may deem reasonable or appropriate to assure that the Premises and the Property are surrendered in the condition required hereunder, the cost of which actions shall be reimbursed by Tenant as Additional Rent upon demand. Tenant's obligations under this Section 21.1(b) shall survive the expiration or earlier termination of the Term.

(c) No act or thing done by Landlord during the Term shall be deemed an acceptance of a surrender of the Premises, and no agreement to accept such surrender shall be valid, unless in writing signed by Landlord. Unless otherwise agreed by the parties in writing, no employee of Landlord or of Landlord's agents shall have any power to accept the keys of the Premises prior to the expiration or earlier termination of this Lease. The delivery of keys to any employee of Landlord or of Landlord's agents shall not operate as a termination of this Lease or a surrender of the Premises.

(d) Notwithstanding anything to the contrary contained herein, Tenant shall, at its sole cost and expense, remove from the Premises, prior to the end of the Term, any item installed by or for Tenant and which, pursuant to Legal Requirements, must be removed therefrom before the Premises may be used by a subsequent tenant.

21.2 Abandoned Property. After the expiration or earlier termination hereof, if Tenant fails to remove any property from the Building or the Premises which Tenant is obligated by the terms of this Lease to remove within five (5) business days after written notice from Landlord, such property (the "**Abandoned Property**") shall be conclusively deemed to have been abandoned, and may either be retained by Landlord as its property or sold or otherwise disposed of in such manner as Landlord may see fit. If any item of Abandoned Property shall be sold, Tenant hereby agrees that Landlord may receive and retain the proceeds of such sale and apply the same, at its option, to the expenses of the sale, the cost of moving and storage, any damages to which Landlord may be entitled under Section 20 hereof or pursuant to law, and to any arrears of Rent.

21.3 Holdover. If any of the Tenant Parties holds over (which term shall include, without limitation, the failure of Tenant or any Tenant Party to perform all of its obligations under **Section 21.1** above) after the end of the Term, Tenant shall be deemed a tenant-at-sufferance subject to the provisions of this Lease; provided that whether or not Landlord has previously accepted payments of Rent from Tenant, (i) Tenant shall pay Base Rent at 150% of the highest rate of Base Rate payable during the Term during the first thirty (30) days of such holdover, (ii) Tenant shall pay Base Rent at 200% of the highest rate of Base Rent payable during the Term after the first thirty (30) days, (iii) Tenant shall continue to pay to Landlord all additional rent, and (iv) if such holdover continues for more than thirty (30) days, Tenant shall be liable for all damages, including without limitation lost business and

consequential damages, incurred by Landlord as a result of such holding over, Tenant hereby acknowledging that Landlord may need the Premises after the end of the Term for other tenants and that the damages which Landlord may suffer as the result of Tenant's holding over cannot be determined as of the Execution Date. Nothing contained herein shall grant Tenant the right to holdover after the expiration or earlier termination of the Term.

21.4 Warranties. Tenant hereby assigns to Landlord any warranties in effect on the last day of the Term with respect to any fixtures and Alterations installed in the Premises. Tenant shall provide Landlord with copies of any such warranties prior to the expiration of the Term (or, if the Lease is earlier terminated, within five (5) days thereafter).

22. MORTGAGEE RIGHTS

22.1 Subordination. Tenant's rights and interests under this Lease shall be (i) subject and subordinate to any ground lease, overleases, mortgage, deed of trust, or similar instrument covering the Premises, the Building and/or the Land and to all advances, modifications, renewals, replacements, and extensions thereof (each of the foregoing, a "**Mortgage**"), or (ii) if any Mortgagee elects, prior to the lien of any present or future Mortgage. Landlord shall use reasonable efforts to obtain from any such mortgagee a written instrument in recordable form and in the customary form of such mortgagee ("**Nondisturbance Agreement**") with such commercially reasonable modifications as may be requested by Tenant.. Tenant further shall attorn to and recognize any successor landlord, whether through foreclosure or otherwise, as if the successor landlord were the originally named landlord. The provisions of this Section 22.1 shall be self-operative and no further instrument shall be required to effect such subordination or attornment; however, Tenant agrees to execute, acknowledge and deliver such customary instruments, confirming such subordination, non-disturbance and attornment in such form as shall be reasonably requested by any such holder within fifteen (15) days of request therefor.

22.2 Notices. Tenant shall give each Mortgagee of which it has been given notice the same notices given to Landlord concurrently with the notice to Landlord, and each Mortgagee shall have a reasonable opportunity thereafter to cure a Landlord default, and Mortgagee's curing of any of Landlord's default shall be treated as performance by Landlord.

22.3 Mortgagee Consent. Tenant acknowledges that, where applicable, any consent or approval hereafter given by Landlord may be subject to the further consent or approval of a Mortgagee; and the failure or refusal of such Mortgagee to give such consent or approval shall, notwithstanding anything to the contrary in this Lease contained, constitute reasonable justification for Landlord's withholding its consent or approval.

22.4 Mortgagee Liability. Tenant acknowledges and agrees that if any Mortgage shall be foreclosed, (a) the liability of the Mortgagee and its successors and assigns shall exist only so long as such Mortgagee or purchaser is the owner of the Premises, and such liability shall not continue or survive after further transfer of ownership; and (b) such Mortgagee and its successors or assigns shall not be (i) liable for any act or omission of any prior lessor under this Lease; (ii) liable for the performance of Landlord's covenants pursuant to the provisions of this Lease which arise and accrue prior to such entity succeeding to the interest of

Landlord under this Lease or acquiring such right to possession; (iii) subject to any offsets or defense which Tenant may have at any time against Landlord; (iv) bound by any base rent or other sum which Tenant may have paid previously for more than one (1) month; or (v) liable for the performance of any covenant of Landlord under this Lease which is capable of performance only by the original Landlord.

23. QUIET ENJOYMENT.

Landlord covenants that so long as Tenant keeps and performs each and every covenant, agreement, term, provision and condition herein contained on the part and on behalf of Tenant to be kept and performed, Tenant shall peaceably and quietly hold, occupy and enjoy the Premises during the Term from and against the claims of all persons claiming by, through or under Landlord subject, nevertheless, to the covenants, agreements, terms, provisions and conditions of this Lease, any matters of record or of which Tenant has knowledge and to any Mortgage to which this Lease is subject and subordinate, as hereinabove set forth.

24. NOTICES.

Any notice, consent, request, bill, demand or statement hereunder (each, a “**Notice**”) by either party to the other party shall be in writing and shall be deemed to have been duly given when either delivered by hand or by nationally recognized overnight courier (in either case with evidence of delivery or refusal thereof) addressed as follows:

If to Landlord:	PPF OFF 828-830 Winter Street LLC c/o King Street Properties 800 Boylston Street, Suite 1570 Boston, MA 02199 Attention: Stephen D. Lynch
With a copy to:	Morgan Stanley 1585 Broadway, 37 th Floor New York, NY 10036 Attention: Jennie P. Friend Email: Jennie.Friend@morganstanley.com
And to:	Goulston & Storrs PC 400 Atlantic Avenue Boston, MA 02110 Attention: King Street
if to Tenant:	T-Scan Therapeutics, Inc. 4 Blackfan Circle Boston, MA 02115 Attention: Robert Crane
With a copy to:	Looney Cohen & Aisenberg, LLP 33 Broad Street Boston, MA 02109 Attention: James H. Cohen, Esq.

Notwithstanding the foregoing, any notice from Landlord to Tenant regarding ordinary business operations (e.g., exercise of a right of access to the Premises, maintenance activities, invoices, etc.) may also be given by written notice delivered by facsimile to any person at the Premises whom Landlord reasonably believes is authorized to receive such notice on behalf of Tenant without copies as specified above. Either party may at any time change the address or specify an additional address for such Notices by delivering or mailing, as aforesaid, to the other party a notice stating the change and setting forth the changed or additional address, provided such changed or additional address is within the United States. Notices shall be effective upon the date of receipt or refusal thereof.

25. CONDOMINIUM CONVERSION

25.1 The Premises are located in the Building which is erected on the Land which comprises the Property owned by Landlord. The Property may be further enlarged and/or improved with additional buildings (provided that no such enlargements or improvements shall have a material adverse impact on Tenant's rights under this Lease).

25.2 Landlord, on behalf of itself and its successors and assigns, reserves the right to convert the Property, and all of the buildings now or hereafter located thereon, to the condominium form of ownership pursuant to Massachusetts General Laws Chapter 183A (the "Condominium"), so long as such Condominium does not: (x) materially adversely affect Tenant's rights under this Lease, or (y) materially increase Tenant's obligations under this Lease.

25.3 In the event of the conversion of the Property to the Condominium, Tenant will cooperate in the negotiation and execution of commercially reasonable documentation which confirms that the Premises will be described in the Master Deed of the Condominium (the "Master Deed") as part or all of a unit in the Condominium (the "Unit") and shall be subject to said Master Deed and also to an agreement which governs the rights and obligations of the owners of such units (the "Declaration of Trust") (the Master Deed, the Declaration of Trust and any by-laws and rules or regulations promulgated thereunder are referred to collectively as the "Condominium Documents"). Landlord shall reimburse Tenant for its reasonable legal fees in connection with its review of any documents relating thereto (not to exceed \$2,500.00). Landlord and its successors and assigns shall be subject to the Condominium Documents.

25.4 Tenant agrees that in connection with the creation of the Condominium, Tenant will cooperate in the negotiation and execution of commercially reasonable documentation which confirms that this Lease shall be subject and subordinate to the Condominium Documents and that Tenant's leasehold interest will be converted to a leasehold interest in all or a demised portion of an individual unit in the Condominium and an interest in common with others to use common areas of the Condominium that are ancillary to Tenant's Premises under this Lease. Landlord shall reimburse Tenant for its reasonable legal fees in connection with its review of any documents relating thereto (not to exceed \$2,500.00).

26. MISCELLANEOUS

26.1 Separability. If any provision of this Lease or portion of such provision or the application thereof to any person or circumstance is for any reason held invalid or unenforceable, the remainder of this Lease (or the remainder of such provision) and the application thereof to other persons or circumstances shall not be affected thereby.

26.2 Captions. The captions are inserted only as a matter of convenience and for reference, and in no way define, limit or describe the scope of this Lease nor the intent of any provisions thereof.

26.3 Broker. Tenant and Landlord each warrants and represents that it has dealt with no broker in connection with the consummation of this Lease other than Jones Lang LaSalle and CBRE (collectively, "**Broker**"). Tenant and Landlord each agrees to defend, indemnify and save the other harmless from and against any Claims arising in breach of the representation and warranty set forth in the immediately preceding sentence. Landlord shall be solely responsible for the payment of any brokerage commissions to Broker.

26.4 Entire Agreement. This Lease, Lease Summary Sheet and Exhibits 1-12 attached hereto and incorporated herein contain the entire and only agreement between the parties and any and all statements and representations, written and oral, including previous correspondence and agreements between the parties hereto, are merged herein. Tenant acknowledges that all representations and statements upon which it relied in executing this Lease are contained herein and that Tenant in no way relied upon any other statements or representations, written or oral. This Lease may not be modified orally or in any manner other than by written agreement signed by the parties hereto.

26.5 Governing Law. This Lease is made pursuant to, and shall be governed by, and construed in accordance with, the laws of the Commonwealth of Massachusetts and any applicable local municipal rules, regulations, by-laws, ordinances and the like.

26.6 Representation of Authority. By his or her execution hereof, each of the signatories on behalf of the respective parties hereby warrants and represents to the other that he or she is duly authorized to execute this Lease on behalf of such party. Upon Landlord's request, Tenant shall provide Landlord with evidence that any requisite resolution, corporate authority and any other necessary consents have been duly adopted and obtained.

26.7 Expenses Incurred by Landlord Upon Tenant Requests. Tenant shall, upon demand, reimburse Landlord for all reasonable expenses, including, without limitation, reasonable legal fees, incurred by Landlord in connection with all requests by Tenant for consents, approvals or execution of collateral documentation related to this Lease, including, without limitation, reasonable out of pocket costs incurred by Landlord in the review and approval of Tenant's plans and specifications in connection with proposed Alterations to be made by Tenant to the Premises or in connection with requests by Tenant for Landlord's consent to make a Transfer. Such costs shall be deemed to be additional rent under this Lease.

26.8 Survival. Without limiting any other obligation of Tenant which may survive the expiration or prior termination of the Term, all obligations on the part of Tenant to indemnify, defend, or hold Landlord harmless, as set forth in this Lease shall survive the expiration or prior termination of the Term.

26.9 Limitation of Liability. Tenant shall neither assert nor seek to enforce any claim against Landlord or any of the Landlord Parties, or the assets of any of the Landlord Parties, for breach of this Lease or otherwise, other than against Landlord's interest in the Building and in the uncollected rents, issues and profits thereof, and Tenant agrees to look solely to such interest for the satisfaction of any liability of Landlord under this Lease. This **Section 25.9** shall not limit any right that Tenant might otherwise have to obtain injunctive relief against Landlord. **Landlord and Tenant specifically agree that in no event shall any officer, director, trustee, employee or representative of Landlord or any of the other Landlord Parties ever be personally liable for any obligation under this Lease, nor shall Landlord or any of the other Landlord Parties be liable for consequential or incidental damages or for lost profits whatsoever in connection with this Lease.**

26.10 Binding Effect. The covenants, agreements, terms, provisions and conditions of this Lease shall bind and benefit the successors and assigns of the parties hereto with the same effect as if mentioned in each instance where a party hereto is named or referred to, except that no violation of the provisions of **Article 13** hereof shall operate to vest any rights in any successor or assignee of Tenant.

26.11 Landlord Obligations upon Transfer. Upon any sale, transfer or other disposition of the Building, Landlord shall be entirely freed and relieved from the performance and observance thereafter of all covenants and obligations hereunder on the part of Landlord to be performed and observed from and after the date thereof, it being understood and agreed in such event (and it shall be deemed and construed as a covenant running with the land) that the person succeeding to Landlord's ownership of said reversionary interest shall thereupon and thereafter assume, and perform and observe, any and all of such covenants and obligations of Landlord, except as otherwise agreed in writing.

26.12 No Grant of Interest. Tenant shall not grant any interest whatsoever in any fixtures within the Premises or any item paid in whole or in part by Landlord, including without limitation by Landlord's Contribution.

26.13 Financial Information. Tenant shall deliver to Landlord, within thirty (30) days after Landlord's reasonable request, but not more often than once every twelve (12) months unless an Event of Default or such information is requested by any Mortgagee, Tenant's most recently completed balance sheet and related statements of income, shareholder's equity and cash flows statements (audited if available) certified by an officer of Tenant as being true and correct in all material respects. Any such financial information may be relied upon by any actual or potential lessor, purchaser, or mortgagee of the Property or any portion thereof. Landlord agrees to keep such financial information confidential, except for Landlord's partners, investors, lenders, accountants and attorneys, who have been advised of the confidentiality provisions contained herein and agree to be bound by the same.

26.14 OFAC Certificate and Indemnity. As an inducement to Landlord to enter into this lease, Tenant hereby represents and warrants that: (i) Tenant is not, nor is it owned or Controlled directly or indirectly by, any person, group, entity or nation named on any list issued by the Office of Foreign Assets Control of the United States Department of the Treasury pursuant to Executive Order 13224 or any similar list or any law, order, rule or regulation or any Executive Order of the President of the United States as a terrorist, “Specially Designated National and Blocked Person” or other banned or blocked person (any such person, group, entity or nation being hereinafter referred to as a “**Prohibited Person**”); (ii) Tenant is not (nor is it owned, Controlled, directly or indirectly, by any person, group, entity or nation which is) acting directly or indirectly for or on behalf of any Prohibited Person; and (iii) neither Tenant (nor any person, group, entity or nation which owns or Controls Tenant, directly or indirectly) has conducted or will conduct business or has engaged or will engage in any transaction or dealing with any Prohibited Person, including without limitation any assignment of this lease or any subletting or all or any portion of the Premises or the making or receiving of any contribution or funds, goods or services to or for the benefit of a Prohibited Person. In connection with the foregoing, it is expressly understood and agreed that (x) any breach by Tenant of the foregoing representations and warranties shall be an Event of Default, and (y) the representations, warranties and covenants contained in this Article 24 shall be continuing in nature and shall survive the expiration or earlier termination of this Lease.

26.15 Confidentiality. Tenant acknowledges and agrees that the terms of this Lease are confidential. Disclosure of the terms hereof could adversely affect the ability of Landlord to negotiate other leases with respect to the Building and may impair Landlord’s relationship with other tenants of the Building. Tenant agrees that it and its partners, officers, directors, employees, brokers, and attorneys, if any, shall not disclose the terms and conditions of this Lease to any other person or entity without the prior written consent of Landlord which may be given or withheld by Landlord, in Landlord’s sole discretion, except as required for financial disclosures or securities filings, as required by the order of any court or public body with authority over Tenant, or in connection with any litigation between Landlord and Tenant with respect this Lease. It is understood and agreed that damages alone would be an inadequate remedy for the breach of this provision by Tenant, and Landlord shall also have the right to seek specific performance of this provision and to seek injunctive relief to prevent its breach or continued breach.

26.16 Force Majeure. Other than for Tenant’s obligations under this Lease that can be performed by the payment of money (e.g., payment of Rent and maintenance of insurance), whenever a period of time is herein prescribed for action to be taken by either party hereto, such party shall not be liable or responsible for, and there shall be excluded from the computation of any such period of time, any delays due to strikes, riots, acts of God, shortages of labor or materials, war, acts of terrorism, governmental laws, regulations, or restrictions, or any other causes of any kind whatsoever which are beyond the control of such party (collectively “**Force Majeure**”). In no event shall financial inability of a party be deemed to be Force Majeure.

LANDLORD:

PPF OFF 828-830 WINTER STREET, LLC,
a Delaware limited liability company

By: PPF MASS REIT, LLC,
a Delaware limited liability company, its Sole Member

By: PPF OP, LP, a Delaware limited
partnership, its Sole Partner

By: PPF OPGP, LLC, a Delaware
limited liability company, its
General Partner

By: Prime Property Fund, LLC,
a Delaware limited liability company,
its Sole Member

By: Morgan Stanley Real Estate
Advisor, Inc., a Delaware
corporation, its Investment Adviser

By: /s/ Jennie Friend
Name: Jennie Friend

Title: Managing Director

TENANT:

T-SCAN THERAPEUTICS, INC., a Delaware corporation

By: /s/ David P. Southwell
Name: David P. Southwell
Title: CEO

CERTAIN IDENTIFIED INFORMATION HAS BEEN OMITTED FROM THIS DOCUMENT BECAUSE IT IS BOTH NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE REGISTRANT IF PUBLICLY DISCLOSED, AND HAS BEEN MARKED WITH “[***]” TO INDICATE WHERE OMISSIONS HAVE BEEN MADE.

OPTION & EXCLUSIVE LICENSE AGREEMENT

This Option and Exclusive License Agreement (this “Agreement”) is dated November 5, 2020 (the “Effective Date”), between TScan Therapeutics, Inc., a Delaware corporation (hereinafter referred to as “Licensor”), and QIAGEN Sciences, LLC, a limited liability company under Delaware law with an address of 19300 Germantown Road, Germantown, MD 20874 (hereinafter referred to as “Licensee”). Each of Licensee and Licensor may be referred to herein as a “Party” or collectively as the “Parties”.

BACKGROUND

A. Licensor is the owner of right, title and interest in and to the inventions described in the Licensed Patents.

B. Licensee desires to evaluate Licensed Patents, and if it exercises the option as provided herein, to commercially develop, manufacture, use and distribute products and processes based upon or embodying the Licensed Patents throughout the world; and

C. Licensor is willing to grant Licensee the exclusive right to evaluate the Licensed Patents, subject to the terms and conditions set forth in this Agreement;

NOW THEREFORE, the Parties agree as follows:

1. Definitions. For the purpose of the Agreement, the terms set forth hereinafter shall have the following meaning:

1.1 “**Affiliate**” means any entity Controlling, Controlled by, or under common Control with a Party.

1.2 “**Control**” means the holding of more than fifty percent (50%) of the voting stock or other voting ownership interests of the corporation or business entity involved.

1.3 “**Field**” means only research and in vitro diagnostics uses for SARS-CoV-2 (or the detection of SARS-CoV-2), which may include, Research Use Only (RUO), Investigational Use Only (IUO), Analyte Specific Reagents (ASR), Laboratory Developed Tests (LDT) and In Vitro Diagnostic (IVD) products and services.

1.4 “**Improvements**” means any improvement of any Licensed Patents, provided that the manufacture, use, offer for sale, or sale by Licensee of Licensed Products would, but for this Agreement, infringe a Valid Claim in a jurisdiction where such a Valid Claim exists.

1.5 “**License**” shall have the meaning as attributed in Section 2.2.1.

1.6 “**Licensed Know-How**” means know-how or data relating specifically to the Material and/or use thereof in the Field. Licensed Know-How does not contain any patent or patent applications.

1.7 “**Licensed Patents**” shall mean the patent applications listed on Schedule A and, subject to Licensees’ notification obligation in Section 6.2, any patent application relating to, or any patent applications of Licensor based on the Material and any patents issued therefrom, as well as all patent applications and patents which claim priority to the foregoing and any patents issued therefrom, including all divisionals, continuations, and foreign equivalents of each of the foregoing.

1.8 “**Licensed Products**” means a product containing the Material.

1.9 “**Licensed Technology**” means Licensed Patents and Licensed Know-How

1.10 “**Material**” means the peptides listed in the Appendix A of the MTA.

1.11 “**MTA**” means the Material Transfer Agreement between the Parties, dated July 28, 2020, of which a copy is attached as Schedule B.

1.12 “**Net Sales**” means the total of the amounts invoiced by Licensee and its Affiliates, for Licensed Products sold less deductions for [***].

1.13 “**Scientific Research Field**” means the internal use by an end-user solely in SARS-CoV-2 scientific research applications of the end-user.

1.14 “**Sell**” (and “Sale” and “Sold” as the case may be) shall mean to sell or have sold, to lease or have leased, or otherwise to transfer or have transferred a Licensed Product for valuable consideration (in the form of cash or otherwise).

1.15 “**Term**” shall have the meaning set forth in Section 11.1.

1.16 “**Territory**” means worldwide.

1.17 “**Multimers**” shall mean [***].

1.18 “**Third Party**” means any party other than the Parties and their respective Affiliates.

1.19 “**Valid Claim**” means (a) for the first [***]years after Effective Date, a claim of an unexpired patent or pending application for a patent, wherein the claim (i) has not lapsed, (ii) has not expired, or (iii) has not been held to be invalid by a final judgment of a court of competent jurisdiction from which no appeal can or is taken, and (b) after the [***] anniversary of the Effective Date, a claim of an unexpired patent or pending application, wherein the claim (i) has not lapsed, (ii) has not expired, (iii) has not been held to be invalid, unpatentable or otherwise unenforceable by a final judgment of a court of competent jurisdiction from which no appeal can or is taken.

2. Grant.

2.1 Option.

2.1.1 Grant of Option. Licensor grants to Licensee an option for the License (as defined below) pursuant to Section 2.2 (the "Option").

2.1.2 Option Exercise Period. "The Option Exercise Period" shall begin on Licensor's receipt of the Option Fee in immediately available funds and shall terminate on the date that is one (1) year from the Effective Date. During the Option Exercise Period, Licensee shall use, on a non-transferable, non-exclusive basis, the Licensed Patents and Material for evaluation purposes only and shall not commercialize, market, distribute, sell or have sold any product or service involving a Licensed Patent or the Material. All intellectual property rights arising, created, or derived from, or relating to, the Material shall be owned by Licensor. Licensee will promptly disclose any such intellectual property rights to Licensor. Licensee hereby assigns all such intellectual property rights to Licensor, and Licensee shall not file or seek any intellectual property protection anywhere in the Territory with respect to the Material or claim any rights of ownership with respect to the Material. During the Option Exercise Period, Licensee will notify Licensor in writing if Licensee believes as a result of its evaluation that it would be in the best interests of the parties for Licensor to file a patent application in a particular jurisdiction in the Territory with respect to an intellectual property right arising from the Material. Licensor shall promptly file a patent application in such jurisdiction, and Exhibit A shall be automatically amended to include such patent application without further action by the parties.

2.1.3 Option Exercise. Licensee in its sole discretion may decide at any time during the Option Exercise Period to exercise its Option by notifying Licensor of its intention in writing, pay the Option Exercise Fee, and an exclusive license to the Licensed Patents, pursuant to the terms of this Agreement.

2.2 License.

2.2.1 Grant of License Rights. Subject to and only upon the timely exercise of the Option in accordance with this Agreement, to Licensee's full compliance with the terms and conditions of this Agreement, and on Licensor's receipt of the Option Exercise Fee, Licensor hereby grants to Licensee and Licensee hereby accepts from Licensor, a royalty-bearing, worldwide, sublicensable (in accordance with Section 2.2.3), exclusive license, under the Licensed Technology, to use, have used, make, have made, market, sell and have sold Licensed Products but, in each case in (and only in) the Field (the "License"). Notwithstanding the foregoing, Licensor shall not be restricted from conducting research or developing or commercializing products for or related to the treatment of SARS-CoV-2. Notwithstanding the foregoing Licensor has the right to grant to one (1) Third Party at a time, a worldwide, non-sublicensable, co-exclusive license, under the Licensed Technology, to use, have used, make, have made, market, sell and have sold and otherwise fully exploit Multimers solely under the Third Parties own trademarks, and in each case, in (and only in) the Scientific Research Field.

2.2.2 Extension to Licensee Affiliates. The rights granted to Licensee under this Article 2 and Licensee's obligations under this Agreement shall extend to Licensee's Affiliates and Licensee may subcontract any part of its obligations under this Agreement to its Affiliates; provided, that (a) each such Affiliate shall be bound by the terms of this Agreement, (b) Licensee shall remain responsible for the fulfillment and performance of all obligations under this Agreement by each such Affiliate, and (c) the extension of the rights granted herein to an Affiliate will cease at such time as such Affiliates ceases to be an Affiliate of Licensee.

2.2.3 Sublicenses. During the Term, Licensee shall have the right to grant sublicenses of its rights granted under the License, provided that (i) no sublicense exceeds the scope of the license granted in this Section, (ii) each sublicense includes obligations of the sublicensee that require at least the level of indemnification, reporting, confidentiality and audit and inspection rights in favor of Licensor as those set forth herein, (iii) Licensee diligently enforces such obligations against each sublicensee, and (iv) Licensee is liable to Licensor for any failure by any sublicensee to comply with obligations relating to payment, reporting, confidentiality and audit and inspection rights. Licensee shall promptly (but in any event, within [***]days) furnish Licensor with a fully signed photocopy of any sublicense agreement.

3. Fees.

3.1 Option Fee. At the receipt of a one-time non-refundable, non-creditable payment of USD \$[***] (the "Option Fee"), Licensor grants to Licensee the Option to the License. Licensor will send an Option Fee invoice to Licensee immediately after the Effective Date.

3.2 Option Exercise Fee. On exercise of the Option, Licensee shall pay Licensor a non-refundable, non-creditable one-time payment of USD \$[***] (the "Option Exercise Fee") within [***] days of the confirmation of the Licensor of receipt of the exercise notification and the receipt of a respective invoice. Licensee in its sole discretion may decide at any time during the Option Exercise Period to exercise its Option.

3.3 Milestone Fee. Licensee shall pay Licensor a one-time non-refundable, non-creditable payment of USD \$[***] upon launch of the first IVD product (i.e., cleared or approved by the United States Food and Drug Administration or certified as CE-IVD in the European Union).

4. Royalties, Records and Reports, Payment.

4.1 Royalties.

(a) During the Term, Licensee will pay Licensor royalties of [***] of Net Sales of Licensed Products made, used, imported, exported, distributed, offered for sale or sold in a country where, absent the rights granted hereunder, the manufacturing, sale or use would infringe at least one Valid Claim of the Licensed Patents.

(b) During the Term, Licensee will pay Licensor royalties of [***] of Net Sales of Licensed Products made, used, imported, exported, distributed, offered for sale or sold in a country where, absent the rights granted hereunder, the manufacturing, sale or use would not infringe at least one Valid Claim of the Licensed Patents.

(c) Sales among Licensee and its Affiliates shall be disregarded for purposes of computing royalties unless the Affiliate is the end consumer of the Licensed Product, in which case, such royalties shall be calculated in accordance with Section 4.1(a) or (b), as applicable. For clarification the foregoing shall not include the use of a Licensed Product by an Affiliate in internal research or development, marketing, quality assurance, quality control, clinical trials, registration and validation and no royalty shall be due on Licensed Products used for such purposes.

4.2 Royalty Stacking. In the event Licensee cannot use or dispose of a Licensed Product without infringing a third party patent, and Licensee is legally or contractually obligated to pay a royalty to such third party for such right, Licensee may reduce the royalties payable hereunder for such Licensed Product by [***]% of the amounts payable to such Third Party(ies), but in no event below [***]% of the royalties that would otherwise be paid to Licensor for such Licensed Product.

4.3 Sublicensing Receipts. Licensee shall pay to Licensor a royalty equal to [***] of all consideration, including without limitation all fees, receipts, revenue, royalties (which in no case shall fall below [***]% of Net Sales) collections, equity, and other amounts or property, payable to or received by Licensee in connection with the grant or maintenance of sublicenses of any rights to Licensed Products or Licensed Patents to non-Affiliated third parties.

4.4 Records. Licensee shall keep full, true and accurate books of account containing all particulars which may be necessary for the purpose of showing the amount payable by way of royalty or by way of any other provision under this Agreement for itself and shall require each of its sublicensed Affiliates to perform likewise. Such books and the supporting data shall be open at all reasonable times during normal business hours and upon reasonable advance notice, for [***] years following the end of the calendar quarter to which they pertain, to the inspection of an independent certified public accountant retained by Licensor and reasonably acceptable to Licensee for the purpose of verifying Licensee's royalty statements in respect of sales by Licensee and/or its Affiliates for the sole purpose of determining compliance with this Agreement. If in dispute, any such records shall be kept until the dispute is settled. The inspection of records shall be limited to once per calendar year and shall be at Licensor's sole cost unless the inspector concludes that royalties reported by Licensee for the period being audited are understated by [***] or more from actual royalties, in which case the underpayment, together with interest thereon, will be due within [***] days and the reasonable costs and expenses of such inspection shall be split and reasonable costs and expenses incurred to collect such amounts shall be paid by Licensee. In case that the audit reveals an overpayment by Licensee, such overpaid royalties shall be refunded within [***] days

4.5 **Royalty Reports and Payment.**

4.5.1 Earned Royalty Report. Licensee shall, within [***] days after the first day of January, April, July, and October of each year, deliver to Licensor a true and accurate royalty report in the form of Schedule C attached herein for Net in the Territory. Such reports shall give such particulars of the business conducted by Licensee and its Affiliates during the preceding three (3) calendar months as are pertinent to an accounting for royalty under this Agreement and shall include at least the following:

- (a) Itemized quantities Licensed Products that are sold by Licensee and its Affiliates during those three (3) months;
- (b) Net Sales of each Licensed Product;
- (c) The calculation of royalties;

The royalties due, and if no royalties are due, it shall be so reported; and simultaneously with the delivery of each royalty report, Licensee shall pay to Licensor the royalty due under this Agreement for the period covered by such report.

4.5.2 Payments. All amounts payable hereunder by Licensee shall be payable in immediately available USD and shall be wire transferred, in accordance with the wire instructions listed below. Licensee shall be responsible for all bank transfer charges. The payment by wire will include a specific reference to this Agreement and the applicable provision in the “comments” field.

Wire Instructions

[***]

4.6 Currency Conversion. For the purpose of computing payments made in a currency other than USD, such currency shall be converted into USD at the conversion rates used by Licensee in the rest of its business to consolidate foreign currencies, provided only that such rates are obtained from a credible source and are applied in a manner consistent with generally accepted accounting principles used in the United States.

4.7 Withholding Tax. Any payments made by Licensee to Licensor under this Agreement shall be free and clear of any taxes, duties, levies, fees or charges, and such amounts shall be reduced by the amount required to be paid or withheld pursuant to any applicable law ("Withholding Taxes"). Any such Withholding Taxes required by law to be paid or withheld shall be an expense of, and borne solely by, Licensor. Licensee, as applicable, shall submit to Licensor reasonable proof of payment of the Withholding Taxes, together with an accounting of the calculations of such taxes, within days after such Withholding Taxes are remitted to the proper authority. The Parties will cooperate reasonably in completing and filing documents required under the provisions of any applicable tax laws or under any other applicable law in connection with the making of any required tax payment or withholding payment, or in connection with any claim to a refund of or credit for any such payment.

5. Patent Maintenance and Prosecution.

5.1 Authority.

(a) During the term of the Option Exercise Period and the Term, Licensor shall be solely responsible for managing files and covering costs related to applications for the grant, examination, extension, renewal and defense of the Licensed Patents. Licensor will inform Licensee on receipt of written request, but no more than semi-annually, in writing of the state of progress of all procedures relating to the Licensed Patents.

(b) Licensor will provide Licensee with copies of all written communications to and from any patent office with respect to the patent applications and patents contained in the Patents. Licensor will not abandon the prosecution of any patent application or abandon or discontinue the maintenance of any patent or patent application included in the Licensed Patent rights, without the prior written notice to Licensee. Licensee shall immediately notify Licensor of all matters of which Licensee become aware that affects, or reasonably could affect, the preparation, filing, prosecution, defense, or maintenance of the Licensed Patents. Licensee shall assist Licensor in seeking a term extension/supplementary protection certificate if requested by Licensor.

(c) Title to all such patents and patent applications in the Licensed Patents shall reside in Licensor.

5.2 Enforcement of Third Party Infringement.

(a) Upon receiving notice of alleged infringement of any Licensed Patent in the Territory, or having a declaratory judgment action alleging invalidity or noninfringement of any Licensed Patent in the Territory brought against it, Licensee shall promptly provide written notice to Licensor of the alleged infringement or declaratory judgment action, as applicable, and a copy of all pleadings and correspondence relating thereto.

(b) Regarding infringements or declaratory judgment action brought by third parties of the Licensed Patents, Licensor and Licensee hereby agree that Licensor shall, at its sole cost and expense and in its sole discretion, may but without obligation take commercially reasonable steps to enforce or defend any Licensed Patent and to terminate such infringement or declaratory judgment action. If Licensor determines that the Licensed Patents are being infringed in a country where it is commercially feasible to enforce such Licensed Patent and declines to take actions to enforce or defend such Licensed Patent at its own

cost and expense within [***] of such determination, royalty payments from Net Sales of Licensed Products in that country will be reduced to [***] for the period that Licensor fails to enforce or defend such Licensed Patent. Licensor shall control, settle, and prosecute any litigation arising from such third party infringement or declaratory judgment action. Licensee shall assist Licensor and reasonably cooperate in any such actions set forth above at Licensor's request and expense, including without limitation executing any documents reasonably necessary to permit Licensor to prosecute any suit, join Licensor as a plaintiff as necessary or advisable to maintain standing, and make available Licensee's employees and Affiliates and relevant records to assist in and to provide evidence for such suit. Any damages, awards or settlements resulting from an infringement claim shall be retained, for its own account, by Licensor and used to reimburse Licensor for any reasonable cost or expense incurred during litigation. The remainder of the recovered damages, awards or settlements, if any, from an infringement claim shall first be paid to Licensor to make it whole for the amount it would have received but for the reduction in the royalty percentage and the balance will be treated as Sublicensing Income for the purpose of royalty payments. Licensee will not settle or compromise any litigation, proceeding, or claim without Licensor's prior written consent if the settlement or compromise imposes any liability or obligation on Licensor or does not contain an unconditional release of Licensor.

(c) If Licensor elects not to terminate infringement as described in the foregoing paragraph, then it shall so notify Licensee in writing, and Licensee may, in its sole judgment and at its own expense, take steps to enforce Licensed Patents in a manner consistent with the terms and provisions hereof. Any damages, awards or settlements resulting from such an infringement claim shall be retained, for its own account, by Licensee and be used to reimburse Licensee for any cost or expense incurred during this litigation. The remainder of the recovered damages, awards or settlements attributed to the Licensed Patents, if any, shall be shared between Licensor and Licensee [***], respectively.

(d) Licensee will not settle any litigation or compromise any claim arising from or relating to a Licensed Product that includes an obligation of Licensor without the prior written consent of Licensor, which consent will not be unreasonably withheld.

6. Improvements.

6.1 Summary of Improvements. If Licensor files a patent application anywhere in the Territory for any Improvement, Licensee may request a summary of the Improvement and a copy of the patent application with respect to the Improvement from Licensor.

6.2 License to Improvements. Licensee may include any patent application claims covering Improvements as a Licensed Patent under this Agreement at no additional cost other than the costs set forth in this Agreement by providing written notice to Licensor within [***] days after publication of such patent application identifying the Improvement patent applications Licensee chooses to include as a Licensed Patent. If Licensor concurs with such determination, such patent applications will be deemed to be a Licensed Patent effective on Licensee's notice to Licensor in accordance with Section 14.5 of this Agreement.

7. Confidentiality, No Publicity.

(a) Each Party shall (i) maintain the terms of this Agreement and any confidential or proprietary information, including without limitation know-how, trade secrets, technology, and financial information, exchanged, disclosed, observed, acquired, or learned in connection with this Agreement (“Confidential Information”) in confidence during and for a period of [***] years after the termination of this Agreement; (ii) limit dissemination to those of its and its Affiliates’ employees who require such Confidential Information in order to perform this Agreement; (iii) not disclose such Confidential Information to any other person or entity; and (iv) use such Confidential Information only and exclusively to the extent necessary to perform its obligations and enforce its rights under this Agreement. Notwithstanding the foregoing, either Party may disclose the terms of this Agreement (without the consent of the other Party) to its potential investors or acquirers in confidence in connection with bona fide due diligence activities. Further, Licensor may disclose Confidential Information to Brigham and Women’s Hospital, Inc. (“BWH”) but only if and to the extent TScan is required to do so to comply with its obligations under the Exclusive Patent License Agreement between TScan and BWH (e.g., royalty reports).

(b) Notwithstanding any other provision of this Agreement, Confidential Information shall not include any item of information which: (i) is within the public domain prior to the time of the disclosure by the disclosing Party, or thereafter becomes within the public domain, other than as a result of disclosure by the receiving Party or any of its representatives in violation of this Agreement; (ii) was, on or before the date of disclosure in the possession of the receiving Party, as evidenced by records, however maintained without use or reference to Confidential Information (ii) is acquired by the receiving Party from a third party having the right to disclose without burden of confidentiality; (iv) is hereafter independently developed by the receiving Party without use of or reference to Confidential Information, as evidenced by written records, however maintained.

(c) The receiving Party may make disclosures compelled by law (including regulations promulgated by applicable security exchanges), laws to which Licensor is subject, regulation, subpoena or court order to disclose any of the Confidential Information, provided the receiving Party must: (i) promptly notify the disclosing Party before disclosing Confidential Information to allow the other Party to participate in the proceeding; (ii) reasonably assist the disclosing Party to obtain a protective order or other remedy of disclosing Party’s disclosure; (iii) provide disclosing Party prior review of any disclosure; (iv) only provide that portion of the Confidential Information that is legally required; and (v) make reasonable efforts to obtain reliable assurance that the Confidential Information will be maintained in confidence.

(d) Given the nature of the Confidential Information and the damage that would result to the disclosing Party upon unauthorized disclosure, use or transfer of their Confidential Information to any third party, the Parties agree that monetary damages would not be a sufficient remedy for any breach or threatened breach of this Section 7. In addition to all other remedies, disclosing Party will be entitled to seek specific performance and injunctive and other equitable relief as a remedy for any breach or threatened breach of this Section 7 by the receiving Party. The allegedly breaching Party agrees to waive any requirement for the securing or posting of any bond or the showing of actual monetary damages in connection with such remedy hereunder.

8. Assignment/Transferability.

8.1 Assignment by Licensee. The rights to be granted hereunder are specific to Licensee and shall not be assigned, or otherwise transferred by Licensee to any other party, without the prior written consent by Licensor given in its sole discretion. Licensee may assign or otherwise transfer this Agreement and the license granted hereby and the rights acquired by it hereunder in connection with the merger of such company or a sale or other transfer of Licensee's entire business or all or substantially all of that part of Licensee's business to which the license granted hereby relates, provided, in all such cases, that Licensee provides Licensor with prior written notice of any such assignment or transfer and any such assignee or transferee has agreed in writing to be bound by the terms and provisions of this Agreement or is so bound by operation of law. In addition, without limiting any other rights of Licensee under this Agreement, Licensee may assign or otherwise transfer this Agreement and its rights and licenses hereunder to any Affiliate without the consent of Licensor, provided that Licensee provides Licensor with prior written notice of any such assignment or transfer and the Assignee has agreed in writing to be bound by the terms and provisions of this Agreement or is so bound by operation of law.

8.2 Assignment by Licensor. Licensor may freely assign all or any part of its rights and obligations under this Agreement at any time with written notice of Licensee. Licensee agrees to execute such further acknowledgments or other instruments as Licensor may reasonably request in connection with such assignment.

9. Representations; Warranties; Negation of Warranties.

9.1 Mutual. Each Party represents and warrants to the other Party that (i) it is a valid legal entity existing under the laws of the state or country of its incorporation or organization with the power to own all of its properties and assets and to carry on its business as it is currently being conducted; (ii) the execution and delivery of this Agreement by such Party has been duly authorized by all necessary corporate or organizational action; (iii) it has, and will retain throughout the Term, the full right, power, and authority to enter into this Agreement; and (iv) this Agreement is the legal, valid, and binding obligation of such Party enforceable against it in accordance with its terms.

9.2 Licensor. Licensor represents and warrants as of the Effective Date that:

(a) To Licensor's knowledge, no third party is misappropriating, infringing, diluting, or violating the Licensed Patents and no such claims have been brought against any third party by the Licensor.

(b) To Licensor's knowledge, Licensor is the owner of all right, title and interest in and to each of the Licensed Patents.

(c) To Licensor's knowledge, none of the Licensed Patents are involved in any interference, reissue, re-examination or opposition proceeding and no such action has been threatened in writing with respect to any such patent or patent application.

9.3 Disclaimer. NEITHER LICENSOR NOR ITS SUPPLIERS MAKE ANY REPRESENTATION OR WARRANTY EXCEPT AS EXPRESSLY SET FORTH IN SECTION 9 OF THIS AGREEMENT, AND EXPRESSLY DISCLAIMS ALL OTHER REPRESENTATIONS AND WARRANTIES, EXPRESS, IMPLIED, STATUTORY, OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, COURSE OF DEALING, USAGE, AND TRADE PRACTICE, WITH RESPECT TO THE SCOPE, VALIDITY OR ENFORCEABILITY OF THE PATENTS; THAT ANY PATENT WILL ISSUE BASED UPON ANY OF THE PENDING PATENT RIGHTS; OR THAT THE MANUFACTURE, USE, SALE, OFFER FOR SALE OR IMPORTATION OF THE LICENSED PRODUCTS WILL NOT INFRINGE INTELLECTUAL PROPERTY RIGHTS. IN NO EVENT WILL LICENSOR BE LIABLE TO LICENSEE FOR LOSS OF PROFITS, LOSS OF BUSINESS, LOSS OF USE, OR ANY OTHER CONSEQUENTIAL, INDIRECT, INCIDENTAL, EXEMPLARY, SPECIAL, OR PUNITIVE DAMAGES.

10. Indemnification.

10.1 Indemnity. Licensee will indemnify, defend, reimburse, and hold harmless Licensor, and their respective directors, officers, affiliates, employees, agents, consultants, and advisors ("Licensor Indemnitees") from and against all claims, liabilities, obligations, demands, damages, fines, fees, costs, expenses (including reasonable attorney fees and costs) and losses arising from or relating to (a) death, personal injury, illness, and property damage arising from or relating in any way to this Agreement, including the Licensed Products in countries with or without a Valid Claim; (b) the use or misuse by or on behalf of the Licensee, its Affiliates, sublicensees, and their respective customers, suppliers, independent contractors and other third party persons, of any of the Licensed Patents, or the Licensed Products in countries with or without a Valid Claim; (c) Licensee's or its Affiliates' or sublicensees' design, manufacture, distribution, storage, sale, import, and/or use of Licensed Products; (d) performance by or on behalf of the Licensee, its Affiliates, sublicensees, and their respective customers, suppliers, independent contractors and other third party persons of Licensed Products in countries with or without a Valid Claim; (e) Licensee's and/or its Affiliates' or its sublicensees' negligence or willful misconduct; (f) any and all payments imposed on Licensor which are payable by Licensee or its Affiliates or any of its sublicensees; or (g) Licensee's or its Affiliates' or sublicensees' breach of its representations or obligations under this Agreement. Licensor will reasonably cooperate with Licensee, at Licensee's request and expense, in the defense of any third party claim indemnified by Licensee; provided that under no circumstances will Licensee or any party acting on its behalf make any admissions of fault or create any obligation (including any settlement) which is binding on any Licensor Indemnitees without the express prior written consent of the Licensor Indemnitees.

10.2 Indemnification Procedure. A party seeking indemnification or reimbursement hereunder shall give the other party prompt written notice of any such claim or law suit (including a copy thereof) served upon it and shall fully cooperate with the indemnifying party and its legal representatives in the investigation of any matter the subject of indemnification. The indemnifying party shall have full control over the proceedings, including but not limited to, selection of counsel to tender appearance for the indemnifying party and for the indemnified party, provided, however, that the indemnified party shall have the right to retain its own counsel, at its sole expense, if representation of such indemnified party by the counsel retained by the indemnifying party would be inappropriate because of potential differences in the interests of such indemnified party and any other party represented by such counsel. The indemnified party shall promptly sign any and all reasonably necessary documents for the selection of counsel, such as a joint defense agreement, and shall not unreasonably withhold its consent to conflict waivers. However, if the indemnifying party fails or chooses not to assume full control of the proceedings, the indemnified may do so. The indemnified party's attorney's fees shall be limited to those necessary for complying with the indemnifying party's requests for support that necessarily call for the use of the indemnified party's counsel (e.g., preparing a witness for deposition), unless the indemnified party assumes full control of the proceedings. The party seeking indemnification shall not unreasonably withhold its approval of the settlement of any claim, liability, or action covered by Section 9.1, as applicable, will cooperate with counsel of the indemnifying or reimbursing party, and reserves the right to engage its own counsel to assist in the defense at the expense of the indemnifying party.

11. Term and Termination.

11.1 Term. The Option is granted to Licensee for the Option Exercise Period as of the Effective Date and this Agreement will expire automatically thereafter if the Option is not exercised within the Option Exercise Period in accordance with the terms of this Agreement. If the Option is exercised during the Option Exercise Period in accordance with the terms of this Agreement, the License is granted to Licensee as of the date of exercising the Option and will – together with the entire Agreement – expire upon the later of (i) expiration of the last to expire Valid Claim of the Licensed Patents or (ii) 15 years from the Effective Date, unless terminated earlier in accordance with this Agreement, in which case the period of the term shall end at the date of termination (the “Term”). After the expiration (but not termination) of such Term in such country the License shall become non-exclusive and royalty free.

11.2 Termination by Licensee. Licensee may terminate this Agreement for any reason on 60 days' written notice to Licensor.

11.3 Termination by Licensor. Licensor may terminate this Agreement:

11.3.1 Insolvency. Immediately if at any time and in any jurisdiction, Licensee shall file a petition for bankruptcy or insolvency or similar procedure, or if Licensee shall be served with an involuntary petition for bankruptcy, insolvency, or similar proceeding against it and such petition is not dismissed within [***] days after its filing, or if Licensee shall propose or be a party of any dissolution, receivership, assignment to creditors, or liquidation procedure.

11.3.2 Material Breach. Upon any material breach or default under this Agreement by Licensee or an Affiliate, including the failure to pay any money owed under this Agreement, this Agreement may be terminated by Licensor upon [***] days written notice to Licensee, unless during said period and to Licensor's satisfaction Licensee fully cures such breach or default and notifies Licensor of such cure.

11.3.3 **Challenges to Validity or Enforceability.** Immediately if Licensee or its Affiliates or sublicensees challenges, or institutes any action or proceeding that challenges, the validity or enforceability of any of the Licensed Patents and upon [***] days written notice to Licensee if any sublicensee challenges, or institutes any action or proceeding that challenges, the validity or enforceability of any of the Licensed Patents (unless during such [***] day period Licensee terminates the applicable sublicense agreement with such sublicensee).

11.4 **Consequences of Termination.**

(a) Upon termination of this Agreement as provided herein, Licensee shall stop, and shall cause its Affiliates and each sublicensee to stop, selling and offering for sale, and/or providing Licensed Products, and all rights and licenses granted to Licensee by Licensor hereunder and all sublicenses shall immediately terminate. Notwithstanding the foregoing, except for termination by Licensee pursuant to Section 11.2 or Licensor pursuant to Section 11.3, Licensee and its Affiliates and sublicensees shall have the right to continue selling, for a period of time not to exceed [***] months following the effective date of termination of this Agreement, those Licensed Products manufactured and possessed by it prior to the effective date of termination of this Agreement. Licensee will continue to comply with its obligations to report to Licensor and to pay royalties as to the sale of such Licensed Products.

(b) Licensee's obligations to report to Licensor and to pay royalties as to the sale of Licensed Products or performance hereunder pursuant to the Agreement prior to termination or expiration of the Agreement or as contemplated by Section 11.4 shall survive such termination or expiration of this Agreement.

(c) Each Party will promptly return to the other Party or delete or destroy the Confidential Information of the other Party (except that each Party may retain one copy of the other Party's Confidential Information solely for archival purposes or as required by applicable law), and will deliver a certificate signed by one of its authorized officers that it has done so. Licensor may also retain and use Licensee's Confidential Information to enforce its rights under this Agreement.

(d) The following Sections will survive termination or expiration of this Agreement: Section 1 (Definitions), Section 4 (Royalties; Records and Reports; Payment), Section 7 (Confidentiality; No Publicity), Section 10 (Representations; Warranties; and Negation of Warranties), Section 10 (Indemnification); Section 11.4 (Consequences of Termination), Section 13 (Insurance), and Section 14 (General).

12. **Compliance with Law.**

(a) Licensee shall, and shall cause its Affiliates and sublicensees, to comply with all foreign, federal, state, and local laws, rules, ordinances, and regulations with respect to this Agreement, whether or not a Valid Claim exists in a country.

(b) Licensee shall comply, and shall cause its Affiliates and sublicensees to comply, with all foreign, federal, state, and local laws, rules, ordinances, and regulations with respect to (i) the Licensed Patents, (ii) the manufacture, marketing, import, use, and sale of the Licensed Products, (iii) the operation of their respective businesses. Licensee also agrees, and shall cause its Affiliates and sublicensees, to comply with all patent marking laws in each jurisdiction in the Territory, the patent markings required of Licensee by Licensor.

(c) Licensee acknowledges that it is subject to all United States laws and regulations (including the Export Administration Act of 1979 and the Arms Export Control Act (collectively, the “**Export Acts**”)) that control the export of technical data, computer software, laboratory prototypes, biological material and other commodities, including without limitation, the Materials and Technical Information. The transfer of those items may require a license by Licensee from the Government or written assurances by Licensee that it will not export such items to certain foreign countries without prior approval from the Government.

(d) Licensee will at all times (a) comply with the Export Acts and obtain all required export licenses and approvals necessary to comply with the Export Acts and any other applicable law; and (b) be solely responsible for ensuring that the Licensed Products comply with all applicable laws, rules, regulations, orders, decrees, judgments and other governmental acts of any foreign governmental authorities having jurisdiction over Licensee or the Licensed Products (including any health and safety rules and regulations and any patent, copyright, trademark or other infringement laws).

13. Insurance. Licensee will maintain and provide evidence of general and product liability insurance with deductibles and minimum limits of liability in amounts commensurate with industry standards and Licensee’s business, but not less than USD \$[***] per occurrence, and sufficient to satisfy its obligations under this Agreement, including with respect to its indemnification obligations. The insurance coverage must be written by insurers licensed to provide insurance coverage in the United States and shall insure against all liability, including but not limited to, bodily injury or property damage arising out of the manufacture, sale, distribution, marketing, development or commercialization of Licensed Products. Evidence of insurance coverage, and payments of premiums, including without limitation certificates of insurance, shall be provided to Licensor upon request.

14. General.

14.1 Governing Law. This Agreement shall be governed by and interpreted in accordance with the laws of the United States and of the state of New York excluding the provisions of conflicts of laws or choice of laws. Any disputes arising out of or in connection with this Agreement shall be settled by the competent federal or state court of New York, except as to any issue which depends upon the validity, scope or enforceability of any patent within Licensed Patents which issue shall be determined in accordance with the laws of the territory in which such Licensed Patents exist. Each Party hereby agrees and does submit to the jurisdiction and venue of the federal and state courts located in New York.

14.2 Severability. Should any provision of this Agreement be or become invalid, ineffective or unenforceable as a whole or in part, the validity, effectiveness and enforceability of the remaining provisions shall not be affected thereby. Any such invalid, ineffective or unenforceable provision shall, to the extent permitted by law, be deemed replaced by such valid, effective and enforceable provision as comes closest to the economic intent and purpose of such invalid, ineffective or unenforceable provision.

14.3 Amendments and Waivers. Any changes or modifications of this Agreement must be made in writing and signed by both Parties. Neither the failure nor any delay on the part of any Party to exercise any right under this Agreement will operate as a waiver, nor will any single or partial exercise of any right preclude any other or further exercise of the same or any other right, nor will any waiver of any right with respect to any occurrence be construed as a waiver of such right with respect to any other occurrence. All waivers must be in writing and signed by the waiving Party.

14.4 Counterparts and Signatures. This Agreement may be executed in two (2) or more counterparts, each of which shall be deemed an original and all of which will together be deemed to constitute one agreement. The Parties agree that the execution of this Agreement by exchanging pdf signatures, and/or by industry standard electronic signature software, shall have the same legal force and effect as the exchange of original signatures. In any proceeding arising under or relating to this Agreement, each Party hereby waives any right to raise any defense or waiver based upon execution of this Agreement by means of such electronic signatures or maintenance of the executed agreement electronically.

14.5 Notices. All notices and other communications under this Agreement will be in writing and will be deemed to have been given (a) when delivered, if delivered personally; (b) when received by the addressee if sent by an internationally recognized overnight courier (receipt requested); or (c) on the date sent by facsimile or email (in each case with confirmation of transmission) if sent during the recipient's normal business hours, and on the next business day if sent after the recipient's normal business hours. The address for such notices will be:

Licensors: TScan Therapeutics, Inc.
Att: Shane Maltbie, Vice President of Finance
Address: 830 Winter Street, Waltham, MA 02451
Email: [***]

Licensee: QIAGEN Sciences, LLC
Att: QIAGEN Legal Department
Address: 19300 Germantown Road, Germantown, MD 20874
Fax: [***]
Email: [***]

Either Party may by written notice to the other party designate a different address and/or contact information.

14.6 Independent Contractors. The relationship between the Parties is that of independent contractors. Nothing contained in this Agreement shall be construed as creating any agency, partnership, joint venture or other form of joint enterprise, employment, or fiduciary relationship between the parties, and neither Party shall have authority to contract for or bind the other Party in any manner whatsoever

14.7 Entire Agreement. This Agreement constitutes the entire agreement between the Parties concerning the subject matter hereof and supersedes all written or oral, prior or contemporaneous agreements, or understandings with respect thereto.

IN WITNESS WHEREOF, the Parties have executed this Option and Exclusive License Agreement as follows:

Licensor: TScan Therapeutics, Inc.

Licensee: QIAGEN Sciences, LLC

By: /s/ Shane Maltbie
Name: Shane Maltbie
Title: Vice President of Finance

By: /s/ Thierry Bernard
Name: Thierry Bernard
Title: Chief Executive Officer

Option & Exclusive License Agreement
Page 16

Schedule A

Licensed Patents

Schedule B

Copy of the MTA

[*]**

Schedule C

Form of Royalty Report

[*]**

CERTAIN IDENTIFIED INFORMATION HAS BEEN OMITTED FROM THIS DOCUMENT BECAUSE IT IS BOTH NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE REGISTRANT IF PUBLICLY DISCLOSED, AND HAS BEEN MARKED WITH “[***]” TO INDICATE WHERE OMISSIONS HAVE BEEN MADE.

Execution Copy

CONFIDENTIAL

COLLABORATION AND LICENSE AGREEMENT

between

TSCAN THERAPEUTICS, INC.

and

NOVARTIS INSTITUTES FOR BIOMEDICAL RESEARCH, INC.

March 27, 2020

COLLABORATION AND LICENSE AGREEMENT

This COLLABORATION AND LICENSE AGREEMENT (this “**Agreement**”) is entered into as of March 27, 2020 (the “**Effective Date**”), by and between TSCAN THERAPEUTICS, INC., a Delaware corporation with a place of business at 830 Winter Street, Waltham MA 02451 (“**TScan**”), and NOVARTIS INSTITUTES FOR BIOMEDICAL RESEARCH, INC., a Delaware corporation with a place of business at 250 Massachusetts Avenue, Cambridge, MA 02139 USA (“**Novartis**”). In this Agreement, Novartis and TScan are collectively referred to as the “**Parties**” and each individually a “**Party**”.

RECITALS

WHEREAS, TScan has licensed and further developed a technology to perform a genome-wide screening platform to identify antigens recognized by activated cytotoxic T-cells, and owns or controls certain intellectual property rights in respect of such technology;

WHEREAS, Novartis is engaged in the research, development and commercialization of human therapeutic products;

WHEREAS, Novartis desires to enter into a research and development collaboration with TScan to use the TScan Platform on [***] tumor tissues to identify shared tumor antigens and associated T-cell receptors directed to such antigens, which would enable Novartis to develop and subsequently commercialize one or more therapies based on these antigens and/or the T-cell receptors as targets for therapeutic development; and

WHEREAS, TScan desires to grant to Novartis exclusive, worldwide licenses to develop, manufacture and commercialize certain products directed to the results of the collaboration, and Novartis desires to obtain such licenses.

NOW, THEREFORE, in consideration of the mutual covenants contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereto hereby agree as follows:

ARTICLE 1 DEFINITIONS

As used in this Agreement, the following terms shall have the meanings set forth below:

1.1. “**Accounting Standards**” shall mean, with respect to TScan, US GAAP (United States Generally Accepted Accounting Principles) and shall mean, with respect to Novartis, the IFRS (International Financial Reporting Standards), in each case, as generally and consistently applied throughout the Party’s organization. Each Party shall promptly notify the other in the event that it changes the Accounting Standards pursuant to which its records are maintained, *provided, however*, that each Party may only use internationally recognized accounting principles (*e.g.*, IFRS, US GAAP, *etc.*).

1.2. “**Acquiring Entity**” shall mean a Third Party (the “**Acquiror**”) which acquires TScan through a Change of Control, together with any Affiliates of such Acquiror. For purposes of clarity, TScan’s “**Acquiring Entity**” shall exclude TScan and all of its Affiliates existing immediately prior to the consummation of the Change of Control.

1.3. “**Acquiring Entity Intellectual Property**” shall mean Patents and Know-How which are (a) Controlled by an Acquiring Entity immediately prior to the consummation of the Change of Control pursuant to which such Acquiring Entity acquired TScan, or (b) Controlled by the Acquiring Entity after the effective date of the Change of Control but that are generated without use of any Collaboration Tumor Samples or Collaboration Know-How that TScan discloses or transfers to such Acquiring Entity.

1.4. “**Affiliate**” shall mean, with respect to a Party, any Person that controls, is controlled by, or is under common control with that Party, but only for so long as such control exists. For the purpose of this definition, “control” shall mean, direct or indirect, ownership of fifty percent (50%) or more of the shares of stock entitled to vote for the election of directors, in the case of a corporation, or fifty percent (50%) or more of the equity interest in the case of any other type of legal entity, status as a general partner in any partnership, or any other arrangement whereby the entity or person controls or has the right to control the board of directors or equivalent governing body of a corporation or other entity, or the ability to cause the direction of the management or policies of a corporation or other entity. In the case of entities organized under the laws of certain countries, the maximum percentage ownership permitted by law for a foreign investor may be less than fifty percent (50%), and in such case such lower percentage shall be substituted in the preceding sentence, *provided* that such foreign investor has the power to direct the management and policies of such entity.

1.5. “**Agreement**” shall have the meaning set forth in the preamble hereto.

1.6. “**Alliance Manager**” shall have the meaning set forth in Section 4.7.

1.7. “**Annual Net Sales**” for a Calendar Year shall mean, on an Optioned Program-by-Optioned Program basis, the Net Sales of the TCR Products and/or Target Products (as applicable) associated with such Optioned Program in all countries in such Calendar Year.

1.8. “**Audited Party**” shall have the meaning set forth in Section 6.12.2.

1.9. “**Auditing Party**” shall have the meaning set forth in Section 6.12.2.

1.10. “**Auditor**” shall have the meaning set forth in Section 6.12.2.

1.11. “**Bankruptcy Code**” shall have the meaning set forth in Section 9.6.2.

1.12. “**Budget**” shall have the meaning set forth in Section 2.2.

1.13. “**Business Day**” shall mean any day that is not a Saturday, Sunday or other day on which commercial banks are authorized or required to be closed, as the case may be, in New York, USA; Massachusetts, USA; and Basel, Switzerland.

1.14. “**BWH License Agreement**” shall mean the Exclusive Patent License Agreement between Brigham and Womens’ Hospital, Inc. and TScan, dated December 5, 2018.

1.15. “**Calendar Quarter**” shall mean the respective periods of three (3) consecutive calendar months ending on March 31, June 30, September 30 and December 31.

1.16. “**Calendar Year**” shall mean a period of twelve (12) consecutive calendar months ending on December 31.

1.17. “**Change of Control**”, with respect to TScan, shall mean (a) the closing of a sale of all or substantially all of TScan’s assets to which this Agreement relates to a Third Party in one transaction or series of transactions, (b) the closing of a merger or other business combination or transaction that results in a Third Party owning, directly or indirectly, more than 50% of the voting securities of TScan or of its ultimate parent entity, or (c) the closing of a transaction, following which a Third Party acquires direct or indirect ability or power to direct or cause the direction of the management and policies of TScan or of its ultimate parent entity or otherwise direct the affairs of TScan or of its ultimate parent entity, whether through ownership of equity, voting securities, beneficial interest, by contract or otherwise. Notwithstanding the foregoing, a public offering of TScan’s capital stock or any other financing transaction involving TScan and one or more Third Parties whose business is primarily or principally that of financial investing would not constitute a Change of Control.

1.18. “**Clinical Trial**” shall mean any human clinical study of a pharmaceutical product.

1.19. “**Co-Chair**” shall have the meaning set forth in Section 4.3.

1.20. “**Collaboration**” means the collaborative research activities contemplated under the Research Plan and performed by Novartis or TScan during the Collaboration Term.

1.21. “**Collaboration Know-How**” shall mean any and all Know-How that is first generated by or on behalf of a Party or its Affiliates, whether alone or jointly with the other Party or its Affiliates, in the conduct of the Collaboration, whether or not patented or patentable, but excluding (a) TScan Platform Improvements, and (b) any Know-How that is first generated by Novartis or its Affiliates in the course of its and their evaluation of a Data Package to determine whether or not to exercise the relevant Option. For purposes of clarity, Collaboration Know-How shall exclude any Acquiring Entity Intellectual Property but shall include Joint Collaboration Know-How. Following the designation of Removed Targets and/or Declined Programs, the Know-How specifically relating to such Removed Targets and/or Declined Programs (and/or any Identified TCR Directed to such Removed Target or Declined Program, as the case may be) shall cease to be deemed to be Collaboration Know-How.

1.22. “**Collaboration Patent**” shall mean any Patent that claims any Collaboration Know-How.

1.23. “**Collaboration Target**” shall mean an antigen that is identified by TScan as a target for cancer therapy in performance of the Collaboration. Notwithstanding the foregoing, none of following antigens shall be deemed a Collaboration Target: [***].

1.24. “**Collaboration Technology**” shall mean the Collaboration Know-How and the Collaboration Patents.

1.25. “**Collaboration Term**” has the meaning set forth in Section 2.1.

1.26. “**Collaboration Tumor**” shall mean [***] tissue.

1.27. **“Collaboration Tumor Sample”** shall mean any [***] tissue samples that are presented to and approved by the JSC for inclusion in the Collaboration.

1.28. **“Combination Product”** shall mean any pharmaceutical product (in any formulation) containing one or more active pharmaceutical ingredients in addition to a Product.

1.29. **“Commercial Milestone Event”** shall have the meaning set forth in Section 6.4.

1.30. **“Commercial Milestone Payment”** shall have the meaning set forth in Section 6.4.

1.31. **“Commercialize”** shall mean any and all activities directed to the promotion, marketing, distribution or sale (and offer for sale or import or export for sale) of a product. **“Commercializing”** and **“Commercialization”** shall have corresponding meanings.

1.32. **“Commercially Reasonable Efforts”** shall mean, [***].

1.33. **“Committee Deadlock”** shall have the meaning set forth in Section 4.6.2.

1.34. **“Confidential Information”** shall mean all secret, confidential or proprietary information, Know-How, or data, whether provided in written, oral, graphic, video, computer or other form, that is provided by one Party (the **“Disclosing Party”**) to the other Party (the **“Receiving Party”**) that is marked or otherwise identified as confidential or that by its nature a reasonable Person would understand to be confidential, including information, Know-How or data relating to the Disclosing Party’s existing or proposed research, Development or Commercialization efforts, Patent applications, business, Products, other compositions of matter or products and any other materials that have not been made available by the Disclosing Party to Third Parties (other than under an obligation of confidentiality). Notwithstanding the foregoing sentences, Confidential Information shall not include any information, Know-How, or data:

(a) already known to the Receiving Party or its Affiliates at the time of disclosure by the Disclosing Party to the extent such Receiving Party or its Affiliates has contemporaneous documentation or other competent evidence to that effect;

(b) generally available to the public or otherwise part of the public domain at the time of its disclosure to the Receiving Party;

(c) generally available to the public or otherwise part of the public domain after its disclosure, other than through any act or omission of a Party in breach of such Party’s confidentiality obligations under this Agreement;

(d) subsequently disclosed to the Receiving Party or its Affiliates by a Third Party who had no obligation to the Disclosing Party not to disclose such information to others; or

(e) independently discovered or developed by or on behalf of the Receiving Party or its Affiliates without the use of, reliance on or reference to the Confidential Information belonging to the other Party and the Receiving Party has contemporaneous documentation or other competent evidence to that effect. For clarity, any TScan Independently Identified Antigens and Novartis Independently Identified Antigen are within this exception.

The terms of this Agreement shall be deemed to be the Confidential Information of both Parties (and both Parties shall be deemed to be the Receiving Party with respect thereto).

Subject to the exceptions (a) through (e) set forth above and the exceptions set forth below, Collaboration Know-How shall be deemed to be the Confidential Information of both parties (and both parties shall be deemed to be the Receiving Party with respect thereto). Once a Program becomes an Optioned Program, all Collaboration Know-How for such Program shall be deemed the Confidential Information of Novartis only. Following the designation of a Removed Target and/or a Declined Program, Know-How relating specifically and solely to such Removed Target and/or Declined Program (and/or any Identified TCR Directed to such Removed Target or Declined Program, as the case may be) shall be deemed to be TScan's Confidential Information only.

1.35. "**Control**" and its correlative terms, "**Controlled**" or "**Controls**", with respect to intellectual property, shall mean the ability to grant a right, license or sublicense to such intellectual property (other than pursuant to any rights granted in this Agreement) without violating the terms of any agreement with any Third Party in effect as of the date such right, license or sublicense is granted hereunder; *provided, however*, that if a Party has a right to grant a license or sublicense with respect to an item of intellectual property to the other Party only upon payment of compensation (including milestones or royalties) to a Third Party that would not have been payable had a license or sublicense not been granted or exercised under this Agreement ("**Third Party Compensation**"), then the first Party will be deemed to have "Control" of the relevant item of intellectual property only if the other Party agrees to bear the cost of such Third Party Compensation (subject to any permitted reductions under Section 6.7). The granting Party will promptly notify the other Party after becoming aware that any such license or sublicense could require the payment of any Third Party Compensation.

1.36. "**Controlling Party**" shall have the meaning set forth in Section 8.4.2.

1.37. "**Cover**," "**Covering**" or "**Covers**" shall mean, as to a process, composition of matter, or product and Patent, that, in the absence of a license granted under, or ownership of, such Patent, the making (including methods of making), using (including methods of use, such as methods of treatment), selling, offering for sale or importation of such process, composition of matter or product would infringe such Patent or, as to a pending claim included in such Patent, the making, using, selling, offering for sale or importation of such composition of matter or product would infringe such Patent if such pending claim were to issue in an issued Patent without modification.

1.38. "**Data Package**" for a Program shall mean the deliverables set forth in "Step 2: Pre-Clinical Development" and "Step 3: TCR Validation/ IND Enabling Activities" of the Research Plan with respect to such Program. For clarity, Data Package excludes any deliverables set forth in the "Potential Additional Activities" section of the Research Plan.

1.39. "**Declined Program**" shall have the meaning set forth in Section 3.1. and shall also mean any Collaboration Target that Novartis, in its sole discretion, declares in writing to be a Declined Program.

1.40. "**Declining Party**" shall have the meaning set forth in Section 8.2.2.4.

1.41. **“Development”** shall mean any and all activities, including research, discovery, composition of matter identification and generation, non-clinical, pre-clinical trials and Clinical Trials, post approval studies, supporting Manufacturing, production process development and formulation and related regulatory activities directed to obtaining and maintaining Regulatory Approval for a product for any indication. **“Develop”** and **“Developing”** shall have corresponding meanings.

1.42. **“Development Milestone”** shall have the meaning set forth in Section 6.3.1.

1.43. **“Development Milestone Payment”** shall have the meaning set forth in Section 6.3.1.

1.44. **“Development and Commercialization Sublicense”** shall have the meaning set forth in Section 3.3.1.

1.45. **“Directed”** shall mean, with respect to a pharmaceutical product or TCR (including a pharmaceutical product that constitutes, incorporates, comprises or contains such product or TCR) and an antigen, that such pharmaceutical product or TCR binds to, comprises a portion of or physically interacts with such antigen.

1.46. **“Disclosing Party”** shall have the meaning set forth in Section 1.34.

1.47. **“Divestiture Sublicense”** shall have the meaning set forth in Section 3.3.1.

1.48. **“Effective Date”** shall have the meaning set forth in the preamble hereto.

1.49. **“EMA”** shall mean the European Medicines Agency and any successor or replacement agency.

1.50. **“Europe”** shall mean the European Union and the United Kingdom.

1.51. **“Excluded Technology”** means technology (and the Patents that Cover and the Know-How that embodies such technology) owned or Controlled by Third Parties related to:

(a) methods of use or treatment using any antibodies or TCRs (or other constructs) or products containing antibodies or TCRs (or other constructs);

(b) product formulation;

(c) manufacturing, purification, or production;

(d) any modification to a TCR Therapeutic Product;

(e) technology used in activities performed by or on behalf of Novartis or its Affiliates (other than by TScan);

(f) the format, construct or components of any Product, including the format, construct, and components of an antibody-drug conjugate, a CAR-T, a multispecific, a nanoparticle conjugate, and the like; and

(g) technology related to anything other than the manner in which TScan discovered a Collaboration Target or TCR paired therewith.

1.52. “**Exclusivity End Date**” shall mean the earlier of: (a) the end of the Collaboration Term; and (b) the date Novartis exercises its third (3rd) Option.

1.53. “**Exploit**” shall mean to make, have made, import, use, sell or offer for sale, including to Develop, Manufacture, Commercialize, register, hold or keep (whether for disposal or otherwise), have used, export, transport, distribute, promote, market or have sold or otherwise dispose of. “**Exploitation**” shall mean the act of Exploiting a composition of matter, product or process.

1.54. “**FDA**” shall mean the US Food and Drug Administration, and any successor or replacement agency.

1.55. “**FD&C Act**” shall mean the Federal Food, Drug and Cosmetic Act, as the same may be amended or supplemented from time to time.

1.56. “**First Commercial Sale**” shall mean, with respect to a Product, the first sale of such Product by Novartis or an Affiliate, or its or their sublicensee, to a Third Party or governmental authority in a country following Regulatory Approval for sale of such Product in that country. Sales or transfers of reasonable quantities of a Product for research or Development, including proof of concept studies or other clinical trial purposes, or for compassionate or similar use, shall not be considered a First Commercial Sale.

1.57. “**Five Sample Threshold**” means Novartis has received at least [***] complete Validation Packages on Collaboration Targets selected by the JSC and TScan has performed “Step 1: Target ID/TCR Discovery” (as set forth in the Research Plan) from at least five Collaboration Tumor Samples.

1.58. “**Force Majeure Event**” shall have the meaning set forth in Section 12.4.

1.59. “**FTE**” shall mean the equivalent of the work of one (1) employee full time for one (1) Calendar Year (consisting of at least a total of [***] hours per Calendar Year) of work directly related to the Research Plan. Any person who works more than [***] hours per Calendar Year and any person who devotes less than [***] hours per Calendar Year (or such other number as may be agreed by the JSC) shall be treated as an FTE on a *pro rata* basis based upon the actual number of hours worked divided by [***].

1.60. “**FTE Cost**” shall mean, for any period, the FTE Rate multiplied by the number of FTEs in such period.

1.61. “**FTE Rate**” shall mean, with respect to either Party, a rate of USD \$[***] per FTE per year.

1.62. “**GAAP**” shall mean United States generally accepted accounting principles, consistently applied.

1.63. “**Good Clinical Practice**” or “**GCP**” shall mean the then-current good clinical practice applicable to the clinical Development of a pharmaceutical product under applicable Law, including the ICH guidelines, U.S. Good Clinical Practice and clause 2 of Article 1 of European Union directive on the conduct of clinical trials 2001/20/EC.

1.64. “**Good Laboratory Practice**” or “**GLP**” shall mean the then-current Good Laboratory Practice Standards promulgated or endorsed by the FDA or in the case of any other country, comparable regulatory standards promulgated or endorsed by the Regulatory Authorities in that country.

1.65. “**Good Manufacturing Practice**” or “**GMP**” shall mean the then-current Good Manufacturing Practices as specified in the United States Code of Federal Regulations, ICH Guideline Q7A, or equivalent Laws of an applicable Governmental Authority of any other relevant country at the time of manufacture.

1.66. “**Governmental Authority**” shall mean any court, tribunal, arbitrator, agency, department, board, division, administration, legislative body, commission, official or other instrumentality of (a) any government of any country, (b) a federal, state, province, county, city or other political subdivision thereof, or (c) any international, multinational or supranational body.

1.67. “**High Priority Target**” shall mean a Collaboration Target selected by Novartis as a High Priority Target in accordance with Section 3.5.3 but only for so long as such Collaboration Target has such designation. For clarity, if Novartis removes a Collaboration Target’s status as a High Priority Target, then all terms of this Agreement applicable to such Collaboration Target as a High Priority Target (including, without limitation, any license, right, or obligation relating to such Collaboration Target or related Collaboration Technology) shall cease to apply.

1.68. “**HSR Act**” shall mean the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended, and the rules and regulations promulgated thereunder.

1.69. “**HSR Clearance**” shall mean, with respect to the exercise of an Option under this Agreement, the expiration or termination of all applicable waiting periods and requests for information (and any extensions thereof) under the HSR Act for the HSR Filing with respect to such Option exercise.

1.70. “**HSR Filing**” shall mean filings by Novartis and TScan with the United States Federal Trade Commission (the “**FTC**”) and the Antitrust Division of the United States Department of Justice (the “**DOJ**”) of a Notification and Report Form for Certain Mergers and Acquisitions (as that term is defined in the HSR Act) with respect to the exercise of an Option under this Agreement, together with all required documentary attachments thereto.

1.71. “**ICH**” shall mean the International Conference on Harmonization of Technical Requirements for Registration of Pharmaceuticals for Human Use.

1.72. “**Identified TCR**” for a Program, shall mean any TCR: (a) that is identified by TScan in the conduct of the Collaboration; (b) that is Directed to the Collaboration Target for such Program; (c) that is disclosed to Novartis in a Data Package; and (d) for which the activities under “Step 2: Pre-Clinical Development” of the Research Plan have been completed for such Program; and (d) that is (i) covered by Collaboration Patents, and/or (ii) researched, Developed, or Commercialized using Collaboration Know-How.

1.73. “**IND**” shall mean any Investigational New Drug application, as defined in Title 21 of the Code of Federal Regulations, on file with the FDA before commencement of Clinical Trials, or any comparable filing with any relevant Regulatory Authority in any country or jurisdiction including a Clinical Trial application.

1.74. “**Indemnification Claim Notice**” shall have the meaning set forth in Section 11.3.

1.75. “**Indemnified Party**” shall have the meaning set forth in Section 11.3.

1.76. “**Indemnifying Party**” shall have the meaning set forth in Section 11.3.

1.77. “**Indemnitees**” shall have the meaning set forth in Section 11.3.

1.78. “**Initiation**” of a Clinical Trial shall mean the first dosing of the first patient in the relevant Clinical Trial.

1.79. “**Invalidity/Unenforceability Action**” shall have the meaning set forth in Section 8.4.1.

1.80. “**Invoice**” shall mean invoice in the form of Schedule 1.80.

1.81. “**Joint Collaboration Patents**” means the portion of Joint Collaboration Technology consisting of Patents.

1.82. “**Joint Collaboration Technology**” means Collaboration Technology that is jointly owned by the Parties pursuant to Section 8.1.2.

1.83. “**Joint Steering Committee**” or “**JSC**” shall have the meaning set forth in Section 4.1.

1.84. “**Know-How**” shall mean all technical information, know-how and data, including inventions (whether patentable or not), discoveries, trade secrets, specifications, instructions, processes, formulae, materials, expertise and other technology applicable to compositions of matter, formulations, compositions, products or to their manufacture, development, registration, use or commercialization or methods of assaying or testing them or processes for their manufacture, formulations containing them, compositions incorporating or comprising them and including all biological, chemical, pharmacological, biochemical, toxicological, pharmaceutical, physical and analytical, safety, quality control, manufacturing, preclinical and clinical data, instructions, processes, formulae, expertise and information, regulatory filings and copies thereof, relevant to the development, manufacture, use or commercialization of and/or which may be useful in studying, testing, development, production or formulation of products, or intermediates for the synthesis thereof.

1.85. “**Knowledge**” shall mean, with respect to each Party, the actual knowledge of the individuals responsible for the relevant matter on behalf of such Party, in each case after due inquiry of such individuals’ files and records and of outside counsel (including patent counsel, as applicable).

1.86. “**Law**” shall mean all laws, statutes, ordinances, rules, rulings, treaties, procedures, notices, regulations, writs, judgments, decrees, injunctions (whether preliminary or final), orders and other pronouncements having the effect of law of any Governmental Authority that may be in effect from time to time

1.87. “**Manufacture**” shall mean, in respect of a product, the production, manufacture, formulation, processing, filling, finishing, packaging, labeling, shipping and holding of such product or any intermediate thereof, including pre-clinical, clinical and commercial manufacture and analytic development, product characterization, stability testing, quality assurance and quality control.

1.88. “**Materials**” shall mean any tangible chemical or biological material, including any small molecules, DNA, RNA, clones, cells, and any expression product, progeny, derivative or other improvement thereto, along with any tangible chemical or biological material.

1.89. “**NDA**” shall mean a new drug application submitted to the FDA pursuant to Section 505(b) of the FD&C Act (21 U.S.C. § 355(b)), and all amendments and supplements thereto, or any comparable filing with any relevant Regulatory Authority in any country or jurisdiction.

1.90. “**Net Sales**” shall mean the net sales on behalf of Novartis and any of its Affiliates or Sublicensees for any Product sold to Third Parties other than sublicensees in bona fide, arms-length transactions, as determined in accordance with Novartis’ Accounting Standards as consistently applied, less a deduction of [***] for direct expenses related to the sales of such Product, distribution and warehousing expenses and uncollectible amounts on previously sold products.

- (a) The deductions booked on an accrual basis by Novartis and its Affiliates under its Accounting Standards to calculate the recorded net sales from gross sales include, without limitation, the following:
[***]
- (b) In the case of any sale or other disposal of a Product between or among Novartis and its Affiliates or Sublicensees, for resale, Net Sales shall be calculated only on the value charged or invoiced on the first arm’s-length sale thereafter to a Third Party.
- (c) In the case of any sale which is not invoiced or is delivered before invoice, Net Sales shall be calculated at the time all the revenue recognition criteria under Novartis Accounting Standards are met.
- (d) In the case of any sale or other disposal for value, such as barter or counter-trade, of any Product, or part thereof, other than in an arm’s length transaction exclusively for money, Net Sales shall be calculated on the value of the non-cash consideration received or the fair market price (if higher) of the Product in the country of sale or disposal.
- (e) In the event that a Product is sold as a Combination Product, the Net Sales of the Product, for the purposes of determining royalty payments, shall be determined by [***].
- (f) For the avoidance of doubt, sales between Novartis, its Affiliates, Sublicensees and designees shall not be considered Net Sales (unless such Person is the end user of the Product), which shall be calculated on Net Sales of Novartis, its Affiliates, Sublicensees and designees to independent third party customers.

1.91. “**Novartis**” shall have the meaning set forth in the preamble hereto.

1.92. **“Novartis Independently Identified Antigen”** shall mean an antigen, where the antigen or epitope thereof is identified by Novartis, its Affiliates, or its or their licensees, as a target for therapy through research and/or Development activities that Novartis can demonstrate through contemporaneous records or documents available in the public domain were conducted both: (a) outside of the Collaboration; and (b) without the use of Collaboration Know-How consisting of Confidential Information.

1.93. **“Novartis Independently Identified TCR”** shall mean a TCR identified by Novartis, its Affiliates, or its or their licensees, as the case may be, through research and Development activities that Novartis can demonstrate through contemporaneous records or documents available in the public domain were conducted both: (a) outside of the Collaboration; and (b) without the use of any Collaboration Know-How consisting of Confidential Information.

1.94. **“Option”** has the meaning set forth in Section 3.1.1.

1.95. **“Option Exercise Payment”** shall have the meaning set forth in Section 6.2.

1.96. **“Option Exercise Period”** has the meaning set forth in Section 3.1.1.

1.97. **“Optioned Program”** shall mean a Program associated with a High Priority Target for which Novartis exercises the Option.

1.98. **“Optioned Program Patent”** shall have the meaning set forth in Section 1.99.

1.99. **“Optioned Program Technology”** for an Optioned Program, shall mean all Collaboration Know-How corresponding to the Optioned Program and all Collaboration Patents that claim such Collaboration Know-How (an **“Optioned Program Patent”** associated with such Optioned Program).

1.100. **“Party”** and **“Parties”** shall have the meaning set forth in the preamble hereto.

1.101. **“Patent Challenge”** shall have the meaning set forth in Section 9.5.

1.102. **“Patents”** shall mean (a) all patents or patent applications, including any continuations, continuations-in-part, divisions, provisional, converted provisional, continued prosecution or substitute applications, (b) any patent issued with respect to any of the foregoing patent applications, including utility models, petty patents, innovation patents and design patents and certificates of invention, (c) any reissue, reexamination, renewal, restoration or extension (including any supplementary protection certificate and the like) of any of the foregoing patents or patent applications, and (d) all foreign counterparts of any of the foregoing, or as applicable portions thereof or individual claims therein.

1.103. **“Person”** shall mean any individual, corporation, company, partnership, trust, limited liability company, association or other business entity.

1.104. **“Phase I Clinical Trial”** shall mean, as to a specific product, a Clinical Trial of such product designed to obtain data on the safety and tolerability of such product, including pharmacological or pharmacokinetic information, as described in 21 C.F.R. 312.21(a) or the corresponding regulation in jurisdictions other than the United States.

1.105. **“Phase II(b) Clinical Trial”** shall mean, as to a specific product, a Clinical Trial of such product, the primary intention of which is to demonstrate clinical safety and efficacy in a target population for a specific disease or condition under study (*i.e.*, statistically significant differences between groups for clinical endpoints, which may include generally accepted surrogate pharmacodynamic endpoints), including dose ranging or dose response, in a manner that is generally consistent with (a) in the United States, 21 CFR § 312.21(b), (b) in the European Union, the equivalent of such Clinical Trial for submission to the EMA, and (c) in any other country, the equivalent of such Clinical Trial for submission to the applicable Regulatory Authority in such other country.

1.106. **“Phase III Clinical Trial”** shall mean, as to a specific product, a Clinical Trial designed to obtain evidence of statistical significance of the efficacy of such product in a target patient population, and to obtain expanded evidence of safety for such product that is needed to evaluate the overall benefit-risk relationship of such product and provide an adequate basis for filing an NDA, as described in 21 C.F.R. 312.21(c) or the corresponding regulation in jurisdictions other than the United States.

1.107. **“Product”** for a Program shall mean (a) a TCR Therapeutic Product associated with such Program, or (b) a Target Product associated with such Program.

1.108. **“Product Development Plan”** shall have the meaning set forth in Section 5.2.

1.109. **“Program”** shall mean a Collaboration Target and all Identified TCRs Directed to such Collaboration Target.

1.110. **“Receiving Party”** shall have the meaning set forth in Section 1.34.

1.111. **“Regulatory Approval”** shall mean any and all approvals (including applicable pricing and reimbursement approvals), licenses, registrations or authorizations of any Regulatory Authority, necessary to Develop or Commercialize a product in a country, including NDAs and any authorization for sale pursuant to Section 505(b)(2) of the FD&C Act.

1.112. **“Regulatory Authority”** shall mean any national, supranational, regional, state or local regulatory agency, administration, department, bureau, commission, council or other governmental entity including the FDA and the EMA and any other agencies in any country involved in the granting or receipt of Regulatory Approvals.

1.113. **“Regulatory Documentation”** shall mean all (a) applications (including all INDs), registrations, licenses, authorizations and Regulatory Approvals; (b) correspondence and reports submitted to or received from Regulatory Authorities (including minutes and official contact reports relating to any communications with any Regulatory Authority) and all supporting documents with respect thereto, including all adverse event files and complaint files; and (c) clinical data, chemistry, manufacturing and controls data and other data contained or relied upon in any of the foregoing.

1.114. **“Removed Target”** shall have the meaning set forth in Section 3.5.3.

1.115. **“Research Costs”** shall mean the costs and expenses incurred by or on behalf of TScan or its Affiliates in connection with the performance of the Research Plan, consisting of (a) costs of TScan’s or its Affiliates’ employees supporting such efforts (calculated as the FTE Costs), and (b) all out-of-pocket costs, without markup, of procuring services, products or materials used in the performance of the Research Plan. For clarity, Research Costs shall exclude capital expenditures, general office or facility supplies, insurance and costs attributable to general corporate activities, executive management, investor relations, treasury services, business development, corporate government relations, legal and patent support, external financial reporting and other overhead activities.

1.116. **“Requested Data Package”** shall have the meaning set forth in Section 2.7.

1.117. **“Research Plan”** shall mean the research plan set forth in Schedule 1.117.

1.118. **“ROFN Election Notice”** shall have the meaning set forth in Section 3.4.

1.119. **“ROFN Election Period”** shall have the meaning set forth in Section 3.4.

1.120. **“ROFN Negotiation Period”** shall have the meaning set forth in Section 3.4.

1.121. **“ROFN Term”** shall have the meaning set forth in Section 3.4.

1.122. **“Royalty Payment”** shall have the meaning set forth in Section 6.5.

1.123. **“Royalty Rate”** shall have the meaning set forth in Section 6.5.

1.124. **“Royalty Term”** shall have the meaning set forth in Section 6.5.

1.125. **“Sales & Royalty Report”** shall mean a written report or reports showing each of: (a) the Net Sales of each Product, on a country-by-country basis, during the reporting period by Novartis and its Affiliates and Sublicensees; and (b) the royalties payable, in United States Dollars, which shall have accrued hereunder with respect to such Net Sales.

1.126. **“Senior Officer”** shall mean the Chief Executive Officer of TScan and the Global Head, Business Development and Licensing (NIBR) of Novartis or the functional successor in their respective organizations, or their respective designees at Vice President level or above.

1.127. **“Sublicense Agreement”** shall mean any agreement under which Novartis has granted a sublicense to a Sublicensee under any Collaboration Technology or TScan Background Product IP licensed to Novartis pursuant to this Agreement.

1.128. **“Sublicensee”** shall mean any Third Party to whom Novartis has granted a sublicense under any Collaboration Technology or TScan Background IP licensed to Novartis pursuant to this Agreement.

1.129. **“Target Product”** for a Program shall mean any product (other than any TCR Therapeutic Product) that both (a) is Directed to the Collaboration Target for such Program; and (b) is researched, Developed, or Commercialized using Collaboration Know-How.

1.130. **“Target Selection Date”** shall mean the date [***] days after the later of: (a) the date TScan has Validated [***] Collaboration Tumor Samples; and (b) the date TScan has provided Novartis with an aggregate of at least [***] unique Collaboration Targets and with matched TCRs in Validation Packages resulting from Validated Collaboration Tumor Samples.

1.131. “**TCR**” shall mean T-cell receptor.

1.132. “**TCR Therapeutic Product**” for a Program shall mean any product that both (a) comprises or contains an Identified TCR (or any modified version of such TCR) for such Program; and (b) is researched, Developed, or Commercialized using Collaboration Know-How.

1.133. “**Term**” shall have the meaning set forth in Section 9.1.

1.134. “**Termination Date**” shall mean the effective date of termination of this Agreement in accordance with its terms.

1.135. “**Third Party**” shall mean any Person who is not a Party or an Affiliate of a Party.

1.136. “**Third Party Claim**” shall have the meaning set forth in Section 11.1.

1.137. “**Third Party Infringement Claim**” shall have the meaning set forth in Section 11.1.

1.138. “**TScan**” shall have the meaning set forth in the preamble hereto.

1.139. “**TScan Background IP**” shall mean all TScan Background Platform IP and all TScan Background Product IP, collectively. For purposes of clarity, TScan Background IP (including, without limitation, TScan Background Platform IP and TScan Background Product IP) shall exclude any Acquiring Entity Intellectual Property.

1.140. “**TScan Background Platform IP**” shall mean all Patents and Know-How Controlled by TScan as of the Effective Date relating directly to the technology described in Schedule 1.140 (the “**TScan Platform**”).

1.141. “**TScan Background Product IP**” shall mean all Patents and Know-How Controlled by TScan as of the Effective Date corresponding to any Product (if any). For clarity, TScan Background Product IP excludes TScan Background Platform IP.

1.142. “**TScan Collaboration Patents**” means the portion of TScan Collaboration Technology consisting of Patents.

1.143. “**TScan Collaboration Technology**” means the means Collaboration Technology owned solely by TScan pursuant to Section 8.1.2.

1.144. “**TScan Indemnitees**” shall have the meaning set forth in Section 11.1.

1.145. “**TScan Independently Identified Antigen**” shall mean an antigen, where the antigen or epitope thereof is identified by TScan, its Affiliates, or its or their licensees, as a target for therapy through research and/or Development activities that TScan can demonstrate through contemporaneous records or documents available in the public domain were conducted both (a) outside of the Collaboration, and (b) without the use of Collaboration Know-How consisting of Confidential Information.

1.146. **“TScan Independently Identified TCR”** shall mean a TCR identified by TScan, its Affiliates, or its or their licensees, as the case may be, through research and Development activities that TScan can demonstrate through contemporaneous records or documents available in the public domain were conducted both (a) outside of the Collaboration, and (b) without the use of any Collaboration Know-How consisting of Confidential Information.

1.147. **“TScan Platform”** shall have the meaning given in Section 1.140.

1.148. **“TScan Platform Improvement”** shall mean any and all Know-How that is generated by or on behalf of a Party or its Affiliates, whether alone or jointly with the other Party or its Affiliates, in the course of performing activities under this Agreement, whether or not patented or patentable, that is an improvement to the TScan Platform (*i.e.*, inventions predicated on the use or practice of the TScan Platform).

1.149. **“TScan Platform Technology”** shall mean all Know-How Controlled by TScan or any of its Affiliates as of the Effective Date relating specifically to the TScan Platform.

1.150. **“Unblock License”** shall have the meaning set forth in Section 3.2.2.

1.151. **“US”** and **“USA”** shall mean the United States of America, including all of its territories and possessions.

1.152. **“USD”** shall mean United States Dollars.

1.153. **“Valid Claim”** shall mean: (a) a claim of an issued and unexpired Patent that has not been abandoned, cancelled or held permanently revoked, unenforceable or invalid by a decision of a court or other governmental agency of competent jurisdiction unappealed within the time allowed for appeal, or that has not been admitted to be invalid or unenforceable through reissue or disclaimer or otherwise; or (b) a claim of a pending patent application, which patent application was filed and is being prosecuted in good faith and has not been cancelled, withdrawn from consideration, abandoned or finally disallowed without the possibility of appeal or refiling of the application or pending for more than [***] years from the relevant patent office’s initial substantive office action.

1.154. **“Validate”** for a Collaboration Tumor Sample shall mean that TScan has performed the following for such Collaboration Tumor Sample: Antigen Target Validation, TCR Validation *in vitro*, and Safety Screens (each as described in the “Data Package Part 1, Step 2: Pre-Clinical Development” portion of the Research Plan).

1.155. **“Validation Package”** for an antigen means the deliverables for Antigen Target Validation, TCR Validation *in vitro*, and Safety Screens (each as described in the “Data Package Part 1, Step 2: Pre-Clinical Development” portion of the Research Plan) with respect to such antigen.

1.156. **“Value Added Tax”** or **“VAT”** shall mean any value added tax, ad valorem, goods and services or similar tax chargeable on the supply or deemed supply of goods or services, sales and use taxes, transaction taxes, consumption taxes and other similar taxes required by applicable Law including any interest, penalties or other additions to tax thereon, required under applicable Law.

1.157. **“Withholding Taxes”** shall have the meaning set forth in Section 6.8.

1.158. **Interpretation.** Unless the context of this Agreement otherwise requires: (a) words of one gender include the other gender; (b) words using the singular or plural number also include the plural or singular number, respectively; (c) the terms “hereof,” “herein,” “hereby,” and other similar words refer to this entire Agreement; (d) the words “include,” “includes,” and “including” when used in this Agreement shall be deemed to be followed by the words “without limitation”, unless otherwise specified; (e) the terms “Article” and “Section” refer to the specified Article and Section of this Agreement (unless clear from the context that it refers to an Article or Section of some other document); (f) “or” has the inclusive meaning represented by the phrase “and/or”; (g) the words “will” and “shall” shall have the same meaning; (h) The letter “M” used in connection with the USD figures in this Agreement denotes “million” and the letter “B” used in connection with the USD figures in this Agreement denotes “billion”; and (i) references to a Law include any amendment or modification to such Law and any rules or regulations issued thereunder, whether such amendment or modification is made, or issuance of such rules or regulations occurs, before or, only with respect to events or developments occurring or actions taken or conditions existing after the date of such amendment, modification or issuance, after the date of this Agreement, but only to the extent such amendment or modification, to the extent it occurs after the date hereof, does not have a retroactive effect. Whenever this Agreement refers to a number of days, unless otherwise specified, such number shall refer to calendar days.

ARTICLE 2

RESEARCH AND DEVELOPMENT COLLABORATION

2.1. **Conduct of Research Plan;** Research Term. TScan and Novartis shall use Commercially Reasonable Efforts during the Collaboration Term to perform all activities set forth in the Research Plan. Without limiting the foregoing, TScan shall devote FTEs sufficient to perform the activities set forth in the Research Plan during the Collaboration Term, which FTEs shall be appropriately qualified research and development personnel possessing at least the level of skill and experience as similarly situated companies in the biotechnology industry. TScan and Novartis will conduct their activities under the Research Plan in accordance with good scientific standards and practices and in compliance in all material respects with the requirements of GLP, GMP, GCP and all applicable Laws, including those regarding environmental, safety and industrial hygiene, quality assurance and quality control (including data integrity), standards for pharmacovigilance practice, and all requirements relating to the protection of human subjects. TScan and Novartis shall maintain laboratories, offices and all other facilities reasonably necessary to carry out the activities to be performed by it pursuant to the Research Plan. The JSC shall be responsible for discussing any updates or amendments to the Research Plan prior to submitting them for approval by each Party. The initial collaboration term (the “**Collaboration Term**”) shall commence on the Effective Date and expire [***] years after the Effective Date; *provided* that Novartis may extend the Collaboration Term by [***] months each to the extent reasonably necessary to complete the activities described in the Research Plan by notifying TScan of such extension prior to the expiration of the then-current Collaboration Term. Novartis may make such extension no more than [***] times (*i.e.*, in no event shall the Collaboration Term extend past the [***] anniversary of the Effective Date).

2.2. Research Costs. Novartis shall reimburse TScan for all of its actual, documented Research Costs incurred by TScan in conducting the activities set forth in the Research Plan; *provided, however*, that Novartis shall have no obligation to reimburse such Research Costs to the extent they exceed USD\$[***] in the aggregate (the “**Budget**”). Additionally, notwithstanding anything to the contrary, TScan shall have no obligation to perform the Research Plan to the extent its actual, documented Research Costs incurred in connection with doing so exceed the Budget (except to the extent Novartis agrees in writing to reimburse such Research Costs).

2.3. Invoicing; Payment of Research Costs Within [***] days following the last day of each Calendar Quarter during which TScan is conducting activities under the Research Plan, TScan shall provide Novartis (i) with a report, in reasonable detail, of all Research Costs that were incurred by TScan in performing such activities in the prior Calendar Quarter and reasonable supporting documentation with respect thereto; and (ii) an Invoice for the amount of such Research Costs. Novartis shall pay the undisputed amount of Invoices provided pursuant to this Section 2.3 within [***] days of receipt. If Novartis disputes in good faith any charge contained in an Invoice, it will pay any undisputed amounts in accordance with the preceding sentence and notify TScan of the nature of the dispute, and the disputed amount will be addressed under the dispute resolution provisions of Section 12.3.

2.4. Subcontracts. TScan and Novartis may perform Collaboration activities under the Research Plan through one or more Third Party subcontractors, *provided* that any such subcontractor must be reasonably acceptable to the other Party or specifically identified in the applicable Research Plan, and *provided, further* that each Party engages each such subcontractor through a written agreement consistent with the terms and conditions of this Agreement. Any subcontracting shall not relieve TScan of its obligations or liability under this Agreement, and, in the event of any subcontracting by TScan, TScan will remain responsible for the performance of its obligations hereunder notwithstanding any such subcontracts. Any subcontracting shall not relieve Novartis of its obligations or liability under this Agreement, and, in the event of any subcontracting by Novartis, Novartis will remain responsible for the performance of its obligations hereunder notwithstanding any such subcontracts.

2.5. Materials. Each Party will, as a matter of course as described in the Research Plan or on the other Party’s reasonable written request, furnish to the other Party samples of Materials that it Controls and that are necessary for the other Party to carry out its responsibilities under the Research Plan or for Novartis and its Affiliates to evaluate the work under the Research Plan. Each Party (and, in the case of Novartis, Novartis’ Affiliates) will use such Materials only in accordance with the Research Plan and otherwise in accordance with the terms and conditions of this Agreement. Except with the prior written consent of the supplying Party, the Party receiving any Materials will not distribute or otherwise allow the release of Materials to any Third Party (other than to its Affiliates, in the case of Novartis), except for subcontracting (subject to the provisions of Section 2.4) as permitted hereunder. All Materials will remain the sole property of the supplying Party, will be used in compliance with all applicable Laws, and will be used with prudence and appropriate caution in any experimental work because not all of their characteristics may be known. Neither Party (and, in the case of Novartis, Novartis’ Affiliates) shall use any Materials provided by the other Party in humans except as specifically set forth in the Research Plan.

2.6. Reports. TScan shall promptly provide Novartis with written reports of all Collaboration Know-How it generates in the course of performing activities under the Research Plan. Without limiting the foregoing TScan shall prepare and provide to Novartis (a) a written report within [***] days after the end of every Calendar Quarter during which TScan is conducting activities under the Research Plan that (i) details the activities performed under the Research Plan, including all results achieved, and (ii) sets forth the expected

activities for the next Calendar Quarter, and (b) such other reports or updates as may be required under such Research Plan or as otherwise reasonably requested by Novartis. The Parties may agree, on a case by case basis, that minutes and presentations from JSC meetings may be used in place of such written reports to satisfy certain of the foregoing reporting requirements.

2.7. Data Packages; Antigen Identification Information. The JSC shall determine certain proposed Programs for which TScan should prepare Data Packages for Novartis' evaluation ("**Requested Data Packages**") on a timeline to be agreed upon by the Parties. TScan shall provide Novartis with such Requested Data Packages after completion thereof, and TScan shall use Commercially Reasonable Efforts to deliver such Requested Data Packages in compliance with the relevant timelines.

2.8. Tumor Sample Selection. Consistent with the Research Plan, TScan shall present every [***] tissue sample it receives prior to the Exclusivity End Date to the JSC for potential inclusion in the Collaboration until the JSC has selected [***] Collaboration Tumor Samples for inclusion in the Collaboration. The JSC may not select more than [***] Collaboration Tumor Samples for inclusion in the Collaboration.

ARTICLE 3 OPTIONS; LICENSE GRANTS

3.1 Program Options.

3.1.1. For each Program, TScan hereby grants to Novartis an exclusive right and option to obtain the licenses set forth in Section 3.2 (the "**Option**"). The Option will be available on a Program-by-Program basis with respect to each High Priority Target until the earliest of (a) [***] days after the expiry of the Collaboration Term; (b) [***] days after complete Data Packages have been provided for Collaboration Targets from [***] Collaboration Tumor Samples, or (c) the date on which Novartis has exercised the Option with respect to three Programs (the "**Option Exercise Period**"). If, during the Option Exercise Period for a Program, Novartis notifies TScan in writing that it wishes to exercise the Option for such High Priority Target's Program, TScan will, and upon receipt of such notice hereby does, grant to Novartis the license set forth in Section 3.2; *provided that*, if Novartis determines that an HSR Filing is required to be made to exercise the Option and notifies TScan of such determination on or before the time that it delivers a notice of exercise of the Option, the Parties will promptly make HSR Filings in accordance with Section 12.13 and Novartis will not be obligated to pay TScan the Option Exercise Payment (and the Option will not be deemed exercised) until the [***] Business Day after HSR Clearance. If, by the end of the Option Exercise Period for a Program, Novartis or its designated Affiliate has not provided TScan notice stating that Novartis is exercising its Option, then the Option will expire for such Program (a "**Declined Program**").

3.1.2. Novartis may exercise the Option for up to, but not more than, three (3) Programs.

3.1.3. For clarity, Novartis' right to receive a license under Section 3.1.1 does not apply to Removed Targets, Declined Programs and/or Collaboration Technology outside of the (up to) three Optioned Programs (*e.g.*, if Novartis exercises the Option with respect to three Programs, it will not apply to any additional Collaboration Technology outside of the Optioned Program Technology corresponding to those three Optioned Programs), and TScan would be free to pursue research, Development and/or Commercialization of any such Removed Targets and Declined Program(s) or any such additional Collaboration Technology outside of the Collaboration, subject to the right of first negotiation set forth in Section 3.4 (to the extent applicable).

3.2 License Grants.

3.2.1 Effective as of Novartis' exercise of the Option for a Program pursuant to Section 3.1.1 and subject to the terms and conditions of this Agreement, TScan, on behalf of itself and its Affiliates, shall grant and does hereby grant to Novartis and its Affiliates an exclusive (even as to TScan and its Affiliates), royalty-bearing, sublicensable (subject to Section 3.3), transferable (subject to Section 12.1), worldwide license, under TScan's rights in the corresponding Optioned Program Technology, to Exploit such Optioned Program Technology and Products associated with such Optioned Program. For clarity this license extends to use of Optioned Program Technology for the Collaboration Target and Identified TCR(s) associated with the Optioned Program to Develop and Commercialize Products Directed thereto (including TCR Therapeutic Products and Target Products) for all therapeutic indications. For the avoidance of doubt, with respect to an Optioned Program, until the termination or expiration of such Optioned Program pursuant to Section 9.7 or the expiration of the Royalty Term for such Optioned Program, neither TScan nor its Affiliates shall (a) use Optioned Program Technology for such Optioned Program to research, Develop or Commercialize any products Directed to or made from any Collaboration Target of such Optioned Program (or assist any Third Party to do the same); nor (b) grant any Third Party a license to practice under any Optioned Program Patents or Optioned Program Technology, in each case, for such Optioned Program.

3.2.2 Effective as of Novartis' exercise of the Option for a Program pursuant to Section 3.1.1 and subject to the terms and conditions of this Agreement, TScan, on behalf of itself and its Affiliates, shall grant and does hereby grant to Novartis and its Affiliates, an non-exclusive, royalty-bearing, sublicensable (subject to Section 3.3), transferable (subject to Section 12.1), worldwide license, under the TScan Background Product IP and TScan Platform Improvements, solely to the extent necessary to Exploit Products associated with such Program (the "**Unblock License**"). For clarity, to the extent applicable, the Unblock License will extend to the use of Collaboration Targets and Identified TCR(s) associated with the Optioned Programs to the extent necessary to Develop and Commercialize Products Directed thereto or made therefrom (including TCR Therapeutic Products and Target Products) for all therapeutic indications.

3.3 Sublicenses.

3.3.1 Novartis and its Affiliates shall have the right, in its sole discretion, to grant sublicenses, in whole or in part, under the licenses granted in Section 3.2 both (a) to Sublicensees engaged in research, Development, and Commercialization of Products for the benefit of Novartis or its Affiliates, solely to the extent necessary or useful to Develop or Commercialize such Products (a "**Development and Commercialization Sublicense**"), and (b) to Sublicensees in connection with the divestiture in whole of a Product or Optioned Program (but only to the extent of such

divestiture) (a “**Divestiture Sublicense**”); *provided, however*, that Novartis (i) shall ensure that the terms of any Sublicense Agreement are consistent with this Agreement, (ii) shall remain responsible for compliance with the terms of this Agreement, (iii) may not delegate, assign or transfer any of its administrative roles or responsibilities set forth in Article 4, including its role on the JSC, to any Sublicensee at any time during the Term without TScan’s prior written consent, and (iv) shall only grant sublicenses of the Optioned Program Technology, or Unblock License (as applicable) (1) in connection with the Development and/or Commercialization of Products by or on behalf of Novartis or its Affiliates (in connection with a Development and Commercialization Sublicense) or (2) in connection with a sublicense or license by Novartis of a Product for the Optioned Program to which such Optioned Program Technology, TScan Background Product IP or Unblock License relates (in the case of a Divestiture Sublicense). Novartis’ rights to sublicense are limited to those expressly set forth in this Section 3.3 and any sublicense which is not granted in accordance with the terms and conditions of this Section 3.3 is hereby deemed null and void.

3.3.2 Any Sublicensee of a Development and Commercialization Sublicense shall not have the right to grant further sublicenses to Third Parties. For clarity, any Sublicensee of a Divestiture Sublicense may grant sublicenses to Third Parties subject to compliance with Section 3.3.1 and Section 3.3.3 as if such Sublicensee were Novartis in those sections; *provided*, that, for the avoidance of doubt, Novartis will also remain responsible its Sublicensee’s compliance with the responsibilities assigned to it in Section 3.3.1, but will remain solely responsible for compliance with clause (iii) of the proviso in the first sentence of that Section.

3.3.3 Novartis shall provide TScan with a copy of any Sublicense Agreement, and any amendment thereto, within [***] days after its execution; *provided* that Novartis shall have the right to redact from such copy of such Sublicense Agreement for a Divestiture Sublicense or amendment thereto (a) any information which Novartis determines in good faith to be necessary to redact in order to protect any of its or its Sublicensee’s confidential or proprietary information that is not necessary in order to confirm compliance with Novartis’ obligations under this Agreement; and (b) any financial terms.

3.4 Right of First Negotiation. Commencing on the Effective Date and expiring [***] days after the conclusion of the Collaboration Term (the “**ROFN Term**”), TScan shall notify Novartis of a decision by TScan’s Board of Directors to seek a Third Party to exclusively license or similarly grant rights under Collaboration Technology to Develop or Commercialize products Directed to a Declined Program (excluding any offer for a Change of Control) (a “**ROFN Notice**”). TScan shall not commence discussions with a Third Party with respect to such Program until [***] days after providing the corresponding ROFN Notice (the “**ROFN Election Period**”). Additionally, if, during the ROFN Election Period, Novartis provides TScan with a term sheet to exclusively license such Collaboration Technology to develop or commercialize Products Directed to such Declined Program (“**ROFN Election Notice**”), then TScan shall not enter into an agreement with respect to such Collaboration Technology until [***] days after providing the corresponding ROFN Notice (the “**ROFN Negotiation Period**”), during which period Novartis may negotiate an agreement for TScan to grant Novartis such rights to such Collaboration Technology. On a Program-by-Program basis, TScan shall be free to Develop and Commercialize Collaboration Technology associated with such Declined Program, alone or with Third Parties without

regard to this Section 3.4, after the earlier of: (a) the expiration of the ROFN Election Period for such Product without ROFN Election Notice; (b) the expiration of the ROFN Negotiation Period for such Product; and (c) the expiration of the ROFN Term. Notwithstanding the foregoing of this Section 3.4, Section 3.4 shall not apply to (and TScan shall have no obligation to notify Novartis prior to or refrain from entering into) any agreement to Develop or Commercialize products Directed to any antigen identified in a non-Collaboration Tumor Sample, Directed to any TScan Independently Identified Antigen, or consisting of a TScan Independently Identified TCR.

3.5 Exclusivity.

3.5.1 Tissue Exclusivity. Prior to the Exclusivity End Date, TScan will not use any Collaboration Tumor for antigen or TCR identification outside of the Collaboration.

3.5.2 Tumor Samples. Except with respect to Collaboration activities under or as expressly permitted by this Agreement, neither TScan nor its Affiliates shall use any of the Collaboration Tumor Samples for any purpose. For clarity, this Section 3.5.2 shall not restrict TScan's rights under Section 3.1.3 to Develop or Commercialize Technology as expressly permitted by that section.

3.5.3 Target Exclusivity.

3.5.3.1 Designations.

- (a) Subject to Section 3.5.3.1(c), Novartis may designate any Collaboration Target as a High Priority Target by providing written notice to TScan of such designation. For clarity, Removed Targets (as defined below) are no longer Collaborations Targets upon proper designation pursuant to Section 3.5.3.1(d) and cannot be selected as High Priority Targets.
- (b) For clarity, Novartis may also remove any Collaboration Target's status as a High Priority Target at any time prior to exercising an Option on such Collaboration Target by notifying TScan of such status change and may replace such High Priority Target with a substitute or replacement Collaboration Target, subject to the limitation in Section 3.5.3.1(c).
- (c) No more than [***] Collaboration Targets may be High Priority Targets at any given time.
- (d) For each Collaboration Target, commencing [***] days after the later of (1) the achievement of the Five Sample Threshold, or (2) the date that TScan first provides Novartis with a Validation Package for such Collaboration Target, TScan may designate such Collaboration Target as a "**Removed Target**" if: (i) such Collaboration Target is a TScan Independently Identified Antigen; (ii) such

Collaboration Target is not designated as a High Priority Target by Novartis in accordance with the terms of this Section 3.5.3 at the time of TScan's designation; and (iii) such designation is made more than [***] days after TScan provides Novartis with a Validation Package for such Collaboration Target after (and based on) TScan's most then-recent identification of such Collaboration Target as a target for cancer therapy in performing "Step 1: Target ID/TCR Discovery" (as set forth in the Research Plan) for a Collaboration Tumor. Removed Targets shall cease to be Collaboration Targets upon notice of such written designation. For clarity, once a Collaboration Target becomes a Removed Target it cannot be selected as a High Priority Target or otherwise become a Program that Novartis can Option. All Collaboration Targets that are not High Priority Targets shall be deemed Removed Targets upon and after the Exclusivity End Date. (For reference, all High Priority Targets for which Novartis does not exercise its Option become Declined Programs pursuant to Section 3.1.1.)

3.5.3.2 High Priority Targets. Prior to the Exclusivity End Date, TScan shall not (and TScan's Affiliates shall not use Collaboration Technology consisting of Confidential Information to) Develop or Commercialize any products Directed at any High Priority Target.

3.5.3.3 Collaboration Targets. Prior to the Exclusivity End Date, TScan shall not (and TScan's Affiliates shall not use Collaboration Technology consisting of Confidential Information to) Develop or Commercialize any products Directed at any Collaboration Targets.

3.5.3.4 Exception. Notwithstanding the foregoing: (a) without limiting Section 3.5.3.2, Section 3.5.3.3 does not restrict TScan or its Affiliates from Developing or Commercializing products Directed at any Removed Target in any way; and (b) Sections 3.5.1 and 3.5.3 (and its subsections) do not apply with respect to any Declined Program.

3.5.4 Intent Regarding TScan Independently Identified Antigens. Novartis acknowledges that TScan is a company primarily engaged in the area of antigen discovery and that this Agreement is not intended to broadly prevent TScan from pursuing (and/or partnering with Third Parties to pursue) TScan Independently Identified Antigens that may subsequently become Collaboration Targets. Upon TScan's request, Novartis agrees to discuss in good faith amendments to this Agreement that reasonably enable TScan to pursue (and/or partner with Third Parties to pursue) the Development and/or Commercialization of products Directed at such TScan Independently Identified Antigens.

3.6 Novartis Restriction.

3.6.1 Neither Novartis nor its Affiliates shall Exploit any TScan Background Product IP or TScan Platform Improvements for any purpose except to Develop and Commercialize Products associated with an Optioned Program.

3.6.2 Notwithstanding anything in this Agreement to the contrary, Novartis shall be free to Develop and Commercialize any Novartis Independently Identified TCR and any product Directed to or made from any Novartis Independently Identified Antigen (including, without limitation, any TCR Directed to such proteins), alone or with Third Parties, outside of the scope of this Agreement and without any obligation to TScan. For clarity, this Section 3.6.2 does not grant a license under any Patents or other intellectual property rights. Further, this Section 3.6.2 does not preclude TScan from bringing forth a claim of infringement against or requesting royalties should such Novartis Independently Identified TCR, Product, or any use thereof is Covered by at least one (1) Valid Claim of a TScan Collaboration Patent or a Patent included in the TScan Background Product IP.

3.7 No Implied Rights. Neither Party grants any right or license to the other Party under any Know-How, Patent or other intellectual property rights of such Party except as expressly granted in this Agreement. All rights not expressly granted by a Party under this Agreement are reserved to such Party. For the sake of clarity, except to the extent an Acquiring Entity affirmatively participates in the performance of the Research Plan and notifies Novartis of such participation, in no event shall anything in this Agreement, including Section 3.2, be construed to include any automatic grant of any right, license or other authorization by an Acquiring Entity to any Party to this Agreement to use any Acquiring Entity Intellectual Property or, to limit any grant of any right, license or other authorization by an Acquiring Entity to any Third Party to use any Acquiring Entity Intellectual Property to research, develop, commercialize or co-promote compositions of matter or products.

3.8 Retained Rights. For clarity, nothing in this Agreement: (a) grants Novartis or its Affiliates any right or license with respect to the TScan Platform Technology or, except to the extent expressly licensed pursuant to the Unblock License, any TScan Platform Improvement; or (b) except for Section 3.2 (to the extent an Option is exercised) and Sections 3.5.1, 3.5.2, and 3.5.3 restricts TScan or its Affiliates from using the TScan Platform Technology or TScan Platform Improvements in any way.

ARTICLE 4 GOVERNANCE

4.1 Establishment of Joint Steering Committee. Within [***] days after the Effective Date, the Parties shall establish a joint steering committee (the “**Joint Steering Committee**” or “**JSC**”) consisting of an appropriate number of representatives as may be agreed upon by the Parties, with an equal number of representatives designated by each Party. Each representative of the JSC must be an employee of Novartis or TScan. The initial members of the JSC will be nominated by the Parties promptly following the Effective Date. Such representatives shall be individuals suitable in seniority and experience and having delegated authority to make decisions of the JSC with respect to matters within the scope of the JSC’s responsibilities. The JSC shall operate in accordance with the provisions of Sections 4.2 to 4.8, and shall have no authority to alter, amend or waive the terms and conditions of this Agreement (other than amending the Research Plan), and specifically will have no right to alter or amend any payment obligations or terms, periods for performance, or the intellectual property rights of the Parties. A Party may change one or more of its

representatives serving on the JSC at any time upon written notice to the other Party, *provided* that such replacement is of comparable authority and scope of functional responsibility within that Party's organization as the person he or she is replacing. At its meetings, the JSC shall discuss the matters described below and such other matters as are reasonably requested by either Party's Alliance Manager. The JSC shall remain in effect, on a Product-by-Product basis, until the completion of the Collaboration Term.

4.2 Responsibilities. The JSC shall perform the following functions:

4.2.1 review and discuss the conduct of the activities and results under the Research Plan;

4.2.2 approval of Collaboration Tumor Samples for inclusion in the Collaboration consistent with the Research Plan;

4.2.3 determine which Collaboration Targets to prepare Validation Packages for;

4.2.4 determine the Programs and maintain a list for which TScan should prepare Requested Data Packages for Novartis' evaluation;

4.2.5 review and discuss any scientific or technical issues arising under the Agreement;

4.2.6 propose amendments to the Research Plan; and

4.2.7 perform such other functions as are specifically designated for the JSC in this Agreement or that the Parties mutually agree in writing to refer to the JSC.

4.3 Co-Chairs. Each Party shall designate one of its representatives on the JSC to co-chair the meetings for the JSC (each, a "**Co-Chair**"). The Co-Chairs shall, through and with the assistance of the Alliance Managers, coordinate and prepare the agenda for, and ensure the orderly conduct of, the meetings of the JSC. The Co-Chairs shall, through and with the assistance of the Alliance Managers, solicit agenda items from the JSC members and provide an agenda, along with appropriate information for such agenda, reasonably in advance of any meeting. Such agenda shall include all items requested by either Co-Chair for inclusion therein. Each agenda shall include discussion regarding the need and/or status of Requested Data Packages as well as any delivered Data Packages. In the event the Co-Chairs or another JSC member from either Party is unable to attend or participate in a meeting of the JSC, the Party whose Co-Chair or member is unable to attend may designate a substitute co-chair or other representative for the meeting with prior written notice.

4.4 Meetings. The JSC shall meet in person at least [***] times a year or more frequently (a) as mutually agreed between the Parties, (b) as required to review the Research Plan and/or the Product Development Plans submitted for its review, or any amendments thereto, and (c) as required to resolve disputes, disagreements or deadlocks unresolved by the Alliance Managers, in each case, on such dates, and at such places and times, as the Parties shall agree; *provided* that the Parties shall endeavor to have the first meeting of the JSC within [***] days after its establishment. The members of the JSC also may convene or be polled or consulted from time to time by means of telecommunication, video conference, electronic mail or correspondence, as deemed necessary or appropriate. Each Party shall be

responsible for the cost of such Party's own personnel and for its own expenses in attending such meetings and carrying out the other activities contemplated under this Article 4. As appropriate, the JSC may invite a reasonable number of non-voting employees, consultants and scientific advisors to attend its meetings as non-voting observers, *provided* that such invitees are bound by confidentiality obligations at least as stringent as the provisions set forth herein. Each Party may also call for special meetings of the JSC to discuss particular matters requested by such Party.

4.5 Minutes. The Co-Chairs of the JSC (or their respective designees) shall keep the minutes of the JSC meetings. The JSC shall formally accept the minutes of the previous meeting at or before the next meeting of the JSC. Minutes shall list action items, key decisions made, and shall designate any issues that need to be resolved by the JSC or applicable resolution process. In the event of any objection to the minutes that is not resolved by mutual agreement of the Parties, such minutes will be amended to reflect such unresolved dispute.

4.6 Decisions.

4.6.1 All decisions of the JSC shall be made by unanimous vote, with each Party having one (1) vote. In order to make any decision, the JSC must have present (in person or via telephone or videoconference) and voting at least one (1) representative of each Party.

4.6.2 Subject to the terms of this Agreement, if the JSC cannot resolve a matter within [***] days, or such shorter time as may be determined by the Parties, after it begins discussing any such delegated matter (a "**Committee Deadlock**"), then the JSC shall escalate such Committee Deadlock to the Senior Officers for resolution by consensus. If, following consideration by the Senior Officers for a period of up to [***] days, there is still no consensus, then Novartis shall have the final decision-making authority with respect to such Committee Deadlock. Notwithstanding the foregoing, the JSC cannot amend the Research Plan or Budget without the mutual written consent of both Parties.

4.7 Alliance Managers. Each Party shall designate an individual to serve as the main point of contact for such Party to exchange information, facilitate communication and coordinate the Parties' activities under this Agreement (each, an "**Alliance Manager**"). Without limiting the foregoing, the Alliance Managers will be responsible for presenting to the JSC for its consideration and review any and all updates to Research Plan, including to the budget associated with a Research Plan, proposed or requested by either Party. The Alliance Managers shall attend meetings (or designate an appropriate representative to attend meetings on the Alliance Manager's behalf) between the Parties, including JSC meetings. Each Party may change its designated Alliance Manager from time to time upon written notice to the other Party.

4.8 Joint Research Committee. In addition to the JSC, the Parties will establish a joint research committee ("**Joint Research Committee**" or "**JRC**"), which will be subordinate to the JSC, consisting of an appropriate number of representatives as may be agreed upon by the Parties, with an equal number of representatives designated by each Party. Each representative of the JRC must be an employee of Novartis or TScan. The initial members of the JRC will be nominated by the Parties promptly following the Effective Date. All decisions of the JRC shall be made by unanimous vote, with each Party having one (1)

vote. In order to make any decision, the JRC must have present (in person or via telephone or videoconference) and voting at least one (1) representative of each Party. In the event of a dispute that cannot be informally resolved by the JRC, the matter will be presented to the JSC for determination. The JRC shall meet on a monthly basis on dates and times to be determined by the JRC. The JRC shall be responsible for promoting ongoing discussions with respect to the progress of the Collaboration, including scientific updates and day to day guidance of the research activities and such other matters that may be assigned to it by the JSC.

ARTICLE 5

DEVELOPMENT OF PRODUCTS.

5.1 Development Diligence Obligations. Following the exercise of the Option with respect to a Program, Novartis shall use Commercially Reasonable Efforts, by itself, through its Affiliates and agents, or through Sublicensees, to Develop Products associated with such Optioned Program, and Novartis will have sole responsibility with respect thereto.

5.2 Product Development Plans. Following the exercise of the Option with respect to a Program, Novartis shall provide TScan with a high-level development plan covering Novartis' Development activities through its first filing of an NDA for the first Product associated with such Optioned Program with any Regulatory Authority and annual (or more frequently as Novartis may determine) updates thereto (each, a "**Product Development Plan**"). Novartis may modify each Product Development Plan at any time in its sole discretion.

5.3 Regulatory Affairs. Novartis shall own, and be solely responsible, at its sole expense, for preparing, seeking, submitting and maintaining, all regulatory filings and Regulatory Approvals for each Product associated with any Optioned Programs. Except to the extent prohibited by applicable Law, all Regulatory Documentation (including all Regulatory Approvals) relating to such Products shall be owned by and shall be the sole property and held in the name of Novartis or its designated Affiliate, or its or their designee. Novartis shall have the sole right to conduct and control all interactions and communications with any Governmental Authority relating to any such Products.

5.4 Commercialization of Products.

5.4.1 Diligence Obligations. Novartis shall use Commercially Reasonable Efforts, by itself or through its Affiliates and agents or through its or their Sublicensees to Commercialize each Product in each country following Regulatory Approval of such Product in the respective country.

5.4.2 Commercialization Responsibilities. Novartis shall have the sole right and responsibility, in its sole discretion and at its sole cost and expense, to Commercialize the Products.

**ARTICLE 6
FINANCIAL PROVISIONS**

6.1 Upfront Payment. Within [***] Business Days after the Effective Date, Novartis shall make a one-time lump sum payment to TScan of Twenty Million Dollars (USD\$20,000,000), which payment shall be non-refundable, non-contingent and non-creditable against other payments due hereunder.

6.2 Option Exercise Payment. On a Program-by-Program basis, Novartis shall pay to TScan an option exercise payment of [***] if Novartis exercises an Option under Section 3.1.1 (the “**Option Exercise Payment**” for such Program). Such payments shall be made within [***] days after receipt of an Invoice for the same, which will be issued upon TScan’s receipt of Novartis’ election to exercise the Option as set forth in Section 3.1.1. Each such payment shall be non-refundable, non-contingent and non-creditable against other payments due hereunder.

6.3 Development Milestone Payments.

6.3.1 On an Optioned Program-by-Optioned Program basis, Novartis shall pay TScan the following one-time Milestone

6.3.2 Payments (each, a “**Development Milestone Payment**”) upon achievement of each of the corresponding Milestones for such Optioned Program (each, a “**Development Milestone**”) by Novartis, its Affiliates, or any Sublicensees:

<u>Milestone</u>	<u>Milestone Payment (USD)</u>
[***]	\$ [***]
[***]	\$ [***]
[***]	\$ [***]
[***]	\$ [***]
[***]	\$ [***]
[***]	\$ [***]
Total Amount	\$ 230,000,000

Each Development Milestone Payment shall be deemed earned as of the first achievement of the corresponding Development Milestone for such Optioned Program. Novartis shall provide TScan with notice of the achievement of each Development Milestone within [***] days after such Development Milestone has been achieved, and will pay such Development Milestone Payment within [***] days of receipt of an Invoice for the relevant amount. For the avoidance of doubt, subject to Section 6.3.3: (i) each Development Milestone Payment shall be payable only on the first occurrence of the corresponding Development Milestone with respect to the corresponding Optioned Program; and (ii) none of the Development Milestone Payments shall be payable more than once for the corresponding Optioned Program (regardless of the number of Products associated with such Optioned Program that achieve such Development Milestone). For the avoidance of doubt, the total amount of Development Milestone Payments for each Optioned Program shall not exceed USD\$230,000,000.

6.3.3 For each of the Development Milestones for an Optioned Program, if Novartis, its Affiliates, or any Sublicensee first achieves (or is deemed to have achieved pursuant to Section 6.3.4) such Development Milestone through the use of a Target Product, then the Milestone Payment associated with such achievement shall instead be [***] of the Milestone Payment that would otherwise be due for the achievement of such Milestone with a TCR Therapeutic Product (i.e., [***]% of the amount set forth in the table in Section 6.3.1). If, after achievement of such Milestone for such Optioned Program with a Target Product, such Milestone for such Optioned Program is subsequently achieved (or deemed achieved pursuant to Section 6.3.4) with a TCR Therapeutic Product, then Novartis shall pay TScan the remaining [***] of such Milestone Payment. For the avoidance of doubt, if a TCR Therapeutic Product achieves a milestone set forth in Section 6.3.1 and a Target Product from the same Optioned Program subsequently achieves the same Development Milestone, only the Development Milestone for the TCR Therapeutic Product will be paid. This Section 6.3.3 supersedes Section 6.3.1 to the extent of any conflict.

6.3.4 For Section 6.3.1 and Section 6.3.3, the achievement of a later Development Milestone shall trigger the Development Milestone Payment of an earlier Development Milestone in the event such earlier Development Milestone event had not been triggered prior to achievement of the later development milestone event. For the purposes of Section 6.3.3, achievement of a Development Milestone for an Optioned Program with an TCR Therapeutic Product shall be deemed achievement of all earlier Development Milestones for such Optioned Program. For example, the Phase III Clinical Trial may be skipped if the Phase II(b) Clinical Trial study is considered a pivotal trial sufficient for seeking Regulatory Approval of a Product, or a Phase II(b) Clinical Trial study may be skipped for a Phase III Clinical Trial. In the former case, the Milestone for the initiation of a Phase III Clinical Trial will be considered to have been met upon First Commercial Sale of the Product anywhere in the world and, in the latter case, both the Phase II(b) Clinical Trial and Phase III Clinical Trial Milestone will be considered to have been met upon initiation of the first Phase III Clinical Trial.

6.4 Commercial Milestone Payments.

6.4.1 Subject to the terms of this Agreement, on an Optioned Program-by-Optioned Program basis, Novartis shall make the following payments to TScan (each a “**Commercial Milestone Payment**”) after the first achievement by of the applicable event set forth below with respect to such Optioned Program (each a “**Commercial Milestone Event**”). Solely for the purpose of determining whether the various Commercial Milestone Events set forth below have been met, for each Calendar Year and each Optioned Program, an amount (the “**Adjusted Net Sales Amount**”) shall be computed, which will be equal to the sum of: (a) Annual Net Sales of all TCR Therapeutic Products associated with such Optioned Program in all countries in such Calendar Year; plus (b) [***] of Annual Net Sales of all Target Products associated with such Optioned Program in all countries in such Calendar Year. Each of the Commercial Milestone Payments are payable only once for each Optioned Program, upon the first achievement of such Commercial Milestone Event for such Optioned Program. Novartis will notify TScan in writing of the achievement of each Commercial Milestone Event via the applicable Sales & Royalty Report, and Novartis shall pay to TScan the corresponding Commercial Milestone Payment together with the Royalty payment in the manner set forth in Section 6.10. For the avoidance of doubt, the total amount of Commercial Milestone Payments for each Optioned Program shall be no more than USD\$260,000,000.

<u>Commercial Milestone Event</u>	<u>Commercial Milestone Payment</u>	
Adjusted Net Sales Amount for such Optioned Program exceed \$[***] in any Calendar Year.	\$	[***]
Adjusted Net Sales Amount for such Optioned Program exceed \$[***] in any Calendar Year.	\$	[***]
Adjusted Net Sales Amount for such Optioned Program exceed \$[***] in any Calendar Year.	\$	[***]
Total Amount	\$	260,000,000

6.5 Royalty Payments. On an Optioned Program-by-Optioned Program basis, Novartis shall pay TScan a percentage of annual Net Sales of TCR Therapeutic Products and/or Target Products associated with such Optioned Program (the “**Royalty Rate**”) as set forth in this Section 6.5 (“**Royalty Payment**”). The Royalty Payment shall be payable to TScan on a Product-by-Product basis and country-by-country basis until the latest to occur of (a) the last to expire Valid Claim of all Patents in the Optioned Program Technology in each case, that Covers the manufacture, use, importation or sale of such Product in such country, (b) [***] years after First Commercial Sale of such Product in such country, or (c) the expiration of any regulatory or marketing exclusivity, including any regulatory data protection, for such Product in such country (the “**Royalty Term**”). If, with respect to an Optioned Program, the Royalty Term in a country continues only as a result of clauses (b) and or (c) of the prior sentence (i.e., there is no Valid Claim of any Patent in the Optioned Program Technology (or Patents licensed pursuant to the Unblock License), in each case, that Covers the manufacture, use, importation or sale of such Product from such Optioned Program in such country), then, for the purpose of computing the Royalty Rate in such country after such point in time, for the purpose of determining the Royalty Rate set forth in the chart below, the applicable Net Sales shall be multiplied by [***]%. For the purpose of determining Net Sales Tranches as set forth below, for each Optioned Program, the Annual Net Sales of all TCR Products from such Optioned Program will be aggregated and the Royalty Rates and Royalty Payments for TCR Products will be computed accordingly, and, separately, the Annual Net Sales of all Target Products from such Optioned Program will be aggregated, and the respective Royalty Rates and Royalty Payments for such Target Products will be computed:

<u>Net Sales Tranche</u>	<u>Royalty Rate for TCR Therapeutic Products</u>	<u>Royalty Rate for Target Products</u>
For the portion of Net Sales of such Product that are a portion of the first \$[***] in Annual Net Sales for such Optioned Program in such Calendar Year.	[***]%	[***]%
For the portion of Net Sales of such Product that are a portion of the Annual Net Sales for such Optioned Program greater than \$[***] but less than or equal to \$[***] in such Calendar Year.	[***]%	[***]%
For the portion of Net Sales of such Product that are a portion of the Annual Net Sales for such Optioned Program greater than \$[***] but less than or equal to \$[***] in such Calendar Year.	[***]%	[***]%
For the portion of Net Sales of such Product that are a portion of the Annual Net Sales for such Optioned Program greater than \$[***] but less than or equal to \$[***] in such Calendar Year.	[***]%	[***]%
For the portion of Net Sales of such Product that are a portion of the Annual Net Sales for such Optioned Program greater than \$[***] in such Calendar Year.	[***]%	[***]%

6.6 Payments under BWH License Agreement. TScan will be solely responsible for the payment of all costs arising under the BWH License Agreement. TScan will promptly make all such payments in accordance with the provisions of the BWH License Agreement.

6.7 Blocking Third Party Patents. On a Product-by- Product basis and Calendar Quarter-by-Calendar Quarter basis, Novartis shall have the right to reduce any Royalty Payments for a Product otherwise payable to TScan for a Calendar Quarter by [***] of any royalties that are paid by Novartis in such Calendar Quarter to any Third Party in consideration for a license or other rights to any Patents that are infringed by the use of the Optioned Program Technology (or any Patents licensed pursuant to the Unblock License, if applicable); *provided, however*, that in no event may any Royalty Payment payable to TScan hereunder for any Product be reduced as a result of the application of the royalty reductions set forth in this Section 6.7 by more than [***] of the amount that would otherwise be owed to TScan under Section 6.5 for such Product. Novartis will be entitled to carry forward any amounts that it is not able to deduct as a result of the proviso in the prior sentence to subsequent Calendar Quarters.

6.8 Taxes. Each Party shall be responsible for its own taxes, duties, levies, imposts, assessments, deductions, fees, withholdings or similar charges imposed on or measured by net income or overall gross income (including branch profits), gross receipts, capital, ability or right to do business, property, and franchise or similar taxes pursuant to applicable Law. If Novartis is required to deduct or withhold from any payment due hereunder any taxes, duties, levies, imposts, assessments, deductions, fees, and other similar charges by applicable Law or any Governmental Authority (“**Withholding Taxes**”) for any

payment under Section 6, then Novartis shall pay such Withholding Taxes to the local applicable Governmental Authority and make the payment to TScan of the net amount due after deduction or withholding of such taxes. Such Withholding Taxes shall be treated for all purposes of this Agreement as having been paid to TScan hereunder. Novartis shall submit reasonable proof of payment of the Withholding Taxes within a reasonable period of time after such Withholding Taxes are remitted to the Governmental Authority. The Parties shall reasonably cooperate to eliminate or minimize any such Withholding Taxes.

6.9 Value Added Tax. Notwithstanding anything contained in Section 6.8, this Section 6.9 shall apply with respect to VAT. All payments under this Agreement are exclusive of VAT. If any VAT is required in respect of any payments under applicable Law, the payor shall pay VAT at the applicable rate in respect of any such payments following the receipt of a valid VAT invoice in the appropriate form issued by the payee in respect of those payments, such VAT to be payable on the later of the due date of the payments to which such VAT relates and [***] days after the receipt by the payor of the applicable valid invoice relating to that VAT payment. The Parties will reasonably cooperate to issue valid VAT invoices for all amounts due under this Agreement consistent with VAT requirements. The payor shall not be responsible for any penalties and interest resulting from the failure by the payee to collect (if not included on a valid VAT invoice) or remit any such VAT. The Parties shall reasonably cooperate to report, eliminate or minimize the amount of any such VAT imposed on the transactions contemplated in this Agreement. For clarity, any invoice to be provided to Novartis pursuant to this Section 6.9 shall be an Invoice.

6.10 Novartis Statements and Payment. Within [***] days after each Calendar Quarter during the term of this Agreement following the First Commercial Sale of a Product, Novartis will, on a Product-by-Product basis, provide to TScan a Sales & Royalty Report, which will also indicate which Optioned Program the relevant Product(s) relate to. TScan shall submit an Invoice to Novartis with respect to the royalty amount shown therein. Novartis shall pay such royalty amount within [***] days after receipt of the Invoice.

6.11 Currency Exchange. All payments under this Agreement shall be payable in US dollars via wire transfer of immediately available USD funds from a bank in the United States to an account designated in writing by that Party to the other Party. When conversion of payments from any foreign currency is required to be undertaken by Novartis, the USD equivalent shall be calculated using Novartis' then-current standard exchange rate methodology as applied in its external reporting.

6.12 Records Retention; Financial Audit.

6.12.1 Record Retention. Each Party shall maintain complete and accurate books, records and accounts for the calculation of Research Costs, reporting and payment of Withholding Taxes, and Royalty Payments due, as applicable, in sufficient detail to confirm the accuracy of any Research Cost reports and any Royalty Payments required under this Agreement, which books, records and accounts shall be retained until [***] years after the end of the period to which such books and records pertain, or longer as is required by applicable Law.

6.12.2 Financial Audit. Each Party (in such context, the "Auditing Party") may, upon written request, cause an internationally-recognized independent accounting firm (the "Auditor"), which is reasonably acceptable to the other Party (the "Audited Party"), to inspect the relevant records of the Audited Party and its Affiliates to verify the

Research Costs (in the case of TScan) and Royalties (in the case of Novartis) and the related reports, statements, and books of accounts, as applicable. Before beginning its audit, the Auditor shall execute an undertaking acceptable to the Audited Party by which the Auditor agrees to keep confidential all information reviewed during the audit. The Auditor shall have the right to disclose to the Auditing Party only its conclusions regarding any payments owed under this Agreement.

6.12.3 Availability of Books and Records. The Audited Party shall make their records available for inspection by the Auditor during regular business hours at such place or places where such records are customarily kept, upon receipt of reasonable advance notice from the Auditing Party. The records shall be reviewed solely to verify the accuracy of the Research Costs (in the case of TScan) and Royalties and Commercial Milestone Payments (in the case of Novartis) and compliance with this Agreement. Such inspection right shall not be exercised more than once in any calendar year and not more frequently than once with respect to records covering any specific period of time. In addition, the Auditing Party shall only be entitled to audit the books and records of the Audited Party from the [***] calendar years prior to the calendar year in which the audit request is made. The Auditing Party will hold in strict confidence all information received and all information learned in the course of any audit or inspection, except to the extent necessary to enforce its rights under this Agreement or to the extent required to comply with any law, regulation or judicial order.

6.12.4 The Auditor shall provide its audit report and basis for any determination to the Audited Party at the time such report is provided to the Auditing Party before it is considered final. The Audited Party shall have the right to request a further determination by such Auditor as to matters which the Audited Party disputes within [***] days following receipt of such report. In such event, the Audited Party will provide the Auditing Party and the Auditor with a reasonably detailed statement of the grounds upon which it disputes any findings in the audit report and the Auditor shall undertake to complete such further determination within [***] days after the dispute notice is provided, which determination shall be limited to the disputed matters. Any matter that remains unresolved shall be resolved in accordance with the dispute resolution procedures contained in Section 12.3.

6.12.5 Payment of Additional Amounts. The Auditing Party shall pay for such inspections, as well as its expenses associated with enforcing its rights with respect to any payments hereunder. In addition, if an underpayment of more than [***] of the total payments due for the applicable audit period is discovered, the fees and expenses charged by the Auditor shall be paid by the Audited Party. If, based on the results of any audit conducted under Section 6.12.2, undisputed payments are owed to a Party under this Agreement, then such Party shall make such payments within [***] days after the accounting firm's written report is delivered to the Parties, with interest calculated thereon in accordance with Section 6.13.

6.13 Interest on Late Payments. Any failure by either Party to make a payment of any undisputed amount when due shall obligate that Party to pay interest to the other Party on the amount unpaid at the most recently published LIBOR plus [***] per annum (or, if lower, the maximum rate permitted by applicable Law) calculated on a daily basis and payable for the period from the date payment is due until the date payment is actually made, without prejudice to the recipient's right to receive payment on the due date.

ARTICLE 7
CONFIDENTIALITY

7.1 Protection of Confidential Information. The Receiving Party shall not, and shall cause its Affiliates and its and their officers, directors, employees and agents not to, disclose or disseminate Confidential Information of the Disclosing Party to any Third Party unless expressly permitted hereunder, and shall not use such Confidential Information for any purpose other than in performing the Receiving Party's obligations or exercising the Receiving Party's rights under this Agreement. In addition, the Receiving Party shall take, and shall cause its Affiliates to take, reasonable steps to protect the Confidential Information of the Disclosing Party from unauthorized use or disclosure, which steps shall be no less than those the Receiving Party takes to protect its own confidential or proprietary material of a similar nature. Each Party shall be responsible for any breach of its confidentiality obligations by its respective employees and agents. The foregoing obligations shall apply equally to all copies, extracts and summaries of the Disclosing Party's Confidential Information.

7.2 Certain Permitted Disclosures.

7.2.1 Disclosure Required by Law. Notwithstanding the foregoing, the Receiving Party may disclose Confidential Information of the Disclosing Party to the extent such disclosure is required by applicable Law, *provided* that, to the extent it may legally do so, the Receiving Party shall: (a) give reasonable advance notice to the Disclosing Party of such disclosure to permit the Disclosing Party to use its reasonable efforts to secure confidential treatment of such Confidential Information prior to disclosure to the extent such treatment is applicable (whether through protective orders or otherwise), (b) cooperates with the Disclosing Party in the exercise of its right to protect the confidentiality of the Confidential Information, and (c) discloses only that Confidential Information that is required to be disclosed.

7.2.2 Disclosure for Agreement Purposes. The Receiving Party may disclose Confidential Information of the Disclosing Party to a Third Party to the extent such disclosure is reasonably necessary to exercise the rights granted to or retained by it under this Agreement, including in preparing, filing, maintaining or prosecuting Patents, prosecuting or defending litigation or submitting information to Governmental Authorities for the purpose of seeking Regulatory Approvals with respect to a Product, as applicable.

7.2.3 Disclosure to Certain Third Parties. The Receiving Party may disclose such of the Disclosing Party's Confidential Information to (a) its Affiliates, and its and their employees, directors and consultants who have a need to know such Confidential Information, (b) to Third Party subcontractors identified in the Research Plan or approved by the JSC; (c) in the case of Novartis, its existing or potential Sublicensees, in each case ((a), (b) and (c)), who are bound by obligations of confidentiality and non-use at least as stringent as those by which the Receiving Party is bound hereunder, and (d) in the case of TScan, to (i) Brigham and Women's Hospital, Inc., but only if and to the extent TScan is required to do so to comply with its obligations under the BWH License Agreement (*e.g.*, royalty reports) or (ii) its existing or potential investors, collaborators or acquirers, in each case who are bound by obligations of confidentiality and non-use at least as stringent as those by which the Receiving Party is bound hereunder.

7.3 Return of Confidential Information. Upon termination of this Agreement, the Receiving Party shall promptly return or destroy all of the Disclosing Party's Confidential Information, including all information relating to Products received hereunder and copies thereof in any medium, unless, and solely for so long as, the Receiving Party has continuing rights to use the foregoing pursuant to Article 9. Notwithstanding the foregoing, the Receiving Party may retain one copy for its legal files. Nothing herein shall require the erasure or destruction of back-up media made in the ordinary course of business, *provided* that it is not accessible in the ordinary course of business.

7.4 Unauthorized Use. If the Receiving Party becomes aware or has Knowledge of any unauthorized use or disclosure of the Disclosing Party's Confidential Information, it shall promptly notify the Disclosing Party of such unauthorized use or disclosure.

7.5 Public Disclosure.

7.5.1 Neither Party shall mention or otherwise use the name, logo or trademark of the other Party or any of its Affiliates or any abbreviation or adaptation thereof in any advertising, marketing, promotional or sales literature or other form of publicity, except as follows:

(a) Subject to Section 7.5.1(c), each Party may state that they have entered into this Agreement. For this purpose, each Party may use the name of the other Party, and may make a high level non-confidential statement about the existence, scope and key terms of this contractual relationship, and development and regulatory status of any Products associated with Optioned Programs.

(b) Either Party or its Affiliates may make such a disclosure to the extent required by the rules of any nationally recognized securities exchange, quotation system or over-the-counter market on which such Party has its securities listed or traded.

(c) Upon either Party's request, the Parties shall cooperate in good faith to mutually agree on a press release with respect to this Agreement. Except for any subsequent announcements that contain no additional information that is not included in such press release, neither Party shall issue any other public announcement, press release or other public disclosure regarding this Agreement or its subject matter without the other Party's prior written consent, such consent not to be unreasonably withheld, conditioned or delayed.

7.5.2 If either Party is required to file this Agreement with the U.S. Securities and Exchange Commission, any successor or replacement agency, or its foreign equivalent, the filing Party shall use commercially reasonable efforts to secure confidential treatment of this Agreement consistent with such mutually agreed redacted version.

7.5.3 Once a Collaboration Target becomes a Declined Program or becomes Removed Target (or Novartis' rights thereto terminate pursuant to Section 9.7), Collaboration Know-How specifically and solely relating to such Collaboration Target (and/or any Identified TCR Directed to such Collaboration Target) shall be deemed to be the Confidential Information of TScan only. Additionally, Collaboration Know-How specifically and solely relating to any Collaboration Target (and/or any Identified TCR Directed to such Collaboration Target) shall cease to be deemed Collaboration Know-How once such Collaboration Target becomes a Removed Target (but shall remain Confidential Information of TScan).

ARTICLE 8
INTELLECTUAL PROPERTY

8.1 Collaboration Technology.

8.1.1 TScan Background IP. As between Novartis and TScan, subject to the licenses and other rights granted herein, TScan will retain all right, title and interest, title to all TScan Background IP, including rights to any Third Party intellectual property rights that are licensed to TScan (“In-Licensed IP”). TScan will maintain the BWH License Agreement and any Agreements that it has with Third Parties with respect to In-Licensed IP that is sublicensed to Novartis under this Agreement (if any) (collectively “In-Licensed IP Agreements”) in full force and effect, and will not take any action, or fail to take any action, that would cause TScan to breach its obligations under the In-Licensed IP Agreements or otherwise diminish the scope or exclusivity of the rights granted to Novartis through amendment, waiver or otherwise without the prior written consent of Novartis, which will not be unreasonably withheld. TScan will give written notice to Novartis within [***] Business Days after becoming aware of (a) any facts or circumstances that constitute a breach of the In-Licensed IP Agreement by TScan that could lead to termination under the terms of such In-Licensed IP Agreement, and (b) any notice, correspondence, or communication alleging or confirming a breach of the In-Licensed IP Agreements by TScan. TScan will use Commercially Reasonable Efforts to promptly cure any such breach by it or its Affiliates of the In-Licensed IP Agreements within the timeframes set forth in the relevant In-Licensed IP Agreements to avoid the termination of such agreements. If TScan receives notice of such a breach by TScan or one of its Affiliates of the In-Licensed IP Agreements, where termination of the In-Licensed IP Agreements or any diminishment of the scope or exclusivity of the licenses thereunder is being or could be sought by the relevant Third Parties as a result of such breach, then TScan will promptly, but in any event within [***] Business Days following TScan’s receipt of such notice, provide written notice thereof to Novartis, and TScan hereby grants Novartis the right (but not the obligation) to cure such breach.

8.1.2 Ownership of Collaboration Technology. Ownership of Collaboration Technology shall be determined by inventorship (*i.e.*, Collaboration Technology invented solely by TScan, its Affiliates, and its or their employees and agents shall be owned by TScan; Collaboration Technology invented solely by Novartis, its Affiliates, and its or their employees and agents shall be owned by Novartis; and Collaboration Technology invented jointly by TScan, its Affiliates, and its or their employees and agents together with Novartis, its Affiliates, and its or their employees and agents shall be jointly owned by the Parties).

8.1.3 United States Law. The determination of whether Know-How is invented by a Party for the purpose of allocating proprietary rights (including Patent, copyright or other intellectual property rights) therein, shall, for purposes of this Agreement, be made in accordance with the principles of patent law in the USA, irrespective of where or when such invention occurs (in the case of non-patentable Know-How, inventorship will also be determined under such principles by treating such Know-How as if it were patentable. Subject to the licenses granted under Sections 3.2 and the other provisions of this Agreement and the applicable exclusivity obligations hereunder and without granting any rights in any intellectual property other than Joint Collaboration Technology, each Party shall have the right to Exploit any of the Joint Collaboration Technology without the consent of (or right to account to) the other Party.

8.1.4 Platform Improvements. Notwithstanding the foregoing (a) as between the Parties, TScan shall solely own all right, title and interest in and to TScan Platform Improvements; and (b) TScan Platform Improvements shall not be considered Collaboration Technology.

8.1.5 Assignment Obligation. Each Party shall, and does hereby, assign, and shall cause its Affiliates to so assign, to the other Party, without additional compensation, such right, title and interest in and to any Collaboration Technology or TScan Platform Improvements, as applicable, as is necessary to fully effect, as applicable, the allocation of ownership set forth in Section 8.1.2, Section 8.1.3 and Section 8.1.4. Each Party shall cause all Persons who invent any Collaboration Technology or TScan Platform Improvements to be under an obligation to assign their rights in any Collaboration Technology or TScan Platform Improvements resulting therefrom to such Party.

8.2 Prosecution and Maintenance of Patents.

8.2.1 Solely Owned Patents.

8.2.1.1 Subject to Section 8.2.2, each Party shall have the sole right (but not the obligation), in its sole discretion and at its sole cost, to prepare, file, prosecute and maintain all Patents that are owned solely by such Party.

8.2.1.2 Subject to Section 8.2.2, with respect to TScan Collaboration Patents: (a) TScan shall give Novartis an opportunity to review any application with respect to such TScan Collaboration Patents before filing, shall consult with Novartis with respect thereto, and shall incorporate any reasonable comments of Novartis with respect thereto; (b) TScan shall supply Novartis with a copy of such application as filed, together with notice of its filing date and serial number; (c) TScan shall keep Novartis reasonably informed of the status of the actual and prospective patent filings with respect to such TScan Collaboration Patents; and (d) TScan shall provide advance copies of any official correspondence related to the filing, prosecution and maintenance of such patent filings.

8.2.1.3 Subject to Section 8.2.2, with respect to any TScan Collaboration Patents, if TScan elects not to file a patent application for such TScan Collaboration Patent in any country or elects to cease the prosecution or maintenance of such TScan Collaboration Patents in any country, then TScan shall provide Novartis with notice immediately, but not less than [***] days before any action is required, upon the decision to not file or continue the prosecution of such patent application or maintenance of such patent. In the event TScan has provided notice to Novartis as described in the preceding sentence, Novartis shall be permitted, at its sole cost, to file or continue prosecution or maintenance of such TScan Collaboration Patents in such country, in TScan's name, using patent counsel selected by Novartis and reasonably acceptable to TScan. If Novartis does not file and continue prosecution and maintenance of such TScan Collaboration Patents, then such TScan Collaboration Patents shall then be excluded from the relevant Option.

8.2.1.4 Novartis' rights under this Section 8.2.1.2 and Section 8.2.1.3 shall expire on with respect to the relevant TScan Collaboration Patents upon the expiration of the relevant Option Exercise Period.

8.2.2 Joint Collaboration Patents and Optioned Program Patents.

8.2.2.1 If any Joint Collaboration Know-How arises under this Agreement, the Parties shall promptly meet to discuss and determine the patent strategy with respect thereto.

8.2.2.2 Novartis shall have the first right, but not the obligation, to prepare, file, prosecute and maintain any Joint Collaboration Patent and/or Optioned Program Patents throughout the world using patent counsel selected by Novartis and reasonably acceptable to TScan. In such event, Novartis shall give TScan an opportunity to review any application with respect to such Joint Collaboration Patent and/or Optioned Program Patents before filing, shall consult with TScan with respect thereto, and shall incorporate any reasonable comments of TScan with respect thereto. Novartis shall supply TScan with a copy of the application as filed, together with notice of its filing date and serial number. Novartis shall keep TScan reasonably informed of the status of the actual and prospective patent filings (including the grant of any Joint Collaboration Patent and/or Optioned Program Patent), and shall provide advance copies of any official correspondence related to the filing, prosecution and maintenance of such patent filings. TScan shall reimburse Novartis for [***] of the reasonable out-of-pocket costs incurred by Novartis in preparing, filing, prosecuting and maintaining such Joint Collaboration Patents, which reimbursement will be made pursuant to invoices submitted by Novartis to TScan no more often than once per Calendar Quarter. Novartis shall bear all its costs for preparing, filing, prosecuting and maintaining such Optioned Program Patents.

8.2.2.3 If Novartis elects not to file a patent application included in such Joint Collaboration Patents and/or Optioned Program Patents in any country or elects to cease the prosecution or maintenance of any such Joint Collaboration Patent and/or Optioned Program Patents in any country, then Novartis shall provide TScan with notice immediately, but not less than [***] days before any action is required, upon the decision to not file or continue the prosecution of such patent application or maintenance of such patent. In the event Novartis has provided notice to TScan as described in the preceding sentence, TScan shall be permitted to file or continue prosecution or maintenance of such Joint Collaboration Patent and/or Optioned Program Patents in such country using patent counsel selected by TScan and reasonably acceptable to Novartis. TScan shall give Novartis an opportunity to review any application with respect to such Joint Collaboration Patent and/or Optioned Program Patents before filing, shall consult with Novartis with respect thereto, and shall incorporate any reasonable comments of Novartis with respect thereto. TScan shall supply Novartis with a copy of the application as filed, together with notice of its filing date and serial number. In such event, TScan

shall keep Novartis reasonably informed of the status of the actual and prospective patent filings (including the grant of any Joint Collaboration Patent and/or Optioned Program Patent), and shall provide advance copies of any official correspondence related to the filing, prosecution and maintenance of such patent filings. Novartis shall reimburse TScan for [***] of the reasonable out-of-pocket costs incurred by TScan in preparing, filing, prosecuting and maintaining such Optioned Program Patent, which reimbursement will be made pursuant to Invoices submitted by TScan to Novartis no more often than once per Calendar Quarter. TScan shall bear all its costs for preparing, filing, prosecuting and maintaining such Joint Collaboration Patents.

8.2.2.4 If either Party (the “**Declining Party**”) at any time declines to share in the costs of filing, prosecuting and maintaining any such Joint Collaboration Patent and/or Optioned Program Patent on a country by country basis as set out in Section 8.2.2.2 and 8.2.2.3, the Declining Party shall provide the other Party (the “**Continuing Party**”) with [***] days’ prior notice to such effect, in which event, the Declining Party shall have no responsibility for any expenses incurred in connection with such Joint Collaboration Patent and/or Optioned Program Patent after the end of such [***] day period. With respect to Joint Collaboration Patents, if the Continuing Party elects to continue prosecution or maintenance, the Declining Party will, upon the Continuing Party’s request, execute such documents and perform such acts, at the Continuing Party’s expense, (a) as may be reasonably necessary to assign to the Continuing Party all of the Declining Party’s right title, and interest in and to such Joint Collaboration Patent, and (b) to permit the Continuing Party to file, prosecute, and maintain such Joint Collaboration Patent. In the case of Optioned Program Patents consisting of TScan Collaboration Patents, if Novartis is the Declining Party, the license to Novartis to such Optioned Program Patents set forth in this Agreement will thereupon terminate, and if TScan is the Declining Party, the license to such TScan Collaboration Patents will continue in full force and effect.

8.2.3 Cooperation Regarding Prosecution of Patents. Each Party shall cooperate with the other Party to the extent reasonably necessary for such Party to prosecute the Collaboration Patents, including the execution and delivery of documents to such prosecuting Party at such other Party’s cost and expense, and providing access to relevant documents (including laboratory notebooks) and other evidence and making its employees available at reasonable business hours.

8.3 Enforcement of Patents.

8.3.1 Notice. On an Optioned Program-by-Optioned Program basis, each Party shall notify the other Party of any actual or threatened infringement of any Joint Collaboration Patent or Optioned Program Patent of which such Party becomes aware.

8.3.2 Enforcement of Optioned Program Patents. Novartis shall have the first right to enforce any Optioned Program Patents against actual or potential infringers at its sole cost and expense, using counsel of its choice. If Novartis fails to take commercially reasonable steps to prosecute or settle any such potential within [***] days of receiving a notice with respect to such infringement pursuant to Section 8.3.1 or within [***] Business Days before the time limit, if any, under applicable Law for taking any action with respect to the timeframe of any other relevant regulatory or statutory framework that may govern, or earlier notifies TScan in writing of its intent not to bring such action or proceeding, TScan may enforce, at its sole cost and expense, using counsel of its choice.

8.3.3 Enforcement of Other Patents. Except as otherwise expressly set forth in Section 8.3.2, each Party shall have the sole right (but not the obligation), in its sole discretion, to enforce Patents Controlled by such Party.

8.3.4 Cooperation Regarding Enforcement of Patents. The Parties shall cooperate fully in any enforcement action pursuant to this Section 8.3, including by making the inventors, applicable records, and documents (including laboratory notebooks) with respect to the relevant Patents available to the enforcing Party and its advisors at the enforcing Party's request. The non-enforcing Party shall, and shall cause its Affiliates to, assist and cooperate with the enforcing Party, as the enforcing Party may reasonably request from time to time, in connection with its activities set forth in this Section 8.3, including, where necessary to establish standing, joining in, or being named as a necessary party to, such action, providing access to relevant documents and other evidence, making its employees available at reasonable business hours, and executing any settlement agreement as requested by the enforcing Party, *provided* that the enforcing Party shall reimburse the non-enforcing Party for its reasonable and verifiable out-of-pocket costs and expenses incurred in connection therewith. Unless otherwise set forth herein, the enforcing Party shall have the right to settle such claim, *provided* that neither Party shall have the right to settle any litigation under this Section 8.3 in a manner that (a) imposes any costs or liability on the other Party or its Affiliates or its or their Sublicensees, (b) involves any admission by the other Party or its Affiliates or its or their Sublicensees, (c) admits the invalidity or unenforceability of intellectual property Controlled by a Party or its Affiliates or its or their Sublicensees, or (d) imposes restrictions or obligations on the other Party or its Affiliates or its or their Sublicensees not otherwise permitted under this Agreement, in each case ((a) through (d)), without the express written consent of such other Party, which consent shall not be unreasonably withheld, conditioned or delayed. In connection with any activities with respect to an action prosecuted by the applicable enforcing Party pursuant to this Section 8.3 involving Patents Controlled by or licensed under this Agreement to the other Party, without limiting any of the enforcing Party's other obligations in this Section 8.3.4, the enforcing Party shall keep the non-enforcing Party reasonably informed of any material steps taken in connection with such action, and shall consider in good faith any comments from the non-enforcing Party with respect thereto.

8.3.5 Recoveries. Except as otherwise agreed by the Parties in writing, any recovery realized as a result of enforcing a Patent under Section 8.3.2 (whether by way of settlement or otherwise) shall be first allocated to reimburse the Parties for their costs and expenses in making such recovery (which amounts shall be allocated pro rata if insufficient to cover the totality of such expenses). Thereafter, any [***] of any remainder after such reimbursement is made shall be paid to the non-enforcing Party and [***] of such remainder shall be retained by the enforcing Party.

8.4 Invalidity or Unenforceability Actions

8.4.1 Notice. Each Party shall promptly notify the other Party in writing of any alleged or threatened assertion of invalidity or unenforceability, including any *inter partes* review, post-grant review, reexamination, opposition or any other similar action before a patent office, of any of the Optioned Program Patents or Joint Collaboration Patent, in by a Third Party of which such Party becomes aware (an “**Invalidity/Unenforceability Action**”).

8.4.2 Control of Invalidity or Unenforceability Actions. The Party that is prosecuting any Optioned Program Patent or Joint Collaboration Patent that is the subject of an Invalidity/Unenforceability Action shall have the first right (but not the obligation) to defend any Invalidity/Unenforceability Action with respect to such Patent, using counsel of its choice and at its sole cost and expense, including when such Invalidity/Unenforceability Action is raised as a defense or counterclaim in connection with an infringement action initiated pursuant to Section 8.3. The Party having the first right to defend an Invalidity/Unenforceability Action with respect to a Patent pursuant to this Section 8.4.2 shall be the “**Controlling Party**”. If the Controlling Party does not take commercially reasonable steps to defend against an Invalidity/Unenforceability Action under this Section 8.4.2 by the earlier of (a) [***] days after notice of such Invalidity/Unenforceability Action, and (b) [***] Business Days before the time limit, if any, under applicable Law for taking any action with respect to the defense of such Invalidity/Unenforceability Action, then (i) such Party shall so notify the non-Controlling Party and (ii) the non-Controlling Party shall have the right (but not the obligation) to defend against such Invalidity/Unenforceability Action at its sole cost and expense, using counsel of its choice, and shall thereafter be deemed the Controlling Party with respect to such Invalidity/Unenforceability Action. The non-Controlling Party may participate in the defense of any Invalidity/Unenforceability Action under this Section 8.4.2, at its sole cost and expense and using counsel of its choice, *provided* that the Controlling Party shall retain the right to control the defense of such Invalidity/Unenforceability Action.

8.4.3 Cooperation. The Parties shall cooperate fully in defense of any Invalidity/Unenforceability Action pursuant to this Section 8.4, including by making applicable records and documents (including laboratory notebooks) with respect to the relevant Invalidity/Unenforceability Action available to the Controlling Party on the Controlling Party’s request. The non-Controlling Party shall, and shall cause its Affiliates to, assist and cooperate with the Controlling Party, as the Controlling Party may reasonably request from time to time, in connection with its activities set forth in this Section 8.4, including, where necessary, joining in, or being named as a necessary party to, such action, providing access to relevant documents and other evidence, and making its employees available at reasonable business hours, and executing any settlement agreement as requested by the Controlling Party, *provided* that the Controlling Party shall reimburse the non-Controlling Party for its reasonable and verifiable out-of-pocket costs and expenses incurred in connection therewith. Unless otherwise set forth herein, the Controlling Party shall have the right to settle an Invalidity/Unenforceability Action, *provided* that neither Party shall have the right to settle any Invalidity/Unenforceability Action under this Section 8.4 in a manner that imposes any costs or liability on, or involves any admission of infringement or invalidity by, the other Party or its Affiliates or its or their Sublicensees, without the express written consent of such other Party (which consent shall not be unreasonably withheld, conditioned or delayed). In connection with any activities with respect to defense of an Invalidity/Unenforceability Action under Section 8.4.2, the Controlling Party shall (a) consult with the non-Controlling Party as to

the strategy for the defense of such Invalidity/Unenforceability Action, (b) consider in good faith any comments from the non-Controlling Party with respect thereto, and (c) keep the non-Controlling Party reasonably informed of any material steps taken, and provide copies of all material documents filed, in connection with such action.

8.4.4 Each Party shall inform the other Party of any certification regarding any Product associated with an Optioned Program it has received pursuant to either 21 U.S.C. §§355(b)(2)(A)(iv) or (j)(2)(A)(vii)(IV) or its successor provisions (or foreign equivalent thereof) and shall provide the other Party with a copy of such certification within [***] Business Days of receipt. Each Party's rights with respect to the initiation and prosecution of any legal action as a result of such certification shall be as defined in Section 8.3.

8.5 Patent Term Extension. Novartis shall give TScan notification in writing of its or its Sublicensees' (as applicable) first obtaining Regulatory Approval for a Product within [***] Business Days from its receipt of notice of the Regulatory Approval from the Regulatory Authority. Novartis will have the right to select which, if any, of the Optioned Program Patents would be selected for patent term extension pursuant to 35 U.S.C. §154-156 and as appropriate, applicable foreign patent Laws (the "**Patent Term Extension**"), and then in obtaining the Patent Term Extension with respect to such Optioned Program Patents.

ARTICLE 9 TERM AND TERMINATION

9.1 Term. Unless terminated earlier pursuant to this Article 9, the term of this Agreement shall commence on the Effective Date and shall continue in full force and effect until (a) if all Options expire unexercised, the expiration of the last to expire Option or (b) if any Options are exercised, on a Product-by-Product and country-by-country basis for each Optioned Program, upon the expiration of the Royalty Term for all Products associated with such Optioned Program in such country (the "**Term**"). Upon expiration of the Royalty Term for all Products associated with an Optioned Program, on a Product-by-Product and country-by-country basis, the license granted to Novartis for such Optioned Program pursuant to Section 3.2, as applicable, shall become worldwide, fully paid, irrevocable and perpetual.

9.2 Termination at Will by Novartis. Novartis shall have the right to terminate this Agreement for any reason or no reason, either in its entirety or on a Program-by- Program basis, at any time on [***] days' prior notice to TScan.

9.3 Material Breach. In the event of a material breach of this Agreement, the non-breaching Party shall have the right to terminate this Agreement by notice to the breaching Party specifying the nature of such breach in reasonable detail. Such termination shall become effective [***] days from receipt of such notice by the breaching Party, unless the breaching Party has cured such breach within such [***] day period. Notwithstanding the foregoing, if either Party initiates a dispute resolution procedures under Section 9.4 on or before the end of such [***] day period to resolve the dispute for which termination is being sought and is diligently pursuing such procedure, the cure period set forth in this Section 9.3 shall be tolled and termination shall become effective only if such alleged material breach remains uncured for [***] days after the final resolution of the dispute through such dispute resolution procedure.

9.4 Material Breach Dispute Resolution. Notwithstanding anything to the contrary herein, any dispute arising out of an allegation of material breach of this Agreement under Section 9.3 will be resolved as follows:

9.4.1 the Senior Officers will meet to attempt to resolve the dispute by good faith negotiations;

9.4.2 if the Senior Officers cannot resolve the dispute within [***] days after a Party requests such a meeting, then either Party may seek resolution of the dispute pursuant to Section 12.3; and

9.4.3 notwithstanding anything to the contrary in this Agreement, if either Party in its sole judgment believes that any such dispute could cause it irreparable harm, such Party shall be entitled to seek equitable relief in order to avoid such irreparable harm and will not be required to follow the procedures set forth in this Section 9.4.

9.5 Patent Challenge. If Novartis or any of its Affiliates or Sublicensees challenges, under any court action or proceeding, or before any patent office, the validity, patentability or enforceability of any Patent licensed to Novartis under this Agreement, or initiates a reexamination of any such Patent, or materially assists any Third Party to conduct any of the foregoing activities (each, a “**Patent Challenge**”) and such Patent Challenge is not required under a court order or subpoena and is not a defense against a claim, action or proceeding asserted by TScan, its Affiliates or its licensees against Novartis or its Affiliates or Sublicensees, then TScan may terminate this Agreement in its entirety if such Patent Challenge is not withdrawn within [***] days after TScan notifies Novartis of such Patent Challenge (“**Challenge Notice**”). Notwithstanding the foregoing: (a) if a Sublicensee makes a Patent Challenge and Novartis terminates such Sublicensee’s sublicense or causes such Sublicensee to withdraw such Patent Challenge within [***] days after Challenge Notice, then TScan may not terminate this Agreement pursuant to this Section 9.5 with respect to such Sublicensee’s Patent Challenge; and (b) TScan may not terminate this Agreement pursuant to this Section 9.5 with respect to a Patent Challenge that, pursuant to applicable Law in the jurisdiction of such Patent Challenge, cannot be withdrawn within [***] days, provided that Novartis uses Commercially Reasonable Efforts and acts in good faith to withdraw (or cause such Patent Challenge to be withdrawn) as soon as reasonably possible.

9.6 Insolvency.

9.6.1 Either Party may terminate this Agreement in its entirety effective immediately upon notice to the other Party if, at any time, such other Party (a) files in any court or agency pursuant to any statute or regulation of any state or country a petition in bankruptcy or insolvency or for reorganization (except for solvent reorganization or solvent reconstruction) or for an arrangement or for the appointment of a receiver or trustee of the Party or of substantially all of its assets, (b) proposes a written agreement of composition or extension of substantially all of its debts, (c) is served with an involuntary petition against it, filed in any insolvency proceeding, and such petition is not be dismissed within [***] days after the filing thereof, (d) proposes to be a party to any dissolution or liquidation, (e) admits in writing its inability generally to meet its obligations as they fall due in the general course or (f) makes an assignment of substantially all of its assets for the benefit of creditors.

9.6.2 All rights and licenses granted under or pursuant to any section of this Agreement are for purposes of Section 365(n) of Title 11, United States Code or any analogous provisions in any other country or jurisdiction (the “**Bankruptcy Code**”) licenses of rights to “intellectual property” as defined in Section 101(56) of the Bankruptcy Code (and any equivalent provisions under the bankruptcy or insolvency Laws of any other relevant jurisdiction). The Parties shall retain and may fully exercise all of their respective rights and elections under the Bankruptcy Code. The non-bankrupt Party shall further be entitled to a complete duplicate of, or complete access to, any such intellectual property and all embodiments of such intellectual property, which, if not already in its possession, shall be promptly delivered to the non-bankrupt Party (a) upon the commencement of a bankruptcy proceeding upon the non-bankrupt Party’s written request therefor, unless the Party subject to such proceeding elects to continue to perform all of its obligations under this Agreement or (b) if not delivered under clause (a) above, following the rejection of this Agreement by or on behalf of the Party subject to such proceeding upon written request therefor by the non-bankrupt Party. The Parties acknowledge and agree that payments made under Section 2.2 shall not (x) constitute royalties within the meaning of Section 365(n) of the Bankruptcy Code or any analogous provisions in any other country or jurisdiction or (y) relate to licenses of intellectual property hereunder.

9.7 Effect of Expiration or Termination of this Agreement.

9.7.1 Accrued Obligations. Upon expiration or termination of this Agreement for any reason neither Party shall be released from any liability (including, without limitation, any payment obligation) that, at the time of such expiration or the Termination Date, has already accrued to the other Party or that is attributable to a period prior to such expiration or the Termination Date.

9.7.2 Termination. If either Party terminates this Agreement in accordance with this Article 9:

9.7.2.1 the license and rights granted to Novartis under Section 3.1 and Section 3.2, with respect to the applicable Program and all associated Products (or, if the Agreement is terminated in its entirety, with respect to all Programs and all associated Products), shall terminate; and

9.7.2.2 except as otherwise expressly provided herein all rights and obligations of each Party hereunder will cease with respect to the applicable Program and all associated Products (or, if the Agreement is terminated in its entirety, with respect to all Programs (and all associated Products)), including all rights, licenses and sublicenses granted by a Party to the other hereunder, *provided that* Article 6 will survive with regard to any then outstanding payment obligations.

9.7.3 In-Process Clinical Trials. Notwithstanding any other provision in this Section 9.7, if there is any Clinical Trial being conducted at the Termination Date, the Party conducting such Clinical Trial shall be entitled to continue Exploiting the Products, as applicable, to the extent and for the period necessary to effect an orderly transfer or wind down of such Clinical Trial, in a timely manner and in accordance with applicable Laws.

9.8 Survival. Upon the expiration or termination of this Agreement for any reason, all rights and obligations of the Parties under this Agreement shall terminate, *provided* that the rights and obligations of the Parties set forth in Sections 2.2 (to the extent accrued prior to such termination or expiration), 2.3, 2.5, 2.6, 8.2.2, 8.3 (with respect to Joint Collaboration Patents), 8.4 (with respect to Joint Collaboration Patents), Article 6, Article 7, Article 9, Article 11, and Article 12 shall survive the expiration or termination of this Agreement for any reason.

9.9 Termination Not Sole Remedy. Termination is not the sole remedy under this Agreement and, whether or not termination is effected, all other remedies at equity or law shall remain available to the Parties except as agreed to otherwise herein.

ARTICLE 10 REPRESENTATIONS AND WARRANTIES

10.1 Mutual Representations and Warranties. Each of TScan and Novartis represents and warrants to the other Party, as of the Effective Date, that:

10.1.1 such Party is an entity duly organized, validly existing and in good standing under the Laws of the state or country (as applicable) of its organization, is qualified to do business and is in good standing as a foreign entity in each jurisdiction in which the conduct of its business or the ownership of its properties requires such qualification and failure to have such qualification would prevent it from performing its obligations under this Agreement, and has full power and authority to enter into this Agreement and to carry out the provisions hereof;

10.1.2 such Party is duly authorized, by all requisite action, to execute and deliver this Agreement and the execution, delivery and performance of this Agreement by such Party does not require any shareholder action or approval, and the Person executing this Agreement on behalf of such Party is duly authorized to do so by all requisite action;

10.1.3 except for HSR Filings (if any are required), no consent, approval, order or authorization of, or registration, qualification, designation, declaration or filing with, any Governmental Authority or a Third Party is required on the part of such Party in connection with the valid execution, delivery and performance of this Agreement;

10.1.4 this Agreement is a legal and valid obligation binding upon such Party and enforceable in accordance with its terms except as enforceability may be limited by (a) bankruptcy, insolvency, reorganization, moratorium or similar Laws affecting the enforcement of creditors' rights; and (b) equitable principles of general applicability; and

10.1.5 such Party has all requisite authorization and consent necessary to provide the Materials (including, without limitation, Collaboration Tumors) provided by such Party and for such Materials to be used as contemplated in the Research Plan, in each case, without violation of any applicable Laws or Third Party rights; and

10.1.6 the execution, delivery and performance by it of this Agreement and its compliance with the terms and provisions of this Agreement does not conflict with or result in a breach of any of the terms or provisions of (a) any other contractual or other obligations of such Party, (b) the provisions of its operating documents or bylaws, or (c) any order, writ, injunction or decree of any Governmental Authority entered against it or by which it or any of its property is bound.

10.2 TScan's Additional Representations and Warranties. TScan additionally represents and warrants to Novartis, as of the Effective Date, that:

10.2.1 Except for such Patents that either Party has identified to and discussed with the other Party prior to the Effective Date, there are no Patents owned by any Third Party that, to TScan's Knowledge, would be infringed by TScan's practice of the TScan Platform in performance of the Research Plan;

10.2.2 the BWH License Agreement and any In-License Agreements are in full force and effect, and TScan has no Knowledge of (a) any facts or circumstances that constitute a breach of such Agreements, or (b) any notice, correspondence or other communication from such parties indicating that TScan is in breach of or otherwise not compliant with the terms of such In-License Agreements;

10.2.3 TScan will not use any materials obtained from Brigham and Women's Hospital, Inc. in the conduct of the Collaboration in a manner that would breach the terms of the BWH License Agreement; and

10.2.4 it has not received notice of any claims, and there are no judgments or settlements against or owed by TScan or, to the Knowledge of TScan, any pending or threatened claims or litigation, in each case relating to the TScan Platform.

10.3 Disclaimer. Except as otherwise expressly set forth in this Agreement, NEITHER PARTY MAKES ANY REPRESENTATION OR EXTENDS ANY WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY THAT ANY PATENTS ARE VALID OR ENFORCEABLE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Except as otherwise expressly set forth in this Agreement, all Materials are provided "AS IS" without any other representation or warranty of any kind. Without limiting the generality of the foregoing, except as otherwise expressly set forth in this Agreement, each Party disclaims any warranties with regards to: (a) the success of any study or test commenced under this Agreement, (b) the safety or usefulness for any purpose of the technology or materials it provides or discovers under this Agreement and (c) the validity, enforceability, or non-infringement of any intellectual property rights or technology it provides or licenses to the other Party under this Agreement.

ARTICLE 11 INDEMNIFICATION

11.1 Novartis. Subject to Section 11.3 and Section 11.4, Novartis shall defend, indemnify and hold TScan, Brigham and Women's Hospital, Inc., and their respective Affiliates and its and their respective directors, officers, trustees, faculty, employees, agents, representatives, successors and assigns (the "**TScan Indemnitees**"), at Novartis' cost and expense, harmless from and against any and all Third Party claims, suits or demands ("**Third Party Claims**") arising out of or in connection with: (i) Products for an Optioned Program or otherwise in relation to Development, Commercialization or any other Exploitation of any Products for an Optioned Program, (ii) Novartis or its Affiliates' or its or their Sublicensees', distributors', subcontractors' or its or their respective directors', officers', employees' or

agents' gross negligence or willful misconduct in performing any of their obligations or exercising any of their rights under this Agreement, (iii) any violation of applicable Law in connection with the Development, Commercialization, or any other Exploitation and/or any use, handling, storage, distribution or other disposition of any Product by Novartis, its agents, subcontractors or Sublicensees, (iv) any personal bodily injury, death or property damage resulting from the Development, Commercialization, or any other Exploitation, use, handling, storage, distribution or other Exploitation of any Product by Novartis, its Affiliates, its agents, subcontractors or Sublicensees or (v) any breach by Novartis of any of its representations, or warranties under this Agreement. Notwithstanding the preceding sentence, Novartis shall have no obligation with respect to Third Party Claims to the extent they are attributable to any of the circumstances set forth in clauses (i) through (iii) of Section 11.2.

11.2 TScan. Subject to Section 11.3 and Section 11.4, TScan shall defend Novartis and its Affiliates and each of their officers, directors, shareholders, employees, successors and permitted assigns from and against all Third Party Claims arising out of (i) TScan's or its Affiliates' or its or their subcontractors' or its or their respective directors', officers', employees' or agents' gross negligence or willful misconduct in performing any of their obligations or exercising any of their rights under this Agreement, (ii) TScan's or its Affiliates' or its or their subcontractors' violation of applicable Law in connection with its performance under this Agreement, (iii) any breach by TScan of any of its representations or warranties under this Agreement, or (iv) Novartis' or its Affiliate's Exploitation of a Product infringing such Third Party's intellectual property rights but only if such infringement would not have occurred had TScan granted Novartis or its Affiliates a license under the TScan Background Platform IP used by TScan to identify the Collaboration Target to which such Product is Directed. Notwithstanding the preceding sentence, TScan shall have no obligation with respect to Third Party Claims to the extent they (a) are subject to indemnification by Novartis pursuant to Section 11.1 above, (b) are attributable to the negligence or willful misconduct of the Novartis Indemnitees, or (c) arise from Novartis' infringement of Excluded Technology.

11.3 Notice of Claim. All indemnification claims in respect of any person seeking indemnification under Section 11.1 or 11.2 (collectively, the "**Indemnitees**" and each an "**Indemnitee**") shall be made by the corresponding Party (the "**Indemnified Party**"). The Indemnified Party shall give the indemnifying Party (the "**Indemnifying Party**") prompt notice (an "**Indemnification Claim Notice**") of any Third Party Claim or the discovery of any fact upon which such Indemnified Party intends to base a request for indemnification under Section 11.1 or 11.2, but in no event shall the Indemnifying Party be have indemnification obligations that result from any delay by the Indemnified Party in providing such notice that materially prejudices the defense of such Third Party Claim. Each Indemnification Claim Notice must contain a description of the claim. Together with the Indemnification Claim Notice, the Indemnified Party shall furnish promptly to the Indemnifying Party copies of all notices and documents (including court papers) received by any Indemnitee in connection with the Third Party Claim. The Indemnifying Party shall not be obligated to indemnify the Indemnified Party to the extent any admission or statement made by the Indemnified Party materially prejudices the defense of such Third Party Claim.

11.4 Indemnification Procedure. In respect of Third Party Claims, the obligations of an Indemnifying Party under this Section 11.4 shall be governed by and contingent upon the following:

11.4.1 At its option, the Indemnifying Party may assume control of the defense of any Third Party Claim (which, for the avoidance of doubt, shall include the conduct of all dealings with such Third Party) by giving notice to the Indemnified Party within [***] days after the Indemnifying Party's receipt of an Indemnification Claim Notice. The assumption of control of the defense of a Third Party Claim by the Indemnifying Party shall not be construed as an acknowledgement that the Indemnifying Party is liable to indemnify any Indemnitee in respect of the Third Party Claim, nor shall it constitute a waiver by the Indemnifying Party of any defenses it may assert against any Indemnified Party's claim for indemnification.

11.4.2 Upon the assumption of the control of the defense of a Third Party Claim by the Indemnifying Party:

11.4.2.1 subject to the provisions of Section 11.4.3, it shall have the right to and shall assume sole control and responsibility for dealing with the Third Party and the Third Party Claim, including the right to settle the claim on any terms the Indemnifying Party chooses, but at all times in accordance with the provisions of Sections 11.4.3 and 11.4.3.1;

11.4.2.2 if it chooses, the Indemnifying Party may appoint as counsel in the defense of the Third Party Claim any law firm or counsel selected by the Indemnifying Party; and

11.4.2.3 except as expressly provided in Section 11.4.3, the Indemnifying Party shall not be liable to the Indemnified Party for any legal expenses subsequently incurred by such Indemnified Party or any Indemnitee in connection with the analysis, defense or settlement of the Third Party Claim. In the event that it is ultimately determined that the Indemnifying Party is not obligated to indemnify, defend or hold harmless an Indemnitee from and against the Third Party Claim, the Indemnified Party shall reimburse the Indemnifying Party for any and all costs and expenses (including lawyers' fees and costs of suit) in its defense of the Third Party Claim with respect to such Indemnified Party or Indemnitee.

11.4.3 Without limiting the remainder of this Section 11.4, any Indemnitee shall be entitled to participate in, but not control, the defense of a Third Party Claim and to retain counsel of its choice for such purpose, *provided* that such retention shall be at the Indemnitee's own cost and expense unless (i) the Indemnifying Party has failed to assume the defense and retain counsel in accordance with Section 11.4.1 (in which case the Indemnified Party shall control the defense), or (ii) the interests of the Indemnitee and the Indemnifying Party with respect to such Third Party Claim are sufficiently adverse to prohibit the representation by the same counsel of both Parties under any legal requirement, ethical rules or equitable principles.

11.4.3.1 With respect to any judgments or settlements relating solely to the payment of money to the Third Party to settle the Third Party Claim and that will not result in the Indemnified Party or the Indemnitee becoming subject to injunctive relief, and as to which the Indemnifying Party shall have acknowledged in writing the obligation to indemnify the Indemnitee under Section 11.4.1, the Indemnifying Party shall have authority to consent to the entry of any judgment, enter into any settlement or otherwise dispose of

such a. With respect to all other judgments or settlements or where the Indemnified Party will be subject to injunctive relief, where the Indemnifying Party has assumed the defense of a Third Party Claim in accordance with Section 11.4.1, the Indemnifying Party must not consent to the entry of any judgment or enter into any settlement, unless it obtains the prior written consent of the Indemnified Party (which consent shall not be unreasonably withheld, conditioned or delayed).

11.4.3.2 If the Indemnifying Party chooses not to take control of the defense or prosecute any Third Party Claim, the Indemnified Party shall retain control of the defense thereof, but no Indemnified Party or Indemnitee shall admit any liability with respect to, or settle, compromise or discharge, any such Third Party Claim without the prior written consent of the Indemnifying Party, which consent shall not be unreasonably withheld, conditioned or delayed. The Indemnifying Party shall not be liable for any settlement by an Indemnified Party or an Indemnitee under such a Third Party Claim that is reached without the written consent of the Indemnifying Party, which consent will not be unreasonably withheld, conditioned or delayed.

11.4.3.3 If the Indemnifying Party chooses to control the defense of any Third Party Claim, the Indemnified Party shall, and shall cause each other Indemnitee to, reasonably cooperate in the defense thereof and shall furnish such records, information and testimony, provide such witnesses and attend such conferences, discovery proceedings, hearings, trials and appeals as may be reasonably requested in connection therewith. Such cooperation shall include access during normal business hours by the Indemnifying Party to, and reasonable retention by the Indemnified Party of, records and information that are reasonably relevant to such Third Party Claim, and making the Indemnified Party, the Indemnitees and its and their employees and agents available on a mutually convenient basis to provide additional information and explanation of any records or information, to the extent the Third Party Claim is subject to indemnification hereunder.

11.5 Expenses. Except as expressly provided above, the reasonable and verifiable out-of-pocket costs and expenses, including fees and disbursements of counsel, incurred by the Indemnified Party where it participates in the defense under Sections 11.4.2.1 or 11.4.2.2 or cooperates pursuant to Section 11.4.3.3 shall be reimbursed on a quarterly basis by the Indemnifying Party, without prejudice to the Indemnifying Party's right to contest the Indemnified Party's right to indemnification and subject to refund in the event the Indemnifying Party is ultimately held not to be obligated to indemnify the Indemnified Party.

11.6 Insurance. TScan shall have and maintain, at its sole cost and expense, an adequate liability insurance policy (including product liability insurance) obtained from a reputable insurer to protect against potential liabilities and risk arising out of activities to be performed under this Agreement and any agreement related hereto and upon such terms (including coverages and deductible limits) as are customary in the pharmaceutical industry generally for the activities to be conducted by such Party under this Agreement. Novartis shall participate in a commercially reasonable program of self-insurance that is reasonably designed to address potential liabilities and risk arising out of activities to be performed such party. If a party elects to obtain insurance provided by a third party, such liability insurance shall insure against all types of liability, including personal injury, physical injury or property

damage arising out of such Party's activities hereunder. TScan will maintain such liability insurance policy for a period of three years after the end of the Collaboration Term. Novartis shall continue to participate in such self-insurance program for as long as Novartis or any of its Affiliates or Sublicensees continues to make, use or sell a Product under this Agreement. This Section 11.6 shall not create any limitation on the Parties' liability under this Agreement. Such insurance information shall be kept in confidence in the same manner as any other Confidential Information disclosed by the Parties hereunder.

11.7 Consequential Damages.

11.7.1 EXCEPT IN THE EVENT OF THE GROSS NEGLIGENCE, WILLFUL MISCONDUCT OR FRAUD OF A PARTY, IN NO EVENT SHALL EITHER PARTY OR THEIR AFFILIATES BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL, PUNITIVE, TREBLE OR CONSEQUENTIAL DAMAGES OR INDIRECT LOST PROFITS, WHETHER BASED ON CONTRACT, TORT OR ANY OTHER LEGAL THEORY; *PROVIDED, HOWEVER*, THAT THIS LIMITATION SHALL NOT LIMIT (A) EITHER PARTY'S LIABILITY FOR BREACHES OF CONFIDENTIALITY OBLIGATIONS UNDER ARTICLE 7, (B) TSCAN'S LIABILITY FOR WILLFUL BREACHES OF ITS EXCLUSIVITY OBLIGATIONS UNDER SECTION 3.1 OR EITHER PARTY'S WILLFUL BREACH OF THEIR EXCLUSIVITY OBLIGATIONS UNDER SECTION 3.5 OR (C) THE INDEMNIFICATION OBLIGATION OF EITHER PARTY IN RESPECT OF AMOUNTS ACTUALLY AWARDED AGAINST AN INDEMNIFIED PARTY AS A PART OF A THIRD PARTY CLAIM UNDER THE PROVISIONS OF THIS ARTICLE 11.

11.7.2 Nothing in this Agreement shall limit a Party's liability for death or personal injury caused by its negligence or for fraud.

ARTICLE 12 MISCELLANEOUS

12.1 Assignment. Neither Party may assign or transfer (whether by operation of applicable Law or otherwise) this Agreement or any rights or obligations hereunder without the prior written consent of the other Party, except that a Party may make such an assignment without the other Party's consent, in whole or in part, to an Affiliate or to a successor to substantially all of the business to which this Agreement relates, whether in a merger, sale of stock, sale of assets, reorganization or other transaction. Further, each Party shall have the right to cause the performance by an Affiliate of some or all of its obligations hereunder, without the prior written consent of the other Party; *provided, however*, such Party will be responsible and liable for any and all acts or omissions of any such Affiliate which, if such action or omission was by such Party, would constitute a breach of the terms and conditions hereof. In all cases, the assigning Party shall provide the other Party with prompt notice of any such assignment and the permitted assignee shall assume the obligations of the assigning Party hereunder in writing. No assignment of this Agreement shall act as a novation or release of either Party from responsibility for the performance of any accrued obligations.

12.2 Governing Law. This Agreement and any dispute or claim arising out of or in connection with it (whether contractual or non-contractual in nature such as claims in tort, from breach of statute or regulation or otherwise) shall be governed by and construed in accordance with the Laws of the State of New York, excluding any conflicts or choice of

Law rule or principle that might otherwise refer construction or interpretation of this Agreement to the substantive Law of another jurisdiction. Notwithstanding the foregoing, any dispute with respect to infringement, validity, or enforceability of any Patent shall be governed by and construed and enforced in accordance with the Laws of the jurisdiction in which such Patent is issued or published.

12.3 Dispute Resolution.

12.3.1 Subject to Section 9.4, any dispute or claim arising out of or in connection with this Agreement (including any question regarding the Agreement's existence, validity or termination), other than a dispute or claim that (a) may arise under Section 8.1, (b) relates to the scope, construction, validity, or enforceability of any Patent in a country, (c) otherwise requires the interpretation or application of applicable Law regarding Patents to resolve such dispute or claim or (d) for which a Party or other Person has been granted final decision-making authority hereunder, shall be referred to and finally resolved by arbitration under this Section 12.3. The place of arbitration shall be New York. The language to be used in the arbitration procedures shall be English. The arbitrator(s) shall have experience in pharmaceutical licensing disputes. The arbitration proceedings, including any outcome, shall be confidential. Nothing in this Section 12.3 will preclude either Party from seeking equitable interim or provisional relief from a court of competent jurisdiction including a temporary restraining order, preliminary injunction or other interim equitable relief, concerning a dispute either prior to or during any arbitration if necessary to protect the interests of such Party or to preserve the status quo pending the arbitration proceeding.

12.3.2 With respect to any dispute or claim that is subject to this Section 12.3, such dispute or claim shall be finally resolved by arbitration pursuant to the rules of the International Chamber of Commerce, which are deemed incorporated into this Section 12.3.2. The number of arbitrators shall be three (3), of which each Party shall appoint one (1); the arbitrators so appointed will select the third and final arbitrator. The arbitrators shall be requested to render their decision within [***] days after the arbitrators declare the hearing closed, which decision shall include a written statement describing the essential findings and conclusions on which the decision is based. The decision rendered by the arbitrators shall be final, binding and non-appealable, and judgment may be entered upon it in any court of competent jurisdiction. Each Party shall bear its own attorney's fees, costs, and disbursements arising out of the arbitration, and shall pay an equal share of the fees and costs of the arbitrators.

12.4 Force Majeure. Neither Party shall be liable to the other for any failure or delay in the fulfillment of its obligations under this Agreement (other than the payment of monies due and owing to a Party under this Agreement), when any such failure or delay is caused by epidemics and/or pandemics, fire, flood, earthquakes, explosions, sabotage, terrorism, civil commotions, riots, invasions, wars, peril of the sea or requirements of Governmental Authorities (each, a "**Force Majeure Event**"). In the event that either Party is prevented from discharging its obligations under this Agreement on account of a Force Majeure Event, the performing Party shall promptly notify the other Party, and such other Party shall use good faith efforts to discharge its obligations, even if in a partial or compromised manner.

12.5 No Debarred Personnel. Each Party agrees that it and its Affiliates and Sublicensees, as applicable, shall not use, during the Term, the services of any employee, consultant, contractor or clinical investigator that has been debarred by the FDA or any other Governmental Authority or that is the subject of debarment proceedings by the FDA or any other Governmental Authority. If a Party becomes aware that it or its Affiliates or Sublicensees, as applicable, has breached the foregoing obligation, it shall immediately (i) notify the other Party in writing and provide full details of the circumstances and extent of such breach and (ii) promptly replace the relevant employee, consultant, contractor or clinical investigator with a suitably qualified replacement that has not been debarred by the FDA or any other Governmental Authority or that is not the subject of debarment proceedings by the FDA or any other Governmental Authority.

12.6 Expenses. Except as otherwise expressly provided herein or mutually agreed, all costs and expenses incurred in connection with this Agreement and the transactions contemplated hereby shall be borne by the Party incurring such costs and expenses.

12.7 No Agency. Nothing herein contained shall be deemed to create an agency, joint venture, amalgamation, partnership or similar relationship between TScan and Novartis. Notwithstanding any of the provisions of this Agreement, neither Party shall at any time enter into, incur, or hold itself out to Third Parties as having authority to enter into or incur, on behalf of the other Party, any commitment, expense, or liability whatsoever, and all contracts, expenses and liabilities undertaken or incurred by one Party in connection with or relating to the Development, Manufacture or Commercialization of Product shall be undertaken, incurred or paid exclusively by that Party, and not as an agent or representative of the other Party.

12.8 No Third Party Beneficiaries. The warranties and agreements contained in this Agreement are for the sole benefit of the Parties, and in Novartis' case, Novartis' Affiliates, and their respective successors and permitted assigns, and they shall not be construed as conferring any rights to any other Persons other than, (a) with respect to the Parties' obligations in Sections 11.1 and 11.2, the other Persons expressly referenced as Indemnitees thereunder.

12.9 Entire Agreement; Amendment. This Agreement (including all schedules and exhibits hereto) constitutes the entire agreement between the Parties with respect to the subject matter hereof and supersedes all prior agreements or understandings, oral or written, with respect to such matters. The Parties acknowledge that this Agreement has not been entered into wholly or partly in reliance on, nor has either party been given, any warranty, statement, promise or representation by the other or on its behalf other than as expressly set out in this Agreement. This Agreement may be amended or modified only by a writing signed by both Parties.

12.10 Severability. If any provision of this Agreement is held to be illegal, invalid or unenforceable under any present or future Law and if the rights or obligations of either Party under this Agreement will not be materially and adversely affected thereby, (a) such provision shall be fully severable, (b) this Agreement shall be construed and enforced as if such illegal, invalid or unenforceable provision had never comprised a part hereof, (c) the remaining provisions of this Agreement shall remain in full force and effect and shall not be affected by the illegal, invalid or unenforceable provision or by its severance herefrom, and (d) in lieu of such illegal, invalid or unenforceable provision, there shall be added automatically as a part of this Agreement a legal, valid and enforceable provision as similar in terms to such illegal, invalid or unenforceable provision as may be possible and reasonably acceptable to the Parties. To the fullest extent permitted by applicable Law, each Party hereby waives any provision of law that would render any provision hereof illegal, invalid or unenforceable in any respect.

12.11 Extension; Waiver. At any time, either TScan or Novartis may (a) with respect to obligations owed to it or the performance of other acts for its benefit, extend the time for the performance of such obligations or such other acts to be performed hereunder by the other, (b) waive any inaccuracies in the representations and warranties of the other contained herein or in any document delivered pursuant hereto and (c) waive compliance with any of the conditions to the obligations of the other contained herein. Any agreement on the part of either Party to any such extension or waiver shall be valid only if set forth in an instrument executed by such Party. No such waiver shall be operative as a waiver of any other subsequent requirement of this Agreement. The failure of any Party to assert any of its rights under this Agreement or otherwise shall not constitute a waiver of such rights.

12.12 Notices. All communications required to be made under this Agreement shall be effective upon receipt, and shall be sent to the addresses set out below, or to such other addresses as may be designated by one Party to the other by notice pursuant hereto, by (a) internationally recognized overnight courier; (b) prepaid registered or certified US mail, return receipt requested; or (c) facsimile transmission or other electronic means of communication (including email) with confirmation by letter sent by the close of business on or before the next following Business Day at the address set forth below, or such other address as may be designated in writing hereafter, in the same manner, by such Party as follows:

If to TScan, as follows:

TScan Therapeutics, Inc.
830 Winter Street
Waltham MA 02451
Attention: Henry Rath
Attention: Chief Financial Officer

With a copy (which shall not constitute notice) to:

Gunderson Dettmer Stough Villeneuve Franklin &
Hachigian, LLP
One Marina Park Drive
Suite 900
Boston, MA 02210
Attention: Timothy H. Ehrlich
[***]

If to Novartis, as follows:

Novartis Institutes for BioMedical Research, Inc.
250 Massachusetts Avenue
Cambridge, MA 02139 USA
Attention: Global Head, NIBR BD&L

with required copies to:

Novartis Institutes for BioMedical Research, Inc.
250 Massachusetts Avenue
Cambridge, MA 02139 USA
Attention: General Counsel

12.13 HSR Act Compliance

12.13.1 HSR Filing. If Novartis notifies TScan that an HSR Filing is required to exercise an Option under this Agreement, each of TScan and Novartis shall make an HSR Filing as soon as practicable and advisable after delivery of such notice by Novartis. The Parties shall cooperate with one another to the extent necessary in the preparation of any such filings. Novartis shall be responsible for the filing fee and TScan's reasonable costs and expenses associated with any such filings.

12.13.2 HSR Clearance. In connection with obtaining HSR Clearance, TScan and Novartis shall use their respective commercially reasonable efforts to resolve as promptly as practicable any objections that may be asserted by the FTC or the Antitrust Division of the DOJ with respect to the transactions notified in the HSR Filing. The term "commercially reasonable efforts" as used in this Section 12.13.2 shall not require Novartis or TScan to (a) sell, divest (including through a license or a reversion of licensed or assigned rights), hold separate, transfer, or dispose of any portion of the assets, operations, rights, product lines, or businesses, or interests therein, of itself or any of its Affiliates (or consent to any of the foregoing actions), (b) restrain, restrict, prohibit or limit the ability of Novartis or TScan to conduct its business or own its assets (or consent to any of the foregoing actions) or (c) litigate or otherwise formally oppose any determination (whether judicial or administrative in nature) by a Governmental Authority seeking to challenge the transactions contemplated by this Agreement or impose any of the restrictions referenced in clause (a) or (b) above, *provided* that (i) Novartis shall not be required to agree to or effectuate any remedy related to any TScan assets and (ii) TScan shall not agree to or effectuate any remedy without the prior written consent of Novartis.

12.13.3 Cooperation. In connection with obtaining HSR Clearance with respect to an Option, each of TScan and Novartis shall (a) cooperate with each other in connection with any investigation or other inquiry relating to an HSR Filing; (b) keep the other Party or its counsel informed of any material communication received from or given to the FTC or DOJ relating to the HSR Filing (and provide a copy to the other Party if such material communication is in writing); and (c) permit the other Party or its counsel to review in advance, and in good faith consider the views of the other Party or its counsel concerning, any written submission or filing (and documents submitted therewith) intended to be given to the FTC or DOJ, *provided* that, after good faith consideration of any input from TScan, Novartis shall make the final determination as to the appropriate strategy relating to any filing or submission that is necessary under the HSR Act, including with respect to any filings, notifications, submissions and communications with or to the FTC or the Antitrust Division of the DOJ.

12.13.4 If HSR Clearance has not occurred within [***] days after Novartis notifies TScan pursuant to Section 12.13.1, that an HSR Filing is required to exercise an Option under this Agreement, Novartis shall withdraw its HSR Filings upon notice to TScan and the applicable Option will be deemed not to have been exercised.

12.14 Further Assurances. Each Party shall perform all further acts and things and execute and deliver such further documents as may be necessary or as the other Party may reasonably require to implement or give effect to this Agreement.

12.15 No Strict Construction. This Agreement shall be construed as if it were drafted jointly by the Parties. 12.16 Headings. The headings herein are for convenience purposes only and shall not be used to interpret any of the provisions hereof.

12.17 Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be deemed an original and all of which taken together shall be deemed to constitute one and the same instrument. An executed signature page of this Agreement delivered by facsimile transmission or by electronic mail in "portable document format" (".pdf") shall be as effective as an original executed signature page.

12.18 Non-Exclusive Remedies. The remedies set forth in this Agreement shall be in addition to, and shall not be to the exclusion of, any other remedies available to the Parties at Law, in equity or under this Agreement.

[Signature page follows.]

IN WITNESS WHEREOF this Agreement has been signed by the duly authorized representatives of the Parties as of the Effective Date.

TSCAN THERAPEUTICS, INC.

By: /s/ David P. Southwell

Name: David P. Southwell

Title: President & Chief Executive Officer

**NOVARTIS INSTITUTES FOR BIOMEDICAL
RESEARCH, INC.**

By: /s/ Scott A. Brown

Name: Scott A. Brown

Title: VP CAO

[Signature page to Collaboration and License Agreement]

INSTITUTION LOGO

contact person at institution
position
e-mail
Tel +1xxxx

institution name
institution address

INVOICE

Date

Invoice number: xxxx

PO Number: xxxx [to be provided by Novartis]

Re: xxxx Agreement, dated [_____].

[for example] For research project activities in Q1 2020 as described in the sponsored research agreement signed on xxxx. Provide reasonable detail on the activities driving the cost.

Total amount Payable: USD xxxx

Payment terms: [***] days

Remit to bank wire information

Bank Name: xxxx

Account No.: xxxx

ABA#: xxxx

SWIFT code: xxxx

Instructions for e-mail submission of invoices

- The e-mail address is [***]
- Attached invoice files must contain a Novartis issued purchase order (PO) number on them and cannot be zipped. Invoices without a PO number on them or zipped attachments will not be accepted for processing.
- cc:
[***][***] (Novartis contact in Alliance Management)
[***] (Novartis contact in BD&L Finance)

Research Plan

TScan / Novartis Partnership Research Plan

March 2020

Outlined below is the Research Plan for Novartis and TScan's target discovery collaboration from TCR Discovery through Pre-clinical Development.

Step 1: Target ID / TCR Discovery

[***]

DATA PACKAGE Part 1

Step 2: Pre-Clinical Development

[***]

DATA PACKAGE Part 2

Step 3: TCR Validation / IND Enabling Activities

[***]

SCHEDULE 1.140

TScan Background Platform IP

CERTAIN IDENTIFIED INFORMATION HAS BEEN OMITTED FROM THIS DOCUMENT BECAUSE IT IS BOTH NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE REGISTRANT IF PUBLICLY DISCLOSED, AND HAS BEEN MARKED WITH “[***]” TO INDICATE WHERE OMISSIONS HAVE BEEN MADE.

NON-EXCLUSIVE LICENSE AGREEMENT

THIS NON-EXCLUSIVE LICENSE AGREEMENT (this “**Agreement**”) is made as of October 15, 2020 (the “**Effective Date**”)

BETWEEN

PROVINCIAL HEALTH SERVICES AUTHORITY, continued under the *Societies Act* of British Columbia and having its administrative offices at 600 West 10th Avenue, Vancouver, British Columbia, Canada, V5Z 4E6 (“**PHSA**”);

AND

TSCAN THERAPEUTICS, INC., a corporation incorporated under the laws of the state of [Delaware] and having its head office at 830 Winter Street, Waltham, Massachusetts, U.S.A., 02451

(“**TScan**”)

PHSA and TScan may be referred to individually as a “**Party**” and collectively as the “**Parties**”.

WHEREAS

- A. PHSA (through its division, the BC Cancer (“**BC Cancer**”)) holds the rights to certain Licensed Patents (as defined herein) which is based on research undertaken by investigators at BC Cancer, the University of British Columbia (“**UBC**”) and Simon Fraser University (“**SFU**”).
- B. PHSA is desirous of entering into this Agreement to grant a non-exclusive license to TScan to exploit the Licensed Patents for the public benefit and in a manner consistent with PHSA’s status as a non-profit, tax exempt institution, and TScan is desirous of accepting such license, on the terms and conditions set out in this Agreement.

NOW THEREFORE in consideration of the promises and the performance of the covenants herein contained and other good and valuable consideration (the receipt and sufficiency of which are hereby acknowledged), the Parties agree as follows:

ARTICLE 1
DEFINITIONS

1.1 **Definitions.** For the purposes of this Agreement, the following terms will have the following meanings:

- (a) “**Affiliate**” means, with respect to a Person, any other Person (other than an individual) that, directly or indirectly, whether as of or after the Effective Date, through one (1) or more intermediaries, controls, is controlled by or is under common control with such first Person at any time for so long as such Person controls, is controlled by or is under common control with such first Person. For purposes of this Agreement, “**control**” and, with correlative meanings, the terms “**controlled by**” and “**under common control with**” means: the possession, directly or indirectly, of the power to direct the management or policies of a business entity, whether through the ownership of voting securities, by contract relating to voting rights or corporate governance or otherwise; or the ownership, directly or indirectly, of fifty percent (50%) or more of the voting securities or other ownership interest of a business entity (or, with respect to a limited partnership or other similar entity, its general partner or controlling entity).
- (b) “**Agreement Payments**” has the meaning given to it in Section 4.4(c).
- (c) “**Anti-Corruption Laws**” means the federal laws of Canada and the laws of the Province of British Columbia relating to anti-bribery or anti-corruption matters, together with the *United States Foreign Corrupt Practices Act*, and any other applicable anti-bribery or anti-corruption laws.
- (d) “**Applicable Laws**” means all applicable laws, rules, and regulations, including any rules, regulations, guidelines, or other requirements of Governmental Authorities, that may be in effect from time to time.
- (e) “**BC Cancer**” has the meaning given to it in the recitals.
- (f) “**BIA**” has the meaning given to it in Section 10.6.
- (g) “**Business Day**” means any day, other than a Saturday or a Sunday, on which banking institutions are open or authorized to be open in Vancouver, Canada or Boston, Massachusetts.
- (h) “**Calendar Year**” means each successive period of twelve (12) months commencing on January 1 and ending on December 31, except that the first Calendar Year of the Term will commence on the Effective Date and end on December 31 of the year in which the Effective Date occurs and the last Calendar Year of the Term will commence on January 1 of the year in which the Term ends and end on the last day of the Term.
- (i) “**CCAA**” has the meaning given to it in Section 10.6.
- (j) “**Claim**” means any cause of action, action, account, lien of any kind whatsoever, claim, demand, complaints, grievances, applications, suits, causes of action, lawsuits, audit, proceeding, or arbitration, including any proceeding or investigation by a Governmental Authority.
- (k) “**Clinical Trials**” means human studies designed to measure the safety or efficacy of a Product, and any post-marketing approval studies.

- (l) **“Confidential Information”** means any information which is confidential in nature or that is treated as being confidential by a Party or by any of its Affiliates and that is furnished or transferred by or on behalf of such a Party or any of its Affiliates (collectively, the **“Disclosing Party”**) to the other Party or to any of its Affiliates (collectively, the **“Receiving Party”**) pursuant to this Agreement. If such information is not furnished or transferred in writing by the Disclosing Party to the Receiving Party then, unless the Receiving Party knows or reasonably should know such information is confidential, it will not be considered Confidential Information unless reduced to writing and provided by the Disclosing Party to the Receiving Party within [***] days of the original disclosure.
- (m) **“Disclosing Party”** has the meaning given to it in Section 1.1(l).
- (n) **“Dispute”** means any dispute, controversy or Claim between the Parties (of any and every kind or type, whether based on contract, tort, statute, regulation or otherwise) arising out of, relating to or connected with this Agreement or the activities carried out under this Agreement, including any dispute as to the construction, validity, interpretation, enforceability or breach of this Agreement.
- (o) **“Encumbrances”** means pledges, liens, charges, security interests, leases, title retention agreements, mortgages, restrictions, options or adverse Claims or encumbrances of any kind or character whatsoever. When used as a verb, **“to Encumber”** mean to grant or permit an Encumbrance.
- (p) **“Force Majeure”** has the meaning given to it in Section 13.10.
- (q) **“Governmental Authority”** means any court, agency, authority, department, regulatory body or other instrumentality of any government or country or of any national, federal, state, provincial, regional, county, city or other political subdivision of any such government or any supranational organization of which any such country is a member.
- (r) **“Indemnitees”** has the meaning given to it in Section 9.1.
- (s) **“Intellectual Property”** means all intellectual property as recognized under the Applicable Laws of Canada, the United States or other jurisdictions as applicable, including rights in and to Patents.
- (t) **“Licensed Patents”** means: (a) the patents or patent applications (**“Patents”**) set out in Schedule A; (b) any and all Patents claiming priority to or corresponding to any of the Patents set out in Schedule A or to which the Patents set out in Schedule A claim priority or otherwise claim the subject matter of the Patents set out in Schedule A (and their international equivalents); (c) any divisionals, continuations, continuations-in-part (to the extent claiming the subject matter of the Patents set out in Schedule A), and continued prosecution applications of the Patents described in clause (a) or (b) (and their international equivalents); (d) any Patents resulting from any of the Patents described in clause (a), (b) or (c) (and their international equivalents); and (e) any Patents resulting from reissues, reexaminations or extensions (and their international equivalents) of any Patents described in clause (a), (b), (c), or (d).
- (u) **“Party Claiming Force Majeure”** has the meaning given to it in Section 13.10.

- (v) **“Patent Challenge”** has the meaning given to it in Section 7.2.
- (w) **“Patent Prosecution”** means activities directed to: (i) preparing, filing and prosecuting applications (of all types) for any Licensed Patents; (ii) managing any interference, opposition, re-issue, reexamination, supplemental examination, invalidation proceedings (including *inter partes* or post-grant review proceedings), revocation, nullification, or cancellation proceeding relating to the foregoing; (iii) maintaining any Licensed Patents; (iv) deciding whether to abandon, extend or maintain Licensed Patents; (v) listing in regulatory publications (as applicable); and (vi) settling any interference, opposition, reexamination, invalidation, revocation, nullification or cancellation proceeding, but excluding the defense of challenges to such Licensed Patent or Licensed Patent application as a counterclaim in an infringement proceeding with respect to the particular Licensed Patent and the prosecution of infringement proceedings with respect to a particular Licensed Patent, and any appeals therefrom.
- (x) **“Person”** means any natural person, corporation, limited liability corporation, unincorporated association, partnership, joint venture or other entity.
- (y) **“Public Official”** means (i) any officer, employee or representative of any regional, federal, state, provincial, county or municipal government or government department, agency or other division; (ii) any officer, employee or representative of any commercial enterprise that is owned or controlled by a government, including any state-owned or controlled veterinary, laboratory or medical facility; (iii) any officer, employee or representative of any public international organization, such as the African Union, the International Monetary Fund, the World Health Organization, the United Nations or the World Bank; and (iv) any person acting in an official capacity for any government or government entity, enterprise or organization identified above.
- (z) **“Receiving Party”** has the meaning given to it in Section 1.1(l).
- (aa) **“Securities Regulators”** has the meaning given to it in Section **Error! Reference source not found.**
- (bb) **“SFU”** has the meaning given to it in the recitals.
- (cc) **“Sublicense Agreement”** means any agreement under which TScan, a TScan Controlled Subsidiary, or a Sublicensee grants a sublicense licenses under the Licensed Patents to a Sublicensee.
- (dd) **“Sublicensee”** means any Third Party or TScan Affiliate (other than a TScan Controlled Subsidiary) who has obtained, directly or indirectly, from or through TScan, Tscan Controlled Subsidiary, or a Sublicensee a sublicense of any or all of the Licensed Patents granted under this Agreement to TScan. A Sublicensee and all of its Affiliates shall be considered a single Sublicensee for all purposes of this Agreement.
- (ee) **“Sublicensee Entity”** has the meaning given in Schedule “B”.

- (ff) **“Taxes”** means any federal, state, local or foreign income, gross receipts, license, payroll, employment, excise, severance, stamp, occupation, premium, windfall profits, environmental, customs duties, capital stock, franchise, profits, withholding, social security, unemployment, disability, real property, personal property, sales, use, transfer, registration, value added, alternative or add-on minimum, estimated, or other tax of any kind whatsoever, including any interest, penalty, or addition thereto, whether disputed or not.
- (gg) **“Term”** has the meaning given to it in Section 10.1.
- (hh) **“Territory”** means worldwide.
- (ii) **“Third Party”** means a Person other than PHSA or its Affiliate or TScan or a TScan Controlled Subsidiary.
- (jj) **“Third Party Claim”** means a Claim brought against a Party by a Third Party.
- (kk) **“Trademarks”** means trademarks, service marks, certification marks, official marks, trade names, trade dress, distinguishing guises and other distinguishing features used in association with wares or services, logos, slogans, business names, corporate names, uniform resource locators, trading styles, commercial symbols and other source and business identifiers, designs, domain names, whether registered primary domain names or secondary or other higher level domain names, and general intangibles of like nature, whether or not registered or the subject of an application for registration and whether or not registrable and all goodwill associated therewith.
- (ll) **“TScan Controlled Subsidiary”** means an entity in which TScan owns 50% or more of the voting shares of such entity and has the right to elect the majority of the board of directors (or equivalent in respect of jurisdictions or entities that do not have a board of directors) of such entity.
- (mm) **“TScan Technology License”** means a license of (i) material Patents other than the Licensed Patents, or (ii) material Know-How, in each case, owned or exclusively licensed by TScan and granted under the Sublicense Agreement in connection with a sublicense of any or all of the Licensed Patents in which the scope and term of the sublicense to Licensed Patents is no broader than the scope of the license or sublicense, as the case may be, granted to such other Patents or Know-How owned or exclusively licensed by TScan.
- (nn) **“UBC”** has the meaning given to it in the recitals.

ARTICLE 2
LICENSES

- 2.1 **Grant of License.** Effective upon receipt by PHSA of the amounts payable pursuant to Section 4.1, PHSA hereby grants to TScan on the Effective Date a worldwide, non-exclusive, perpetual, non-transferable (except as set forth herein) license, with right to grant sublicenses through multiple tiers (but, for clarity, the Sublicense of the Licensed Patents and the TScan Technology License shall be included in the same agreement with the Sublicensee or sub-Sublicensee), under the Licensed Patents, to make, have made, use, offer for sale, import, and sell products and services and otherwise practice under the Licensed Patents in any way.

- 2.2 TScan Controlled Subsidiaries; Affiliates. The license granted under Section 2.1 shall extend to any TScan Controlled Subsidiary (but not to any other Affiliate of TScan that is not a TScan Controlled Subsidiary) but shall terminate on the date such entity ceases to be a TScan Controlled Subsidiary. A list of all TScan Controlled Subsidiaries as of the Effective Date is attached as Schedule C. Upon request from time-to-time from PHSA, TScan shall notify PHSA in writing of its then current TScan Controlled Subsidiaries. TScan will cause each TScan Controlled Subsidiary to comply with the terms and conditions of this Agreement applicable to it and will be fully responsible for the compliance of each TScan Controlled Subsidiary with the terms and conditions of this Agreement. TScan may grant a sublicense to an Affiliate that is not a TScan Controlled Subsidiary but, in such case, such entity shall be deemed a Sublicensee and such sublicense shall be subject to payment pursuant to Section 4.2 and the terms set out in Section 2.3.
- 2.3 Sublicensing to Third Parties. In addition to its rights pursuant to Section 2.2, TScan, TScan Controlled Subsidiaries, and Sublicensees may grant one or more sublicenses of the licenses granted to TScan under the Licensed Patents pursuant to Section 2.1 without the consent of PHSA but only pursuant to a TScan Technology License. TScan will pay the Sublicensing Fee (as defined in Section 4.2 and only to the extent required by Section 4.2) with respect to such sublicense irrespective of whether such sublicense is granted by TScan, a TScan Controlled Subsidiary or a Sublicensee. TScan agrees (and, with respect to Sublicensees and TScan Controlled Subsidiaries that grant sublicenses, shall cause such Persons to agree) to the following with respect to each Sublicense Agreement it enters into:
- (a) will not conflict or be inconsistent in any material respect with the terms and conditions of this Agreement and such Sublicense Agreement will be in writing and will contain the terms and conditions outlined in Schedule B;
 - (b) TScan shall provide PHSA with the information set out in Schedule D in respect of each Sublicense Agreement and Sublicensee (whether such Sublicense Agreement is entered into by TScan, any TScan Controlled Subsidiary or Sublicensee) within [***] of the grant of any sublicense..
- 2.4 Sublicense Agreement. For clarity, neither TScan, any TScan Controlled Subsidiary nor any Sublicensee will grant any sublicense of the Licensed Patents without first entering into a Sublicense Agreement.

ARTICLE 3
DEVELOPMENT; COMMERCIALIZATION; REGULATORY

- 3.1 Development/Commercialization/Regulatory Responsibilities. As between the parties, TScan, or its Sublicensees will be fully responsible at its cost for the development and commercialization of any products or services that may be covered under the Licensed Patents in the Territory. PHSA shall not have any regulatory responsibilities in connection with such development and commercialization by TScan, its TScan Controlled Subsidiaries and Sublicensees of such products or services. TScan will, and will cause its TScan Controlled Subsidiaries, to comply with all Applicable Laws in connection with the exploitation of the Licensed Patents and the development and commercialization of any such products or services.

ARTICLE 4
FINANCIAL TERMS; PAYMENTS

- 4.1 Up-Front Payment. Concurrent with the execution of this Agreement, TScan will pay to PHSA a non-refundable:
- (a) US \$[***] as an up-front license fee; plus
 - (b) a one-time reimbursement of Patent and legal costs incurred to date by PHSA related to the Licensed Patents, of US \$[***].
- 4.2 Sublicensing Fee. In addition to the amounts payable under Sections 4.1 and 4.3, TScan shall pay (or cause a Sublicensee to pay) to PHSA an up-front US\$[***] sublicensing fee (the “**Sublicensing Fee**”) for each Sublicense Agreement; provided, however, that where such fee was paid by TScan to PHSA in respect of a particular Sublicensee, such fee shall not be due with respect to any Sublicense Agreement between that Sublicensee and its Affiliates but, for clarity, additional Sublicensing Fees shall be payable by TScan to PHSA in respect of any sub-sublicense by such Sublicensee or its Affiliate to any other Person. For further clarity, any Sublicense Agreement that grants a sublicense under the Licensed Patents to a Third Party and its Affiliates shall be deemed one Sublicense Agreement, with no more than one (1) Sublicensing Fee payable with respect thereto (if any). The Sublicense Fees will be payable to PHSA within [***] following the execution of a Sublicense Agreement. For the purpose of calculating Sublicensing Fees owing by TScan to PHSA, each Affiliate of such Sublicensee shall be deemed to be the same Sublicensee and the grant of a sublicense in accordance with the terms of this Agreement by such Sublicensee to its Affiliate shall not require payment by TScan to PHSA of an additional Sublicensing Fee (beyond that already paid to PHSA in connection with the grant of the sublicense by TScan to the applicable Sublicensee) for so long as such entity remains an Affiliate of the original Sublicensee. If such Person is no longer an Affiliate of such Sublicensee and retains the sublicense to the Licensed Patents, then TScan shall be obligated to pay to PHSA an additional US\$[***] Sublicensing Fee in respect of such sublicense to such Person as if it were a new sublicense of the Licensed Patents granted by TScan to such Person unless such Person is an Affiliate of a Person for which a Sublicensing Fee has been (or is concurrently) paid. The Sublicensing Fees will not be creditable against any other payments owing by TScan to PHSA under this Agreement and will not be refundable by PHSA if the Sublicense Agreement giving rise to such Sublicensing Fee.
- 4.3 Minimum Annual Fee for the First Five Years. In addition to the other amounts payable under this Agreement, TScan will pay to PHSA an annual license maintenance fee of US\$[***] per year for five years (for a total of US\$[***]), with the first such payment commencing on the first anniversary of the Effective Date and the subsequent payments due on each subsequent anniversary date thereafter until the fifth such payment has been made to PHSA. The amount payable under this Section 4.3 will not be creditable against any other payments owing by TScan to PHSA under this Agreement.

4.4 Payments; Reporting.

- (a) Sublicensing Fee and Reporting. Concurrent with the payment of a Sublicensing Fee pursuant to Section 4.2, TScan will deliver to PHSA a report containing the information specified in Schedule D to this Agreement.
- (b) Payment Currency / Exchange Rate. All payments to be made by TScan to PHSA under this Agreement will be made in United States dollars. Payments to PHSA will be made by electronic wire transfer of immediately available funds to an account of PHSA designated in writing by PHSA to TScan.
- (c) Taxes. Each Party will be responsible for its own Tax liabilities arising under this Agreement, provided that PHSA will be liable for all Taxes imposed upon any payments made by TScan to PHSA under this Agreement (“**Agreement Payments**”). If Applicable Laws require the withholding of Taxes, TScan will make such withholding payments and will subtract the amount thereof from the Agreement Payments and submit to PHSA appropriate proof of payment of the withheld Taxes as well as the official receipts within a reasonable period of time. TScan will provide PHSA reasonable assistance in order to allow PHSA to obtain the benefit of any present or future treaty against double taxation or refund or reduction in Taxes which may apply to the Agreement Payments. Notwithstanding the foregoing, if as a result of a Party assigning this Agreement or changing its domicile additional Taxes become due that would not have otherwise been due hereunder with respect to Agreement Payments, such Party will be responsible for all such additional Taxes. The Parties will, where possible and, in the case of PHSA, consistent with any policies or other requirements applicable to such PHSA, endeavor to reasonably cooperate in order to mitigate adverse tax consequences to a Party that may arise as a result of this Agreement, including by completing, filing, or delivering documents to lawfully enable PHSA, and TScan, its Affiliates and Sublicensees, to mitigate withholding taxes applicable to any of them.
- (d) Additional Payment Terms; Late Payment. All payments in this Article 4 are non-refundable and non-creditable and will be paid by TScan without notice or demand therefor. Late payments, unless disputed by TScan in good faith, will bear a rate of [***]% compound interest per month (equivalent to [***]% per annum), or the maximum rate permitted by law, whichever is lower on the entire outstanding balance from the due date.

4.5 Records; Audits. TScan will keep true and accurate books, records and accounts sufficient to permit PHSA to determine TScan’s payment obligations under this Agreement in accordance with, and subject to, this Section 4.5. During the Term and for [***] years thereafter, at the request of PHSA, and not more than once per Calendar Year, TScan will, within [***] Business Days of a written request by PHSA, permit an independent auditor from an internationally recognized accounting firm selected by PHSA and acceptable to TScan, acting reasonably, during ordinary business hours to have access to TScan’s records in order to verify the accuracy of the Sublicensing Fees

payable under this Agreement. As a condition of the foregoing, such auditor will be required to enter into with TScan a confidentiality agreement in a form mutually agreeable to PHSA and TScan, each acting reasonably, that will require such auditor to keep all information confidential except that such auditor may share with PHSA only its conclusions of such audit and such information as is reasonably required to support such conclusions. TScan will reasonably cooperate at TScan's sole cost and expense in any review or inspection conducted under this Section and make reasonably available on a timely basis the information required to conduct the review or inspection. If the review of such records reveals an underpayment by TScan, then TScan will promptly pay to PHSA the underpayment together with interest calculated in the manner provided in Section 4.4(d). The fees and expenses of such independent auditor will be borne by PHSA, provided that if such audit reveals that TScan failed to pay Sublicensing Fees owed to PHSA by more than \$[***] then the reasonable fees and expenses of PHSA's auditor in performing such audit will be borne by TScan.

ARTICLE 5
OWNERSHIP OF INTELLECTUAL PROPERTY

- 5.1 Licensed Patents. PHSA owns all right, title and interest in and to the Licensed Patents.
- 5.2 TScan Improvements. TScan shall not be required to assign to PHSA any improvements (or any other intellectual property of any kind) created or developed by TScan, its Affiliates or Sublicensees.
- 5.3 PHSA' Retained Rights. Except for the licenses and rights under the Licensed Patents expressly set forth in this Agreement, no license, immunity, interest, or other right is or shall be deemed to be granted or otherwise conveyed under or pursuant to this Agreement by PHSA under any other patents or technology, whether directly, by implication, by reason of estoppel, or otherwise. Without limiting the generality of the foregoing, TScan acknowledges and agrees that:
 - (a) PHSA and its Affiliates retain the right to use and exploit, including for both non-commercial and commercial purposes, the Licensed Patents in the Territory; and
 - (b) PHSA and its Affiliates may grant non-exclusive licenses to one or more Third Parties in the Territory in respect of the Licensed Patents without any obligation to, accounting to or reporting to TScan.

ARTICLE 6
CONFIDENTIALITY

- 6.1 Confidentiality. Except to the extent expressly authorized by this Agreement or otherwise agreed in writing by the Parties, each Receiving Party agrees that, during the Term, and for [***]Calendar Years thereafter (or, in the case of any trade secrets, for so long as they remain secret), the Receiving Party will keep confidential and will not publish or otherwise disclose and will not use for any purpose other than as expressly provided for in this Agreement any Confidential Information made available by the Disclosing Party

pursuant to this Agreement. The Receiving Party may use Confidential Information of the Disclosing Party only to the extent required to accomplish the purposes of this Agreement. The Receiving Party will use at least the same standard of care as it uses to protect proprietary or confidential information of its own to ensure that its employees, agents, consultants and other representatives do not disclose or make any unauthorized use of the Confidential Information. The Receiving Party will promptly notify the Disclosing Party upon discovery of any unauthorized use or disclosure of the Confidential Information.

- 6.2 **Exceptions.** Confidential Information will not include any information which the Receiving Party can prove by competent evidence: (a) is now, or hereafter becomes, through no act or failure to act on the part of the Receiving Party, generally known or available; (b) is known by the Receiving Party at the time of receiving such information from the Disclosing Party, as evidenced by its records; (c) is hereafter furnished to the Receiving Party by a Third Party, as a matter of right and without restriction on disclosure; or (d) is independently discovered or developed by the Receiving Party without the use of Confidential Information of the Disclosing Party.
- 6.3 **Authorized Disclosure.** The Receiving Party may disclose Confidential Information of the Disclosing Party if and to the extent such disclosure is reasonably necessary in the following instances:
- (a) disclosure to Affiliates, to potential or actual licensees or sublicensees, and to employees, contractors, consultants, agents or other representatives of the Receiving Party and its Affiliates who have a need to know such information in order for the Receiving Party to exercise its rights or fulfill its obligations under this Agreement provided, in each case, that any such Affiliate, potential or actual sublicensee, or employee, contractor, consultant, agent or other representative agrees to be bound or are bound by confidentiality obligations comparable in scope to those set forth in this Article 6;
 - (b) disclosure to such Receiving Party's attorneys, independent accountants or financial advisors for the sole purpose of enabling such attorneys, independent accountants or financial advisors to provide advice to the Receiving Party, on the condition that such attorneys, independent accountants and financial advisors are bound by confidentiality and non-use obligations consistent with the confidentiality provisions of this Agreement as they apply to the Receiving Party;
 - (c) disclosure to Third Parties in connection with due diligence or similar investigations by such Third Parties provided, in each case, that any such Third Party agrees to be bound by obligations of confidentiality and non-use at least as stringent as set out in this Article 6;
 - (d) as approved by the Disclosing Party in writing for disclosure or publication by each of the Parties;
 - (e) prosecuting or defending Claims as permitted by this Agreement; and

- (f) complying with applicable court orders, Applicable Laws, rules or regulations, or the listing rules of any exchange on which the Receiving Party's securities are traded, provided that: in the event the Receiving Party is required to make a disclosure of the Confidential Information of the Disclosing Party pursuant to this Section 6.3(f), it will, except where prohibited or impracticable, give reasonable advance notice to the Disclosing Party of such disclosure so that the Disclosing Party is afforded a reasonable opportunity to oppose such requirement or otherwise seek an appropriate protective order.
- 6.4 Confidentiality of Terms of Agreement. The terms of this Agreement will be considered the Confidential Information of PHSA for purposes of this Article 6, provided that TScan may disclose the terms of this Agreement to Sublicensees and in connection with due diligence pursuant to a financing, acquisition or securities transaction if such recipient agrees to maintain such information confidential on terms no less stringent than those set out in this Article 6.
- 6.5 Additional PHSA Disclosures. Notwithstanding anything contained in this Article 6, TScan acknowledges and agrees that: (i) PHSA may to disclose to UBC and SFU, and PHSA, UBC and SFU may each disclose to the inventors of the Licensed Patents, all financial reports or payment information provided by TScan pursuant to this Agreement; and (ii) PHSA may disclose any other TScan Confidential Information received pursuant to this Agreement to UBC and SFU, provided in the case of this subsection (ii) that such recipient agrees to be bound by terms of confidentiality and restrictions on use at least as stringent as those set forth in this Article 6.
- 6.6 Freedom of Information Disclosures. The Parties acknowledge that PHSA, UBC and SFU may be required to disclose records relating to this Agreement pursuant to the *Freedom of Information and Protection of Privacy Act* ("**FIPPA**"). PHSA, UBC and SFU will comply with all of the provisions of FIPPA relating to disclosure of records before making any such disclosure pursuant to FIPPA, including the notice, review and appeal provisions with respect to third party requests for disclosure, but will not be liable in any way whatsoever to TScan or its employees, contractors, agents, subcontractors, representatives, Affiliates, or Sublicensees, if such records (including the information therein) are required to be so disclosed pursuant to FIPPA, provided they otherwise comply with their obligations herein. Without limiting the generality of the foregoing, PHSA will, and if they are not already bound to do so by FIPPA, will request that UBC and SFU agree to, provide TScan written notice in accordance with section 23 of FIPPA before disclosing any records relating to this Agreement pursuant to FIPPA, and will limit the disclosure to the minimum amount which PHSA, UBC or SFU, as applicable, reasonably determines after consultation with TScan is required to be disclosed under FIPPA.
- 6.7 Publication. Notwithstanding anything to the contrary in this Agreement, PHSA, UBC and SFU are not restricted from presenting at symposia, national or regional professional meetings or from publishing in journals or other publications accounts of their respective research relating to the Licensed Patents.
- 6.8 Use of Trademarks. Notwithstanding the licenses conferred under this Agreement, and except as may otherwise be agreed to by the Parties, neither Party will use the other Party's Trademarks, or the names of the other Party's employees, in any advertising or sales promotional material, without prior written permission of that other Party. Any Party granting such approval will comply with any and all restrictions on such use as a Party may provide in writing from time to time. Notwithstanding this Section 6.8, each Party may use the legal or trade name of the other Party only where necessary to reflect the factual nature of a Party's participation in, or activities under, this Agreement, and then only in a disclosure or publication as permitted by this Agreement.

- 6.9 Press Releases. Each Party agrees not to issue any press release or other public statement, whether oral or written, disclosing the terms or the names of the Parties of this Agreement without the prior written consent of the other Party (such consent not to be unreasonably withheld, conditioned or delayed), provided, however, that neither Party will be prevented from complying with any duty of disclosure it may have pursuant to Applicable Laws or pursuant to the rules of any recognized stock exchange or quotation system, subject to (and to the extent there is sufficient time while still being able to comply with such Applicable Laws or stock exchange or quotation system rules) that Party notifying the other Party of such duty and limiting such disclosure as reasonably requested by the other Party (and giving the other Party sufficient time to review and comment on any proposed disclosure). Notwithstanding the foregoing, disclosures of information for which consent has previously been obtained under this Section will not require advance approval but will be provided to the other Party as soon as practicable after the release or communication thereof.
- 6.10 Securities Exchanges. The Parties hereby acknowledge and agree that TScan may be required by Applicable Laws to submit a copy of this Agreement to a national or sub-national securities regulatory body in any jurisdiction (collectively, the “**Securities Regulators**”). If TScan is required by Applicable Laws to submit a description of the terms of this Agreement to or file a copy of this Agreement with any Securities Regulator, then it will have the right to make such disclosure or filing at the time and in the manner reasonably determined by its counsel to be required by Applicable Laws or the applicable Securities Regulators after consultation with PHSA on the proposed disclosure or filing and, to the extent not inconsistent with TScan’s obligations under Applicable Laws or the rules of the applicable Securities Regulators, providing PHSA with reasonable time to comment upon and request confidential treatment for such disclosure.
- 6.11 If TScan seeks to make a disclosure or filing as set forth in this Section 6.10 and PHSA provides comments within the respective time periods or constraints specified herein, TScan will in good faith incorporate such comments unless it reasonably determines that it is not permitted to do so under Applicable Laws or the applicable Securities Regulators and advises PHSA of such determination and the reasons therefor.
- 6.12 Injunctive Relief for Breach. In the event of any breach of this Article 6 by a Party, the aggrieved Party will be entitled to seek preliminary and permanent injunctive relief, which remedy will be in addition to any other rights or remedies the aggrieved Party may be entitled under this Agreement or otherwise under Applicable Laws.

ARTICLE 7
PATENT PROSECUTION; INFRINGEMENT

- 7.1 Prosecution of Licensed Patents. PHSA will have the sole right to manage the Patent Prosecution of the Licensed Patents and to enforce the Licensed Patents as PHSA, in its sole discretion, determines and without the consent of or accounting to TScan, including the right to elect whether or not to continue the prosecution or maintenance of, to abandon or to enforce against Third Parties, any Licensed Patent in any country in the Territory.

7.2 Patent Challenge. If TScan, its Affiliates, or any Third Party acting under the direction of Tscan or its Affiliates:

- (a) challenges the validity or of any Licensed Patent (or any claim thereof) under this Agreement by way of a declaratory judgment action or any other legal proceedings, and if such challenger withdraws the suit or it ends in a final judgment from which no appeal can be or has been taken as a matter of right that any of the claims of any Licensed Patent is valid or enforceable;
- (b) initiates or participates in a re-examination, review or other proceeding at the United States Patent and Trademark Office or any foreign equivalent with respect to any Licensed Patent, and if such governmental authority issues a review decision, reexamination certificate or similar document indicating that any claim of any of the Licensed Patent is valid or institution is denied (without regard to whether any claim of any Licensed Patent is amended during re-examination or review); or
- (c) otherwise disputes the validity of Licensed Patents, directly or indirectly through a representative, or any rights or interests of PHSA in, to or under any of the Licensed Patents;

and the foregoing is not a defense against a claim, action proceeding alleging infringement of the Licensed Patents by TScan, a TScan Controlled Subsidiary or any of their respective Affiliates asserted by PHSA against such Person (each of the actions referred to in (a), (b) and/or (c) above), as qualified, when initiated or filed, is a "**Patent Challenge**") then PHSA can terminate this Agreement upon [***] days notice to TScan. TScan shall give PHSA at least [***] prior written notice prior to TScan or its Affiliates or any Third Party acting under any of their direction commencing a Patent Challenge.

ARTICLE 8

REPRESENTATIONS AND WARRANTIES

8.1 Representations and Warranties of the Parties. Each of the Parties represents and warrants to the other that as of the Effective Date:

- (a) it is duly organized, validly existing and in good standing under the Applicable Laws of the jurisdiction of its incorporation and has full power and authority to enter into this Agreement and to carry out the provisions hereof;
- (b) the execution and delivery of this Agreement and the performance by it of the transactions contemplated hereby have been duly authorized by all necessary corporate action and do not violate: (i) such Party's charter documents, bylaws or other organizational documents; (ii) any requirement of any Applicable Laws; or (iii) any order, writ, judgment, injunction, decree, determination or award of any court or Governmental Authority presently in effect applicable to such Party;

- (c) this Agreement is a legal, valid and binding obligation of such Party enforceable against it in accordance with its terms and conditions, subject to the effects of bankruptcy, insolvency or other laws of general application affecting the enforcement of creditor rights, judicial principles affecting the availability of specific performance and general principles of equity (whether enforceability is considered a proceeding at law or equity); and
 - (d) it has not in connection with the transactions contemplated by this Agreement: (i) taken any action in violation of any applicable Anti-Corruption Laws; (ii) corruptly offered, paid, given, promised to pay or give, or authorized the payment or gift of anything of value, directly or indirectly, to any Public Official, for the purposes of: (A) influencing any act or decision of any Public Official in his or her official capacity; (B) inducing such Public Official to do or omit to do any act in violation of his or her lawful duty; (C) securing any improper advantage; or (D) inducing such Public Official to use his or her influence with a government, governmental entity, or commercial enterprise owned or controlled by any government (including state-owned or controlled veterinary, laboratory or medical facilities) in obtaining or retaining any business whatsoever.
- 8.2 Limited Representation and Warranties of PHSA. PHSA represents and warrants that it has not granted exclusive rights, or assigned any rights of PHSA in, the Licensed Patents to Third Parties that would prevent PHSA from granting to TScan the non-exclusive licenses granted under the License Agreement.
- 8.3 Disclaimer. TScan acknowledges and agrees that, except as specifically set out in Section 8.2:
- (a) the Licensed Patents and the license granted thereto under this Agreement are provided “as is”;
 - (b) PHSA expressly disclaims any warranty or condition that the use of the Licensed Patents does not infringe any patent, copyright, Trademark, trade secret or other rights of Third Parties;
 - (c) PHSA makes no representation, warranty or condition with respect to the Licensed Patents;
 - (d) TScan has been advised by PHSA to undertake TScan’s own due diligence regarding the Licensed Patents;
 - (e) PHSA disclaims all representations, warranties or conditions with regard to the Licensed Patents, including, but not limited to, all warranties or conditions, expressed or implied, of merchantability, merchantable quality, durability, and fitness for any particular purpose; and
 - (f) PHSA additionally disclaims all obligations and liabilities on the part of PHSA and its Affiliates, and disclaims on behalf of UBC and SFU, for damages including, but not limited to, direct, indirect, special, and consequential damages, solicitors’ and experts’ fees, and court costs (even if they have been advised of the possibility of such damages, fees or costs), arising out of or in connection with the use, research, development, or commercialization of the Licensed Patents by TScan, its Affiliates or any Sublicensees.

ARTICLE 9
INDEMNITIES; LIMITATION OF LIABILITY; INSURANCE

- 9.1 **Indemnity.** TScan hereby indemnifies, holds harmless and defends each of PHSA, UBC, SFU, their respective Affiliates and their respective Boards of Governors, officers, employees, faculty, students, invitees, and agents (the “**Indemnitees**”) from and against any and all Third Party Claims arising out of the exercise by TScan of its rights under this Agreement, including without limiting the foregoing, against any damages or losses, consequential or otherwise, arising from or out of the use, research, development, or commercialization of the Licensed Patents or anything made, used, sold or otherwise disposed of under the license granted under this Agreement by TScan, its Affiliates or its Sublicensees, or their respective customers or end-users, including but not limited to any patent infringement claim. TScan acknowledges and agrees that UBC and SFU are third party beneficiaries of TScan’s obligations under this Article 9, Schedule B and the other provisions of this Agreement that specifically refer to UBC or SFU.
- 9.2 **Indemnification Procedure.** TScan’s obligation to indemnify the Indemnitees under Section 9.1. is conditioned on (a) any Indemnitee seeking indemnification hereunder notifying TScan in writing reasonably promptly after receipt by it of written notice of any Third Party Claim in respect of which it intends to base a claim for indemnification hereunder, (b) TScan having the right, upon providing notice to PHSA and, where the Indemnitee is not PHSA, such other Indemnitee of its intent within [***] days after receipt of the notice from the Indemnitee of any Third Party Claim, to assume the defense and handling of such Third Party Claim, at TScan’s sole expense, and (c) TScan having control over selection of counsel reasonably acceptable to the Indemnitee in connection with conducting the defense and handling of such Third Party Claim. TScan will defend or handle such defense in reasonable consultation with the Indemnitee, and will keep the Indemnitee reasonably apprised of the status of such Third Party Claim. The Indemnitee will reasonably cooperate with TScan with respect to such Third Party Claim, at the request and expense of TScan. TScan will not settle such Third Party Claim without obtaining the Indemnitee’s prior written consent, which will not be unreasonably withheld, except no consent is needed in the case of a settlement that does not admit liability on the part of any Indemnitee or otherwise impose on any Indemnitee any liability or obligations, and so long as the Indemnitees are unconditionally released from all liability in such settlement. Without limiting the foregoing, each Indemnitee will be entitled to appoint separate counsel to assist such Indemnitee in the defense and handling of such Third Party Claim with its own counsel and at its own expense.
- 9.3 **Limitation of Liability.** The total, aggregate liability of PHSA, UBC, SFU and their Affiliates considered together, whether under the express or implied terms of this Agreement, in tort (including negligence) or at common law, for any loss or damage suffered by TScan, its Affiliates or its Sublicensees, whether direct, indirect, consequential, incidental or special, or any other similar damage that may arise or does arise from any breaches of this Agreement by any Indemnitees, is limited to CAD\$[***] except only that PHSA’s liability for a breach of PHSA’s warranty in Section 8.2 (but not a breach of PHSA’s warranty under Section 8.1 or otherwise under this Agreement) shall be limited to the greater of \$[***] or the amount actually paid by TScan to PHSA under this Agreement in the [***] period prior to a Claim being made in writing by TScan to PHSA for breach of that warranty under Section 8.2.

- 9.4 **Damages Exclusions.** TSCAN ACKNOWLEDGES AND AGREES THAT PHSA AND THEIR AFFILIATES WILL NOT BE LIABLE FOR INDIRECT, CONSEQUENTIAL, INCIDENTAL, OR SPECIAL DAMAGES, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. PHSA ACKNOWLEDGES AND AGREES THAT TSCAN, ITS AFFILIATES AND THEIR SUBLICENSEES WILL NOT BE LIABLE FOR INDIRECT, CONSEQUENTIAL, INCIDENTAL, OR SPECIAL DAMAGES, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES; PROVIDED, HOWEVER, THAT THIS CLAUSE WILL NOT BE CONSTRUED TO LIMIT TSCAN'S INDEMNIFICATION OBLIGATIONS WITH RESPECT TO THIRD PARTY CLAIMS UNDER SECTIONS 9.1 AND 9.2.
- 9.5 **Insurance.** TScan will have and maintain such type and amounts of liability insurance covering its activities and responsibilities under this Agreement as is normal and customary in TScan's industry generally for similarly-situated entities. Upon PHSA's written request from time to time, TScan will promptly furnish to PHSA a certificate of insurance or other evidence of such insurance. Without limiting the generality of the foregoing, TScan will, at its own cost and expense, obtain and maintain in full force and effect during the Term (and, if any of the following policies of insurance are written on a claims made basis, for a period of at least three (3) years thereafter), insurance with coverage and minimum policy limits set forth as follows:
- (a) Commercial General Liability Insurance (including Public Liability Insurance) with a per-occurrence limit of not less than USD\$[***].
 - (b) Products and Completed Operations Liability Insurance with a per-occurrence limit of not less than USD\$[***]; provided, however, that TScan need not obtain or maintain such insurance prior to the initiation of the first Clinical Trial of any product that is covered under a Licensed Patent.
 - (c) Not less than one (1) month before the start of (A) any Clinical Trials of a product referred to in (b), or (B) the first use by TScan, its Affiliates or any of its Sublicensees of the Licensed Patents in exchange for valuable consideration, TScan will give notice to PHSA of the terms and amount of the product liability, Clinical Trials public liability, and commercial general liability insurance which TScan, its Affiliates or any of its Sublicensees have placed. Without limiting the generality of the foregoing, neither TScan, its Affiliates nor any of its Sublicensees will start any Clinical Trials, or sell or offer to sell any product referred to in (b) or use the Licensed Patents in exchange for valuable consideration, unless the insurance outlined above in reasonable amounts is in effect, with a reputable and financially secure insurance carrier, and TScan has provided to PHSA an insurance certificate evidencing such insurance. The above policies of insurance described in this Section 9.5(c) will:
 - (i) include as additional insureds the following: PHSA, UBC, SFU, their respective Board of Governors, faculty, officers, employees, students, invitees and agent;

- (ii) provide coverage regarding all activities under this Agreement;
- (iii) include a waiver of subrogation against PHSA, UBC and SFU, and a severability of interest and cross-liability clauses; and
- (iv) provide that the policies cannot be cancelled or materially altered except on at least [***]days' prior notice to PHSA, UBC and SFU.

ARTICLE 10
TERM; TERMINATION

10.1 Term. The term of this Agreement will continue in its entirety until the date of expiration of the last Licensed Patent in the Territory, unless earlier terminated in accordance with the terms of this Agreement (the "**Term**").

10.2 Termination for Breach.

(a) Without limiting PHSA's rights to seek damages or injunctive relief in connection with any breach by TScan of this Agreement, PHSA may terminate this Agreement on written notice to TScan in the event:

- (i) PHSA is entitled to terminate this Agreement pursuant to Section 7.2;
- (ii) TScan fails to pay to PHSA, individually or in the aggregate, US \$[***] or more owing pursuant to this Agreement unless the payment of such amount is being disputed in good faith by TScan; or
- (iii) TScan fails to comply with the material terms of this Agreement set forth in Articles 2 and 9 and, even if such failure relates to any of such Articles, for which monetary damages is not an adequate remedy;

and TScan fails to cure such failure after receiving two separate written notices from PHSA specifying such failure (with each such notice given by PHSA to TScan at least [***]days apart).

Notwithstanding the foregoing, in the case of a notice given pursuant to this Section 10.2, and TScan in good faith notifies PHSA in writing that it disputes whether such breach occurred, PHSA's right to terminate shall be first referred for resolution pursuant to Article 11 and termination will be stayed pending the final resolution of such proceedings or mutual written agreement of PHSA and TScan. If TScan fails to pay such Sublicensing Fee (plus interest calculated in accordance with Section 4.4(d) and any legal fees awarded pursuant to Article 11) or cure such breach, as applicable, within [***]days after it is finally determined pursuant to Article 11 to be owing by TScan to PHSA, then PHSA may terminate this Agreement.

- (b) Except as specifically provided in Section 10.2(a), neither Party shall have the right to terminate this Agreement for breach by the other Party but the foregoing shall not relieve TScan from its obligations to terminate, or cause to be terminated, a Sublicense Agreement due to the material breach of the Sublicensee or preclude either party from seeking an interim, interlocutory or final order for injunctive relief to prevent such material breach from continuing. Further, TScan's termination of an applicable Sublicense Agreement shall be deemed to cure any breach hereof by TScan caused by a breach of a Sublicensee, and PHSA shall not be entitled to terminate this Agreement as against TScan, any TScan Controlled Subsidiary or other Sublicensee pursuant to Section 10.2 but TScan shall remain liable to indemnify PHSA in respect of such breach pursuant and subject to Section 9.1 and 9.2.
- 10.3 Termination by TScan. TScan may terminate this Agreement at any time upon notice to PHSA provided that no such termination under this Section 10.3 shall be effective until the later of (a) [***]months and one day after the Effective Date, and (b) TScan has made aggregate payments in the amount of \$[***] to PHSA as otherwise would have been required under Section 4.1 and Section 4.3 should this Agreement not have been terminated. For clarity, following the period referred to in Section 10.3(a), TScan may accelerate such payments for the purposes of early termination pursuant to this Section 10.3.
- 10.4 Effect of Termination. Upon expiration or termination of this Agreement:
- (a) TScan will immediately pay to PHSA all amounts owing under this Agreement and not being disputed in good faith by TScan;
- (b) all licenses granted under this Agreement will immediately terminate and revert to PHSA, provided that all Sublicense Agreements entered into with any Sublicensee (other than a TScan Controlled Subsidiary or TScan Affiliate) that have not previously been terminated shall survive provided that:
- (i) TScan has paid to PHSA the Sublicensing Fee in respect of such Sublicense Agreement;
- (ii) the Sublicensee is solvent;
- (iii) Sublicensee or its Sublicensee Affiliates are in compliance in all material respects with the Sublicense Agreement; and
- (iv) such Sublicensee enters into an agreement with PHSA in substantially the same form as this Agreement to become a direct licensee of PHSA, which Agreement does not require additional payment of Sublicensee to retain its existing rights, and except that in such agreement the equivalent of Section 9.3 of this Agreement shall automatically be amended to delete the words "except only that PHSA's liability for a breach of PHSA's warranty in Section 8.2 (but not a breach of PHSA's warranty under Section 8.1 or otherwise under this Agreement) shall be limited to the greater of \$[***]or the amount actually paid by TScan to PHSA under this Agreement in the [***]period prior to a Claim being made in writing by TScan to PHSA for breach of that warranty under Section 8.2" so that Section 9.3 of such replacement license agreement shall read as follows:

“9.3 Limitation of Liability. The total, aggregate liability of PHSA, UBC, SFU and their Affiliates considered together, whether under the express or implied terms of this Agreement, in tort (including negligence) or at common law, for any loss or damage suffered by TScan, its Affiliates or its Sublicensees, whether direct, indirect, consequential, incidental or special, or any other similar damage that may arise or does arise from any breaches of this Agreement by any Indemnitees, is limited to CAD\$[***].”

- (c) each Receiving Party will deliver to the Disclosing Party or destroy the Disclosing Party’s Confidential Information except that the Receiving Party may retain (i) one (1) copy of the Disclosing Party’s Confidential Information for legal archival purposes; and (ii) shadow or back-up copies which may remain within the Receiving Party’s computer systems or its back-up or electronic archive systems until such time as such back-up copies are overwritten in accordance with the Receiving Party’s reasonable document retention policies, and provided such back-up copies will not be accessed or used by anyone except as necessary and subject to the same terms and conditions as those contained in this Agreement. Each Receiving Party will deliver to the Disclosing Party a certificate of an officer of the Receiving Party certifying its compliance with this Section 10.4(c).
- 10.5 Survival. Any expiration or termination of this Agreement will not relieve either Party of any obligation or liability accrued hereunder prior to such expiration or termination. In addition, Article 46, 9, Section 10.4, Section 10.5, Section 10.6, and Articles 11 to and including 13, and any right, obligation, or required performance of the Parties which, by its express terms is intended to survive termination or expiration of this Agreement, will survive any such termination or expiration.
- 10.6 Rights in Bankruptcy. PHSA hereby acknowledges and agrees, on behalf of itself and its Affiliates, that TScan, as licensee of rights under this Agreement, may retain and fully exercise all its rights under any provision of Section 65.11 of the *Bankruptcy and Insolvency Act* of Canada (the “**BIA**”) and Section 32 of the *Companies’ Creditors Arrangement Act* of Canada (the “**CCAA**”), and that TScan will retain its rights to use the Licensed Patents under Section 65.11(7) of the BIA and Section 32(6) of the CCAA in any event. Without limiting the foregoing, TScan will have the benefit of any laws in force from time to time which provide for the protection of licensees’ rights generally in the event of an insolvency of PHSA. For the purposes of ensuring that PHSA has the rights afforded to it pursuant to the rights and licenses granted by TScan to PHSA under this Agreement will apply, *mutatis mutandis*, to any proceedings, actions or motions brought in respect of TScan or its Affiliates under the CCAA, BIA or similar provisions in the bankruptcy laws of other jurisdictions.

ARTICLE 11
DISPUTE RESOLUTION/GOVERNING LAW

11.1 Dispute Resolution.

- (a) The Parties agree that in the event of a Dispute between PHSA and TScan arising out of or in connection with this Agreement, or in respect of any legal relationship associated therewith or derived therefrom, the Parties will undertake good faith efforts to resolve any such Dispute, with the Dispute being referred at the request of either Party to a senior representative of each Party.
- (b) If after [***] days of the Dispute first being referred to the senior representatives the Parties are unable to resolve such Dispute, either Party may refer the matter to arbitration pursuant to Section 11.2.
- (c) Notwithstanding any term of this Article 11, a Party may apply to any court of competent jurisdiction for any temporary injunctive or provisional relief necessary to protect the rights or property of that Party pending final resolution of the Dispute as contemplated by this Article 11.

11.2 Arbitration. All Disputes will be referred to and finally resolved by arbitration by a single arbitrator and administered by the Judicial Arbitration and Mediation Services, Inc. ("JAMS") pursuant to its applicable Rules. The place of arbitration will be Vancouver, British Columbia, Canada. The arbitrator will have the power to award interim or permanent injunctive relief until the arbitration award is rendered or the controversy is otherwise resolved, and either Party may apply to a court of competent jurisdiction to enforce any injunctive relief granted by the arbitrator. Any final award by the arbitrator may be entered by either Party in any court having appropriate jurisdiction for a judicial recognition of the decision and applicable orders of enforcement. The existence, content, and results of an arbitration will be the Confidential Information of all Parties (i.e., each Party will be considered both the Disclosing Party and the Receiving with respect thereto), and, except to the extent necessary to confirm an award or as permitted by Article 6, neither a Party nor the arbitrator may disclose any such information without the prior written consent of all Parties. In no event will an arbitration be initiated after the date when commencement of a legal or equitable proceeding based on the dispute, controversy or claim would be barred by the applicable statute of limitations.

11.3 Governing Law; Attornment. This Agreement will be governed by the laws of the Province of British Columbia and the federal laws of Canada applicable therein. Subject to Sections 11.1 and 11.2, the Parties irrevocably submit to and accept generally and unconditionally the exclusive jurisdiction of the courts and appellate courts of British Columbia with respect to any legal action or proceeding which may be brought at any time relating in any way to this Agreement. Each of the Parties irrevocably waives any objection it may now or in the future have to the venue of any such action or proceeding, and any claim it may now or in the future have that any such action or proceeding has been brought in an inconvenient forum.

ARTICLE 12
ASSIGNMENT

12.1 OMITTED.

12.2 Assignment. TScan shall not assign or transfer any of the rights granted to it under this Agreement without the prior written consent of PHSA. For clarity, this Section 12.2 does not restrict TScan from sublicensing any of its rights under this Agreement in accordance with, and subject to the terms and conditions, set out in this Agreement. Notwithstanding the foregoing, TScan may assign or transfer all of the rights granted to it under this Agreement without PHSA's consent (a) to a TScan Controlled Subsidiary if TScan remains remain jointly and severally liable with such TScan Controlled Subsidiary for their obligations under this Agreement; or (b) in connection with the sale of all or substantially all of its stock or business/assets to which this Agreement relates to such assignee. In the event that TScan assigns this Agreement to an Affiliate that is not a TScan Controlled Subsidiary or to a Third Party that is not controlled by the same shareholders that controlled TScan prior to such assignment, such assignment will be deemed to be a Sublicense Agreement entered into by TScan to a Third Party and conditional on payment by the assignee to PHSA of the Sublicensing Fee pursuant to Section 4.2. PHSA will have the right to assign its rights, duties and obligations under this Agreement without the consent of TScan to a society which it has incorporated or which has purposes which are consistent with the objectives of PHSA or to a purchaser of all or substantially all of its business or assets related to the Licensed Patents.

In the case of any such assignment as permitted by this Section 12.2: (A) the assigning Party must provide notice of the assignment to the other Party; (B) the assignee must concurrently with the assignment agree in writing to assume all obligations and covenants of the assignor and to be bound by this Agreement and the assignee must provide an undertaking to this effect to the other Party; and (C) in the event of an assignment of this Agreement by PHSA, any such assignment will include an assignment of all of such PHSA's right, title and interest in the Licensed Patents.

No assignment will release the assigning Party from any liability and obligations in respect of the assigned rights and obligations, except as may be otherwise agreed in writing by the Parties at such time. Any attempt by any Party to assign any of the rights or obligations of this Agreement except as permitted by this Agreement is void.

ARTICLE 13
MISCELLANEOUS

13.1 Management of Conflicts of Interest.

- (a) TScan acknowledges that it is aware of PHSA's, UBC's and SFU's respective policies on conflict of interest, patents and licensing, and research, and that PHSA, UBC and SFU may amend these policies or introduce new policies from time to time. TScan agrees that:
 - (i) the facilities and research programs of TScan will be conducted independently of all PHSA, UBC or SFU facilities, faculty, students or staff during the period of their employment with PHSA; and

- (ii) no students, post-doctoral fellows or other PHSA, UBC or SFU staff will participate or be involved in TScan's research, projects or utilize TScan's facilities.

The express terms of this Agreement, including the rights and obligations of the Parties, will not be changed or altered as a result of any change in policies implemented during the Term.

- 13.2 BC Cancer. Each Party will be responsible for compliance with this Agreement by any of its Affiliates. BC Cancer, a part of PHSA, may carry out PHSA's obligations under this Agreement.
- 13.3 Waiver. The waiver by either Party of a breach or default of any provisions of this Agreement by the other Party will not be construed as a waiver of any succeeding breach of the same or any other provision, nor will any delay or omission on the part of either Party to exercise or avail itself of any right, power or privilege that it has or may have hereunder operate as a waiver of any right, power or privilege of such Party. No waiver will be effective unless it has been given in writing and signed by the Party giving such waiver. No provision of this Agreement may be amended or modified other than by a written document signed by authorized representatives of each Party.
- 13.4 Entire Agreement. This Agreement sets forth the entire agreement and understanding of the Parties hereto and will supersede all previous communications, representations and understandings, either oral or written, between the Parties relating to the subject matter hereof, and will not be subject to any change or modification except by the signing of a written instrument by or on behalf of both Parties. There is no representation, warranty, collateral term or condition or collateral agreement affecting this Agreement, other than as expressed in writing in this Agreement.
- 13.5 Notices. Any notice or other communication required or permitted to be made or given to either Party hereto pursuant to this Agreement will be sufficiently made or given on the date of receipt if sent to such Party by: (i) overnight or other courier that provides documented proof of delivery; (ii) registered mail; or (iii) scanned and converted into a portable document format file (i.e., pdf file), and sent as an attachment to an e-mail message, where, when such message is received, a read receipt e-mail is received by the sender (and such read receipt e-mail is preserved by the Party sending the notice), provided further that a copy is promptly sent by an internationally recognized overnight delivery service (receipt requested) (although the sending of the e-mail message will be when the notice is deemed to have been given), addressed to it as stated herein below, or to such other address as it will designate by notice given to the other Party.

- (b) In the case of PHSA:

To Provincial Health Services Authority:

BC Cancer Research Centre
675 West 10th Avenue
Vancouver, British Columbia, Canada
V5Z1L3
Attention: Technology Development Office

(c) In the case of TScan:

TScan Therapeutics Inc.
830 Winter Street
Waltham, Massachusetts, U.S.A.
02451

Attention: Shane Maltbie, Vice President Finance
E-mail address: [***]

- 13.6 Severability. If any part or parts of this Agreement will be held unenforceable for any reason, the remainder of this Agreement will continue in full force and effect. If any provision of this Agreement is deemed invalid or unenforceable by any court of competent jurisdiction, and if limiting such provision would make the provision valid, then such provision will be deemed to be construed as so limited.
- 13.7 Export. Each Party agrees that it will not export or re-export restricted commodities or the technical data of the other Party in any form without appropriate Canadian and foreign government licenses.
- 13.8 Further Assurances. Each Party will execute and, if necessary, file with the appropriate governmental entities, such documents, and cooperate with the other Party to take such further action, as the other Party will reasonably request, to carry out the purposes of this Agreement.
- 13.9 Relationship of Parties. Nothing in this Agreement will be construed as constituting the Parties as partners, joint venturers or legal entity of any type or as creating the relationships of employer/employee, franchisor/franchisee or principal/agent between the Parties.
- 13.10 Force Majeure. The failure or delay of any Party to this Agreement to perform any obligation under this Agreement solely by reason of acts of God, acts of civil or military authority, civil disturbance, war, strikes or other labour disputes or disturbances, fire, transportation contingencies, shortage of facilities, fuel, energy, labour or materials, or laws, regulations, acts or orders of any Governmental Authority or official, other catastrophes, or any other circumstance beyond its reasonable control (“**Force Majeure**”) will be deemed not to be a breach of this Agreement so long as the Party so prevented from complying with this Agreement has not contributed to such Force Majeure, has used reasonable efforts to avoid such Force Majeure or to ameliorate its effects, and continues to take all actions within its power to comply as fully as possible with the terms of this Agreement. In the event of any such Force Majeure, performance of the obligations will be deferred until the Force Majeure ceases. This Section will not apply to excuse a failure to make any payment when due. Regardless of any other provision of this Agreement, if one or more events of Force Majeure prevent PHSA, on the one hand, or TScan, on the other hand (in such capacity, the “**Party Claiming Force Majeure**”), from fully performing their respective obligations hereunder for more than [***]days in the aggregate, then, the Party not claiming Force Majeure will be entitled, in their sole discretion, to terminate this Agreement without penalty, by providing notice thereof to the Party Claiming Force Majeure.

- 13.11 Headings. The headings of the several sections are inserted for convenience of reference only and are not intended to be a part of or to affect the meaning or interpretation of this Agreement. Unless specified to the contrary, references to Articles, Sections or Schedules mean the particular Articles, Sections or Schedules to this Agreement and references to this Agreement include all Schedules hereto. In the event of any conflict between the main body of this Agreement and any Schedule hereto, the main body of this Agreement will prevail.
- 13.12 Interpretation. Unless the context of this Agreement otherwise requires, to the extent necessary so that each clause will be given the most reasonable interpretation, the singular number will include the plural and vice versa, the verb will be construed as agreeing with the word so substituted, and words importing the masculine gender will include the feminine and neuter genders. Unless context otherwise clearly requires, whenever used in this Agreement: (a) the words “include” or “including” will be construed as incorporating, also, “but not limited to” or “without limitation;” (b) the word “day” or “year” means a calendar day or Calendar Year unless otherwise specified; (c) the word “notice” will mean notice in writing (whether or not specifically stated) and will include notices, consents, approvals and other written communications contemplated under this Agreement; (d) the words “hereof,” “herein,” “hereby” and derivative or similar words refer to this Agreement as a whole and not merely to the particular provision in which such words appear; (e) the words “will” and “will” have interchangeable meanings for purposes of this Agreement; (f) the word “or” will have the inclusive meaning commonly associated with “and/or”; (g) provisions that require that a Party or the Parties “agree,” “consent” or “approve” or the like will require that such agreement, consent or approval be specific and in writing, whether by written agreement, letter, approved minutes or otherwise; (h) references to any specific law, rule or regulation, or article, section or other division thereof, will be deemed to include the then-current amendments thereto or any replacement law, rule or regulation thereof; and (i) neither Party or its Affiliates will be deemed to be acting “under authority of” the other Party.
- 13.13 Counterparts. This Agreement may be executed in several counterparts, each of which will be deemed an original, and all such counterparts together will constitute but one and the same instrument. Delivery of an executed signature page to this Agreement by any Party by electronic transmission will be as effective as delivery of an originally executed copy of this Agreement by such Party.
- 13.14 Enurement. Subject to the restrictions on transfer contained in this Agreement, this Agreement will enure to the benefit of and be binding on the Parties and their respective successors and assigns.
- 13.15 Applicable Laws. The Parties will comply fully at all time with all Applicable Laws in their performance under this Agreement of the territory in which the Parties conduct business.
- 13.16 No Third Party Beneficiary. Except for the Indemnitees, who will be third party beneficiaries of the of those terms expressly stated to be applicable to them in this Agreement with the right to enforce those terms against the Parties, this Agreement is not intended to and will not be construed to give any Third Party any interest or rights (including any Third Party beneficiary rights) with respect to or in connection with any agreement or provision contained herein or contemplated hereby, except as otherwise expressly provided for in this Agreement.

- 13.17 Expenses. Each Party will pay its own costs, charges and expenses incurred in connection with the negotiation, preparation and completion of this Agreement.
- 13.18 Construction. The Parties hereto acknowledge and agree that: (a) each Party and its counsel reviewed and negotiated the terms and provisions of this Agreement and have contributed to its revision; (b) the rule of construction to the effect that any ambiguities are resolved against the drafting Party will not be employed in the interpretation of this Agreement; and (c) the terms and provisions of this Agreement will be construed fairly as to all Parties hereto and not in a favor of or against any Party, regardless of which Party was generally responsible for the preparation of this Agreement.
- 13.19 Cumulative Remedies. No remedy referred to in this Agreement is intended to be exclusive unless explicitly stated to be so, but each will be cumulative and in addition to any other remedy referred to in this Agreement or otherwise available under law.
- 13.20 Compliance with Anti-Corruption Laws. Notwithstanding anything to the contrary in this Agreement, each Party agrees that:
- (a) it will not, in the performance of this Agreement, perform any actions that are prohibited by Anti-Corruption Laws applicable to such Party;
 - (b) it will adhere to its own internal anti-corruption policies and will not, in the performance of this Agreement, directly or indirectly, make any payment, or offer or transfer anything of value, or agree or promise to make any payment or offer or transfer anything of value, to a government official or government employee, to any political party or any candidate for political office or to any other Third Party with the purpose of influencing decisions related to either Party or its business in a manner that would violate applicable Anti-Corruption Laws; and
 - (c) it will promptly provide notice to the other Party of any violations of Anti-Corruption Laws by such Party, its Affiliates or sublicensees, or persons employed by or subcontractors used by such Party or its Affiliates or sublicensees in the performance of this Agreement of which it becomes aware..
- 13.21 Anti-Bribery Commitment. Without limiting the other obligations of the Parties set forth in this Agreement, in connection with any activities of the Parties under this Agreement, the Parties confirm that they have not given, offered, promised, or authorized, and will not give, offer, promise, or authorize, any payment, benefit, or gift of money or anything else of value, directly or through a Third Party, to: (i) any Public Official; (ii) any political party, party official or candidate for public or political office; (iii) any Person while knowing or having reason to know that all or a portion of the value will be given, offered or promised, directly or indirectly, to anyone described in terms (i) or (ii) above; or (iv) any owner, director, employee, representative or agent of any actual or potential customer of the Parties, for purposes of influencing any act or decision of such individual in his official capacity, inducing such individual to do or omit to do any act in violation of the individual's duty, inducing the individual to use the individual's official influence with a

government to affect or influence an act or decision of the government, or to secure any improper advantage in order to assist in obtaining or retaining business. In connection with any activities or the Parties under this Agreement, the Parties will comply with all applicable anti-bribery laws of any jurisdiction, including any record keeping requirements of such laws, in the countries where such Party has their principal places of business and where it conducts any activities under this Agreement.

(Signature page follows.)

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement as of the Effective Date.

PROVINCIAL HEALTH SERVICES AUTHORITY

By: _____
Name: [***]
Title: [***]Cancer

By: _____
Name: [***]
Title: [***]Office, Provincial Health Services Authority

TSCAN THERAPEUTICS INC.

By: /s/ Shane Maltbie _____
Name: Shane Maltbie
Title: Vice President, Finance

**SCHEDULE A
LICENSED PATENTS**

1. US patent No. [***]
2. US patent application No. [***]
3. Canadian patent application No. [***]
4. U.S. Provisional Patent Application No. [***]
5. PCT International Patent Application No. PCT/[***]
6. U.S. Utility Patent Application No. [***]

SCHEDULE B
MANDATORY SUBLICENSING PROVISIONS

1. The Sublicensee will acknowledge that nothing in the Sublicense Agreement grants to it any ownership in the sublicensed Licensed Patents except for the non-exclusive license to use such sublicensed Licensed Patents in accordance with the Sublicense.
2. The Sublicensee, its Sublicensee Controlled Subsidiaries and their Sublicensees shall comply with all Applicable Laws in connection with the exploitation of the Licensed Patents.
3. The Sublicensee will keep and use all of PHSA's Confidential Information in confidence and will materially conform with the obligations of confidentiality imposed upon TScan with respect to PHSA confidential information in this Agreement.
4. Except as required under Applicable Laws or the rules of any Securities Regulators, the Sublicensee will agree not to use PHSA's, UBC's or SFU's name, trade-marks, service marks, logos, insignia, seal, or designs without the prior written consent of PHSA.
5. The Sublicensee will procure and maintain insurance as provided for in this Agreement.
6. The Sublicensee will acknowledge and agree that PHSA, UBC and SFU make no representations, conditions or warranties, either express or implied, to the Sublicensee with respect to the Licensed Patents. Without limiting the generality of the foregoing, the Sublicensee will acknowledge that PHSA specifically disclaims any express or implied warranty, condition or representation:
 - (a) that anything made, used, sold or otherwise disposed of under the Sublicense Agreement granted to the Sublicensee correspond with a particular description, are of merchantable quality, are fit for a particular purpose or are durable for a reasonable period of time; and
 - (b) as to title to the Licensed Patents, or that anything made, used, sold or otherwise disposed of under the Sublicense Agreement granted to the Sublicensee will not infringe the patents, copyrights, trade-marks, industrial designs or other intellectual property rights of any third parties, including any patents, copyrights, trade-marks, industrial design or other intellectual property rights owned, in whole or in part, by PHSA, or licensed by PHSA to any third parties;
 - (c) that the Sublicensee has, or will have, the freedom to operate or practice the Licensed Patents.
7. The Sublicensee will acknowledge and agree that PHSA, UBC and SFU will not be liable for any loss, whether direct, consequential, incidental or special, which the Sublicensee or any other third parties suffer, arising from any defect, error or fault of the Licensed Patents or anything made, used, sold or otherwise disposed of under the Sublicense Agreement granted to the Sublicensee, or their failure to perform, even if PHSA, UBC or SFU is aware of the possibility of the defect, error, fault or failure. The Sublicensee will also acknowledge that it has been advised to undertake its own due diligence regarding the Licensed Patents, and that PHSA is under no obligation to bring, prosecute or defend actions or suits against third parties for infringement of patents, copyrights, trademarks, industrial designs or other intellectual property or contractual rights in relation to the Licensed Patents.

8. The Sublicensee will indemnify, hold harmless and defend PHSA, UBC, SFU and their respective Boards of Governors, Board of Directors, officers, employees, faculty, students, invitees and agents against any and all claims (including all associated legal fees and disbursements actually incurred) in a manner consistent with the terms of TScan's indemnification obligations under this Agreement.

9. The Sublicensee will agree to limit its claims against PHSA, UBC and SFU, whether under the express or implied terms of the Sublicense Agreement or this Agreement, in tort (including negligence) or at common law, for any loss or damage suffered by the Sublicensee, whether direct, indirect or special, or any other similar damage that may arise or does arise from any actions or inactions, defaults or breaches by PHSA, UBC or SFU or their respective Board of Governors, Board of Directors, officers, employees, faculty, students or agents, to the amount of CDN. \$[***].

10. The Sublicensee will also acknowledge and agree that PHSA, UBC and SFU will not be liable for consequential or incidental damages, including any consequential or incidental damages arising from any breach or breaches of the Sublicense Agreement or this Agreement.

11. The Sublicense Agreement will include termination provisions in respect of the Sublicensee's rights in respect of the Licensed Patents or obligations to be imposed on the Sublicensee in accordance with this Agreement as apply to its obligations in respect of the TScan Technology License or other similar obligations under the Sublicense Agreement to TScan, a TScan Controlled Subsidiary or, in the case of a sub-sublicense, a Sublicensee and will include a provision providing that the Sublicense Agreement as it relates to the Licensed Patents will terminate:

(a) upon termination of this Agreement between PHSA and TScan unless the particular Sublicensee enters into a direct license agreement with PHSA on, and subject to the terms set out in, Section 10.4(b);

(b) if the Sublicensee is in material breach of its obligations under the Sublicense Agreement as it relates to the Licensed Patents or obligations required pursuant to Section 2.3 and Schedule B of this Agreement, and such breach is not cured within the cure period set out in the Sublicense Agreement;

(c) If the Sublicensee or any of its Affiliates commences a Patent Challenge (as defined in the Agreement), and does not withdraw such Patent Challenge within [***]days after PHSA's notice to Sublicensee thereof. For clarity, in the case of a Sublicensee, the references in Section 7.2 to TScan and a TScan Affiliate or TScan Controlled Subsidiary shall be deemed to be to the Sublicensee and its Affiliates.

SCHEDULE C

TSCAN CONTROLLED SUBSIDIARIES

As of the date of this Agreement, the following are TScan Controlled Subsidiaries:

TScan Securities Corporation

SCHEDULE D
REQUIRED REPORTING ON SUBLICENSE AGREEMENTS

1. Date Sublicense Agreement was entered into with the particular Sublicensee.
2. Full legal name of Sublicensee.
3. Description of other TScan Patents or Know-How included licensed concurrently to such Sublicensee sufficient for PHSA to confirm compliance with Section 2.3 and Schedule B.
4. Excerpt of the signed Sublicense Agreement sufficient to confirm the above information and compliance with Schedule B (and for greater certainty, excluding any financial terms or terms not strictly necessary to confirm the foregoing).

AMENDED AND RESTATED

ROYALTY AGREEMENT

THIS AMENDED AND RESTATED ROYALTY AGREEMENT (the “**Agreement**”) is entered into as of June 12, 2018 (the “**Effective Date**”), by and between **T-Scan Therapeutics, Inc.**, a Delaware corporation, having offices at Prudential Tower, 800 Boylston Street, Suite 1555, c/o Longwood Fund, Boston, MA 02199 (the “**Company**”) and Christoph Westphal, an individual with an address of (the “**Founder**”). The Company and the Founder are individually referred to herein as a “**Party**” and are collectively referred to herein as the “**Parties.**”

WHEREAS, the Parties previously entered into that certain Royalty Agreement dated as of April 24, 2018 (the “**Prior Royalty Agreement**”), and, in connection with a potential financing of the Company, the Parties wish to amend and restate the Prior Royalty Agreement as set forth herein.

NOW, THEREFORE, in consideration of the foregoing premises and the covenants and promises set forth below, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties, intending to be legally bound, agree as follows:

1. DEFINITIONS

1.1 “Affiliate” with respect to any entity, means any company or entity controlled by, controlling, or under common control with such referenced entity and shall include any company more than 50% of whose voting stock or participating profit interest is owned or controlled, directly or indirectly, by such referenced entity, and any company which owns or controls, directly or indirectly, more than fifty percent (50%) of the voting stock of such entity.

1.2 “Control” means, with respect to any Patents, that the Company (a) owns or (b) has a license to such Patents and, in each case, has the ability to grant access, a license, or a sublicense (as applicable) to the foregoing without violating the terms of any then-existing agreement or other arrangement with any Third Party.

1.3 “Cover,” “Covering” or “Covered” means, with respect to a product, that, in the absence of ownership of, or a license under, the Subject Patents, the Exploitation of such product would infringe a Valid Claim of a Subject Patent.

1.4 “Exploit” means to research, develop, make, have made, use, offer for sale, sell, import, export or otherwise exploit, or transfer possession of or title in, a product. Cognates of the word “**Exploit**” shall have correlative meanings.

1.5 “First Commercial Sale” means, with respect to any Royalty-Bearing Product in any country, the first sale for end use or consumption of such Royalty-Bearing Product in such country after marketing approval has been granted in such country.

1.6 “Licensee” means any person or entity that directly or indirectly licenses or sublicenses Subject Patents from the Company or any Affiliate of the Company to develop, manufacture, or sell products used in the treatment of any disease or disorder. For the avoidance of doubt, any person or entity that receives a sublicense to any such intellectual property from any other person or entity which licensed or sublicensed them from Company or any of its Affiliates will be considered a “Licensee” for purposes of this Agreement.

1.7 “Net Sales” means, with respect to any Royalty-Bearing Product, the gross sales price of such Royalty-Bearing Product sold by the Company, its Affiliates or Licensee(s) (the “**Selling Party**”) to Third Parties, less:

- (a) non-recoverable sales taxes, excise taxes (including annual fees due under Section 9008 of the United States Patient Protection and Affordable Care Act of 2010 (Pub. L. No. 111-48)), use taxes, value-added taxes and duties paid by the Selling Party in relation to Royalty-Bearing Product(s) and any other equivalent governmental charges imposed upon the importation, use or sale of Royalty-Bearing Product(s) (excluding taxes when assessed on income derived from sales);
- (b) credits and allowances (actually allowed or paid) for defective or returned Royalty-Bearing Product(s), including allowances for spoiled, damaged, out-dated, rejected, returned, withdrawn or recalled Royalty-Bearing Product(s), and the actual amount of any write-offs for bad debt (capped at 2% of Net Sales for the applicable period) (provided, however, that any amount subsequently recovered will be treated as Net Sales);
- (c) governmental and other rebates, refunds, and chargebacks (or equivalents thereof) granted to managed health care organizations, pharmacy benefit managers (or equivalents thereof), federal, state, provincial, local and other governments, their agencies and purchasers and reimbursers or to trade customers, in each case with respect to such Royalty-Bearing Product;
- (d) reasonable fees paid to wholesalers, distributors, selling agents (excluding any sales representatives of a Selling Party), group purchasing organizations, Third Party payors, other contractees and managed care entities, in each case with respect to such Royalty-Bearing Product;
- (e) reasonable transportation charges relating to Royalty-Bearing Product(s), including handling charges and insurance premiums relating thereto to the extent included as a separate entry on the invoice for such product (provided, however, that the total of all items in subsection 1.7(e) shall be capped at 2% of the gross sales price for the relevant period);
- (f) retroactive price reductions actually granted to the Third Party applicable to sales of such Royalty-Bearing Product; and

- (g) trade, cash, prompt payment and/or quantity discounts, actually allowed and taken directly by the Third Party, and mandated discounts.

Net Sales will be determined from books and records maintained in accordance with GAAP, consistently applied throughout the organization and across all products of the entity whose sales of Royalty-Bearing Products are giving rise to Net Sales.

Where a Royalty-Bearing Product is sold in combination with other pharmaceutical products, diagnostic products, or active ingredients (collectively, "**Combination Components**") the Net Sales applicable to such transaction shall be calculated by multiplying the total Net Sales of such combined product by the fraction $A/(A+B)$, where A is the actual price of the Royalty-Bearing Product in the same dosage amount or quantities in the applicable country during the applicable quarter if sold separately, and B is the sum of the actual prices of all Combination Components with which the Royalty-Bearing Product is combined, in the same dosage amount or quantities in the applicable country during the applicable quarter if sold separately. If A or B cannot be determined because values for the Royalty-Bearing Product or Combination Components with which the Royalty-Bearing Product is combined are not available separately in a particular country, then the Company and the Founder shall discuss an appropriate allocation for the fair market value of the Royalty-Bearing Product and Combination Components with which the Royalty-Bearing Product is combined to mutually determine Net Sales for the relevant transactions based on an equitable method of determining the same that takes into account variations in potency, the relative contribution of each therapeutically active ingredient or other component, and relative value to the end user of each therapeutically active ingredient or other component.

Sales of Royalty-Bearing Product(s) between or among the Company and its Affiliates or Licensees shall be excluded from the computation of Net Sales and no payments shall be payable on such sales except where such Affiliates or Licensees are end users.

1.8 "Patents" means (a) all national, regional and international patent applications, including provisional patent applications; (b) all patent applications filed either from the patent applications which are the subject of (a) or from an application claiming priority from any of these, including divisionals, continuations, continuations-in-part, provisionals, converted provisionals, and continued prosecution applications; (c) any and all patents that have issued or in the future issue from the foregoing patent applications in (a) and (b), including author certificates, inventor certificates, utility models, petty patents and design patents and certificates of invention; (d) any and all extensions or restorations by existing or future extension or restoration mechanisms, including revalidations, reissues, re-examinations and extensions (including any supplementary protection certificates and the like) of the foregoing patents or patent applications in (a), (b) and (c); and (e) any similar rights, including so-called pipeline protection, or any importation, revalidation, confirmation or introduction patent or registration patent or patent of additions to any such foregoing patent applications and patents.

1.9 “Royalty-Bearing Product” means any and all products of the Company designed for use in the treatment of any disease or disorder that are Covered by a Valid Claim of a Subject Patent.

1.10 “Royalty Term” means, on a country-by-country and Royalty-Bearing Product-by-Royalty-Bearing Product basis, the period beginning on the First Commercial Sale of the first Royalty-Bearing Product and ending on the later of (a) the date on which the Exploitation of a Royalty-Bearing Product is no longer Covered by a Valid Claim of a Subject Patent in such country, or (b) the fifteenth (15th) anniversary of the First Commercial Sale of the first Royalty-Bearing Product in such country.

1.11 “Subject Patent” means any Patent Controlled by the Company as of the last date the Founder was either employed by the Company or provided services to the company as a director or as a consultant under a written agreement between the Company and the Founder.

1.12 “Third Party” means any person or entity other than the Company, the Company’s Affiliates or the Founder.

1.13 “Valid Claim” means a claim of a pending patent application or issued patent, which claim has not lapsed, been cancelled, become abandoned, declared invalid by an unreversible and unappealable decision or judgment of a court of competent jurisdiction, and which claim has not been admitted to be invalid or unenforceable through reissue or disclaimer; *provided, however*, that if a claim of a pending patent application within the Subject Patents shall not have issued within seven (7) years after the earliest filing date from which such claim takes priority, such claim shall not constitute a Valid Claim for the purposes of this Agreement unless and until a Patent issues with such claim (from and after which time the same would be deemed a Valid Claim).

2. ROYALTY

2.1 Royalty. Within forty-five (45) days after the end of each calendar quarter during the applicable Royalty Term, the Company shall pay to the Founder a royalty equal to one percent (1%) of Net Sales of Royalty-Bearing Products during such calendar quarter.

2.2 Reports. Royalty payments and reports for the sale of Royalty-Bearing Products shall be calculated and reported for each calendar quarter. Each payment of royalties shall be accompanied by a report of sales of Royalty-Bearing Products in sufficient detail to permit confirmation of the accuracy of the royalty payment made, including, without limitation, the number of Royalty-Bearing Products sold, the gross sales of Royalty-Bearing Products, the deductions applied, the royalties payable and the method used to calculate the royalty.

2.3 Manner and Place of Payment. All payments hereunder shall be payable in U.S. dollars. All payments owed under this Agreement shall be made by wire transfer to a bank and account designated in writing by the Founder.

2.4 Income Tax Withholding. The Founder will pay any and all taxes levied on account of any payments made to him under this Agreement. If any taxes are required to be withheld by the Company, the Company will (a) deduct such taxes from the payment made to the Founder, (b) timely pay the taxes to the proper taxing authority, and (c) send proof of payment to the Founder and certify its receipt by the taxing authority within 30 days following such payment.

2.5 Audits. The Company shall keep (and shall cause its Affiliates and Licensees to keep) complete and accurate records pertaining to the sale or other disposition of Royalty-Bearing Products generated in the then current calendar year, and during the preceding three (3) calendar years, in sufficient detail to permit the Founder to confirm the accuracy of all royalty payments due hereunder. The Founder shall have the right to cause an independent, certified public accountant reasonably acceptable to the Company to audit any such records in the Company's or its Affiliate's possession to confirm sales and royalties for a period covering not more than the preceding three (3) years. Such audits may be exercised during normal business hours upon reasonable prior written notice to the Company. Prompt adjustments shall be made by the Parties to reflect the results of such audit. The Founder shall bear the full cost of such audit unless such audit discloses an underpayment by the Company of more than 10% of the amount of royalties due under this Agreement during the audited period, in which case, the Company shall bear the full cost of such audit and shall promptly remit to the Founder the amount of any underpayment. The Founder may only exercise his audit rights under this Section 2.5 once in any twelve (12) month period.

2.6 Licensees. Any license or sublicense granted by the Company will, to the extent related to Royalty-Bearing Products, be consistent with the terms and conditions of this Agreement, and Company shall include in any licenses or sublicenses sufficient provisions to enable it to comply with the royalty provisions contained in this Agreement, including without limitation, audit provisions substantially similar to those set forth in Section 2.5. As requested by the Founder, the Company shall enforce the provisions of its licenses and sublicenses applicable to the payment of royalties hereunder, including conducting audits of Licensee records pertaining to the sale of Royalty-Bearing Products. Company shall remain primarily responsible for any failures by its Licensees to comply with the applicable terms of this Agreement, and of the terms of license and sublicense agreements that enable compliance with the terms of this Agreement.

3. REPRESENTATIONS AND WARRANTIES

3.1 Mutual Representations and Warranties. Each Party represents and warrants to the other that: (a) it has full power and authority to enter into this Agreement and to carry out the provisions hereof; (b) it is duly authorized to execute and deliver this Agreement and to perform its obligations hereunder; and (c) this Agreement is legally binding upon it, enforceable in accordance with its terms, and does not conflict with any agreement, instrument or understanding, oral or written, to which it is a party or by which it may be bound, nor violate any material law or regulation of any court, governmental body or administrative or other agency having jurisdiction over it.

3.2 Disclaimer of Warranties. Except as expressly set forth in this Agreement, NO PARTY MAKES ANY REPRESENTATION OR WARRANTY TO THE OTHER PARTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF TITLE, NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

4. LIMITATION OF LIABILITY

EXCEPT FOR PAYMENTS UNDER SECTION 2.1, NO PARTY SHALL BE ENTITLED TO RECOVER FROM THE OTHER PARTIES ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL OR PUNITIVE DAMAGES IN CONNECTION WITH THIS AGREEMENT.

5. TERM

The term of this Agreement shall commence as of the Effective Date and shall continue until expiration of the last applicable Royalty Term.

6. CONFIDENTIALITY

The Founder will treat the royalty reports and any other confidential or proprietary information of the Company disclosed to the Founder hereunder, as confidential information of the Company, will only use such information for the purposes of this Agreement, will protect it from unauthorized use, access, or disclosure in the same manner as the Founder protects its own confidential or proprietary information of a similar nature and with no less than reasonable care, will disclose it only to the employees or agents of the Founder who have a need to know such information, if any, for purposes of this Agreement and who are under a duty of confidentiality no less restrictive than the Founder's duties hereunder, and will return to the Company or destroy all such information after expiration or termination of this Agreement. The Founder will be allowed to disclose confidential information of the Company to the extent that such disclosure is (a) approved in writing by the Company or (b) required by law or by the order of a court of similar judicial or administrative body, provided that the Founder notifies the Company of such required disclosure promptly and in writing and cooperates with the Company, at the Company's request and expense, in any lawful action to contest or limit the scope of such required disclosure.

7. MISCELLANEOUS

7.1 Assignment. Either Party may assign this Agreement and his/its rights and obligations hereunder to a Third Party upon prior written notice to the other Party. The rights and obligations of the Parties under this Agreement shall be binding upon and inure to the benefit of the successors and permitted assigns of the Parties. As a condition to the effectiveness of any assignment hereunder, any successor or assignee of rights or obligations permitted hereunder shall, prior to the effectiveness of such assignment, expressly assume in a writing provided to the other Party hereto the obligation to perform the assigning Party's obligations hereunder. For the avoidance of doubt, the Company may not sell, assign, convey, lease or otherwise transfer any Subject Patent to any Third Party unless such Third Party agrees to be bound by the terms of this Agreement as if it were the Company hereunder. Any assignment not in accordance with this Agreement shall be void.

7.2 Governing Law. This Agreement shall be governed by, and construed and enforced in accordance with, the laws of the Commonwealth of Massachusetts, without regard to its choice of law provisions.

7.3 Waiver. Except as specifically provided for herein, the waiver from time to time by a Party of any right or failure to exercise any remedy shall not operate or be construed as a continuing waiver of the same right or remedy or of any other of such Party's rights or remedies provided under this Agreement. No waiver shall be valid or effective unless made in a writing referencing this Agreement and signed by the Party granting the waiver.

7.4 Severability. In case any provision of this Agreement shall be invalid, illegal or unenforceable, (a) the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby to the maximum extent possible and (b) in lieu of such invalid, illegal or unenforceable provision, there will be added automatically as a part of this Agreement a legal, valid and enforceable provision as similar in terms to such illegal, invalid or unenforceable provision as may be possible to effectuate the intents and purposes of such provision.

7.5 Notices. All notices and other communications provided for hereunder shall be in writing and shall be mailed by first-class, registered or certified mail, postage paid, or delivered personally, by overnight delivery service or by facsimile, with confirmation of receipt, addressed to the address set forth for such Party in the introduction hereto. Either Party may by like notice specify or change an address to which notices and communications shall thereafter be sent. Notices sent by facsimile shall be effective upon confirmation of receipt, notices sent by mail or overnight delivery service shall be effective upon receipt, and notices given personally shall be effective when delivered.

7.6 Entire Agreement; Amendment. This Agreement sets forth all of the agreements and understandings between the Parties hereto with respect to the subject matter hereof, and supersedes and terminates all prior agreements and understandings between the Parties with respect to the subject matter hereof (including the Prior Royalty Agreement). There are no agreements or understandings with respect to the subject matter hereof, either oral or written, between the Parties other than as set forth herein. Except as expressly set forth in this Agreement, no subsequent amendment, modification or addition to this Agreement shall be binding upon the Parties hereto unless reduced to writing and signed by the Company and the Founder.

7.7 Headings. The captions contained in this Agreement are not a part of this Agreement, but are merely guides or labels to assist in locating and reading the several Articles hereof.

7.8 Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. An executed signature page of this Agreement delivered by facsimile transmission, including signatures in a fixed electronic format such as a PDF, will be as effective as an original executed signature page.

[Signature page follows]

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first set forth above.

COMPANY:

By: /s/ Christoph Westphal

Name: Christoph Westphal

Title: Chief Executive Officer

FOUNDER:

/s/ Christoph Westphal

Christoph Westphal

SIGNATURE PAGE TO AMENDED & RESTATED ROYALTY AGREEMENT

SERVICES AGREEMENT

This Services Agreement (the **Agreement**), effective as of October 9, 2018 (the **Effective Date**), is entered into by **DR. CHRISTOPH WESTPHAL** (**Provider**) and **TSCAN THERAPEUTICS, INC.**, a Delaware corporation (**Company**). Provider and Company agree as follows

1. SERVICES AND PAYMENT.

a. Engagement. Company hereby engages Provider to serve on Company's Board of Directors (the **Board**) as the Chairman of the Board (**Chairman**) and Provider accepts such engagement. Following his resignation or removal from the Board for any reason, Provider will continue to provide such other services as may be assigned by Company from time to time. All services provided by Provider hereunder shall hereinafter be referred to as **Services**.

b. Compensation. This Agreement is being entered into in connection with, and as additional consideration for, shares of Company's common stock being issued to Provider on April 20, 2018 pursuant to a separately executed Stock Purchase Agreement (as amended from time to time, the **Stock Purchase Agreement**), and the Services shall satisfy the requirements of providing "Service" to Company for the purposes of vesting in such shares under such Stock Purchase Agreement. As additional consideration for his role as Chairman, Provider will receive \$15,000.00 per month for a period of six calendar months starting from the Effective Date, provided that the payment for the first calendar month will be pro-rated. Payment will be made to Provider in accordance with the Company's normal payroll procedures. Any other payments to Provider as consideration for his role as a member of the Board after the aforementioned six calendar month period will be subject to approval by the Board. Provider will also be reimbursed for reasonable travel and incidental expenses incurred in connection with performing the Services, subject to Company's prior approval. Promptly after execution of this Agreement, Provider shall deliver to Company a properly completed and duly executed Department of the Treasury IRS Form W-9 or, if Provider is a non-U.S. person, a Department of the Treasury IRS Form W-8BEN (or other appropriate Form W-8).

2. INTELLECTUAL PROPERTY.

a. Inventions Assignment. Company owns all right, title and interest (including patent rights, copyright rights, trade secret rights, mask work rights, trademark rights, *sui generis* database rights and all other intellectual and industrial property rights of any sort throughout the world) relating to any and all inventions (whether or not patentable), technologies, works of authorship, software, mask works, designations, designs, know-how, ideas, data and other information and work products that are made, conceived, reduced to practice or obtained, in whole or in part, by Provider, and that arise out of the Services or that are based on or otherwise reflect any Proprietary Information (as defined below) (collectively, **Inventions**). Provider will promptly provide and fully disclose all Inventions to Company. All Inventions are works made for hire to the extent allowed by law and, in addition, Provider agrees to make and does hereby make all assignments necessary to accomplish the foregoing ownership. Provider shall assist Company, at Company's expense, to further evidence, confirm, record and perfect such assignments, and to perfect, obtain, maintain, enforce, and defend any rights assigned. Provider hereby irrevocably designates and appoints Company and its officers as its agents and attorneys-in-fact (coupled with an interest) to act for and in Provider's behalf to execute and file any document and to do all other lawfully permitted acts to further the foregoing with the same legal force and effect as if executed by Provider.

b. Confidentiality. Provider agrees that all Inventions and all other financial, business, legal and technical information (including, without limitation, the identity of and information relating to customers, prospects, vendors, affiliates and employees) that Provider develops, learns or obtains in connection with the Services, or that are received by or for Company in confidence, constitute **Proprietary Information**. Provider will hold in strict confidence, and exercise all reasonable precautions to prevent unauthorized access to, and not disclose or, except in performing the Services, use any Proprietary Information. However, Proprietary Information will not include information that Provider can document is or becomes readily publicly available without restriction through no fault of Provider. Upon termination and at Company's request at any other time, Provider will promptly return to Company all materials and copies containing or embodying Proprietary Information, except that Provider may keep its personal copy of its compensation records and this Agreement. Provider also recognizes and agrees that Provider has no expectation of privacy with respect to Company's telecommunications, networking or information processing systems (including, without limitation, stored computer files, email messages and voice messages) and that Provider's activity, and any files or messages, on or using any of those systems may be monitored at any time without notice.

c. Moral Rights. To the extent allowed by law, Section 2(a) and any license to Company hereunder includes all rights of paternity, integrity, disclosure and withdrawal and any other rights that may be known as or referred to as moral rights, artist's rights, *droit moral* or the like. To the extent any of the foregoing is ineffective under applicable law, Provider hereby provides any and all ratification and consents necessary to accomplish the purposes of the foregoing to the extent possible. Provider will confirm any such ratification and consents from time to time as requested by Company. Provider will obtain the foregoing ratification, consents and authorizations, for Company's exclusive benefit, from each person who provides any Services hereunder.

d. License. If any part of the Services or Inventions is based on, incorporates or is an improvement or derivative of, or cannot be reasonably and fully made, used, reproduced, modified, distributed or otherwise exploited, without using or violating any technology or intellectual property right owned by Provider (or any third party) and not assigned hereunder (**Restricted Rights**), then Provider hereby grants and agrees to grant to Company and its affiliates, successors and assignees a nonexclusive, perpetual, irrevocable, worldwide, royalty-free, sublicensable right and license to exploit and exercise all such Restricted Rights in support of Company's exercise or exploitation of the Services, Inventions or other work performed hereunder (including any modifications, improvements and derivatives). Provider agrees not to use or disclose any Restricted Rights for which it is not fully authorized to grant the foregoing license.

3. WARRANTY. Provider represents and warrants that: (a) all work under this Agreement shall be Provider's original work and none of the Services or Inventions or any development, use, production, distribution or exploitation thereof will infringe, misappropriate or violate any intellectual property or other right of any person or entity (including, without limitation, Provider itself); (b) Provider has the full right to provide Company with the assignments and rights provided for herein; and (c) Provider will not disclose to Company or use for its benefit any trade secret or proprietary or confidential information of any third party.

4. TERM AND TERMINATION. This Agreement commences on the Effective Date and may be terminated by the written agreement of both Company and Provider. In addition, (a) Provider may terminate this Agreement at any time, for any or no reason, by giving Company 5 days' prior written notice and (b) Company may terminate this Agreement for Cause (as such term is defined in the Stock Purchase Agreement). Sections 3 through 5 (inclusive) of this Agreement, and any remedies for breach of this Agreement shall survive any termination or expiration.

5. GENERAL PROVISIONS.

a. Relationship. Notwithstanding any provision hereof, for all purposes of this Agreement each party shall be and act as an independent contractor and not as partner, joint venturer, employer, employee or agent of the other and shall not bind nor attempt to bind the other to any contract. Provider is an independent contractor and is solely responsible for all taxes, withholdings, and other statutory or contractual obligations of any sort, including, but not limited to, Workers' Compensation Insurance.

b. Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the Commonwealth of Massachusetts without regard to its conflicts of law provisions. Exclusive jurisdiction and venue for any action arising under this Agreement is in the federal and state courts located in Massachusetts, and both parties hereby consent to such jurisdiction and venue for this purpose. In any action or proceeding to enforce this Agreement, the prevailing party will be entitled to recover from the other party its costs and expenses (including reasonable attorneys' fees) incurred in connection with such action or proceeding and enforcing any judgment or order obtained.

c. Remedies. Provider acknowledges and agrees that in the event of any breach or threatened breach of Section 2 or 3, Company will suffer irreparable damage for which it will have no adequate remedy at law. Accordingly, Company shall be entitled to injunctive and other equitable remedies to prevent or restrain, temporarily or permanently, such breach or threatened breach, without the necessity of proving actual damages or posting any bond or surety, in addition to any other remedy that Company may have at law or in equity.

d. Notice. Any notice required or permitted to be given hereunder will be effective upon receipt and shall be given in writing, in English and delivered in person, via established express courier service (with confirmation of receipt), confirmed facsimile or registered or certified mail, postage prepaid, return receipt requested, to the parties at their respective addresses given herein or at such other address designated by written notice.

e. Assignment. This Agreement and the performance contemplated hereunder are personal to Provider and Provider shall not have the right or ability to subcontract, delegate, assign or otherwise transfer any rights or obligations under this Agreement without the prior written consent of Company. Any attempt to do otherwise shall be void and of no effect. Company may transfer this Agreement without the consent of Provider. This Agreement will be binding upon, and inure to the benefit of, the successors, representatives and permitted assigns of the parties.

f. Miscellaneous. This Agreement constitutes the entire agreement, and supersedes all prior negotiations, understandings or agreements (oral or written), between the parties concerning the subject matter of this Agreement (and all past dealing or industry custom). Headings are for convenience of reference only and shall in no way affect interpretation of the Agreement. This Agreement may be executed in one or more counterparts, each of which is an original, but taken together constituting one and the same instrument. Execution of a facsimile copy shall have the same force and effect as execution of an original, and a facsimile signature shall be deemed an original and valid signature. No change, consent or waiver to this Agreement will be effective unless in writing and signed by the party against which enforcement is sought. The failure of a party to enforce its rights under this Agreement at any time for any period will not be construed as a waiver of such rights. Unless expressly provided otherwise, each right and remedy in this Agreement is in addition to any other right or remedy, at law or in equity, and the exercise of one right or remedy will not be deemed a waiver of any other right or remedy. In the event that any provision of this Agreement is determined to be illegal or unenforceable, that provision will be limited or eliminated to the minimum extent necessary so that this Agreement will otherwise remain in full force and effect and enforceable.

IN WITNESS WHEREOF, intending to be legally bound, the parties have executed this Agreement as an instrument under seal as of the Effective Date.

PROVIDER

By: /s/ Christoph Westphal
Name: Christoph Westphal

TSCAN THERAPEUTICS, INC.

By: /s/ Lea Hachigian
Name: Lea Hachigian
Title: President

SIGNATURE PAGE TO SERVICES AGREEMENT

Amendment to Services Agreement

This Amendment ("Amendment"), effective as of June 24, 2019 ("Amendment Effective Date"), to the Services Agreement ("Agreement") by and between Dr. Christoph Westphal ("Provider") and TScan Therapeutics, Inc., a Delaware Corporation ("Company"), with an effective date of October 9, 2018, confirms the following modification to the terms of the Agreement:

1. Provider's cash compensation under Section 1.b of the Agreement will be extended for an additional 7 month period from April 1, 2019 to October 31, 2019 at the same rate and in accordance with the same payment terms currently included in the Agreement.
2. Payment of Provider's cash compensation for the period May 1, 2019 through June 30, 2019 will be made in a single, lump-sum payment, in accordance with the Company's normal payroll procedures on or around June 28, 2019. Subsequent cash compensation payments to Provider will continue through October 31, 2019 in accordance with the Company's normal payroll schedule.
3. Provider acknowledges receipt of payment of the April cash compensation provided in accordance with the Company's payroll procedures on April 15, 2019 and April 30, 2019.
4. Provider's services to the Company after October 31, 2019 will be provided for no cash compensation.

Except for the terms of the Agreement expressly modified by this Amendment, all of the terms and conditions of the Agreement remain in full force and effect. In witness whereof, intending to be legally bound, the parties have executed this Amendment as an instrument under seal as of the Amendment Effective Date.

Provider

By: /s/ Christoph Westphal
Christoph Westphal

TScan Therapeutics, Inc.

By /s/ Robert Crane
Robert Crane
Chief Financial Officer

EMPLOYMENT AGREEMENT

THIS AGREEMENT (the "Agreement") is entered into by and between **DAVID SOUTHWELL** (the "Executive" or "you") and **TSCAN THERAPEUTICS, INC.** (the "Company"), a Delaware corporation and replaces and supersedes the employment agreement between the Executive and Company, dated October 9, 2018 (the "Prior Agreement").

1. Duties and Scope of Employment.

(a) **Position.** For the term of his employment under this Agreement (the "Employment"), the Company agrees to employ the Executive in the position of Chief Executive Officer and President or in such other position as the Company subsequently may assign to the Executive. The Executive shall report to the Company's Board of Directors (the "Board").

(b) **Obligations to the Company.** During his Employment, the Executive (i) shall devote his full business efforts and time to the Company, (ii) shall not engage in any other employment, consulting or other business activity that would create a conflict of interest with the Company, (iii) shall not assist any person or entity in competing with the Company or in preparing to compete with the Company and (iv) shall comply with the Company's policies and rules, as they may be in effect from time to time.

(c) **No Conflicting Obligations.** The Executive represents and warrants to the Company that he is under no obligations or commitments, whether contractual or otherwise, that are inconsistent with his obligations under this Agreement provided that the Company acknowledges that you may serve on the board of directors or as an advisor for up to two for-profit companies, in addition to the Company's Board. You agree to attend in person no more than four meetings per year per company and any remaining meetings, if attended, will not require travel. The Executive represents and warrants that he will not use or disclose, in connection with his Employment, any trade secrets or other proprietary information or intellectual property in which the Executive or any other person has any right, title or interest and that his Employment will not infringe or violate the rights of any other person. The Executive represents and warrants to the Company that he has returned all property and confidential information belonging to any prior employer.

(d) **Definitions.** Certain capitalized terms are defined in Section 12.

2. Cash and Incentive Compensation.

(a) **Salary.** The Company shall pay the Executive as compensation for his services a base salary at a gross annual rate of \$581,532 (as may be adjusted, the "Base Salary"). Such salary shall be payable in accordance with the Company's standard payroll procedures and shall be subject to adjustment pursuant to the Company's executive compensation policies in effect from time to time.

(b) **Bonus.** You will be eligible for an annual performance bonus of 55% of your annual base salary, subject to achievement of targets that you will develop for approval by the Board or its Compensation Committee (the "Committee"). Performance bonus goals and

attainment of such goals will be evaluated and approved by the Committee and paid on an annual basis, with such payment, to the extent earned, to be made within 2 1/2 months following the close of the applicable fiscal year, but only if you are still employed by the Company as of the date of payment. The determinations of the Board or Committee with respect to your bonus will be final and binding.

3. **Executive Benefits.** During his Employment, the Executive shall be eligible for paid time off in accordance with the Company's PTO policy, as in effect from time to time. During his Employment, the Executive shall also be eligible to participate in the executive benefit plans maintained by the Company, subject in each case to the generally applicable terms and conditions of the plan in question and to the determinations of any person or committee administering such plan.

4. **Gifts.** The Executive is not permitted to, directly or indirectly, in connection with the performance of his duties, accept or demand commission, contribution, reimbursement or gifts in any form whatsoever from third parties. This does not apply to customary promotional gifts not exceeding a value of \$50.

5. **Term of Employment.**

(a) **Employment at Will.** The Executive's Employment with the Company shall be "at will," meaning that either the Executive or the Company shall be entitled to terminate the Executive's Employment at any time and for any reason, with or without Cause. Any contrary representations that may have been made to the Executive shall be superseded by this Agreement. This Agreement shall constitute the full and complete agreement between the Executive and the Company on the "at will" nature of the Executive's Employment. Although Executive's job duties, title, compensation and benefits, as well as the Company's personnel policies and procedures, may change from time to time, the "at will" nature of the Executive's employment may only be changed in an express written agreement signed by the Executive and a duly authorized officer of the Company (other than the Executive). The termination of the Executive's Employment shall not limit or otherwise affect his obligations under Sections 7 and/or 8 below or his rights under Section 6 below.

(b) **Rights upon Termination.** Except as expressly provided in Section 6 below, upon the termination of the Executive's Employment, the Executive shall only be entitled to the compensation and benefits that the Executive has earned under this Agreement before the effective date of the termination. The payments under this Agreement shall fully discharge all responsibilities of the Company to the Executive (other than payments of accrued and vested executive benefits, if any, under the Company's executive benefit plans).

6. **Termination Benefits.**

(a) **General.** If you are subject to an Involuntary Termination, then you will be entitled to the benefits described in Section 6(b). However, Section 6(b) will not apply unless you (i) have returned all Company property in your possession, (ii) have resigned as a member of the Board, and (iii) have executed a general release of all claims (with applicable carve-out for continued indemnification, non-disparagement and other customary exceptions) that you may have

against the Company or persons affiliated with the Company. You must execute and return the release on or before the date specified by the Company in the prescribed form (the "Release Deadline"). The Release Deadline will in no event be later than 50 days after your Separation. If you fail to return the release on or before the Release Deadline, or if you revoke the release, then you will not be entitled to the benefits described in Section 6(b). Your obligation to provide the release will be waived and treated as satisfied if the Company has not delivered the initial form of release to you within ten days after your employment ends.

(b) **Severance Payment.** If you are subject to an Involuntary Termination, then the Company will continue to pay you the Base Salary for eighteen (18) months following your Separation (the "Severance Period"). The salary continuation payments will commence on the first payroll date following expiration of the applicable revocation period of the release provided for in Section 6(a) and thereafter on the Company's normal payroll schedule. In the event you are subject to an Involuntary Termination in the three (3) months prior to a Change in Control, on a Change in Control or in the twelve (12) months following a Change in Control, then the Company will pay you a lump sum cash payment equal to (i) 1.5 times the (x) Base Salary plus (y) annual target bonus and (ii) your pro-rata (number of days worked in in the fiscal year of Separation over 365) target bonus, subject to execution of the release. However, if the 50-day period described in Section 6(a) spans two (2) calendar years, then the salary continuation payments or, if applicable, the lump sum payment will commence or be paid on the first payroll date following expiration of the applicable revocation period in the second calendar year. The Company's obligation to make payments during the Severance Period will cease immediately upon (i) your material breach of the PIIA or (ii) your acceptance of any paid employment or consulting engagement during any period in which the Company is obligated to make such payments, and you hereby agree to immediately inform the Company in the event that you have accepted any such paid employment or consulting engagement.

(c) **Equity Awards.** In the event you are subject to an Involuntary Termination in the three (3) months prior to a Change in Control, on a Change in Control or in the twelve (12) months following a Change in Control, then all of your outstanding and unvested option shares and equity awards issued shall be 100% vested and non-forfeitable.

(d) **COBRA.** If you are subject to an Involuntary Termination and you elect to continue your health insurance coverage under the Consolidated Omnibus Budget Reconciliation Act ("COBRA") following your Separation, then the Company will pay the same percentage of your monthly premium under COBRA, which is understood to potentially be higher than said premium for active employees, as it pays for active employees and their eligible dependents for the 18 months following your Separation.

(e) **Accrued Rights.** You will be entitled to receive the following upon termination of employment for any reason: (i) accrued and unpaid Base Salary through the date of termination of employment; (ii) reimbursement for any unreimbursed business expenses; and (iii) such employee benefits, if any, to which the Executive may be entitled under the applicable Company plans upon termination of employment.

7. **Documents and Company Property.** The Executive is prohibited from keeping in his possession in any way any correspondence, documents, other information carriers, copies

thereof, and other goods made available by the Company or its affiliates to him (including, but not limited to, credit cards, mobile communication devices, keys, documents, handbooks, financial data, plans, USB sticks or other information carriers, access cards and laptop computer), except to the extent that this is necessary for the performance of his work for the Company. In any event, the Executive is obliged to immediately hand over such documents and other goods made available to him at the end of this Agreement or upon suspension of his active duties for any reason other than documents relating to his own employment and compensation.

8. **Proprietary Information and Inventions Agreement.** Like all Company Executives, the Executive shall be required, as a condition of his employment with the Company, to sign the Company's standard Proprietary Information and Inventions Agreement (the "PIIA"), a copy of which is attached hereto as Exhibit A. In the event of an Involuntary Termination in connection with a Change in Control, the non-compete and non-solicitation restrictive covenants of the PIIA shall be null and void.

9. **Reimbursement of Expenses.** The Company will reimburse business expenses reasonably incurred in the performance of your duties in accordance with the Company's standard practice and expense scheme in place at the time (generally within 30 days after you have submitted appropriate documentation, which you must do within 30 days after incurring the expense) and, in any case, on or before the last day of the calendar year following the calendar year in which the relevant expense is incurred. The Company will reimburse reasonable costs of the professional use of your (mobile) telephone.

10. **Successors.**

(a) **Company's Successors.** This Agreement shall be binding upon any successor (whether direct or indirect and whether by purchase, lease, merger, consolidation, liquidation or otherwise) to all or substantially all of the Company's business and/or assets. For all purposes under this Agreement, the term "Company" shall include any successor to the Company's business and/or assets which becomes bound by this Agreement.

(b) **Executive's Successors.** This Agreement and all rights of the Executive hereunder shall inure to the benefit of, and be enforceable by, the Executive's personal or legal representatives, executors, administrators, successors, heirs, distributees, devisees and legatees.

11. **Indemnification.** During your employment by the Company and at all times thereafter, regardless of the reason for termination, to the fullest extent permitted by its articles of incorporation and by applicable law, the Company shall indemnify you and hold you harmless against any cost, fee, expense, fine or penalty to which you may be subject as a result of serving as an employee or officer of the Company or member of its Board and provide for you to be covered by the insurance or other indemnity policy applicable to officers or directors of the Company (including any rights to advances or reimbursement of legal fees thereunder) as well as enter into any separate indemnification agreement that the Company may enter into with members of the Board. The Company's indemnification obligation shall survive any termination of your employment.

12. **Definitions.** The following terms shall have the meaning set forth below wherever they are used in this Agreement:
- (a) **Cause.** The term “**Cause**” shall mean:
- (i) any material breach by you of any agreement to which you and the Company are both parties that is injurious to the Company;
 - (ii) substantial negligence in the performance of, or substantial failure to perform, your services to the Company, which breach, negligence or failure, as applicable, is not cured within thirty (30) days following written notice by the Company;
 - (iii) commission by you of a felony or other crime involving moral turpitude; or
 - (iv) willful misconduct by you which has, or could reasonably be expected to have, a material adverse effect upon the business, interests or reputation of the Company.
- (b) **Change in Control.** The term “**Change in Control**” shall mean (i) any “person” (as such term is used in Sections 13(d) and 14(d) of the Exchange Act) becomes the “beneficial owner” (as defined in Rule 13d-3 of the Exchange Act), directly or indirectly, of securities of the Company representing more than fifty percent (50%) of the total voting power represented by the Company’s then-outstanding voting securities; (ii) the consummation of a merger or consolidation of the Company with or into any other entity, other than a merger or consolidation which would result in the voting securities of the Company outstanding immediately prior thereto continuing to represent (either by remaining outstanding or by being converted into voting securities of the surviving entity or its parent) more than fifty percent (50%) of the total voting power represented by the voting securities of the Company or such surviving entity or its parent outstanding immediately after such merger or consolidation; or (iii) the sale, transfer or other disposition of all or substantially all of the Company’s assets.
- (c) **Code.** The term “**Code**” shall mean the Internal Revenue Code of 1986, as amended.
- (d) **Disability.** The term “**Disability**” shall mean that the Executive is unable to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment which can be expected to result in death or to last for a continuous period of not less than twelve months.
- (e) **Involuntary Termination.** The term “**Involuntary Termination**” shall mean either the Executive’s (i) Termination Without Cause or (ii) Resignation for Good Reason.
- (f) **Resignation for Good Reason.** The term “**Resignation for Good Reason**” means a Separation as a result of the Executive’s resignation within 12 months after one of the following conditions has come into existence without the Executive’s consent:
- (i) a material diminution in your compensation (except for across-the-board reductions affecting the Company’s similarly situated employees generally);

(ii) a material diminution in your title (it being understood that removal of the President title shall not in of itself constitute Good Reason), duties, authority and responsibilities within the Company; or

(iii) a material breach of the Company's obligation under any agreement between the Company and you.

A Resignation for Good Reason shall not be deemed to have occurred unless the Executive gives the Company written notice of the condition within 60 days after the condition comes into existence and the Company fails to remedy the condition within 30 days after receiving the Executive's written notice.

(g) **Separation.** The term "Separation" shall mean a "separation from service," as defined in the regulations under Section 409A of the Code.

(h) **"Termination Without Cause"** The term "Termination without Cause" means a Separation as a result of a termination of the Executive's employment by the Company without Cause and other than as a result of Disability.

13. **Miscellaneous Provisions.**

(a) **Notice.** Notices and all other communications contemplated by this Agreement shall be in writing and shall be deemed to have been duly given when personally delivered, when delivered via email to a Company domain email address or, following the Separation, to the Executive's personal email address on file with Human Resources, when delivered by FedEx with delivery charges prepaid, or when mailed by U.S. registered or certified mail, return receipt requested and postage prepaid. In the case of the Executive, mailed notices shall be addressed to him at the home address that he most recently communicated to the Company in writing. In the case of the Company, mailed notices shall be addressed to its corporate headquarters, and all notices shall be directed to the attention of its Secretary.

(b) **Modifications and Waivers.** No provision of this Agreement shall be modified, waived or discharged unless the modification, waiver or discharge is agreed to in writing and signed by the Executive and by an authorized officer of the Company (other than the Executive). No waiver by either party of any breach of, or of compliance with, any condition or provision of this Agreement by the other party shall be considered a waiver of any other condition or provision or of the same condition or provision at another time.

(c) **Whole Agreement.** This Agreement supersedes and replaces any prior agreements, including without limitation, the Prior Agreement, representations or understandings (whether written, oral, implied or otherwise) between the Executive and the Company and constitute the complete agreement between the Executive and the Company regarding the subject matter set forth herein.

(d) **Tax Matters.** All payments made under this Agreement shall be subject to reduction to reflect taxes or other charges required to be withheld by law. The Company intends that all payments and benefits provided under this Agreement or otherwise are exempt from, or comply with, with the requirements of Code Section 409A so that none of the payments or benefits will be subject to the additional tax imposed under Code Section 409A, and any ambiguities herein will be interpreted in accordance with such intent. For purposes of Code Section 409A, each payment, installment or benefit payable under this Agreement is hereby designated as a separate payment. In addition, if the Company determines that you are a “specified Executive” under Code Section 409A(a)(2)(B)(i) at the time of your Separation, then (i) any severance payments or benefits, to the extent that they are subject to Code Section 409A, will not be paid or otherwise provided until the first business day following (A) expiration of the six-month period measured from your Separation or (B) the date of your death and (ii) any installments that otherwise would have been paid or provided prior to such date will be paid or provided in a lump sum when the severance payments or benefits commence. The Company shall not have a duty to design its compensation policies in a manner that minimizes your tax liabilities, and you agree not to make any claim against the Company or the Board related to tax liabilities arising from your compensation.

(e) **280G. Parachute Payments.** If any payment or benefit that you would receive in connection with a Change in Control from the Company or otherwise (“Payment”) would (i) constitute a “parachute payment” within the meaning of Section 280G of the Code, and (ii) but for this sentence, be subject to the excise tax imposed by Section 4999 of the Code (the “Excise Tax”), then such Payment shall be equal to the Reduced Amount. The “Reduced Amount” shall be either (x) the largest portion of the Payment that would result in no portion of the Payment being subject to the Excise Tax, or (y) the largest portion, up to and including the total, of the Payment, whichever amount, after taking into account all applicable federal, state and local employment taxes, income taxes, and the Excise Tax (all computed at the highest applicable marginal rate), results in your receipt of the greatest economic benefit notwithstanding that all or some portion of the Payment may be subject to the Excise Tax. If a reduction in payments or benefits constituting “parachute payments” is necessary so that the Payment equals the Reduced Amount, any reduction shall be applied first, on a *pro rata* basis, to amounts that constitute deferred compensation within the meaning of Section 409A of the Code, and, in the event that the reductions pursuant to this Section 13(e) exceed payments that are subject to Section 409A of the Code, the remaining reductions shall be applied, on a *pro rata* basis, to any other remaining payments. The Company’s determinations hereunder shall be final, binding and conclusive on all interested parties.

(f) **Arbitration.** Any controversy or claim arising out of this Agreement and any and all claims relating to your employment with the Company will be settled by final and binding arbitration. The arbitration will take place in the Commonwealth of Massachusetts. The arbitration will be administered by the American Arbitration Association under its National Rules for the Resolution of Employment Disputes. Any award or finding will be confidential. You and the Company agree to provide one another with reasonable access to documents and witnesses in connection with the resolution of the dispute. You and the Company will share the costs of arbitration equally up to, for you, the filing fee to bring a civil action in the state courts of Massachusetts. Each party will be responsible for its own attorneys’ fees, and the arbitrator may not award attorneys’ fees unless a statute or contract at issue specifically authorizes such an award.

This Section 13(f) does not apply to claims for workers' compensation benefits or unemployment insurance benefits. This Section 13(f) also does not apply to claims concerning the ownership, validity, infringement, misappropriation, disclosure, misuse or enforceability of any confidential information, patent right, copyright, mask work, trademark or any other trade secret or intellectual property held or sought by either you or the Company (whether or not arising under the Proprietary Information and Inventions Agreement between you and the Company).

(g) **Choice of Law and Severability.** This Agreement shall be interpreted in accordance with the laws of the Commonwealth of Massachusetts (except its provisions governing the choice of law). If any provision of this Agreement becomes or is deemed invalid, illegal or unenforceable in any applicable jurisdiction by reason of the scope, extent or duration of its coverage or any other reason, then such provision shall be deemed amended to the minimum extent necessary to conform to applicable law so as to be valid and enforceable or, if such provision cannot be so amended without materially altering the intention of the parties, then such provision shall be stricken and the remainder of this Agreement shall continue in full force and effect. If any provision of this Agreement is rendered illegal by any present or future statute, law, ordinance or regulation (collectively the "Law"), then such provision shall be curtailed or limited only to the minimum extent necessary to bring such provision into compliance with the Law. All the other terms and provisions of this Agreement shall continue in full force and effect without impairment or limitation.

(h) **No Assignment.** This Agreement and all rights and obligations of the Executive hereunder are personal to the Executive and may not be transferred or assigned by the Executive at any time. The Company may assign its rights under this Agreement to any entity that assumes the Company's obligations hereunder in connection with any sale or transfer of all or a substantial portion of the Company's assets to such entity.

(i) **Counterparts.** This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

(Signatures on following page)

IN WITNESS WHEREOF, each of the parties has executed this Agreement, in the case of the Company by its duly authorized officer, as of the day and year first above written.

TSCAN THERAPEUTICS, INC.

Signature: /s/ David Southwell

Title: President and Chief Executive Officer

Date: April 23, 2021

EXECUTIVE

/s/ David Southwell

David Southwell

Date: April 23, 2021

Exhibit A: Proprietary Information and Inventions Agreement

EMPLOYMENT AGREEMENT

THIS AGREEMENT (the “Agreement”) is entered into by and between **GAVIN MACBEATH** (the “Executive” or “you”) and **TSCAN THERAPEUTICS, INC.** (the “Company”), a Delaware corporation and replaces and supersedes the employment agreement between the Executive and Company, dated November 28, 2018 (the “Prior Agreement”).

1. Duties and Scope of Employment.

(a) **Position.** For the term of his employment under this Agreement (the “Employment”), the Company agrees to employ the Executive in the position Chief Scientific Officer or in such other position as the Company subsequently may assign to the Executive. The Executive shall report to the Company’s Chief Executive Officer.

(b) **Obligations to the Company.** During his Employment, the Executive (i) shall devote his full business efforts and time to the Company, (ii) shall not engage in any other employment, consulting or other business activity that would create a conflict of interest with the Company, (iii) shall not assist any person or entity in competing with the Company or in preparing to compete with the Company and (iv) shall comply with the Company’s policies and rules, as they may be in effect from time to time.

(c) **No Conflicting Obligations.** The Executive represents and warrants to the Company that he is under no obligations or commitments, whether contractual or otherwise, that are inconsistent with his obligations under this Agreement. The Executive represents and warrants to the Company that he has returned all property and confidential information belonging to any prior employer.

(d) **Definitions.** Certain capitalized terms are defined in Section 12.

2. Cash and Incentive Compensation.

(a) **Salary.** The Company shall pay the Executive as compensation for his services a base salary at a gross annual rate of \$400,000 (as may be adjusted, the “Base Salary”). Such salary shall be payable in accordance with the Company’s standard payroll procedures and shall be subject to adjustment pursuant to the Company’s executive compensation policies in effect from time to time.

(b) **Bonus.** You will be eligible for an annual performance bonus of 40% of your annual base salary, subject to achievement of targets that you will develop for approval by the Company’s Board of Directors (the “Board”) or its Compensation Committee (the “Committee”). Performance bonus goals and attainment of such goals will be evaluated and approved by the Committee and paid on an annual basis, with such payment, to the extent earned, to be made within 2 ½ months following the close of the applicable fiscal year, but only if you are still employed by the Company as of the date of payment. The determinations of the Board or Committee with respect to your bonus will be final and binding.

3. **Executive Benefits.** During his Employment, the Executive shall be eligible for paid time off in accordance with the Company's PTO policy, as in effect from time to time. During his Employment, the Executive shall also be eligible to participate in the executive benefit plans maintained by the Company, subject in each case to the generally applicable terms and conditions of the plan in question and to the determinations of any person or committee administering such plan.

4. **Gifts.** The Executive is not permitted to, directly or indirectly, in connection with the performance of his duties, accept or demand commission, contribution, reimbursement or gifts in any form whatsoever from third parties. This does not apply to customary promotional gifts not exceeding a value of \$50.

5. **Term of Employment.**

(a) **Employment at Will.** The Executive's Employment with the Company shall be "at will," meaning that either the Executive or the Company shall be entitled to terminate the Executive's Employment at any time and for any reason, with or without Cause. Any contrary representations that may have been made to the Executive shall be superseded by this Agreement. This Agreement shall constitute the full and complete agreement between the Executive and the Company on the "at will" nature of the Executive's Employment. Although Executive's job duties, title, compensation and benefits, as well as the Company's personnel policies and procedures, may change from time to time, the "at will" nature of the Executive's employment may only be changed in an express written agreement signed by the Executive and a duly authorized officer of the Company (other than the Executive). The termination of the Executive's Employment shall not limit or otherwise affect his obligations under Sections 7 and/or 8 below or his rights under Section 6 below.

(b) **Rights upon Termination.** Except as expressly provided in Section 6 below, upon the termination of the Executive's Employment, the Executive shall only be entitled to the compensation and benefits that the Executive has earned under this Agreement before the effective date of the termination. The payments under this Agreement shall fully discharge all responsibilities of the Company to the Executive (other than payments of accrued and vested executive benefits, if any, under the Company's executive benefit plans).

6. **Termination Benefits.**

(a) **General.** If you are subject to an Involuntary Termination, then you will be entitled to the benefits described in Section 6(b). However, Section 6(b) will not apply unless you (i) have returned all Company property in your possession, and (ii) have executed a general release of all claims (with applicable carve-out for continued indemnification, non-disparagement and other customary exceptions) that you may have against the Company or persons affiliated with the Company. You must execute and return the release on or before the date specified by the Company in the prescribed form (the "Release Deadline"). The Release Deadline will in no event be later than 50 days after your Separation. If you fail to return the release on or before the Release Deadline, or if you revoke the release, then you will not be entitled to the benefits described in Section 6(b). Your obligation to provide the release will be waived and treated as satisfied if the Company has not delivered the initial form of release to you within ten days after your employment ends.

(b) **Severance Payment.** If you are subject to an Involuntary Termination, then the Company will continue to pay you the Base Salary for twelve (12) months following your Separation (the “Severance Period”). The salary continuation payments will commence on the first payroll date following expiration of the applicable revocation period of the release provided for in Section 6(a) and thereafter on the Company’s normal payroll schedule. In the event you are subject to an Involuntary Termination in the three (3) months prior to a Change in Control, on a Change in Control or in the twelve (12) months following a Change in Control, then the Company will pay you a lump sum cash payment equal to (i) 1 times (x) Base Salary plus (y) annual target bonus and (ii) your pro-rata (number of days worked in in the fiscal year of Separation over 365) target bonus, subject to execution of the release. However, if the 50-day period described in Section 6(a) spans two (2) calendar years, then the salary continuation payments or, if applicable, the lump sum payment will commence or be paid on the first payroll date following expiration of the applicable revocation period in the second calendar year. The Company’s obligation to make payments during the Severance Period will cease immediately upon (i) your material breach of the PIIA or (ii) your acceptance of any paid employment or consulting engagement during any period in which the Company is obligated to make such payments, and you hereby agree to immediately inform the Company in the event that you have accepted any such paid employment or consulting engagement.

(c) **Equity Awards.** In the event you are subject to an Involuntary Termination in the three (3) months prior to a Change in Control, on a Change in Control or in the twelve (12) months following a Change in Control, then all of your outstanding and unvested option shares and equity awards issued shall be 100% vested and non-forfeitable.

(d) **COBRA.** If you are subject to an Involuntary Termination and you elect to continue your health insurance coverage under the Consolidated Omnibus Budget Reconciliation Act (“COBRA”) following your Separation, then the Company will pay the same percentage of your monthly premium under COBRA, which is understood to potentially be higher than said premium for active employees, as it pays for active employees and their eligible dependents for the 12 months following your Separation.

(e) **Accrued Rights.** You will be entitled to receive the following upon termination of employment for any reason: (i) accrued and unpaid Base Salary through the date of termination of employment; (ii) reimbursement for any unreimbursed business expenses; and (iii) such employee benefits, if any, to which the Executive may be entitled under the applicable Company plans upon termination of employment.

7. **Documents and Company Property.** The Executive is prohibited from keeping in his possession in any way any correspondence, documents, other information carriers, copies thereof, and other goods made available by the Company or its affiliates to him (including, but not limited to, credit cards, mobile communication devices, keys, documents, handbooks, financial data, plans, USB sticks or other information carriers, access cards and laptop computer), except to the extent that this is necessary for the performance of his work for the Company. In any event, the Executive is obliged to immediately hand over such documents and other goods made available to him at the end of this Agreement or upon suspension of his active duties for any reason other than documents relating to his own employment and compensation.

8. **Proprietary Information and Inventions Agreement.** Like all Company Executives, the Executive shall be required, as a condition of his employment with the Company, to sign the Company's standard Proprietary Information and Inventions Agreement (the "PIIA"), a copy of which is attached hereto as Exhibit A. In the event of an Involuntary Termination in connection with a Change in Control, the non-compete and non-solicitation restrictive covenants of the PIIA shall be null and void.

9. **Reimbursement of Expenses.** The Company will reimburse business expenses reasonably incurred in the performance of your duties in accordance with the Company's standard practice and expense scheme in place at the time (generally within 30 days after you have submitted appropriate documentation, which you must do within 30 days after incurring the expense) and, in any case, on or before the last day of the calendar year following the calendar year in which the relevant expense is incurred. The Company will reimburse reasonable costs of the professional use of your (mobile) telephone.

10. **Successors.**

(a) **Company's Successors.** This Agreement shall be binding upon any successor (whether direct or indirect and whether by purchase, lease, merger, consolidation, liquidation or otherwise) to all or substantially all of the Company's business and/or assets. For all purposes under this Agreement, the term "Company" shall include any successor to the Company's business and/or assets which becomes bound by this Agreement.

(b) **Executive's Successors.** This Agreement and all rights of the Executive hereunder shall inure to the benefit of, and be enforceable by, the Executive's personal or legal representatives, executors, administrators, successors, heirs, distributees, devisees and legatees.

11. **Indemnification.** During your employment by the Company and at all times thereafter, regardless of the reason for termination, to the fullest extent permitted by its articles of incorporation and by applicable law, the Company shall indemnify you and hold you harmless against any cost, fee, expense, fine or penalty to which you may be subject as a result of serving as an employee or officer of the Company or member of its Board and provide for you to be covered by the insurance or other indemnity policy applicable to officers or directors of the Company (including any rights to advances or reimbursement of legal fees thereunder). The Company's indemnification obligation shall survive any termination of your employment.

12. **Definitions.** The following terms shall have the meaning set forth below wherever they are used in this Agreement:

(a) **Cause.** The term "Cause" shall mean:

(i) any material breach by you of any agreement to which you and the Company are both parties that is injurious to the Company;

(ii) substantial negligence in the performance of, or substantial failure to perform, your services to the Company, which breach, negligence or failure, as applicable, is not cured within thirty (30) days following written notice by the Company;

(iii) commission by you of a felony or other crime involving moral turpitude; or

(iv) willful misconduct by you which has, or could reasonably be expected to have, a material adverse effect upon the business, interests or reputation of the Company.

(b) **Change in Control.** The term “**Change in Control**” shall mean (i) any “person” (as such term is used in Sections 13(d) and 14(d) of the Exchange Act) becomes the “beneficial owner” (as defined in Rule 13d-3 of the Exchange Act), directly or indirectly, of securities of the Company representing more than fifty percent (50%) of the total voting power represented by the Company’s then-outstanding voting securities; (ii) the consummation of a merger or consolidation of the Company with or into any other entity, other than a merger or consolidation which would result in the voting securities of the Company outstanding immediately prior thereto continuing to represent (either by remaining outstanding or by being converted into voting securities of the surviving entity or its parent) more than fifty percent (50%) of the total voting power represented by the voting securities of the Company or such surviving entity or its parent outstanding immediately after such merger or consolidation; or (iii) the sale, transfer or other disposition of all or substantially all of the Company’s assets.

(c) **Code.** The term “**Code**” shall mean the Internal Revenue Code of 1986, as amended.

(d) **Disability.** The term “**Disability**” shall mean that the Executive is unable to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment which can be expected to result in death or to last for a continuous period of not less than twelve months.

(e) **Involuntary Termination.** The term “**Involuntary Termination**” shall mean either the Executive’s (i) Termination Without Cause or (ii) Resignation for Good Reason.

(f) **Resignation for Good Reason.** The term “**Resignation for Good Reason**” means a Separation as a result of the Executive’s resignation within 12 months after one of the following conditions has come into existence without the Executive’s consent:

(i) a material diminution in your compensation (except for across-the-board reductions affecting the Company’s similarly situated employees generally);

(ii) a material diminution in your title, duties, authority and responsibilities within the Company; or

(iii) a material breach of the Company’s obligation under any agreement between the Company and you.

A Resignation for Good Reason shall not be deemed to have occurred unless the Executive gives the Company written notice of the condition within 60 days after the condition comes into existence and the Company fails to remedy the condition within 30 days after receiving the Executive's written notice.

(g) **Separation.** The term "Separation" shall mean a "separation from service," as defined in the regulations under Section 409A of the Code.

(h) **"Termination Without Cause"** The term "Termination without Cause" means a Separation as a result of a termination of the Executive's employment by the Company without Cause and other than as a result of Disability.

13. **Miscellaneous Provisions.**

(a) **Notice.** Notices and all other communications contemplated by this Agreement shall be in writing and shall be deemed to have been duly given when personally delivered, when delivered via email to a Company domain email address or, following the Separation, to the Executive's personal email address on file with Human Resources, when delivered by FedEx with delivery charges prepaid, or when mailed by U.S. registered or certified mail, return receipt requested and postage prepaid. In the case of the Executive, mailed notices shall be addressed to him at the home address that he most recently communicated to the Company in writing. In the case of the Company, mailed notices shall be addressed to its corporate headquarters, and all notices shall be directed to the attention of its Secretary.

(b) **Modifications and Waivers.** No provision of this Agreement shall be modified, waived or discharged unless the modification, waiver or discharge is agreed to in writing and signed by the Executive and by an authorized officer of the Company (other than the Executive). No waiver by either party of any breach of, or of compliance with, any condition or provision of this Agreement by the other party shall be considered a waiver of any other condition or provision or of the same condition or provision at another time.

(c) **Whole Agreement.** This Agreement supersedes and replaces any prior agreements, including without limitation, the Prior Agreement, representations or understandings (whether written, oral, implied or otherwise) between the Executive and the Company and constitute the complete agreement between the Executive and the Company regarding the subject matter set forth herein.

(d) **Tax Matters.** All payments made under this Agreement shall be subject to reduction to reflect taxes or other charges required to be withheld by law. The Company intends that all payments and benefits provided under this Agreement or otherwise are exempt from, or comply with, with the requirements of Code Section 409A so that none of the payments or benefits will be subject to the additional tax imposed under Code Section 409A, and any ambiguities herein will be interpreted in accordance with such intent. For purposes of Code Section 409A, each payment, installment or benefit payable under this Agreement is hereby designated as a separate payment. In addition, if the Company determines that you are a "specified Executive" under Code Section 409A(a)(2)(B)(i) at the time of your Separation, then (i) any severance payments or benefits, to the extent that they are subject to Code Section 409A, will not be paid or otherwise

provided until the first business day following (A) expiration of the six-month period measured from your Separation or (B) the date of your death and (ii) any installments that otherwise would have been paid or provided prior to such date will be paid or provided in a lump sum when the severance payments or benefits commence. The Company shall not have a duty to design its compensation policies in a manner that minimizes your tax liabilities, and you agree not to make any claim against the Company or the Board related to tax liabilities arising from your compensation.

(e) 280G. Parachute Payments. If any payment or benefit that you would receive in connection with a Change in Control from the Company or otherwise (“Payment”) would (i) constitute a “parachute payment” within the meaning of Section 280G of the Code, and (ii) but for this sentence, be subject to the excise tax imposed by Section 4999 of the Code (the “Excise Tax”), then such Payment shall be equal to the Reduced Amount. The “Reduced Amount” shall be either (x) the largest portion of the Payment that would result in no portion of the Payment being subject to the Excise Tax, or (y) the largest portion, up to and including the total, of the Payment, whichever amount, after taking into account all applicable federal, state and local employment taxes, income taxes, and the Excise Tax (all computed at the highest applicable marginal rate), results in your receipt of the greatest economic benefit notwithstanding that all or some portion of the Payment may be subject to the Excise Tax. If a reduction in payments or benefits constituting “parachute payments” is necessary so that the Payment equals the Reduced Amount, any reduction shall be applied first, on a *pro rata* basis, to amounts that constitute deferred compensation within the meaning of Section 409A of the Code, and, in the event that the reductions pursuant to this Section 13(e) exceed payments that are subject to Section 409A of the Code, the remaining reductions shall be applied, on a *pro rata* basis, to any other remaining payments. The Company’s determinations hereunder shall be final, binding and conclusive on all interested parties.

(f) Arbitration. Any controversy or claim arising out of this Agreement and any and all claims relating to your employment with the Company will be settled by final and binding arbitration. The arbitration will take place in the Commonwealth of Massachusetts. The arbitration will be administered by the American Arbitration Association under its National Rules for the Resolution of Employment Disputes. Any award or finding will be confidential. You and the Company agree to provide one another with reasonable access to documents and witnesses in connection with the resolution of the dispute. You and the Company will share the costs of arbitration equally up to, for you, the filing fee to bring a civil action in the state courts of Massachusetts. Each party will be responsible for its own attorneys’ fees, and the arbitrator may not award attorneys’ fees unless a statute or contract at issue specifically authorizes such an award. This Section 13(f) does not apply to claims for workers’ compensation benefits or unemployment insurance benefits. This Section 13(f) also does not apply to claims concerning the ownership, validity, infringement, misappropriation, disclosure, misuse or enforceability of any confidential information, patent right, copyright, mask work, trademark or any other trade secret or intellectual property held or sought by either you or the Company (whether or not arising under the Proprietary Information and Inventions Agreement between you and the Company).

(g) Choice of Law and Severability. This Agreement shall be interpreted in accordance with the laws of the Commonwealth of Massachusetts (except its provisions governing the choice of law). If any provision of this Agreement becomes or is deemed invalid, illegal or

unenforceable in any applicable jurisdiction by reason of the scope, extent or duration of its coverage or any other reason, then such provision shall be deemed amended to the minimum extent necessary to conform to applicable law so as to be valid and enforceable or, if such provision cannot be so amended without materially altering the intention of the parties, then such provision shall be stricken and the remainder of this Agreement shall continue in full force and effect. If any provision of this Agreement is rendered illegal by any present or future statute, law, ordinance or regulation (collectively the "Law"), then such provision shall be curtailed or limited only to the minimum extent necessary to bring such provision into compliance with the Law. All the other terms and provisions of this Agreement shall continue in full force and effect without impairment or limitation.

(h) **No Assignment.** This Agreement and all rights and obligations of the Executive hereunder are personal to the Executive and may not be transferred or assigned by the Executive at any time. The Company may assign its rights under this Agreement to any entity that assumes the Company's obligations hereunder in connection with any sale or transfer of all or a substantial portion of the Company's assets to such entity.

(i) **Counterparts.** This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

(Signatures on following page)

IN WITNESS WHEREOF, each of the parties has executed this Agreement, in the case of the Company by its duly authorized officer, as of the day and year first above written.

TSCAN THERAPEUTICS, INC.

Signature: /s/ David Southwell

Title: President and Chief Executive Officer

Date: April 23, 2021

EXECUTIVE

/s/ Gavin MacBeath

Gavin MacBeath

Date: April 23, 2021

Exhibit A: Proprietary Information and Inventions Agreement



Harvard Institutes of Medicine 857.399.9500
4 Blackfan Circle info@tscanrx.com
8th Floor TScanRX.com
Boston, MA 02115

April 8, 2019

Henry Rath

Dear Henry,

We are pleased to offer you the full-time position of Chief Business Officer at TScan Therapeutics, Inc. ("TScan" or "Company"). You will be initially reporting directly to David Southwell, CEO. Your employment is contingent upon, the execution of the attached TScan PIIA (Non-Disclosure, Non-Competition and Assignment of Intellectual Property) and presentation of acceptable documentation for your eligibility to work in the United States (Form I-9). Your anticipated start date will be April 23, 2019.

You will earn a semi-monthly salary of \$14,375.00 which when annualized is equivalent to \$345,000.00 per year. This is an exempt position and not eligible for overtime compensation. Your compensation is subject to deductions for taxes and other withholdings as required by law. You will be eligible for an incentive performance bonus of 35% based on your earned annual salary. The final bonus amount is determined by Management and the Board of Directors and is dependent upon achievement of specific TScan corporate, team, and individual performance objectives.

You will be eligible to receive stock options, pursuant to the Company's 2018 Stock Incentive Plan and vesting schedule for 547,263 shares of the Company's common stock at a strike price equal to the value on your first date of employment. You will vest in 25% of the Option (with vesting commencing on the first date of employment) shares after 12 months of continuous service, and the balance will vest in equal installments over the next 36 months of continuous service, as described in the applicable Stock Option Agreement. Upon Change of Control, all outstanding options will vest immediately.

If you are subject to a Separation as the result of an Involuntary Termination (defined below), you will be entitled to the continuation of payment of your then-applicable Base Salary as severance, for six (6) months immediately following such termination (the "Monthly Severance Payments"), subject to execution of a general release of claims (the "Release") against the Company. You must execute and return the Release on or before the date specified by the Company in the prescribed form (the "Release Deadline"). The Release Deadline will in no event be later than 50 days after your Separation. If you fail to return the Release on or before the Release Deadline, or if you revoke the Release, then you will not be entitled to the Monthly Severance Payments. However, if the 50-day period spans two calendar years, then the Monthly Severance Payments will commence or, if applicable, be paid on the first payroll date in the second calendar year following expiration of the applicable revocation period.



Harvard Institutes of Medicine 857.399.9500
4 Blackfan Circle info@tscanrx.com
8th Floor TScanRX.com
Boston, MA 02115

The Company's obligation to make Monthly Severance Payments will cease immediately upon your acceptance of any salaried employment during any period in which the Company is obligated to make such payments, and you hereby agree to immediately inform the Company in the event that you have accepted any such salaried employment.

As a full-time employee you will be eligible for all company sponsored benefit plans. You will be eligible for our company's flexible time off - policy (FTO) and are eligible for all official company holidays.

Please note that this constitutes an offer of at-will employment, which may be terminated by you or TScan at any time without notice, and with or without cause. This offer of employment does not create a contract of employment as to terms other than compensation for services actually provided and other terms expressly provided for in this letter. The terms of this offer may not be modified except by an express written agreement signed by the CEO or Chief Financial Officer of TScan. By signing this agreement, you confirm to TScan that you have no contractual commitments or other legal obligations that would prohibit you from performing your duties.

Please indicate your written acceptance by signing the original copy of your offer letter below and returning it to me within seven (7) days of the date of this letter. Welcome to the TScan Team!

Sincerely,

/s/ David Southwell

David Southwell
CEO

Accepted and agreed to:

/s/ Henry Rath

Henry Rath

Date: April 9, 2019

Defined Terms

“Cause” shall mean: (a) any material breach by you of any agreement to which you and the Company are both parties that is injurious to the Company; (b) negligence in the performance of, or substantial failure to perform, your services to the Company, which breach, negligence or failure, as applicable, is not cured within thirty (30) days following written notice by the Company; (c) commission by you of a felony or other crime involving moral turpitude; or (d) willful misconduct by you which has, or could reasonably be expected to have, a material adverse effect upon the business, interests or reputation of the Company.

“Change of Control” means (a) the consummation of a merger or consolidation of the Company with or into another entity or any other corporate reorganization, if persons who were not stockholders of the Company immediately prior to such merger, consolidation or other reorganization own immediately after such merger, consolidation or other reorganization of 50% or more of the voting power of the outstanding securities of each of (i) the continuing or surviving entity and (ii) any direct or indirect parent corporation of such continuing or surviving entity; or (b) the sale, transfer or other disposition of all or substantially all of the Company’s assets. A Change in Control shall not include: (i) a merger effected exclusively to change the domicile of the Company, (ii) any equity financing that does not constitute a Deemed Liquidation Event under the Company’s Amended and Restated Certificate of Incorporation, as may be amended from time to time, and (iii) a transaction in which the stockholders of the Company immediately prior to the transaction own 50% or more of the voting stock of the surviving corporation following the transaction.

“Involuntary Termination” means your Termination without Cause.

“Separation” means a “separation from service,” as defined in the regulations under Section 409A of the Code.

Henry Rath

Dear Henry:

This letter (the "Agreement") confirms the agreement between you and TScan Therapeutics, Inc. (the "Company") regarding your termination of employment with the Company.

1. Termination Date. Your employment with the Company will terminate on January 31, 2021 (the "Termination Date"). You agree that you will make yourself reasonably available to the Company after the Termination Date in person and by telephone and e-mail to assist the Company in the transition of your duties and responsibilities and to address any Company-related matters.

2. Salary and Final Pay. On the Termination Date, the Company will deposit your final pay, in accordance with its normal pay practices, less all applicable withholdings. This amount represents all of your salary earned through the Termination Date. Subject to you submitting final expense reimbursement request, the Company will reimburse any business expenses in accordance with its standard practice. You acknowledge that the only payments and benefits that you are entitled to receive from the Company in the future are those specified in this Agreement.

3. Severance Pay. Subject to you not revoking this Agreement as set forth in Section 16 and returning this signed Agreement to the Company prior to 5:00 p.m. ET on February 21, 2021, the Company will continue paying you your current base salary for six (6) months in accordance with the Company's standard payroll procedures, all payments to be made by July 31, 2021. Payments will commence on the first payroll period after the Effective Date (as defined below). The aggregate amount of these severance payments is equal to One Hundred Seventy-Two Thousand Five Hundred Dollars (\$172,500). If you breach any provision of this Agreement, you understand that no additional severance payments will be made. The Company will also pay a transition bonus of Thirty Two Thousand (\$32,000) for the smooth and efficient transition of responsibilities, handoff of clients, partners, investors, contracts, open items and information that is useful in maintaining strong and productive relationships and partnerships on Company's behalf. One payment of Fifteen Thousand Dollar (\$15,000) to be paid in the payroll reflecting February 28, 2021 and one payment of Seventeen Thousand Dollar (\$17,000) to be paid in the payroll reflecting March 31, 2021. These payments will only be made in the event of full cooperation and support of transition and all other agreement terms are met.

4. COBRA. You may exercise your right under COBRA (Consolidated Omnibus Budget Reconciliation Act of 1985, as amended) to continue your participation in the Company's health insurance plan (which you may do, to the extent permitted by COBRA, regardless of whether you accept this Agreement). Monthly premiums shall be paid by you directly to the Company pursuant to the terms of the COBRA notice provided to you on your last day of employment. Notwithstanding any other provision of this Agreement, this obligation shall cease on the date you become eligible to receive health insurance benefits through any other employer, and you agree to provide the Company with written notice immediately upon becoming eligible for such benefits. Your acceptance of any payment on your behalf or coverage provided hereunder shall be an express representation to the Company that you have no such eligibility.

5. **Options.** In connection with your commencement of employment, the Company granted you an option to purchase five hundred forty seven thousand two hundred and sixty three (547,263) shares of its Common Stock on May 8, 2019 (the "First Option") and further granted you an additional option to purchase two hundred forty one thousand five hundred and twenty two (241,522) shares on December 18, 2019 (the "Second Option" and, together with the First Option, the "Options") for a total of seven hundred eighty eight thousand seven hundred and eighty five (788,785) shares. As of the Termination Date, you will be vested in two hundred thirty-nine thousand four hundred twenty-seven (239,427) of the shares that are subject to the First Option and sixty-five thousand four hundred twelve (65,412) of the shares that are subject to the Second Option. The First Option is exercisable with respect to the vested shares subject to the First Option at any time until the date three months after the Termination Date (the "Expiration Date"), and the Second Option is exercisable with respect to the vested shares subject to the Second Option at any time until the Expiration Date. The First Option will expire with respect to the vested shares subject to the First Option on the Expiration Date, and it will expire with respect to the unvested shares subject to the First Option and all of the shares subject to the Second Option on the Termination Date. The Second Option will expire with respect to the vested shares subject to the Second Option on the Expiration Date, and it will expire with respect to the unvested shares subject to the Second Option on the Termination Date. The Company shall use its best efforts to seek the approval of the Company's Board of Directors (the "Board") to amend the Options to allow you to elect to exercise the Options with respect to the vested shares subject to them at any time until the Expiration Date on a cashless, net exercise basis; that is, subject to the approval of Board, upon exercise, you may be able to pay the strike price and all of the applicable withholding taxes you are required to remit with the exercise of the same by forfeiting vested shares at the current market value of the Company's Common Stock at the time of exercise (the "Cashless Exercise Amendment"). If and when the Board approves the Cashless Exercise Amendment, the Company will provide you with written notice of such approval promptly following the Board's determination. The Stock Option Agreements in connection with the First Option and Second Option between you and the Company will remain in full force and effect, and you agree to remain bound by that agreement.

6. **Release of All Claims.** In consideration for receiving the severance benefits described above, to the fullest extent permitted by law, you waive, release and promise never to assert any claims or causes of action, whether or not now known, against the Company or its predecessors, successors or past or present subsidiaries, stockholders, directors, officers, employees, consultants, attorneys, agents, assigns and employee benefit plans (together, the "Releasees") with respect to any matter, including (without limitation) any matter related to your employment with the Company or the termination of that employment, including (without limitation) claims to attorneys' fees or costs, claims of wrongful discharge, constructive discharge, emotional distress, defamation, invasion of privacy, fraud, breach of contract or breach of the covenant of good faith and fair dealing and any claims of discrimination or harassment based on sex, age, race, national origin, disability or any other basis under Title VII of the Civil Rights Act of 1964, the Equal Pay Act, the Employee Retirement Income Security Act, the Americans with Disabilities Act, the Genetic Information Nondiscrimination Act of 2008, the Massachusetts Fair Employment Practices Law, the Massachusetts Civil Rights Act, the Massachusetts Equal Rights Act, the Minimum Fair Wage Act, the Massachusetts Plant Closing Law, the Massachusetts Wage Act, the Massachusetts Equal Pay Act, the Massachusetts Parental Leave Act, the Massachusetts Sexual Harassment Statute and all other state and federal

laws and regulations relating to employment. However, this release covers only those claims that arose prior to the execution of this Agreement. Execution of this Agreement does not bar any claim that arises hereafter, including (without limitation) a claim for breach of this Agreement and does not bar any claim for indemnification.

7. Exception. Nothing contained in this Agreement limits your ability to file a charge or complaint with the Equal Employment Opportunity Commission, the Department of Labor, the National Labor Relations Board, the Occupational Safety and Health Administration, the Securities and Exchange Commission or any other federal, state or local governmental agency or commission ("Government Agencies"). You further understand that this Agreement does not limit your ability to communicate with any Government Agencies or otherwise participate in any investigation or proceeding that may be conducted by any Government Agency, including providing documents or other information, without notice to the Company. This Agreement does not limit your right to receive an award for information provided to any Government Agencies. However, you understand and agree that you shall not be entitled to and shall not seek nor permit anyone to seek on your behalf, any personal, equitable or monetary relief for any claims or causes of action that you released in this Agreement, to the fullest extent permitted by law.

8. Consideration Period. IN SIGNING THIS AGREEMENT, YOU ACKNOWLEDGE THAT: (A) YOU HAVE READ AND UNDERSTAND THIS AGREEMENT AND YOU ARE HEREBY ADVISED IN WRITING TO CONSULT WITH AN ATTORNEY PRIOR TO SIGNING THIS AGREEMENT, (B) YOU HAVE SIGNED THIS AGREEMENT VOLUNTARILY AND UNDERSTAND THAT IT CONTAINS A FULL AND FINAL RELEASE OF ALL CLAIMS, AS SET FORTH IN SECTION 5 AGAINST THE RELEASEES AS OF THE EFFECTIVE DATE OF THIS AGREEMENT; (C) YOU HAVE BEEN OFFERED AT LEAST TWENTY ONE (21) CALENDAR DAYS TO CONSIDER THE MATTERS MEMORIALIZED IN THIS AGREEMENT, AND (D) YOU WILL, BY EXECUTING THIS RELEASE AGREEMENT, RECEIVE CONSIDERATION.

9. No Admission. Nothing contained in this Agreement will constitute or be treated as admission by you or the Company of liability, any wrongdoing or any violation of law.

10. Other Agreements. At all times in the future, you will remain bound by your Proprietary Information and Inventions Agreement with the Company that you signed, a copy of which is attached as **Exhibit A** (the "PIIA"); **provided, however**, that, in consideration for the release of claims provided in Section 6 of this Agreement and the other terms of this Agreement, the Company hereby waives the Post-Termination Non-Compete Restrictions (as defined in the PIIA) in full and pursuant to Section 5(d) of the PIIA. Except as expressly provided in this Agreement, this Agreement renders null and void all prior agreements between you and the Company and constitutes the entire agreement between you and the Company regarding the subject matter of this Agreement. This Agreement may be modified only in a written document signed by you and a duly authorized officer of the Company.

11. Company Property. You represent that you have returned to the Company all property that belongs to the Company, including (without limitation) copies of documents that belong to the Company and files stored on your computer(s) that contain information belonging to the Company. It is agreed that you will have the right to your computer following the Company's IT professionals review and removal of any Company files.

12. Confidentiality of Agreement. You agree that you will not disclose to others the existence or terms of this Agreement, except that you may disclose such information to your spouse, attorney or tax adviser if such individuals agree that they will not disclose to others the existence or terms of this Agreement.

13. **No Disparagement.** You agree that you will never make any negative or disparaging statements (orally or in writing) about the Company or its stockholders, directors, officers, employees, products, services or business practices, except as required by law. The Company agrees that it will instruct its current officers and directors not to make any negative or disparaging statements (orally or in writing) about you to anyone, except as required by law.

14. **Non -Solicitation.** You agree that you will not directly or indirectly recruit any person to leave his or her employment with the Company for a period of one (1) year from the Termination Date.

15. **Severability.** If any term of this Agreement is held to be invalid, void or unenforceable, the remainder of this Agreement will remain in full force and effect and will in no way be affected, and the parties will use their best efforts to find an alternate way to achieve the same result.

16. **Revocation Period.** You may revoke this Agreement in writing at any time during a period of seven (7) calendar days after your execution of this Agreement (the "Revocation Period"). This Agreement shall become effective upon the Effective Date; provided that you have not revoked this Agreement before such time.

17. **Choice of Law.** This Agreement will be construed and interpreted in accordance with the laws of the Commonwealth of Massachusetts (other than its choice-of-law provisions).

18. **Execution.** This Agreement may be executed in counterparts, each of which will be considered an original, but all of which together will constitute one agreement. Execution of a facsimile copy will have the same force and effect as execution of an original, and a facsimile signature will be deemed an original and valid signature. This Agreement shall become effective upon your return of the signed Agreement prior to 5:00 p.m. ET on February 15, 2020 (the "Effective Date");

Please indicate your agreement with the above terms by signing below.

Very truly yours,

TScan Therapeutics, Inc.

By: /s/ David P. Southwell

I agree to the terms of this Agreement, and I am voluntarily signing this release of all claims. I acknowledge that I have read and understand this Agreement, and I understand that I cannot pursue any of the claims and rights that I have waived in this Agreement at any time in the future.

/s/ Henry Rath

Signature of Henry Rath

Dated: February 4, 2021

EXHIBIT A
NON-DISCLOSURE, NON-COMPETITION AND ASSIGNMENT OF INTELLECTUAL
PROPERTY AGREEMENT

**WAIVER OF FULL,
TWENTY-ONE (21) DAY PERIOD TO CONSIDER SEVERANCE
AGREEMENT AND RELEASE**

I hereby acknowledge that I have been given a period of twenty-one (21) days in which to consider the Severance Agreement and Release of All Claims which the Company has proposed and that I voluntarily and without compulsion by the Company have chosen to waive the full (21) day period and sign the Agreement on the date shown below.

/s/ Henry Rath
Employee Signature

2/4/2021
Date

EMPLOYMENT AGREEMENT

THIS AGREEMENT (the “Agreement”) is entered into by and between **WILLIAM DESMARAIS** (the “Executive” or “you”) and **TSCAN THERAPEUTICS, INC.** (the “Company”), a Delaware corporation and replaces and supersedes the employment agreement between the Executive and Company, dated March 16, 2021 (the “Prior Agreement”).

1. Duties and Scope of Employment.

(a) **Position.** For the term of his employment under this Agreement (the “Employment”), the Company agrees to employ the Executive in the position Chief Business Officer or in such other position as the Company subsequently may assign to the Executive. The Executive shall report to the Company’s Chief Executive Officer.

(b) **Obligations to the Company.** During his Employment, the Executive (i) shall devote his full business efforts and time to the Company, (ii) shall not engage in any other employment, consulting or other business activity that would create a conflict of interest with the Company, (iii) shall not assist any person or entity in competing with the Company or in preparing to compete with the Company and (iv) shall comply with the Company’s policies and rules, as they may be in effect from time to time.

(c) **No Conflicting Obligations.** The Executive represents and warrants to the Company that he is under no obligations or commitments, whether contractual or otherwise, that are inconsistent with his obligations under this Agreement. The Executive represents and warrants to the Company that he has returned all property and confidential information belonging to any prior employer.

(d) **Definitions.** Certain capitalized terms are defined in Section 12.

2. Cash and Incentive Compensation.

(a) **Salary.** The Company shall pay the Executive as compensation for his services a base salary at a gross annual rate of \$360,000 (as may be adjusted, the “Base Salary”). Such salary shall be payable in accordance with the Company’s standard payroll procedures and shall be subject to adjustment pursuant to the Company’s executive compensation policies in effect from time to time.

(b) **Bonus.** You will be eligible for an annual performance bonus of 40% of your annual base salary, subject to achievement of targets that you will develop for approval by the Company’s Board of Directors (the “Board”) or its Compensation Committee (the “Committee”). Performance bonus goals and attainment of such goals will be evaluated and approved by the Committee and paid on an annual basis, with such payment, to the extent earned, to be made within 2 ½ months following the close of the applicable fiscal year, but only if you are still employed by the Company as of the date of payment. The determinations of the Board or Committee with respect to your bonus will be final and binding.

3. **Executive Benefits.** During his Employment, the Executive shall be eligible for paid time off in accordance with the Company's PTO policy, as in effect from time to time. During his Employment, the Executive shall also be eligible to participate in the executive benefit plans maintained by the Company, subject in each case to the generally applicable terms and conditions of the plan in question and to the determinations of any person or committee administering such plan.

4. **Gifts.** The Executive is not permitted to, directly or indirectly, in connection with the performance of his duties, accept or demand commission, contribution, reimbursement or gifts in any form whatsoever from third parties. This does not apply to customary promotional gifts not exceeding a value of \$50.

5. **Term of Employment.**

(a) **Employment at Will.** The Executive's Employment with the Company shall be "at will," meaning that either the Executive or the Company shall be entitled to terminate the Executive's Employment at any time and for any reason, with or without Cause. Any contrary representations that may have been made to the Executive shall be superseded by this Agreement. This Agreement shall constitute the full and complete agreement between the Executive and the Company on the "at will" nature of the Executive's Employment. Although Executive's job duties, title, compensation and benefits, as well as the Company's personnel policies and procedures, may change from time to time, the "at will" nature of the Executive's employment may only be changed in an express written agreement signed by the Executive and a duly authorized officer of the Company (other than the Executive). The termination of the Executive's Employment shall not limit or otherwise affect his obligations under Sections 7 and/or 8 below or his rights under Section 6 below.

(b) **Rights upon Termination.** Except as expressly provided in Section 6 below, upon the termination of the Executive's Employment, the Executive shall only be entitled to the compensation and benefits that the Executive has earned under this Agreement before the effective date of the termination. The payments under this Agreement shall fully discharge all responsibilities of the Company to the Executive (other than payments of accrued and vested executive benefits, if any, under the Company's executive benefit plans).

6. **Termination Benefits.**

(a) **General.** If you are subject to an Involuntary Termination, then you will be entitled to the benefits described in Section 6(b). However, Section 6(b) will not apply unless you (i) have returned all Company property in your possession, and (ii) have executed a general release of all claims (with applicable carve-out for continued indemnification, non-disparagement and other customary exceptions) that you may have against the Company or persons affiliated with the Company. You must execute and return the release on or before the date specified by the Company in the prescribed form (the "Release Deadline"). The Release Deadline will in no event be later than 50 days after your Separation. If you fail to return the release on or before the Release Deadline, or if you revoke the release, then you will not be entitled to the benefits described in Section 6(b). Your obligation to provide the release will be waived and treated as satisfied if the Company has not delivered the initial form of release to you within ten days after your employment ends.

(b) **Severance Payment.** If you are subject to an Involuntary Termination, then the Company will continue to pay you the Base Salary for twelve (12) months following your Separation (the "Severance Period"). The salary continuation payments will commence on the first payroll date following expiration of the applicable revocation period of the release provided for in Section 6(a) and thereafter on the Company's normal payroll schedule. In the event you are subject to an Involuntary Termination in the three (3) months prior to a Change in Control, on a Change in Control or in the twelve (12) months following a Change in Control, then the Company will pay you a lump sum cash payment equal to (i) 1 times (x) Base Salary plus (y) annual target bonus and (ii) your pro-rata (number of days worked in in the fiscal year of Separation over 365) target bonus, subject to execution of the release. However, if the 50-day period described in Section 6(a) spans two (2) calendar years, then the salary continuation payments or, if applicable, the lump sum payment will commence or be paid on the first payroll date following expiration of the applicable revocation period in the second calendar year. The Company's obligation to make payments during the Severance Period will cease immediately upon (i) your material breach of the PIIA or (ii) your acceptance of any paid employment or consulting engagement during any period in which the Company is obligated to make such payments, and you hereby agree to immediately inform the Company in the event that you have accepted any such paid employment or consulting engagement.

(c) **Equity Awards.** In the event you are subject to an Involuntary Termination in the three (3) months prior to a Change in Control, on a Change in Control or in the twelve (12) months following a Change in Control, then all of your outstanding and unvested option shares and equity awards issued shall be 100% vested and non-forfeitable.

(d) **COBRA.** If you are subject to an Involuntary Termination and you elect to continue your health insurance coverage under the Consolidated Omnibus Budget Reconciliation Act ("COBRA") following your Separation, then the Company will pay the same percentage of your monthly premium under COBRA, which is understood to potentially be higher than said premium for active employees, as it pays for active employees and their eligible dependents for the 12 months following your Separation.

(e) **Accrued Rights.** You will be entitled to receive the following upon termination of employment for any reason: (i) accrued and unpaid Base Salary through the date of termination of employment; (ii) reimbursement for any unreimbursed business expenses; and (iii) such employee benefits, if any, to which the Executive may be entitled under the applicable Company plans upon termination of employment.

7. **Documents and Company Property.** The Executive is prohibited from keeping in his possession in any way any correspondence, documents, other information carriers, copies thereof, and other goods made available by the Company or its affiliates to him (including, but not limited to, credit cards, mobile communication devices, keys, documents, handbooks, financial data, plans, USB sticks or other information carriers, access cards and laptop computer), except to the extent that this is necessary for the performance of his work for the Company. In any event, the Executive is obliged to immediately hand over such documents and other goods made available to him at the end of this Agreement or upon suspension of his active duties for any reason other than documents relating to his own employment and compensation.

8. **Proprietary Information and Inventions Agreement.** Like all Company Executives, the Executive shall be required, as a condition of his employment with the Company, to sign the Company's standard Proprietary Information and Inventions Agreement (the "PIIA"), a copy of which is attached hereto as Exhibit A. In the event of an Involuntary Termination in connection with a Change in Control, the non-compete and non-solicitation restrictive covenants of the PIIA shall be null and void.

9. **Reimbursement of Expenses.** The Company will reimburse business expenses reasonably incurred in the performance of your duties in accordance with the Company's standard practice and expense scheme in place at the time (generally within 30 days after you have submitted appropriate documentation, which you must do within 30 days after incurring the expense) and, in any case, on or before the last day of the calendar year following the calendar year in which the relevant expense is incurred. The Company will reimburse reasonable costs of the professional use of your (mobile) telephone.

10. **Successors.**

(a) **Company's Successors.** This Agreement shall be binding upon any successor (whether direct or indirect and whether by purchase, lease, merger, consolidation, liquidation or otherwise) to all or substantially all of the Company's business and/or assets. For all purposes under this Agreement, the term "Company" shall include any successor to the Company's business and/or assets which becomes bound by this Agreement.

(b) **Executive's Successors.** This Agreement and all rights of the Executive hereunder shall inure to the benefit of, and be enforceable by, the Executive's personal or legal representatives, executors, administrators, successors, heirs, distributees, devisees and legatees.

11. **Indemnification.** During your employment by the Company and at all times thereafter, regardless of the reason for termination, to the fullest extent permitted by its articles of incorporation and by applicable law, the Company shall indemnify you and hold you harmless against any cost, fee, expense, fine or penalty to which you may be subject as a result of serving as an employee or officer of the Company or member of its Board and provide for you to be covered by the insurance or other indemnity policy applicable to officers or directors of the Company (including any rights to advances or reimbursement of legal fees thereunder). The Company's indemnification obligation shall survive any termination of your employment.

12. **Definitions.** The following terms shall have the meaning set forth below wherever they are used in this Agreement:

(a) **Cause.** The term "Cause" shall mean:

(i) any material breach by you of any agreement to which you and the Company are both parties that is injurious to the Company;

(ii) substantial negligence in the performance of, or substantial failure to perform, your services to the Company, which breach, negligence or failure, as applicable, is not cured within thirty (30) days following written notice by the Company;

(iii) commission by you of a felony or other crime involving moral turpitude; or

(iv) willful misconduct by you which has, or could reasonably be expected to have, a material adverse effect upon the business, interests or reputation of the Company.

(b) **Change in Control.** The term “**Change in Control**” shall mean (i) any “person” (as such term is used in Sections 13(d) and 14(d) of the Exchange Act) becomes the “beneficial owner” (as defined in Rule 13d-3 of the Exchange Act), directly or indirectly, of securities of the Company representing more than fifty percent (50%) of the total voting power represented by the Company’s then-outstanding voting securities; (ii) the consummation of a merger or consolidation of the Company with or into any other entity, other than a merger or consolidation which would result in the voting securities of the Company outstanding immediately prior thereto continuing to represent (either by remaining outstanding or by being converted into voting securities of the surviving entity or its parent) more than fifty percent (50%) of the total voting power represented by the voting securities of the Company or such surviving entity or its parent outstanding immediately after such merger or consolidation; or (iii) the sale, transfer or other disposition of all or substantially all of the Company’s assets.

(c) **Code.** The term “**Code**” shall mean the Internal Revenue Code of 1986, as amended.

(d) **Disability.** The term “**Disability**” shall mean that the Executive is unable to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment which can be expected to result in death or to last for a continuous period of not less than twelve months.

(e) **Involuntary Termination.** The term “**Involuntary Termination**” shall mean either the Executive’s (i) Termination Without Cause or (ii) Resignation for Good Reason.

(f) **Resignation for Good Reason.** The term “**Resignation for Good Reason**” means a Separation as a result of the Executive’s resignation within 12 months after one of the following conditions has come into existence without the Executive’s consent:

(i) a material diminution in your compensation (except for across-the-board reductions affecting the Company’s similarly situated employees generally);

(ii) a material diminution in your title, duties, authority and responsibilities within the Company; or

(iii) a material breach of the Company’s obligation under any agreement between the Company and you.

A Resignation for Good Reason shall not be deemed to have occurred unless the Executive gives the Company written notice of the condition within 60 days after the condition comes into existence and the Company fails to remedy the condition within 30 days after receiving the Executive's written notice.

(g) **Separation.** The term "Separation" shall mean a "separation from service," as defined in the regulations under Section 409A of the Code.

(h) **"Termination Without Cause"** The term "Termination without Cause" means a Separation as a result of a termination of the Executive's employment by the Company without Cause and other than as a result of Disability.

13. **Miscellaneous Provisions.**

(a) **Notice.** Notices and all other communications contemplated by this Agreement shall be in writing and shall be deemed to have been duly given when personally delivered, when delivered via email to a Company domain email address or, following the Separation, to the Executive's personal email address on file with Human Resources, when delivered by FedEx with delivery charges prepaid, or when mailed by U.S. registered or certified mail, return receipt requested and postage prepaid. In the case of the Executive, mailed notices shall be addressed to him at the home address that he most recently communicated to the Company in writing. In the case of the Company, mailed notices shall be addressed to its corporate headquarters, and all notices shall be directed to the attention of its Secretary.

(b) **Modifications and Waivers.** No provision of this Agreement shall be modified, waived or discharged unless the modification, waiver or discharge is agreed to in writing and signed by the Executive and by an authorized officer of the Company (other than the Executive). No waiver by either party of any breach of, or of compliance with, any condition or provision of this Agreement by the other party shall be considered a waiver of any other condition or provision or of the same condition or provision at another time.

(c) **Whole Agreement.** This Agreement supersedes and replaces any prior agreements, including without limitation, the Prior Agreement, representations or understandings (whether written, oral, implied or otherwise) between the Executive and the Company and constitute the complete agreement between the Executive and the Company regarding the subject matter set forth herein.

(d) **Tax Matters.** All payments made under this Agreement shall be subject to reduction to reflect taxes or other charges required to be withheld by law. The Company intends that all payments and benefits provided under this Agreement or otherwise are exempt from, or comply with, with the requirements of Code Section 409A so that none of the payments or benefits will be subject to the additional tax imposed under Code Section 409A, and any ambiguities herein will be interpreted in accordance with such intent. For purposes of Code Section 409A, each payment, installment or benefit payable under this Agreement is hereby designated as a separate payment. In addition, if the Company determines that you are a "specified Executive" under Code Section 409A(a)(2)(B)(i) at the time of your Separation, then (i) any severance payments or benefits, to the extent that they are subject to Code Section 409A, will not be paid or otherwise

provided until the first business day following (A) expiration of the six-month period measured from your Separation or (B) the date of your death and (ii) any installments that otherwise would have been paid or provided prior to such date will be paid or provided in a lump sum when the severance payments or benefits commence. The Company shall not have a duty to design its compensation policies in a manner that minimizes your tax liabilities, and you agree not to make any claim against the Company or the Board related to tax liabilities arising from your compensation.

(e) 280G. Parachute Payments. If any payment or benefit that you would receive in connection with a Change in Control from the Company or otherwise (“Payment”) would (i) constitute a “parachute payment” within the meaning of Section 280G of the Code, and (ii) but for this sentence, be subject to the excise tax imposed by Section 4999 of the Code (the “Excise Tax”), then such Payment shall be equal to the Reduced Amount. The “Reduced Amount” shall be either (x) the largest portion of the Payment that would result in no portion of the Payment being subject to the Excise Tax, or (y) the largest portion, up to and including the total, of the Payment, whichever amount, after taking into account all applicable federal, state and local employment taxes, income taxes, and the Excise Tax (all computed at the highest applicable marginal rate), results in your receipt of the greatest economic benefit notwithstanding that all or some portion of the Payment may be subject to the Excise Tax. If a reduction in payments or benefits constituting “parachute payments” is necessary so that the Payment equals the Reduced Amount, any reduction shall be applied first, on a *pro rata* basis, to amounts that constitute deferred compensation within the meaning of Section 409A of the Code, and, in the event that the reductions pursuant to this Section 13(e) exceed payments that are subject to Section 409A of the Code, the remaining reductions shall be applied, on a *pro rata* basis, to any other remaining payments. The Company’s determinations hereunder shall be final, binding and conclusive on all interested parties.

(f) Arbitration. Any controversy or claim arising out of this Agreement and any and all claims relating to your employment with the Company will be settled by final and binding arbitration. The arbitration will take place in the Commonwealth of Massachusetts. The arbitration will be administered by the American Arbitration Association under its National Rules for the Resolution of Employment Disputes. Any award or finding will be confidential. You and the Company agree to provide one another with reasonable access to documents and witnesses in connection with the resolution of the dispute. You and the Company will share the costs of arbitration equally up to, for you, the filing fee to bring a civil action in the state courts of Massachusetts. Each party will be responsible for its own attorneys’ fees, and the arbitrator may not award attorneys’ fees unless a statute or contract at issue specifically authorizes such an award. This Section 13(f) does not apply to claims for workers’ compensation benefits or unemployment insurance benefits. This Section 13(f) also does not apply to claims concerning the ownership, validity, infringement, misappropriation, disclosure, misuse or enforceability of any confidential information, patent right, copyright, mask work, trademark or any other trade secret or intellectual property held or sought by either you or the Company (whether or not arising under the Proprietary Information and Inventions Agreement between you and the Company).

(g) Choice of Law and Severability. This Agreement shall be interpreted in accordance with the laws of the Commonwealth of Massachusetts (except its provisions governing the choice of law). If any provision of this Agreement becomes or is deemed invalid, illegal or

unenforceable in any applicable jurisdiction by reason of the scope, extent or duration of its coverage or any other reason, then such provision shall be deemed amended to the minimum extent necessary to conform to applicable law so as to be valid and enforceable or, if such provision cannot be so amended without materially altering the intention of the parties, then such provision shall be stricken and the remainder of this Agreement shall continue in full force and effect. If any provision of this Agreement is rendered illegal by any present or future statute, law, ordinance or regulation (collectively the "Law"), then such provision shall be curtailed or limited only to the minimum extent necessary to bring such provision into compliance with the Law. All the other terms and provisions of this Agreement shall continue in full force and effect without impairment or limitation.

(h) **No Assignment.** This Agreement and all rights and obligations of the Executive hereunder are personal to the Executive and may not be transferred or assigned by the Executive at any time. The Company may assign its rights under this Agreement to any entity that assumes the Company's obligations hereunder in connection with any sale or transfer of all or a substantial portion of the Company's assets to such entity.

(i) **Counterparts.** This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

(Signatures on following page)

IN WITNESS WHEREOF, each of the parties has executed this Agreement, in the case of the Company by its duly authorized officer, as of the day and year first above written.

TSCAN THERAPEUTICS, INC.

Signature: /s/ David Southwell

Title: President and Chief Executive Officer

Date: April 23, 2021

EXECUTIVE

/s/ William Desmarais

William Desmarais

Date: April 23, 2021

Exhibit A: Proprietary Information and Inventions Agreement

TSCAN THERAPEUTICS, INC.
MANAGEMENT CASH INCENTIVE PLAN

ARTICLE 1. BACKGROUND AND PURPOSE

1.1 **Effective Date.** This Plan became effective upon its adoption by the Committee and is not subject to approval by the Company's stockholders.

1.2 **Purpose of the Plan.** The Plan is intended to provide Participants with the possibility of earning incentive bonuses.

ARTICLE 2. DEFINITIONS

The following words and phrases shall have the following meanings, unless a different meaning is plainly required by the context:

2.1 **"Actual Award"** means, as to any Performance Period, the actual award amount (if any) payable to a Participant for the Performance Period. Each Actual Award is determined by the Payout Formula for the Performance Period, subject to the Administrator's authority under Section 3.6 to increase, eliminate or reduce the award otherwise indicated by the Payout Formula.

2.2 **"Administrator"** means the Board, Committee or such other entity, group, or individual delegated authority to administer the Plan in accordance with Section 5.1 of the Plan.

2.3 **"Affiliate"** means any corporation or other entity (including, without limitation, partnerships and joint ventures) controlled by the Company.

2.4 **"Base Salary"** means, as to any Performance Period, the Participant's regular base salary as in effect at the end of the Performance Period. Base Salary shall be calculated before both (a) deductions for taxes or benefits and (b) any deferrals of compensation pursuant to Company-sponsored plans or Affiliate-sponsored plans.

2.5 **"Board"** means the Company's Board of Directors.

2.6 **"Change in Control"** means (a) a sale, conveyance or other disposition of all or substantially all of the assets, property or business of the Company, except where such sale, conveyance or other disposition is to a wholly owned subsidiary of the Company, (b) a merger or consolidation of the Company with or into another corporation, entity or person, other than any such transaction in which the holders of voting capital stock of the Company outstanding immediately prior to the transaction continue to hold a majority of the voting capital stock of the Company (or the surviving or acquiring entity) outstanding immediately after the transaction (taking into account only stock of the Company held by such stockholders immediately prior to the transaction and stock issued on account of such stock in the transaction), or (c) the direct or indirect acquisition (including by way of a tender or exchange offer) by any

person, or persons acting as a group, of beneficial ownership or a right to acquire beneficial ownership of shares representing a majority of the voting power of the then outstanding shares of capital stock of the Company; provided, however, that a Change in Control shall not include any transaction or series of related transactions (1) principally for bona fide equity financing purposes or (2) effected exclusively for the purpose of changing the domicile of the Company. A series of related transactions shall be deemed to constitute a single transaction for purposes of determining whether a Change in Control has occurred.

2.7 “**Committee**” means the Compensation Committee of the Board.

2.8 “**Company**” means TScan Therapeutics, Inc., a Delaware corporation, or any successor thereto.

2.9 “**Employee**” means any employee of the Company or of an Affiliate, whether such employee is so employed when the Plan is adopted or becomes so employed after the adoption of the Plan.

2.10 “**Executive**” means any executive officers as defined under Rule 3b-7 and officer as defined under Rule 16a-f promulgated under Section 16 of the Securities and Exchange Act.

2.11 “**Fiscal Year**” means the fiscal year of the Company.

2.12 “**Participant**” means, as to any Performance Period, an Employee who has been selected for participation in the Plan for that Performance Period pursuant to Section 3.1.

2.13 “**Payout Formula**” means, as to any Performance Period, the formula or payout matrix established by the Administrator pursuant to Section 3.5 in order to determine the Actual Awards (if any) to be paid to Participants. The formula or matrix may differ from Performance Period to Performance Period and from Participant to Participant.

2.14 “**Performance Period**” means a Fiscal Year, or any longer or shorter period determined by the Administrator.

2.15 “**Performance Goals**” means the goal(s) or combined goal(s) determined by the Administrator to be applicable to a Participant for a Target Award for a Performance Period. As determined by the Administrator, the Performance Goal(s) may provide for a targeted level or levels or achievement using the performance criteria specified by the Administrator. Possible, but non-exclusive, performance criteria are set forth in Appendix A attached to the Plan.

2.16 “**Plan**” means this TScan Therapeutics, Inc. Management Cash Incentive Plan, as amended from time to time.

2.17 “**Shares**” means shares of the Company’s common stock.

2.18 **“Target Award”** means the target award amount payable under the Plan to a Participant for the Performance Period expressed as a percentage of his or her Base Salary or a specific dollar amount or by reference to a number of Shares, as determined by the Administrator in accordance with Section 3.4.

2.19 **“Termination of Employment”** means a cessation of the employee-employer relationship between an Employee and the Company or an Affiliate for any reason, including (without limitation) a termination by resignation, discharge, death, disability, retirement or the disaffiliation of an Affiliate, but excluding a transfer from the Company to an Affiliate or between Affiliates.

ARTICLE 3. SELECTION OF PARTICIPANTS AND DETERMINATION OF AWARDS

3.1 **Selection of Participants.** The Administrator, in its sole discretion, shall select the Employees who shall be Participants for any Performance Period. Participation in the Plan is in the sole discretion of the Administrator and shall be determined Performance Period by Performance Period. Accordingly, an Employee who is a Participant for a given Performance Period is in no way assured of being selected for participation in any subsequent Performance Period.

3.2 **Determination of Performance Period.** The Administrator, in its sole discretion, shall establish whether a Performance Period shall be a Fiscal Year or such longer or shorter period of time. The Performance Period may differ from Participant to Participant and from award to award.

3.3 **Determination of Performance Goals.** The Administrator shall establish the Performance Goals for each Participant for the Performance Period, and the Administrator (or its designee) shall communicate the applicable Performance Goals to each Participant. The Performance Goals may differ from Participant to Participant and from award to award.

3.4 **Determination of Target Awards.** The Administrator shall establish a Target Award for each Participant for each Performance Period, and the Administrator (or its designee) shall communicate the applicable Target Award to each Participant.

3.5 **Determination of Payout Formula or Formulae.** The Administrator will establish a Payout Formula or Formulae for purposes of determining the Actual Award (if any) payable to each Participant. Each Payout Formula may (a) be based on a comparison of actual performance to the Performance Goals, (b) provide for the payment of a Participant’s Target Award if the Performance Goals for the Performance Period are achieved at the predetermined level and (c) provide for the payment of an Actual Award greater than or less than the Participant’s Target Award, depending upon the extent to which actual performance exceeds or falls below the Performance Goals, subject to the limitations in Section 3.7.

3.6 **Determination of Actual Awards.** After the end of each Performance Period, the Administrator will determine the extent to which the Performance Goals applicable to each Participant for the Performance Period were achieved or exceeded. The Actual Award for each Participant will be determined by applying the Payout Formula to the level of actual

performance that has been determined by the Administrator; provided that notwithstanding anything to the contrary in this Plan, the Administrator may (a) reduce or eliminate the Actual Award that otherwise would be payable under the Payout Formula; (b) increase the Actual Award; or (c) determine whether or not any Participant will receive an Actual Award in the event that the Participant incurs a Termination of Employment before such Actual Award is to be paid pursuant to Section 4.1. If a Participant's Actual Award is reduced or eliminated, no other Participant's Actual Award shall be increased as a result. The Administrator has the absolute discretion to reduce or eliminate payment of an Actual Award if in the Administrator's judgment corporate performance, financial condition, individual performance, general economic conditions, or other similar factors make such reduction or elimination appropriate.

3.7 **Maximum Actual Awards.** The Administrator may establish the maximum amount or value of the Actual Award paid to any Participant for any Performance Period.

ARTICLE 4. PAYMENT OF AWARDS

4.1 **Right to Receive Payment.** A Participant shall have no right to receive an Actual Award unless the Participant is employed by the Company or an Affiliate on the date of payment, unless otherwise determined by the Administrator.

4.2 **Unfunded Plan.** Each Actual Award that may become payable under the Plan shall be paid solely from the general assets of the Company or the Affiliate that employs the Participant (as the case may be), as determined by the Company. No amounts awarded or accrued under the Plan shall be funded, set aside or otherwise segregated prior to payment. The obligation to pay Actual Awards under the Plan shall at all times be an unfunded and unsecured obligation of the Company. Participants shall have the status of general creditors of the Company or the Affiliate that employs the Participant.

4.3 **Timing of Payment.** Subject to Sections 3.7 and 4.6, payment of each Actual Award shall be made as soon as administratively practicable after the end of the applicable Performance Period, but in any event no later than March 15th following the Performance Period.

4.4 **Form of Payment.** Each Actual Award shall be paid in cash (or its equivalent) or in Share-based awards (or a combination thereof) in a single lump sum, except as otherwise determined by the Administrator. To the extent an Actual Award is paid in whole or in part in the form of Share-based awards, such awards shall be granted under an equity incentive plan maintained by the Company for the payment or awarding of Shares.

4.5 **Payment in the Event of Death.** If a Participant dies before receiving an Actual Award that was scheduled to be paid before his or her death for a prior Performance Period, then the Actual Award shall be paid to the Participant's designated beneficiary or, if no beneficiary has been designated, to the administrator or representative of his or her estate, subject to applicable law. Any beneficiary designation or revocation of a prior designation shall be effective only if it is in writing, signed by the Participant and received by the Company prior to the Participant's death, subject to applicable law.

4.6 **Recoupment Policy.** All awards granted under the Plan shall be subject to any Company recoupment or clawback policy, as in effect from time to time, including any required by Section 954 of the Dodd-Frank Wall Street Reform and Consumer Protection Act.

ARTICLE 5. ADMINISTRATION

5.1 **Administrator Authority.** The Plan shall be administered by the Administrator, subject to Section 5.3; provided, however, that with respect to any Executive, the Committee shall act as Administrator. The Administrator shall have all powers and discretion necessary or appropriate to administer the Plan and to control its operation, including (without limitation) the power to (a) determine which Employees shall be granted awards, (b) prescribe the terms and conditions of the awards, (c) interpret the Plan, (d) adopt such procedures and sub-plans as are necessary or appropriate, (e) adopt rules for the administration, interpretation and application of the Plan and (f) interpret, amend or revoke any such rules.

5.2 **Decisions Binding.** All determinations and decisions made by the Administrator, the Board or any delegate of the Administrator pursuant to the provisions of the Plan shall be final, conclusive and binding on all persons and shall be given the maximum deference permitted by law.

5.3 **Delegation by the Administrator.** The Administrator, on such terms and conditions as it may provide, may delegate all or part of its authority and powers under the Plan to one or more directors and/or employees of the Company, except that the Committee may not delegate its authority and powers under the Plan with respect to Executives.

ARTICLE 6. GENERAL PROVISIONS

6.1 **Tax Withholding.** The Company or an Affiliate, as applicable, shall withhold all required taxes from an Actual Award, including any federal, state, local or other taxes.

6.2 **Application of Section 409A.** The provisions of this Plan are intended to be exempt from the requirements of Section 409A of the Code so that none of the payments to be provided under this Plan will be subject to the additional tax imposed under Section 409A of the Code, and any ambiguities herein will be interpreted to be so exempt. In no event will the Administrator reimburse Participants for any taxes that may be imposed as result of Section 409A of the Code.

6.3 **No Effect on Employment.** Neither the Plan nor any Target Award shall confer upon a Participant any right with respect to continuing the Participant's employment with the Company or an Affiliate. Nothing in the Plan shall interfere with or limit in any way the right of the Company or an Affiliate, as applicable, to terminate any Participant's employment or service at any time, with or without cause. The Company and its Affiliates expressly reserve the right, which may be exercised at any time and without regard to when during or after a Performance Period such exercise occurs, to terminate any individual's employment with or without cause, and to treat him or her without regard to the effect that such treatment might have upon him or her as a Participant.

6.4 **Participation; No Effect on Other Benefits.** No Employee shall have the right to be selected to receive an award under the Plan, or, having been so selected, to be selected to receive a future award. Except as expressly set forth in a Participant's employment agreement with the Company or an Affiliate, any Actual Awards under the Plan shall not be considered for the purpose of calculating any other benefits to which such Participant may be entitled, including (a) any termination, severance, redundancy or end-of-service payments, (b) other bonuses or long-service awards, (c) overtime premiums, (d) pension or retirement benefits or (e) future Base Salary or any other payment to be made by the Company to such Participant. All Participants expressly acknowledge that there is no obligation on the part of the Company to continue the Plan. Any Actual Awards granted under the Plan are not intended to be compensation of a continuing or recurring nature, or part of a Participant's normal or expected compensation,

6.5 **Successors.** All obligations of the Company and any Affiliate under the Plan, with respect to awards granted hereunder, shall be binding on any successor to the Company and/or such Affiliate, whether the existence of such successor is the result of a merger, consolidation, direct or indirect purchase of all or substantially all of the business or assets of the Company or such Affiliate, or any similar transaction.

6.6 **Nontransferability of Awards.** No award granted under the Plan shall be sold, transferred, pledged, assigned or otherwise alienated or hypothecated, other than by will, by the laws of descent and distribution or to the limited extent provided in Section 4.5. All rights with respect to an award granted to a Participant shall be available during his or her lifetime only to the Participant.

ARTICLE 7. DURATION, AMENDMENT AND TERMINATION

7.1 **Duration of the Plan.** The Plan shall remain in effect until terminated pursuant to Section 7.2.

7.2 **Amendment, Suspension or Termination.** The Board or the Administrator may amend, suspend or terminate the Plan, or any part thereof, at any time and for any reason; *provided that* this Plan may not be suspended or terminated, nor amended in a manner adverse to a Participant for a period of twelve (12) months following a Change in Control of the Company. No award may be granted during any period of suspension or after termination of the Plan.

ARTICLE 8. LEGAL CONSTRUCTION

8.1 **Severability.** In the event any provision of the Plan shall be held illegal or invalid for any reason, the illegality or invalidity shall not affect the remaining parts of the Plan, and the Plan shall be construed and enforced as if the illegal or invalid provision had not been included.

8.2 **Requirements of Law.** The granting of awards under the Plan shall be subject to all applicable laws, rules and regulations, and to such approvals by any governmental agencies or national securities markets as may be required.

8.3 **Captions.** Captions are provided herein for convenience only and shall not serve as a basis for interpretation or construction of the Plan.

APPENDIX A

PERFORMANCE METRICS

The Administrator may establish Performance Goals derived from the following metrics, or from such other measures of performance selected by the Administrator from time to time in its sole discretion:

Industry-Specific

- development of new product candidates
- clinical achievements (including initiating clinical studies, initiating or completing enrollment or enrolling particular numbers of subjects in clinical studies)
- completing phases of a clinical study (including the enrollment phase, dose-escalation or dose-expansion phase or announcing or presenting preliminary or final data from clinical studies, in each case, whether on particular timelines or generally)
- regulatory achievements (including submitting or filing applications or other documents with regulatory authorities, or clearing or receiving approval of any such applications or other documents)
- launch of new products or approvals of existing products in new indications
- market share
- pricing and/or reimbursement approval
- revenue, revenue growth or product revenue growth
- acquisitions of assets or intellectual property
- strategic partnerships or transactions (including in-licensing and out-licensing of intellectual property, whether in a particular jurisdiction or territory or globally or through partnering transactions)
- establishing relationships with commercial entities with respect to the marketing, distribution and sale of the Company's products (including with group purchasing organizations, distributors and other vendors)
- sales or licenses of the Company's assets, including its intellectual property

Financial

- appreciation in and/or maintenance of any publicly-traded securities of the Company
- cash flow, cash balance or cash flow per share (before or after dividends)
- cash flow return on investment
- cash margin
- comparisons with various stock market indices
- debt reduction
- earnings or loss per share
- earnings or losses (including earnings or losses before taxes, before interest and taxes, or before interest, taxes, depreciation and amortization)
- economic value added (or an equivalent metric)

-
- expense or cost reduction
 - financial ratios, including those measuring liquidity, activity, profitability or leverage
 - financing and other capital raising transactions (including sales of the Company's equity or debt securities)
 - gross margin
 - gross profits
 - improvement in or attainment of expense levels or working capital levels, including cash, inventory and accounts receivable
 - net income or loss (before or after taxes)
 - net operating income or profits, before or after tax
 - net sales
 - operating cash flow or other operating efficiencies
 - operating income (before or after taxes)
 - operating margin
 - total stockholder return
 - working capital
 - year-end cash
 - share price
 - stockholders' equity
 - reductions in costs
 - return on assets, net assets, investment or capital employed (including return on total capital or return on invested capital)
 - return on equity or average stockholders' equity
 - return on operating revenue

Organizational

- employee satisfaction
- employee survey results
- recruiting and maintaining personnel

In the areas of development, regulatory progress and commercialization, the achievements described above performed by a third party with which the Company has a licensing or collaborative agreement (a "Partner") may apply to the Company, if so determined by the Administrator. For example, if a Partner accomplishes development milestones, regulatory achievements, commercialization or sales targets with an asset within a program that is a subject of the licensing or collaboration agreement between the Company and the Partner, then such Partner's accomplishments may constitute achievements of the Company.

Performance Goals may be based solely by reference to the Company's performance or the performance of a subsidiary, division, business segment or business unit of the Company, or based upon the relative performance of other companies or upon comparisons of any of the indicators of performance relative to other companies.

The Administrator may adjust the results under any performance criterion to exclude any of the following events that occurs during a performance measurement period: (a) asset write-downs, (b) litigation, claims, judgments or settlements, (c) the effect of changes in tax law, accounting principles or other such laws or provisions affecting reported results, (d) accruals for reorganization and restructuring programs, (e) any extraordinary, unusual or non-recurring items, (f) exchange rate effects for non-U.S. dollar denominated net sales and operating earnings or (g) statutory adjustments to corporate tax rates.

Any Performance Goal used may be measured (a) in absolute terms, (b) in relative terms, including (without limitation) the passage of time and/or against other companies or metrics, (c) on a per-share basis, (d) against the performance of the Company as a whole or against particular segments or products of the Company and/or (e) on a pre-tax or after-tax basis. Any Performance Goal may be measured on a basis other than generally accepted accounting principles.

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the use in this Registration Statement on Form S-1 of our report dated March 19, 2021, relating to the financial statements of TScan Therapeutics, Inc. We also consent to the reference to us under the heading “Experts” in such Registration Statement.

/s/ Deloitte & Touche LLP

Boston, Massachusetts

April 23, 2021