

PROSPECTUS SUPPLEMENT
(To Prospectus Dated May 16, 2023)



Pre-Funded Warrants to Purchase 7,500,000 Shares of Common Stock

We are offering pre-funded warrants to purchase 7,500,000 shares of voting common stock, in a registered direct offering to a limited number of institutional investors purchaser pursuant to this prospectus supplement and the accompanying prospectus.

Our voting common stock is quoted on the Nasdaq Global Market under the symbol “TCRX.” On December 24, 2024, the last reported sale price of our voting common stock on the Nasdaq Global Market was \$2.91 per share. There is no established public trading market for the pre-funded warrants, and we do not expect a market to develop. We do not intend to list the pre-funded warrants on the Nasdaq Global Market or any other national securities exchange or nationally recognized trading system.

The purchase price of each pre-funded warrant to purchase one share of our voting common stock sold in this offering equals \$4.00, and the exercise price of each pre-funded warrant to purchase one share of voting our common stock will equal \$0.0001 per share. This prospectus supplement also relates to the offering of the shares of voting common stock issuable upon exercise of such pre-funded warrants.

We have two classes of common stock: the voting common stock and the 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 S-19 of this prospectus supplement, as supplemented by the documents incorporated by reference herein and therein. Unless otherwise noted, all references in this prospectus supplement to our “common stock” refer to our voting common stock. Our non-voting common stock is not listed for trading on any securities exchange.

We are an “emerging growth company” and “smaller reporting company” as defined under the U.S. federal securities laws and will be subject to reduced public company reporting requirements for this prospectus supplement and future filings. See “Prospectus Summary—Implications of Being an Emerging Growth Company and a Smaller Reporting Company.”

Investing in our securities involves a high degree of risk. See “[Risk Factors](#)” beginning on page S-7 of this prospectus supplement, in our most recent Annual Report on Form 10-K, in our most recent Quarterly Report on Form 10-Q and in the documents incorporated by reference into this prospectus supplement.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus supplement and the accompanying prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

	Per Pre-funded Warrant	Total
Offering price	\$ 4.00	\$30,000,000

Delivery of the pre-funded warrants against payment is expected to be made on or about December 27, 2024.

The date of this prospectus supplement is December 26, 2024

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ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement and the accompanying prospectus are part of a registration statement on Form S-3 (Registration No. 268260) that we filed with the Securities and Exchange Commission, or the SEC, using a “shelf” registration process. This document is in two parts. The first part is the prospectus supplement, including the documents incorporated by reference herein, which describes the specific terms of this offering and also adds to and updates the information contained in the accompanying prospectus and the documents incorporated by reference therein. The second part, the accompanying prospectus dated May 16, 2023, including the documents incorporated by reference therein, provides more general information, some of which may not apply to this offering. Generally, when we refer to this “prospectus,” we are referring to both documents combined. Before you invest, you should carefully read this prospectus supplement, the accompanying prospectus and the information incorporated by reference herein and therein, as well as the additional information described in this prospectus supplement under “Where You Can Find More Information.” This prospectus supplement may add to, update or change information contained in the accompanying prospectus. To the extent that any statement we make in this prospectus supplement is inconsistent with statements made in the accompanying prospectus or any documents incorporated by reference therein, the statements made in this prospectus supplement will be deemed to modify or supersede those made in the accompanying prospectus and such documents incorporated by reference therein. However, if any statement in one of these documents is inconsistent with a statement in another document with a later date that is incorporated by reference herein, the statement in the document having the later date modifies and supersedes the earlier statement.

We further note that the representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference in this prospectus supplement were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

We have not authorized anyone to provide you with any information or to make any representation, other than those contained or incorporated by reference in this prospectus supplement and the accompanying prospectus, or in any free writing prospectus prepared by us or on our behalf or to which we have referred you. We do not take any responsibility for, and we provide no assurance as to the reliability of, any other information that others may give you. You should assume that the information appearing in this prospectus supplement, the accompanying prospectus, the documents incorporated by reference in this prospectus supplement and the accompanying prospectus, and any free writing prospectus is accurate only as of the date of those respective documents. Our business, financial condition, results of operations and prospects may have changed since those dates.

We are offering to sell, and seeking offers to buy, pre-funded warrants, and the shares of common stock issuable upon exercise thereof, only in jurisdictions where offers and sales are permitted. The distribution of this prospectus supplement and the offering of the securities in certain jurisdictions may be restricted by law. Persons outside the United States who come into possession of this prospectus supplement must inform themselves about, and observe any restrictions relating to, the offering of the securities and the distribution of this prospectus supplement outside the United States. This prospectus supplement does not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, any securities offered by this prospectus supplement by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

We own various U.S. federal trademark applications and unregistered trademarks, including our company name. All other trademarks or trade names referred to in this prospectus are the property of their respective owners. Solely for convenience, the trademarks and trade names in this prospectus are referred to without the

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symbols ® and ™, but such references should not be construed as any indicator that their respective owners will not assert, to the fullest extent under applicable law, their rights thereto. We may from time-to-time provide estimates, projections and other information concerning our industry, our business and the markets for our programs and product candidates. Information that is 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 our own internal estimates and research as well as from reports, research surveys, studies, and similar data prepared by market research firms and other third parties, industry, medical and general publications, government data and similar sources. While we are not aware of any misstatements regarding any third-party information presented in this prospectus supplement and the accompanying prospectus, their estimates, in particular, as they relate to projections, involve numerous assumptions, are subject to risks and uncertainties and are subject to change based on various factors. You should read this prospectus supplement, the accompanying prospectus and any related free writing prospectus and the documents that we reference therein and have filed with the SEC as exhibits thereto completely and with the understanding that our actual future results may be materially different from any future results expressed or implied by these forward-looking statements. These estimates involve numerous assumptions, are subject to risks and uncertainties and are subject to change based on various factors, including those discussed in the section entitled “Special Note Regarding Forward-Looking Statements” of this prospectus supplement and under “Item 1A: Risk Factors” and elsewhere in our most recent Annual Report on Form 10-K, in our most recent Quarterly Report on Form 10-Q and in our Current Reports on Form 8-K.

As used in this prospectus supplement, unless the context otherwise requires, references to the “Company,” “TScan,” “we,” “us” and “our” refer to TScan Therapeutics, Inc. and, where appropriate, our subsidiaries.

PROSPECTUS SUMMARY

This summary highlights information contained in other parts of this prospectus supplement or incorporated by reference in this prospectus supplement from our Annual Report on Form 10-K for the year ended December 31, 2023 and our other filings with the SEC listed below under the heading “Incorporation of Information by Reference.” This summary may not contain all the information that you should consider before investing in our securities. You should read this entire prospectus supplement and the accompanying prospectus, including the documents incorporated by reference herein and therein carefully, including “Risk Factors” and the financial data and related notes and other information incorporated by reference herein and therein, before making an investment decision. See the section entitled “Special Note Regarding Forward-Looking Statements.”

Company Overview

We are a clinical-stage biotechnology company focused on developing a robust pipeline of T cell receptor (TCR)-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 to treat those who are not. Over the past several years, we have built our ImmunoBank, a repository of therapeutic TCRs that recognize diverse targets and are associated with multiple human leukocyte antigen, or HLA, types. These TCRs are then used to manufacture enhanced TCR-T therapies to treat a broad population of patients with both hematologic, or heme, and solid tumor malignancies. Every TCR in our ImmunoBank has come from our proprietary platform technologies, and we are continuing to expand our ImmunoBank. Using 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 TCRs that are driving these exceptional responses. We then use these anti-cancer TCRs to treat patients by genetically engineering T cells to recognize and eliminate their cancer. In addition to discovering TCRs against novel targets, we are using our ReceptorScan technology to identify high affinity naturally occurring TCRs for known targets. Once we identify therapeutic candidates using these technologies, we aim to reduce the safety risk of clinical development by comprehensively screening these TCRs against the human proteome using SafetyScan to identify potential off-target interactions. We then eliminate any TCR-T therapy candidates that cross-react with proteins expressed at high levels in normal tissues.

We are advancing a robust pipeline of TCR-T therapy candidates for the treatment of patients with heme malignancies and solid tumors. Our lead product candidates, TSC-100 and TSC-101, are in development for the treatment of patients with heme malignancies to eliminate residual disease and prevent relapse following allogeneic hematopoietic cell transplantation (HCT). TSC-100 and TSC-101 target the antigens HA-1 and HA-2, respectively, which are well-recognized TCR targets that were first identified in patients with exceptional responses to HCT-associated immunotherapy. We have initiated a multi-arm Phase 1 “umbrella” clinical study of TSC-100 and TSC-101, the ALLOHA™ Phase 1 heme trial, with over ten clinical sites activated, and we plan to add additional sites.

We have developed and continue to expand our ImmunoBank, our repository of therapeutic TCRs that recognize diverse targets and are associated with multiple HLA types, to provide customized multiplex TCR-T therapies for patients with a variety of cancers and are enrolling patients into its ongoing PLEXI-T Phase 1 solid tumor trial. We have now advanced six TCR-T therapy candidates into Phase 1 development for solid tumors: TSC-203-A0201 (PRAME, HLA-A*02:01); TSC-200-A0201 (HPV16, HLA-A*02:01); TSC-201-B0702 (MAGE-C2, HLA-B*07:02); TSC-204-A0201 (MAGE-A1, HLA-A*02:01); TSC-204-C0702 (MAGE-A1, HLA-C*07:02); and TSC-204-A0101 (MAGE-A1, HLA-A*01:01). In addition to clearing these six solid-tumor investigational new drug (IND) applications, the U.S. Food and Drug Administration (FDA) has cleared our IND application for T-Plex, enabling us to treat patients with multiplex TCR-T therapy. We plan to further expand the ImmunoBank by filing IND applications for additional TCR-T therapy candidates.

Recent Developments

Update on Heme Malignancies and Solid Tumor Clinical Programs

Heme Malignancies Program.

Updated Phase 1 Trial Results.

In the ongoing ALLOHA Phase 1 trial (NCT05473910), patients receive either TSC-100 or TSC-101 post-hematopoietic cell transplantation (HCT), whereas control arm patients receive HCT alone as per standard of care. To date, 38 patients have been enrolled in the trial and have undergone HCT, with 26 in the treatment arm and 12 in the control arm. Key endpoints in the trial include safety and efficacy, and exploratory endpoints include donor chimerism and minimal residual disease (MRD) status.

To date, the preliminary results from the ongoing ALLOHA™ Phase 1 trial indicated that TSC-100 and TSC-101 demonstrated the potential to treat residual disease and prevent relapse in patients with acute myeloid leukemia (AML), acute lymphocytic leukemia (ALL) or myelodysplastic syndromes (MDS) undergoing allogeneic hematopoietic cell transplantation (HCT) with reduced intensity conditioning (RIC):

- Event-free survival strongly favors the treatment arm (Hazard Ratio (HR)=0.30; p=0.04) and early trends suggest a lower probability of relapse (HR=0.28; p=0.14).
 - 2 of 26 (8%) treatment-arm patients have relapsed compared to 4 of 12 (33%) control-arm patients.
 - One treatment-arm relapse and subsequent mortality occurred in a high-risk patient who was taken to transplant without first achieving complete remission; and
 - The other treatment-arm relapse was an extramedullary relapse in the patient's central nervous system with no evidence of systemic relapse.
 - Median time to relapse was not evaluable in the treatment arm versus 160 days in the control arm.
 - 8 of 38 (21%) patients in the study had TP53 mutations, with 6 cases in the treatment arm and 2 cases in the control arm. Of the 4 patients in the treatment arm who received TCR-T cell infusions, none has relapsed, and one patient has now been relapse-free for 22 months. Of the 2 patients in the control arm with mutated TP53, both relapsed within 6 months of transplant and died shortly thereafter.
- TSC-100 and TSC-101 infusions across both arms were well-tolerated at all three dose levels with no dose-limiting toxicities. Observed adverse events generally consistent with post-HCT adverse events.
- TSC-100 and TSC-101 TCR-T cells were detected in all treated patients, including all timepoints for those who have been on study for over a year, with clear evidence of a dose-persistence relationship.

Pivotal Study Design.

Through a meeting with the FDA, we obtained feedback on the potential registrational pathway following the Phase 1 ALLOHA trial. Based on this feedback, we believe that for a registrational trial: (1) the following proposed patient population is acceptable: AML, MDS, and ALL undergoing allo-HCT with RIC, (2) relapse-free survival (RFS) will be an appropriate primary endpoint to support full approval and (3) use of an external control arm using data from Center for International Blood and Marrow Transplant Research (CIBMTR) will be acceptable to support full approval. We have decided to pursue an initial registrational path for TSC-101 as it captures almost all HLA-A*02:01-positive patients, and accordingly we believe that it is not necessary to include TSC-100 or a companion diagnostic in our upcoming trial. Subject to any further feedback from regulatory authorities or updates to streamline trial execution, we expect that the design of a potential registrational trial, which we anticipate launching in the second half of 2025, will include the following elements:

- Subjects: Patients with AML, MDS, ALL undergoing transplant with RIC.
- Donors: Haploidentical and mismatched unrelated donors.
- Enrollment: TSC-101 vs matched controls (1:3)
- Primary endpoint: Relapse-free survival
- Key secondary endpoint: Overall survival, time to relapse and event-free survival
- Exploratory endpoint: Minimal residual disease, complete chimerism rates
- Full approval: the study is designed with a HR of 0.60, 85% power and approximately 140 subjects in the treatment arm. The primary endpoint requires 184 total relapse and death events to assess efficacy
- Study readout: anticipated in approximately 24 months.

Next Steps.

We currently intend to focus on the following next steps for our heme malignancies program: (1) continue to enroll ALLOHA Phase 1 study using commercial manufacturing process at our company, (2) transfer commercial process to a third-party contract development and manufacturing organization (CDMO), (3) work to reach final agreement with FDA on our pivotal trial design and (4) initiate registrational trial with clinical supply manufactured at CDMO.

Market Opportunity.

We believe that if there is an increased use of reduced intensity conditioning with haploidentical donors and mismatched unrelated donors we would have the potential to expand the addressable market of its TCR-T therapy candidates, both in the United States and in Europe. The positive data from our ALLOHA trial could potentially accelerate such changes in clinical practice and increase the total addressable market. We believe that the addressable market can also be expanded with the introduction of additional TCR-Ts that target other HLA types. TCRs for additional HLA types will target epitopes on CD45, a universal source of antigens for heme malignancies.

Solid Tumor Program.

We are building and expanding the ImmunoBank of T cell receptors (TCRs) to enable enhanced, multiplex TCR-engineered T cell (TCR-T) therapy, which is designed to address the heterogeneity of solid tumors:

- The solid tumor program will focus on immune-rich cancers with high unmet need, with T-Plex enrollment focusing on the following key indications: non-small cell lung cancer (NSCLC), sarcoma, head and neck cancer, and cervical cancer, and anal cancer.
- To date, eight patients have been infused with singleplex TCR-T.
- Early evidence of anti-tumor activity was observed.
- One TCR-T (TSC-203-A0201, which targets PRAME) has advanced through dose level 2 and is now eligible for T-Plex. A second TCR-T (TSC-200-A0201, which targets HPV16) is anticipated to clear dose level 2 before mid-December and will soon be eligible for T-Plex.
- We have successfully manufactured its first T-Plex product.
- We are progressing multiple TCRs through early dose levels, which is expected to enable us to investigate multiplexed therapy in 2025.
- An investigational new drug filing for a TCR targeting MAGE-A4 on HLA-A*02:01 (TSC-202-A0201) was submitted and recently cleared, and is expected to increase T-Plex eligibility.

CORPORATE HISTORY AND INFORMATION

We were incorporated under the laws of the State of Delaware on April 17, 2018. Our principal corporate office is located at 830 Winter Street, Waltham, Massachusetts 02451, and our telephone number is (857) 399-9500. Our website address is www.tscan.com. We do not incorporate the information on or accessible through our website into this prospectus, and you should not consider any information on, or that can be accessed through, our website as part of this prospectus supplement. Our voting common stock trades on The Nasdaq Global Market under the symbol “TCRX.”

IMPLICATIONS OF BEING AN EMERGING GROWTH COMPANY AND SMALLER REPORTING COMPANY

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, as amended. As an emerging growth company, we intend to take advantage of specified reduced disclosure and other requirements that are otherwise applicable generally to public companies. These provisions include:

- 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.”

We may take advantage of these exemptions until December 31, 2026 or such earlier time that we are no longer an emerging growth company. We would cease to be an emerging growth company on the date that is the earliest of (i) the last day of the fiscal year in which we have total annual gross revenue of \$1.235 billion or more; (ii) December 31, 2026; (iii) the date on which we have issued more than \$1.0 billion in nonconvertible debt during the previous three years; or (iv) the last day of the fiscal year in which we are deemed to be a large accelerated filer under the rules of the SEC, which means the market value of our voting and non-voting common stock that is held by non-affiliates exceeds \$700 million as of the prior June 30th. We have taken advantage of reduced reporting requirements in this prospectus supplement and the accompanying prospectus. Accordingly, the information contained herein may be different from the information you receive from other public companies in which you hold stock.

We are also a “smaller reporting company” as defined in the Exchange Act. We may continue to be a smaller reporting company even after we are no longer an emerging growth company. We may take advantage of certain of the scaled disclosures available to smaller reporting companies until the fiscal year following the determination that our voting and non-voting common stock held by non-affiliates is more than \$250 million measured on the last business day of our second fiscal quarter, or our annual revenues are more than \$100 million during the most recently completed fiscal year and our voting and non-voting common stock held by non-affiliates is more than \$700 million measured on the last business day of our second fiscal quarter.

THE OFFERING

Pre-funded warrants offered by us	Pre-funded warrants to purchase 7,500,000 shares of voting common stock. The purchase price of each pre-funded warrant to purchase one share of voting common stock will equal \$4.00, and the exercise price of each pre-funded warrant to purchase one share of voting common stock will be \$0.0001 per share. The pre-funded warrants do not expire, and each pre-funded warrant will be exercisable at any time after the date of issuance, subject to an ownership limitation. See “Description of Pre-Funded Warrants.” This prospectus supplement also relates to the offering of the shares of voting common stock issuable upon exercise of such pre-funded warrants.
Voting common stock to be outstanding immediately after this offering	49,077,536 shares (or 56,577,536 shares if the investors exercise all of the pre-funded warrants offered hereby).
Use of proceeds	We estimate that the net proceeds of this offering, after deducting estimated offering expenses, will be approximately \$29.8 million. We currently intend to use the net proceeds of this offering for general corporate purposes. General corporate purposes may include research and development costs, including one or more clinical and preclinical trials and process development and manufacturing of our product candidates, acquisitions or investments in businesses, products or technologies that are complementary to our own, expansion of our infrastructure and capabilities, working capital, capital expenditure, repayment of existing indebtedness, and other general corporate purposes. See the section entitled “Use of Proceeds.”
Voting rights	We have two classes of common stock: the voting common stock 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 S-19 of this prospectus supplement, as supplemented by the documents incorporated by reference herein and therein.
Risk factors	You should read the section entitled “Risk Factors” in this prospectus supplement, the accompanying prospectus, the section entitled “Risk Factors” in our most recent Annual Report on Form 10-K, in our most recent Quarterly Report on Form 10-Q and in the documents incorporated by reference herein and therein for a discussion of factors to consider carefully before deciding to invest in our pre-funded warrants.
Nasdaq Global Market symbol for Voting Common Stock	“TCRX.”

The pre-funded warrants are not listed for trading on any securities exchange. There is no established public trading market for the pre-funded warrants, and we do not expect a market to develop. We do not intend to list the pre-funded warrants on the Nasdaq Global Market or any other national securities exchange or nationally recognized trading system.

All information in this prospectus supplement related to the number of shares of our common stock to be outstanding immediately after this offering is based on 49,077,536 shares of our voting common stock and 4,276,588 shares of our non-voting common stock outstanding as of September 30, 2024. The number of shares outstanding as September 30, 2024 as used throughout this prospectus supplement, unless otherwise indicated, excludes:

- 887,212 shares of voting common stock issuable upon the exercise of stock options under our 2018 Stock Option Plan, or the 2018 Plan, at a weighted average exercise price of \$5.32 per share, as of September 30, 2024;
- 1,203,590 shares of our voting common stock reserved for future issuance under the 2018 Plan as of September 30, 2024;
- 11,539,023 shares of voting common stock issuable upon the exercise of stock options under our Amended and Restated 2021 Equity Incentive Plan, or the 2021 Plan, at a weighted average exercise price of \$4.13 per share, as of September 30, 2024;
- 4,637,628 shares of our voting common stock reserved for future issuance under the 2021 Plan as of September 30, 2024;
- 1,067,639 shares of voting common stock reserved for the future issuance under our 2021 Employee Stock Purchase Plan, or the 2021 ESPP, as of September 30, 2024, which include 82,153 shares of voting common stock issued under the 2021 ESPP plan between September 30, 2024 and November 30, 2024;
- 65,587,945 shares of voting common stock issuable upon exercise of the pre-funded warrants, with an exercise price of \$0.0001 per share, outstanding as of September 30, 2024; and
- 3,134,796 shares of voting common stock issued on November 20, 2024, as result of the conversion of \$15 million principal amount of the term loans under the Loan and Security Agreement, or the Loan and Security Agreement, dated as of September 9, 2022, between us and K2 HealthVentures LLC, or K2HV.

Except as otherwise indicated, all information in this prospectus supplement assumes no exercise of outstanding options and no vesting or settlement of restricted stock units described above, no exercise of the pre-funded warrants outstanding prior to this offering and the pre-funded warrants offered hereby.

RISK FACTORS

An investment in shares of our pre-funded warrants involves a high degree of risk. Prior to making a decision about investing in our pre-funded warrants, you should carefully consider the risk factors described below together with all of the risks, uncertainties and assumptions discussed in our Annual Report on Form 10-K for the year ended December 31, 2023, in our most recent Quarterly Report on Form 10-Q, as well as any amendments thereto reflected in subsequent filings with the SEC, each of which are incorporated by reference in this prospectus supplement, and all of the other information in this prospectus supplement, including our financial statements and related notes incorporated by reference herein. If any of the risks incorporated by reference or set forth below occurs, our business, operations and financial condition could suffer significantly. As a result, you could lose some or all of your investment in our pre-funded warrants. The risks and uncertainties we have described are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our business, operations and financial condition, or cause the value of our securities to decline.

Risks Related to this Offering

If you purchase our pre-funded warrants sold in this offering, you will experience immediate and substantial dilution. In addition, we may issue additional equity or convertible debt securities in the future, which may result in additional dilution to you.

Since the price per pre-funded warrant being offered is higher than the net tangible book value per share of our common stock, you will suffer dilution with respect to the net tangible book value of the pre-funded warrants you purchase in this offering. Based on the public offering price of \$4.00 per pre-funded warrant to purchase one share of our common stock and our net tangible book value as of September 30, 2024, if you purchase pre-funded warrants in this offering, you will suffer immediate dilution of \$1.95 per share with respect to the net tangible book value of the common stock calculated on an as adjusted pro forma basis assuming the issuance of an aggregate of 65,587,945 shares of our voting common stock issuable upon exercise of the pre-funded warrants outstanding as of September 30, 2024. For a more detailed discussion of the foregoing, see the section entitled “Dilution” below. To the extent outstanding stock options or pre-funded warrants are exercised, or restricted stock units vest and settle, there will be further dilution to new investors. In addition, to the extent we need to raise additional capital in the future, under a sales agreement, or the Sales Agreement, we entered into with Wedbush Securities Inc. in May 2023, pursuant to which we may offer and sell, from time to time to or through Wedbush Securities Inc., shares of common stock having an aggregate offering price of up to \$75.0 million, or through other financing options, and we issue additional shares of common stock or securities convertible or exchangeable for our common stock, our then existing stockholders may experience dilution and the new securities may have rights senior to those of our common stock issuable upon exercise of the pre-funded warrants offered in this offering.

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

Our management will have broad discretion in the application of the net proceeds from this offering, including for any of the purposes described in the section entitled “Use of Proceeds,” and you will not have the opportunity as part of your investment decision to assess whether the net proceeds are being used appropriately. Because of the number and variability of factors that will determine our use of the net proceeds from this offering, their ultimate use may vary substantially from their currently intended use. Our management might not apply our net proceeds in ways that ultimately increase the value of your investment. We expect to use the net proceeds from this offering for general corporate purposes. General corporate purposes may include research and development costs, including one or more clinical and preclinical trials and process development and manufacturing of our product candidates, acquisitions or investments in businesses, products or technologies that are complementary to our own, expansion of our infrastructure and capabilities, working capital, capital

expenditure, repayment of existing indebtedness, and other general corporate purposes. The failure by our management to apply these funds effectively could result in financial losses that could have a material adverse effect on our business, cause the price of our common stock to decline and delay the development of our product candidates. Pending their use, we may invest the net proceeds from this offering in a manner that does not produce income or that loses value.

A sale of a substantial number of shares of our common stock may cause the price of our common stock to decline.

Sales of a substantial number of shares of our common stock in the public market could occur at any time. If our stockholders sell, or the market perceives that our stockholders intend to sell, substantial amounts of our common stock in the public market, the market price of our common stock could decline significantly. We had 49,077,536 shares of our voting common stock and 4,276,588 shares of our non-voting common stock, as well as pre-funded warrants exercisable for 65,587,945 shares of voting common stock at an exercise price of \$0.0001 per share, outstanding as of September 30, 2024. We filed a registration statement on Form S-3 (Registration No. 333-268261) that was declared effective by the SEC on May 16, 2023, and which registers the offer and sale from time to time by the selling security holders of up to 7,061,380 shares of our common stock. To the extent shares are sold into the market pursuant to this registration statement on Form S-3, under Rule 144 of the Securities Act or otherwise, particularly in substantial quantities, the market price of our common stock could decline.

We cannot predict what effect, if any, sales of our shares in the public market or the availability of shares for sale will have on the market price of our common stock. However, future sales of substantial amounts of our common stock in the public market, including shares issued upon exercise of outstanding options or pre-funded warrants, or the perception that such sales may occur, could adversely affect the market price of our common stock.

We may raise money through additional public or private offerings of our equity securities or equity-linked securities. For example, in May 2023, we entered into the Sales Agreement pursuant to which we may offer and sell, from time to time to or through Wedbush Securities Inc., shares of common stock having an aggregate offering price of up to \$75.0 million. In addition, in September 2022, we entered into a Loan and Security Agreement, or the Loan and Security Agreement, with K2 HealthVentures LLC, or K2HV, pursuant to which K2HV may provide us with convertible term loans in an aggregate principal amount of up to \$60 million, of which \$30 million was fully funded at the closing date in September 2022, \$10 million of which expired on June 1, 2024, and \$20 million may be funded at K2HV's discretion. In November 2024, the lender elected to convert \$15 million of principal amount of the initial term loans into voting common stock of the Company, at a conversion price of \$4.785, in accordance with the Loan and Security Agreement. In December 2024, the Company repaid all outstanding obligations under the Loan and Security Agreement and terminated the Loan and Security Agreement. Any sales of our equity or equity-linked securities could cause additional dilution and/or could have a material adverse effect on the market price of our common stock.

We also expect that significant additional capital may be needed in the future to continue our planned operations. To raise capital, we may sell common stock, convertible securities or other equity securities in one or more transactions at prices and in a manner we determine from time to time. These sales, or the perception in the market that the holders of a large number of shares intend to sell shares, could reduce the market price of our common stock.

In addition, we have a significant number of pre-funded warrants and stock options outstanding and our Board intends to grant additional stock options, and may also choose to issue additional common stock, or securities convertible into or exchangeable for common stock, in the future in connection with a financing, an acquisition, a litigation settlement, employee arrangements or otherwise. In the event that the outstanding pre-funded warrants or options are exercised in whole or in part, or that we make additional issuances of common

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stock or other convertible or exchangeable securities, you could experience additional dilution. Furthermore, we cannot assure you that we will be able to issue shares or other securities in any other offering at a price per share that is equal to or greater than the price per pre-funded warrant paid by investors in this offering, and investors purchasing our securities in the future may have rights superior to investors purchasing shares of voting common stock issuable upon exercise of pre-funded warrants sold in this offering.

The dual class structure of our common stock may limit your ability to influence corporate matters and may limit your visibility with respect to certain transactions.

The dual class structure of our common stock may limit your ability to influence corporate matters. Holders of our voting common stock are entitled to one vote per share, while holders of our non-voting common stock are not entitled to any votes. Nonetheless, each share of our non-voting common stock may be converted at any time into one share of our voting common stock at the option of its holder by providing written notice to us, subject to the limitations provided for in our restated certificate of incorporation. Consequently, if holders of our non-voting common stock following this offering exercise their option to make this conversion, this will have the effect of increasing the relative voting power of those prior holders of our non-voting common stock, and correspondingly decreasing the voting power of the holders of our voting common stock, which may limit your ability to influence corporate matters. For example, immediately following this offering without giving effect to any of the shares underlying pre-funded warrants, the voting common stock will have 100% of the voting power, but if the holders of non-voting common stock were to convert all of their shares into voting common stock, the prior voting common stock would have 92% of the voting power, and the former non-voting common stock would represent 8.0% of the voting power. Additionally, stockholders who hold, in the aggregate, more than 10% of our voting common stock and non-voting common stock, but 10% or less of our voting common stock, and are not otherwise an insider of the company, may not be required to report changes in their ownership due to transactions in our non-voting common stock pursuant to Section 16(a) of the Securities Exchange Act of 1934, as amended, or the Exchange Act, and may not be subject to the short-swing profit provisions of Section 16(b) of the Exchange Act.

There is no public market for the pre-funded warrants being offered in this offering.

There is no public trading market for the pre-funded warrants being offered in this offering, and we do not expect a market to develop. In addition, we do not intend to list the pre-funded warrants on the Nasdaq Global Market or any other national securities exchange or nationally recognized trading system. Without an active trading market, the liquidity of the pre-funded warrants will be limited.

We will not receive a significant amount or any additional funds upon the exercise of the pre-funded warrants.

Each pre-funded warrant is exercisable for \$0.0001 per share of voting common stock underlying such warrant, which may be paid by way of a cashless exercise, in which the holder would receive upon such exercise the net number of shares of common stock determined according to the formula set forth in the pre-funded warrant. Accordingly, we will not receive a significant amount of additional funds (if any) upon the exercise of the pre-funded warrants.

Holders of the pre-funded warrants will have no rights as stockholders until such holders exercise their pre-funded warrants and acquire our shares of common stock.

Until holders of the pre-funded warrants exercise their pre-funded warrants and acquire our shares of voting common stock, such holders will have no rights with respect to the shares of voting common stock underlying such pre-funded warrants, except that the holder of a pre-funded warrant shall be entitled to participate in certain distributions, including cash dividends, if any, to all holders of our common stock for no consideration, subject to certain ownership limitations. Upon exercise of the pre-funded warrants, the holders will be entitled to exercise

the rights of a holder of common stock only as to matters for which the record date occurs after the exercise date. See “Description of Pre-Funded Warrants—No Rights as a Stockholder.”

Significant holders or beneficial holders of our common stock may not be permitted to exercise pre-funded warrants that they hold.

A holder of a pre-funded warrant will not be entitled to exercise any portion of any pre-funded warrant which, upon giving effect to such exercise, would cause the aggregate number of shares of our common stock beneficially owned by the holder (together with its affiliates and other attribution parties, as defined under “Description of Pre-Funded Warrants—Exercise Limitations”) to exceed 4.99% or 9.99%, as applicable, of the number of shares of our common stock that would be outstanding immediately after giving effect to the exercise. However, any holder may increase or decrease such percentage to any other percentage not in excess of 19.99% upon at least 61 days’ prior notice from the holder to us. As a result, you may not be able to exercise your pre-funded warrants for shares of our common stock at a time when it would be financially beneficial for you to do so. In such circumstance you could seek to sell your pre-funded warrants to realize value, but you may be unable to do so in the absence of an established trading market for the pre-funded warrants.

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 one or more shareholders or groups of shareholders who own at least 5 percent of the corporation’s equity increasing their equity ownership in the aggregate by a greater than 50 percentage point change (by value) 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 initial public offering, our most recent private placements, follow-on public offerings and other transactions that have occurred over the past three years, together with this offering, we may have experienced such 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, 2023, we had U.S. federal net operating loss carryforwards of \$84.8 million and U.S. federal research and development tax credit carryforwards of \$11.7 million that expire through 2042 and which could be limited if we experience an “ownership change.” Under the current law, federal net operating loss carryforwards generated in taxable years beginning after December 31, 2017 will not be subject to expiration. However, any such net operating loss carryforwards may only offset 80% of our annual taxable income in taxable years beginning after December 31, 2020. State net operating loss carryforwards and other tax attributes may be similarly limited. Any such limitations may result in increased tax liabilities that could adversely affect our business, results of operations, financial position and cash flows.

Changes in tax legislation could adversely affect our business and financial condition.

The rules dealing with U.S. federal, state, and local income taxation are constantly under review by persons involved in the legislative process and by the Internal Revenue Service and the U.S. Treasury Department. Changes to tax laws (which changes may have retroactive application) could adversely affect us or holders of our common stock. In recent years, many such changes have been made and changes are likely to continue to occur in the future. It cannot be predicted whether, when, in what form, or with what effective dates, new tax laws may be enacted, or regulations and rulings may be promulgated or issued under existing or new tax laws, which could result in an increase in our or our shareholders’ tax liability or require changes in the manner in which we operate in order to minimize or mitigate any adverse effects of changes in tax law or in the interpretation thereof.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement and the accompanying prospectus, including the documents that we incorporate by reference, contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. Any statements about our expectations, beliefs, plans, objectives, assumptions or future events or performance are not historical facts and may be forward-looking. These statements are often, but are not always, made through the use of words or phrases such as “may,” “can,” “will,” “should,” “would,” “expects,” “plans,” “anticipates,” “could,” “intends,” “targets,” “projects,” “seeks,” “contemplates,” “believes,” “estimates,” “predicts,” “potential,” “possible” or “continue,” and similar expressions that do not relate solely to historical matters. Accordingly, these statements involve estimates, assumptions, risks and uncertainties which could cause actual results to differ materially from those expressed in them. Any forward-looking statements are qualified in their entirety by reference to the factors discussed throughout this prospectus supplement and the accompanying prospectus, including the documents incorporated by reference herein, and in particular those factors referenced in the section “Risk Factors.”

This prospectus supplement and the accompanying prospectus contain forward-looking statements that are based on our management’s belief and assumptions and on information currently available to our management. These statements relate to future events or our future financial performance, and involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from any future results, levels of activity, performance or achievements expressed or implied by these forward-looking statements.

Forward-looking statements include, but are not limited to, statements about :

- the beneficial characteristics, safety, efficacy, therapeutic effects and potential advantages of our T cell receptor (TCR)-engineered T cell (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;
- the timing of and our ability to submit applications for, and obtain and, if approved, maintain regulatory approvals for our product candidates;
- 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;

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- 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 effects of any health epidemics, including the lingering effects of the COVID-19 pandemic, in regions where we, our partners, or other third parties on which we rely, on any of the foregoing or other aspects of our business or operations;
- the effects of rising inflation rates and the impact on operating costs, liquidity and access to credit on any of the foregoing or other aspects of our business operations;
- disruptions and instability in the banking industry and other parts of the financial service sector, such as events involving limited liquidity, defaults, non-performance or other adverse events or developments;
- liquidity and/or capital resources changes and the impact of any changes or limitations on factors such as (among others) our ability to borrow funds and/or renew or roll over existing indebtedness as well as access to private capital sources and public capital markets;
- financial market volatility and declines in financial market prices of equity securities;
- historical and future operating, financial and investment impacts of inflation, volatile interest rates and instability in financial and capital markets;
- impacts on customers, distributors, suppliers and others resulting from banking industry disruptions or ongoing or new supply chain and product distribution/logistics issues;
- the effects of global economic uncertainty and financial market volatility caused by political instability, changes in international trade relationships and conflicts, such as the ongoing conflicts between Russia and Ukraine, and Israel and Hamas, on any of the foregoing or other aspects of our business or operations;
- our anticipated use of our existing cash resources and our ability to obtain additional financing in the future;
- our anticipated use of the net proceeds from this offering; and
- other risks and uncertainties, including those under the caption “Risk Factors.”

The forward-looking statements in this prospectus supplement and the accompanying prospectus represent our views as of the date of this prospectus supplement. We anticipate that subsequent events and developments will cause our views to change. However, while we may elect to update these forward-looking statements at some point in the future, we have no current intention of doing so except to the extent required by applicable law. You should therefore not rely on these forward-looking statements as representing our views as of any date subsequent to the date of this prospectus supplement.

We may from time-to-time provide estimates, projections and other information concerning our industry, our business and the markets for our programs and product candidates. Information that is 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 our own internal estimates and research as well as from reports, research surveys, studies, and similar data prepared by market research firms and other third parties, industry, medical and general publications, government data and similar sources. While we are not aware of any misstatements regarding any third-party

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information presented in this prospectus supplement, their estimates, in particular, as they relate to projections, involve numerous assumptions, are subject to risks and uncertainties and are subject to change based on various factors. You should read this prospectus supplement, the accompanying prospectus and any related free writing prospectus and the documents that we reference therein and have filed with the SEC as exhibits thereto completely and with the understanding that our actual future results may be materially different from any future results expressed or implied by these forward-looking statements. These estimates involve numerous assumptions, are subject to risks and uncertainties and are subject to change based on various factors, including those discussed under “Item 1A: Risk Factors” and elsewhere in our most recent Annual Report on Form 10-K, in our most recent Quarterly Report on Form 10-Q and in our Current Reports on Form 8-K.

USE OF PROCEEDS

We estimate that the net proceeds of this offering, after deducting estimated offering expenses, will be approximately \$29.8 million. We will receive nominal proceeds, if any, from the exercise of the pre-funded warrants.

We currently intend to use the net proceeds of this offering for general corporate purposes. General corporate purposes may include research and development costs, including one or more clinical and preclinical trials and process development and manufacturing of our product candidates, acquisitions or investments in businesses, products or technologies that are complementary to our own, expansion of our infrastructure and capabilities, working capital, capital expenditure, repayment of existing indebtedness, and other general corporate purposes. Pending these uses, we may invest the net proceeds from this offering in short-term U.S. Treasury securities with insignificant rates of return, or may hold such proceeds as cash, until they are used for their stated purpose. We have not determined the amount of net proceeds to be used specifically for such purposes. As a result, management will retain broad discretion over the allocation of net proceeds.

As of September 30, 2024, we had cash, cash equivalents and marketable securities of \$271.1 million.

The amounts and timing of our actual expenditures will depend on numerous factors, including the progress of our clinical trials and other development efforts and other factors described under “Risk Factors” in this prospectus supplement and the documents incorporated by reference herein, as well as the amount of cash used in our operations. As a result, our management will have broad discretion over the uses of the net proceeds, if any, we receive in connection with the securities offered pursuant to this prospectus supplement and investors will be relying on the judgment of our management regarding the application of the proceeds.

DIVIDEND POLICY

We have never declared or paid cash dividends on our capital stock. We intend to retain all of our future earnings, if any, to finance the growth and development of our business. We do not intend to pay cash dividends to our stockholders in the foreseeable future.

DILUTION

If you invest in our pre-funded warrants in this offering, your ownership interest will be immediately diluted to the extent of the difference between the public offering price of pre-funded warrant to purchase one share of common stock you will pay in this offering and the pro forma as adjusted net tangible book value per share of our common stock immediately after this offering.

Our net tangible book value as of September 30, 2024 was approximately \$229.1 million, or \$4.29 per share, based upon 53,354,124 shares of voting common stock and non-voting common stock outstanding as of September 30, 2024. Net tangible book value per share is determined by dividing our total tangible assets less total liabilities by the number of shares of our voting common stock and non-voting common stock outstanding as of September 30, 2024.

Our pro forma net tangible book value as of September 30, 2024 was approximately \$229.1 million, or \$1.93 per share, based upon 118,942,069 shares of voting common stock and non-voting common stock outstanding as of September 30, 2024, as adjusted for the assumed issuance of an aggregate of 65,587,945 shares of our voting common stock issuable upon exercise of the pre-funded warrants outstanding as of September 30, 2024. Pro forma net tangible book value per share is determined by dividing our total tangible assets less total liabilities by the number of shares of our voting common stock and non-voting common stock outstanding as of September 30, 2024 after giving effect to the issuance of shares of our voting common stock issuable upon exercise of the pre-funded warrants outstanding as of September 30, 2024.

After giving effect to (i) the pro forma adjustments described in the preceding paragraph, and (ii) the issuance and sale of pre-funded warrants at the public offering price of \$4.00 per pre-funded warrant to purchase one share of common stock and after deducting estimated offering expenses and excluding proceeds, if any, from the exercise of the pre-funded warrants issued pursuant to this offering or any resulting accounting associated with the pre-funded warrants, our pro forma as adjusted net tangible book value as of September 30, 2024 would have been approximately \$258.9 million, or \$2.05 per share. This represents an immediate increase in net tangible book value of \$0.12 per share to existing stockholders and immediate dilution of \$1.95 per share to investors purchasing our pre-funded warrants in this offering at the public offering price.

The following table illustrates this dilution on a per share basis, assuming the holders of pre-funded warrants exercise the pre-funded warrants offered hereby:

Public offering price per Pre-Funded Warrant	\$4.00
Net tangible book value per share as of September 30, 2024	\$4.29
Decrease in net tangible book value per share attributable to the assumed issuance of an aggregate of 65,587,945 shares of our voting common stock issuable upon exercise of the pre-funded warrants outstanding as of September 30, 2024	\$2.36
Pro forma net tangible book value per share as of September 30, 2024	\$1.93
Increase in pro forma net tangible book value per share attributable to investors purchasing our pre-funded warrants in this offering	\$0.12
Pro forma as adjusted net tangible book value per share after this offering	\$2.05
Dilution per share to investors purchasing our pre-funded warrants in this offering	\$1.95

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The foregoing table and calculations are based on 49,077,536 shares of our voting common stock and 4,276,588 shares of our non-voting common stock outstanding as of September 30, 2024. The number of shares outstanding as September 30, 2024 as used throughout this prospectus supplement, unless otherwise indicated, excludes:

- 887,212 shares of voting common stock issuable upon the exercise of stock options under our 2018 Stock Option Plan, or the 2018 Plan, at a weighted average exercise price of \$5.32 per share, as of September 30, 2024;
- 1,203,590 shares of our voting common stock reserved for future issuance under the 2018 Plan as of September 30, 2024;
- 11,539,023 shares of voting common stock issuable upon the exercise of stock options under the 2021 Plan, at a weighted average exercise price of \$4.13 per share, as of September 30, 2024;
- 4,637,628 shares of our voting common stock reserved for future issuance under the 2021 Plan as of September 30, 2024;
- 1,067,639 shares of voting common stock reserved for the future issuance under our 2021 Employee Stock Purchase Plan, or the 2021 ESPP, as of September 30, 2024, which include 82,153 shares of voting common stock issued under the 2021 ESPP plan between September 30, 2024 and November 30, 2024;
- 65,587,945 shares of voting common stock issuable upon exercise of the pre-funded warrants, with an exercise price of \$0.0001 per share, outstanding as of September 30, 2024; and
- 3,134,796 shares of voting common stock issued on November 20, 2024, as result of the conversion of \$15 million principal amount of the term loans under the Loan and Security Agreement.

To the extent that outstanding options have been or may be exercised, or restricted stock units have vested or may vest, or other shares are issued, investors purchasing pre-funded warrants in this offering may experience further dilution. In addition, we may choose to issue additional common stock, or securities convertible into or exchangeable for common stock, in the future. The issuance of these securities could result in further dilution for investors purchasing our pre-funded warrants in this offering.

DESCRIPTION OF CAPITAL STOCK

The following description of our capital stock is intended as a summary only and, therefore, is not a complete description of our capital stock. This description is based upon, and is qualified by reference to, our certificate of incorporation, our bylaws, and applicable provisions of Delaware corporate law. You should read our certificate of incorporation and our bylaws, in each case, as amended and supplemented, which are filed as exhibits to the registration statement of which this prospectus forms a part, for the provisions that are important to you.

General

The total number of shares of all classes of capital stock that the Company is authorized to issue is 320,000,000 shares, all with par value \$0.0001 per share, of which (i) 300,000,000 shares are a class designated as voting common stock, (ii) 10,000,000 shares are a class designated as non-voting common stock and (iii) 10,000,000 shares are a class designated as preferred stock. The following description of our capital stock and provisions of our certificate of incorporation and bylaws are summaries and are qualified by reference to our certificate of incorporation and our bylaws, in each case, as amended and supplemented.

Common Stock and Non-Voting Common Stock

As of September 30, 2024, we had outstanding 49,077,536 shares of voting common stock and 4,276,588 shares of non-voting common stock, held of record by over 70 stockholders (which number does not include beneficial owners whose shares are held by nominees in street name). As of September 30, 2024, we also had outstanding Pre-Funded Warrants to purchase up to 65,587,945 shares of our Voting Common Stock, with an exercise price of \$0.0001 per share.

The holders of our voting 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 the Certificate of Incorporation, or as required by applicable law, on any matter that is submitted to a vote by our stockholders, holders of our voting common stock are entitled to one vote per share of voting 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 voting 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 voting 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 voting common stock immediately prior to and following such conversion, unless otherwise expressly provided for in our 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.

Except as otherwise provided by law, our Certificate of Incorporation or our bylaws, in all matters other than the election of directors, the affirmative vote of the majority of the shares present in person or represented by proxy at a meeting at which a quorum is present and entitled to vote on the subject matter shall be the act of the stockholders. Directors shall be elected by a plurality of the shares present in person or represented by proxy at a meeting at which a quorum is present and entitled to vote on the election of directors.

Subject to preferences that may apply to shares of preferred stock outstanding at the time, the holders of our voting common stock and non-voting common stock are entitled to receive ratably any dividends and distributions and other distributions in cash, stock or property of the Company when, as and if declared thereon by our board of directors from time to time out of assets or funds legally available for that purpose, 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. Our voting common stock and non-voting common stock have no preemptive rights or other subscription rights or redemption or sinking fund provisions.

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In the event of our liquidation, dissolution or winding up, holders of our voting common stock and non-voting common stock will be entitled to share ratably in all assets remaining after payment of all debts and other liabilities and any liquidation preference of any outstanding preferred stock. Holders of shares of our voting common stock and non-voting common stock are not required to make additional capital contributions. The shares to be issued by us in this offering will be, when issued and paid for, validly issued, fully paid and non-assessable.

Preferred Stock

As of September 30, 2024, no shares of our preferred stock were issued and outstanding, but we are 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 voting 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 voting common stock and the voting and other rights of the holders of voting common stock.

Registration Rights

Pursuant to the terms of our registration rights agreement, dated January 15, 2021, or the Registration Rights Agreement, with certain of our stockholders, certain of our stockholders are entitled to rights with respect to the registration of their shares, or the registrable securities, under the Securities Act.

We will pay all expenses relating to any registration described above, other than underwriting discounts and commissions. The registration rights terminate upon the earliest to occur of: (i) the registrable securities have been sold pursuant to an effective registration statement; (ii) the registrable securities have been sold by such stockholders pursuant to Rule 144 (or other similar rule), (iii) the registrable securities may be resold by such stockholders without limitations as to volume or manner of sale pursuant to Rule 144; or (iv) ten (10) years after the date of the Registration Rights Agreement.

The Registration Rights Agreement contains customary cross-indemnification provisions, under which we are obligated to indemnify holders of registrable securities in the event of material misstatements or omissions in the registration statement attributable to us, and they are obligated to indemnify us for material misstatements or omissions attributable to them.

Anti-takeover effects of our Certificate of Incorporation and Bylaws and Delaware Law

Our Certificate of Incorporation and Amended and Restated Bylaws (“Bylaws”) include a number of provisions that may have the effect of delaying, deferring or preventing another party from acquiring control of us and encouraging persons considering unsolicited tender offers or other unilateral takeover proposals to negotiate with our board of directors rather than pursue non-negotiated takeover attempts. These provisions include the items described below.

Board composition and filling vacancies

Our Certificate of Incorporation provides for the division of our board of directors into three classes serving staggered three-year terms, with one class being elected each year. Subject to any special rights of the holders of

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one or more series of preferred stock to elect directors, our Certificate of Incorporation also provides that directors may be removed only for cause and then only by the affirmative vote of the holders of two-thirds or more of the shares then entitled to vote at an election of directors. Furthermore, subject to any special rights of the holders of one or more series of preferred stock to elect directors, any vacancy on our board of directors, however occurring, including a vacancy resulting from an increase in the size of our board, may only be filled by the affirmative vote of a majority of our directors then in office even if less than a quorum. The classification of directors, together with the limitations on removal of directors and treatment of vacancies, has the effect of making it more difficult for stockholders to change the composition of our board of directors.

No written consent of stockholders

Our Certificate of Incorporation provides that all stockholder actions are required to be taken by a vote of the stockholders at an annual or special meeting, and that stockholders may not take any action by written consent in lieu of a meeting. This limit may lengthen the amount of time required to take stockholder actions and would prevent the amendment of our bylaws or removal of directors by our stockholders without holding a meeting of stockholders.

Meetings of stockholders

Our Certificate of Incorporation and Bylaws provide that special meetings of stockholders for any purpose or purposes may be called at any time by a resolution adopted by a majority of the members of our board of directors then in office, the chairman of the board of directors or the Company's chief executive officer, and may not be called by any other person or persons, and only those matters set forth in the notice of the special meeting may be considered or acted upon at a special meeting of stockholders.

Advance notice requirements

Our Bylaws establish advance notice procedures with regard to stockholder proposals relating to the nomination of candidates for election as directors or new business to be brought before meetings of our stockholders. These procedures provide that notice of stockholder proposals must be timely given in writing to our corporate secretary prior to the meeting at which the action is to be taken. Generally, to be timely, notice must be received at our principal executive offices not less than 90 days nor more than 120 days prior to the first anniversary date of the annual meeting for the preceding year; *provided, however*, that in the event the annual meeting is first convened more than 30 days before, or delayed by more than 60 days, from the first anniversary of the preceding year's annual meeting, notice by the stockholder to be timely must be received at our principal executive offices not later than the close of business on the later of the 120th day prior to the scheduled date of such annual meeting and not later than the close of business on the later of the 90th day prior to such annual meeting and the 10th day following the day on which public announcement of the date of such meeting is first made, whichever occurs first. Our Bylaws specify the requirements as to form and content of all stockholders' notices. These requirements may preclude stockholders from bringing matters before the stockholders at an annual or special meeting.

Amendment to Certificate of Incorporation and Bylaws

The Company reserves the right at any time from time to time to amend, alter, change or repeal any provision contained in our Certificate of Incorporation, and any other provisions authorized by the Delaware General Corporation Law 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 our Certificate of Incorporation are granted. Notwithstanding any other provision of our 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 our Certificate of Incorporation, the affirmative vote of the holders of at least 2/3 in voting power of the outstanding stock of the Company entitled to vote thereon, voting together as a single class, shall be required to

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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 our Certificate of Incorporation). 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.

Our board of directors is expressly authorized and empowered to adopt, amend and repeal the Bylaws by the affirmative vote of a majority of the whole board of directors. In addition, stockholders shall also have power to adopt, amend or repeal the Bylaws; *provided, however*, that, notwithstanding any other provision of our 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 Company required by applicable law or by our Certificate of Incorporation or the Bylaws, the affirmative vote of the holders of at least 2/3 in voting power of the outstanding shares of the stock of the Company 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.

Undesignated preferred stock

Our Certificate of Incorporation provides for 10,000,000 authorized shares of preferred stock. The existence of authorized but unissued shares of preferred stock may enable our board of directors to discourage an attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise. For example, if in the due exercise of its fiduciary obligations, our board of directors were to determine that a takeover proposal is not in the best interests of our stockholders, our board of directors could cause shares of preferred stock to be issued without stockholder approval in one or more private offerings or other transactions that might dilute the voting or other rights of the proposed acquirer or insurgent stockholder or stockholder group. In this regard, our Certificate of Incorporation grants our board of directors broad power to establish the rights and preferences of authorized and unissued shares of preferred stock. The issuance of shares of preferred stock could decrease the amount of earnings and assets available for distribution to holders of shares of voting and non-voting common stock. The issuance may also adversely affect the rights and powers, including voting rights, of these holders and may have the effect of delaying, deterring or preventing a change in control of us.

Exclusive Forum

Our Certificate of Incorporation provides that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware shall be the sole and exclusive forum for any state law claims for: (1) any derivative action or proceeding brought on our behalf; (2) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers and employees to us or our stockholders; (3) any action asserting a claim arising pursuant to the Delaware General Corporation Law or our Certificate of Incorporation or Bylaws (including the interpretation, validity or enforceability thereof) or (4) any action asserting a claim that is governed by the internal affairs doctrine; provided, however, that this provision shall not apply to any causes of action arising under the Securities Act or Exchange Act. In addition, our Certificate of Incorporation provides that, unless we consent in writing to an alternative forum, the federal district courts of the United States shall be the sole and exclusive forum for resolving any complaint asserting a cause of action under the Securities Act, or the Federal Forum Provision. Any person or entity purchasing or otherwise acquiring any interest in our securities shall be deemed to have notice of and consented to these forum provisions. These forum provisions may impose additional costs on stockholders, may limit our stockholders' ability to bring a claim in a forum they find favorable, and the designated courts may reach different judgments or results than other courts. In addition, there is uncertainty as to whether our Federal Forum Provision will be enforced, which may impose additional costs on us and our stockholders.

Section 203 of the Delaware General Corporation Law

We are subject to the provisions of Section 203 of the Delaware General Corporation Law. In general, Section 203 prohibits a publicly held Delaware corporation from engaging in a “business combination” with an “interested stockholder” for a three-year period following the time that this stockholder becomes an interested stockholder, unless the business combination is approved in a prescribed manner. Under Section 203, a business combination between a corporation and an interested stockholder is prohibited unless it satisfies one of the following conditions:

- before the stockholder became interested, our board of directors approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- upon consummation of the transaction which resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the Company outstanding at the time the transaction commenced, excluding for purposes of determining the voting stock outstanding, shares owned by persons who are directors and also officers, and employee stock plans, in some instances, but not the outstanding voting stock owned by the interested stockholder; or
- at or after the time the stockholder became interested, the business combination was approved by our board of directors and authorized at an annual or special meeting of the stockholders by the affirmative vote of at least two-thirds of the outstanding voting stock which is not owned by the interested stockholder.

Section 203 defines a business combination to include:

- any merger or consolidation involving the Company and the interested stockholder;
- any sale, transfer, lease, pledge or other disposition involving the interested stockholder of 10% or more of the assets of the Company;
- subject to exceptions, any transaction that results in the issuance or transfer by the Company of any stock of the Company to the interested stockholder;
- subject to exceptions, any transaction involving the Company that has the effect of increasing the proportionate share of the stock of any class or series of the Company beneficially owned by the interested stockholder; and
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges, or other financial benefits provided by or through the Company.

In general, Section 203 defines an interested stockholder as any entity or person beneficially owning 15% or more of the outstanding voting stock of the Company and any entity or person affiliated with or controlling or controlled by the entity or person.

Listing on the Nasdaq Global Market

Our voting common stock is listed on The Nasdaq Global Market under the symbol “TCRX.”

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Computershare Trust Company, N.A. The transfer agent and registrar’s address is 150 Royall Street, Canton, Massachusetts 02021, and its telephone number is (800) 942-5909.

DESCRIPTION OF PRE-FUNDED WARRANTS

The following is a brief summary of certain terms and conditions of the pre-funded warrants being offered by this prospectus supplement. The following description is subject in all respects to the provisions contained in the pre-funded warrants.

Form

The pre-funded warrants will be issued as individual warrant agreements to the investors. The form of pre-funded warrant will be filed as an exhibit to our Current Report on Form 8-K that we expect to file with the SEC in connection with this offering.

Term

The pre-funded warrants do not expire.

Exercisability

The pre-funded warrants are exercisable at any time after their original issuance. The pre-funded warrants will be exercisable, at the option of each holder, in whole or in part by delivering to us a duly executed exercise notice and by payment in full of the exercise price in immediately available funds for the number of shares of common stock purchased upon such exercise. As an alternative to payment in immediately available funds, the holder may elect to exercise the pre-funded warrant through a cashless exercise, in which the holder would receive upon such exercise the net number of shares of common stock determined according to the formula set forth in the pre-funded warrant. No fractional shares of common stock will be issued in connection with the exercise of a pre-funded warrant. In lieu of any fractional shares that would otherwise be issuable, we will pay in cash to an exercising holder the fair market value, determined according to the terms of the pre-funded warrant, for any such fractional shares.

Exercise Limitations

Under the pre-funded warrants, we may not effect the exercise of any pre-funded warrant, and a holder will not be entitled to exercise any portion of any pre-funded warrant, which, upon giving effect to such exercise, would cause the aggregate number of shares of our common stock beneficially owned by the holder (together with its attribution parties (as defined below)) to exceed 9.99% of the number of shares of our common stock that would be outstanding immediately after giving effect to the exercise. However, any holder may increase or decrease such percentage to any other percentage not in excess of 19.99% upon at least 61 days' prior notice from the holder to us. For purposes of the foregoing, "attribution parties" means, collectively, the following persons and entities with respect to any holder: (i) its direct and indirect affiliates, (ii) any person acting or who could be deemed to be acting as a Section 13(d) "group" together with the holder or any attribution parties and (iii) any other persons whose beneficial ownership of our common stock would or could be aggregated with the holder and/or any other attribution parties for purposes of Section 13(d) or Section 16 of the Exchange Act.

Exercise Price

The exercise price per whole share of our common stock purchasable upon the exercise of the pre-funded warrants is \$0.0001 per share of common stock. The exercise price of the pre-funded warrants and the number of shares of our common stock issuable upon exercise of the pre-funded warrants are subject to appropriate adjustment in the event of certain stock dividends and distributions, stock splits, stock combinations, reclassifications or similar events affecting our common stock.

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Charges, Taxes and Expenses

Issuance and delivery for shares of common stock upon exercise of a pre-funded warrant will be made without charge to the holder thereof for any issue or transfer tax, transfer agent fee or other incidental tax or expense (excluding any applicable stamp duties) in respect of the issuance thereof, all of which taxes and expenses shall be paid by us. However, we are not required to pay any tax that may be payable in respect of any transfer involved in the registration of any warrant shares or pre-funded warrants in a name other than that of the holder or an affiliate thereof. The holder shall be responsible for all other tax liability that may arise as a result of holding or transferring its pre-funded warrants or receiving shares upon exercise thereof.

Transferability

Subject to applicable laws, the pre-funded warrants may be assigned by the holder without our consent. The ownership of the pre-funded warrants and any transfers of the pre-funded warrants will be registered in a warrant register maintained by the warrant agent. We will initially act as warrant agent.

Exchange Listing

We do not plan on applying to list the pre-funded warrants on The Nasdaq Global Market, any other national securities exchange or any other nationally recognized trading system.

Fundamental Transactions

In the event of a “fundamental transaction” (as described in the pre-funded warrants and generally including but not limited to any reorganization, recapitalization, spin-off or reclassification of our common stock, the sale, transfer or other disposition of all or substantially all of our properties or assets, our consolidation or merger with or into another person, the tender and acceptance for payment of shares representing more than 50% of the voting power of our capital stock pursuant to any tender or exchange offer (whether by us or another person), the acquisition by another person of more than 50% of the voting power of our capital stock pursuant to a stock purchase agreement or other business combination (except for any such transaction in which our stockholders immediately prior to such transaction maintain, in substantially the same proportions, voting power of us immediately after the transaction)), upon consummation of such a fundamental transaction, the holders of the pre-funded warrants will be entitled to receive upon exercise of the pre-funded warrants the kind and amount of securities, cash or other property that the holders would have received had they exercised the pre-funded warrants immediately prior to such fundamental transaction without regard to any limitations on exercise contained in the pre-funded warrants.

No Rights as a Stockholder

Except by virtue of such holder’s ownership of shares of our common stock, the holder of a pre-funded warrant does not have the rights or privileges of a holder of our common stock, including any voting rights, until the holder exercises the pre-funded warrant. In the event of certain distributions, including cash dividends, if any, to all holders of our common stock for no consideration, the holder of a pre-funded warrant shall be entitled to participate in such distributions to the same extent as if such holder held the number of shares of our common stock acquirable upon exercise of its pre-funded warrant (without regard to any limitations on exercise). If such distribution would result in such holder and the other attribution parties exceeding the exercise limitations described above, a portion of such distribution shall be held in abeyance for the benefit of such holder until the earlier of such time as the ownership limitations would not be exceeded or the warrant is exercised.

MATERIAL U.S. FEDERAL INCOME TAX CONSIDERATIONS FOR INVESTORS IN OUR COMMON STOCK AND PRE-FUNDED WARRANTS

The following summary describes the material U.S. federal income tax consequences of the acquisition, ownership and disposition of our pre-funded warrants, and the shares of our common stock issuable upon exercise thereof, acquired in this offering. This discussion does not address all aspects of U.S. federal income taxes, does not discuss the potential application of the alternative minimum tax or Medicare Contribution tax and does not deal with state or local taxes, U.S. federal gift and estate tax laws or any non-U.S. tax consequences that may be relevant to investors in light of their particular circumstances.

Special rules different from those described below may apply to certain investors that are subject to special treatment under the Internal Revenue Code of 1986, as amended, or the Code, such as:

- insurance companies, banks and other financial institutions;
- tax-exempt organizations (including private foundations) and tax-qualified retirement plans;
- foreign governments and international organizations;
- broker-dealers and traders in securities;
- U.S. expatriates and former citizens or long-term residents of the United States;
- Non-U.S. Holders (as defined below) that own, or are deemed to own, more than 5% of our common stock (directly, indirectly or by attribution) or more than 5% of our pre-funded warrants;
- persons required for U.S. federal income tax purposes to conform the timing of income accruals to their financial statements under Section 451(b) of the Code;
- “controlled foreign corporations,” “passive foreign investment companies” and corporations that accumulate earnings to avoid U.S. federal income tax;
- persons that hold our common stock or pre-funded warrants as part of a “straddle,” “hedge,” “conversion transaction,” “synthetic security” or integrated investment or other risk reduction strategy;
- U.S. Holders (as defined below) whose functional currency for U.S. tax purposes is not the U.S. dollar;
- persons who do not hold our common stock or pre-funded warrants as “capital assets” within the meaning of Section 1221 of the Code (generally, for investment purposes); and
- partnerships and other pass-through entities, and investors in such pass-through entities (regardless of their places of organization or formation).

Such investors are urged to consult their own tax advisors to determine the U.S. federal, state, local and other tax consequences that may be relevant to them.

Furthermore, the discussion below is based upon the provisions of the Code, and Treasury regulations, rulings and judicial decisions thereunder as of the date hereof, and such authorities may be repealed, revoked or modified, possibly retroactively, and are subject to differing interpretations which could result in U.S. federal income tax consequences different from those discussed below. We have not requested a ruling from the Internal Revenue Service, or the IRS, with respect to the statements made and the conclusions reached in the following summary, and there can be no assurance that the IRS will agree with such statements and conclusions or will not take a contrary position regarding the tax consequences described herein, or that any such contrary position would not be sustained by a court.

For the purposes of this discussion, a “U.S. Holder” means a beneficial owner of our common stock or pre-funded warrants, other than a partnership or other pass-through entity, that is, for U.S. federal income tax purposes, (a) an individual citizen or resident of the United States, (b) a corporation (or other entity taxable as a

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corporation for U.S. federal income tax purposes), created or organized in or under the laws of the United States, any state thereof or the District of Columbia, (c) an estate the income of which is subject to U.S. federal income taxation regardless of its source, or (d) a trust if it (1) is subject to the primary supervision of a court within the United States and one or more “United States persons” (within the meaning of Section 7701(a)(30) of the Code) have the authority to control all substantial decisions of the trust or (2) has a valid election in effect under applicable U.S. Treasury regulations to be treated as a United States person.

If you are an individual non-U.S. citizen, you may, in some cases, be deemed to be a resident alien (as opposed to a nonresident alien) by virtue of being present in the United States for at least 31 days in the calendar year and for an aggregate of at least 183 days during a three-year period ending in the current calendar year. Generally, for this purpose, all the days present in the current year, one-third of the days present in the immediately preceding year, and one-sixth of the days present in the second preceding year, are counted.

Resident aliens are generally subject to U.S. federal income tax as if they were U.S. citizens. Individuals who are uncertain of their status as resident or nonresident aliens for U.S. federal income tax purposes are urged to consult their own tax advisors regarding the U.S. federal income tax consequences of the ownership or disposition of our common stock or pre-funded warrants.

PERSONS CONSIDERING THE PURCHASE OF OUR PRE-FUNDED WARRANTS PURSUANT TO THIS OFFERING SHOULD CONSULT THEIR OWN TAX ADVISORS CONCERNING THE U.S. FEDERAL INCOME TAX CONSEQUENCES OF ACQUIRING, OWNING AND DISPOSING OF OUR PRE-FUNDED WARRANTS, AND THE COMMON STOCK ISSUABLE UPON EXERCISE THEREOF, IN LIGHT OF THEIR PARTICULAR SITUATIONS AS WELL AS ANY CONSEQUENCES ARISING UNDER THE LAWS OF ANY OTHER TAXING JURISDICTION, INCLUDING ANY STATE, LOCAL OR NON-U.S. TAX CONSEQUENCES OR ANY U.S. FEDERAL NON-INCOME TAX CONSEQUENCES, AND THE POSSIBLE APPLICATION OF TAX TREATIES.

Characterization of the Pre-Funded Warrants for Tax Purposes

Although the characterization of the pre-funded warrants for U.S. federal income tax purposes is not entirely clear, because the exercise price of the pre-funded warrants is a nominal amount, we intend to treat the pre-funded warrants as our common stock for U.S. federal income tax purposes and a holder of pre-funded warrants should generally expect to be taxed in the same manner as a holder of common stock as described below. Accordingly, for U.S. federal income tax purposes, no gain or loss should be recognized upon the exercise of a pre-funded warrant (except to the extent of cash received in lieu of a fractional share), and upon exercise, the holding period of the share of common stock received should include the holding period of the pre-funded warrant. Similarly, the tax basis of a share of common stock received upon exercise of a pre-funded warrant should include the tax basis of the pre-funded warrant increased by the exercise price of \$0.0001 per share. The balance of this discussion generally assumes that the characterization described above is respected for U.S. federal income tax purposes.

Our position with respect to the characterization of pre-funded warrants is not binding on the IRS and the IRS may treat the pre-funded warrants as warrants to acquire our common stock and, if so, the amount and character of your gain with respect to an investment in our pre-funded warrants could change. You should consult your tax advisor regarding the characterization of pre-funded warrants for U.S. federal income tax purposes, and the consequences to you of an investment in the pre-funded warrants based on your own particular facts and circumstances.

Tax Consequences to U.S. Holders

Distributions on Common Stock and Pre-funded Warrants

As stated under “Dividend Policy,” we do not expect to make distributions on our common stock (or pre-funded warrants) in the foreseeable future. In the event that we do make distributions of cash or other

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property, distributions paid on common stock (or pre-funded warrants) will be treated as a dividend to the extent paid out of our current or accumulated earnings and profits (as determined under U.S. federal income tax principles), and will be includible in your income as ordinary income when received. However, with respect to dividends received by individuals, such dividends are generally taxed at the lower applicable long-term capital gains rates, provided certain holding period requirements are satisfied. Distributions in excess of our current and accumulated earnings and profits will be treated as a return of capital to the extent of a U.S. Holder's tax basis in the common stock (or pre-funded warrant) and thereafter as capital gain from the sale or exchange of such common stock (or pre-funded warrant). The tax treatment of such gain is further described in "—Sale or Other Disposition of Common Stock or Pre-Funded Warrants" below. Dividends received by a corporation may be eligible for a dividends received deduction, subject to applicable limitations. Any such distributions will also be subject to the discussions below under the section titled "—Information Reporting and Backup Withholding."

A U.S. Holder of a pre-funded warrant is expected to receive certain distributions, including cash dividends, paid with respect to common stock prior to the exercise of the pre-funded warrant and, in such case, would be taxed in the same manner as a U.S. Holder of common stock that receives such a distribution. However, under certain circumstances, it is possible for all or a portion of certain distributions to be held in abeyance for the U.S. Holder until a pre-funded warrant is exercised or the ownership limitations (described under "Description of Pre-Funded Warrants") would not be exceeded. In this case, upon the earlier of the ownership limitations not being exceeded or the pre-funded warrant being exercised, the U.S. Holder would be entitled to receive distributions. It is possible that such entitlement to distributions could cause the declaration of a distribution on our common stock to be currently taxable to the U.S. Holders of pre-funded warrants, including under the principles governing Section 305 of the Code. Additionally, it is possible that other adjustments to the terms of the pre-funded warrant could be considered a constructive distribution under Section 305 of the Code. A holder of a pre-funded warrant should consult its tax advisor regarding the tax treatment of any distribution with respect to such pre-funded warrant that is held in abeyance in connection with any applicable limitation on the holder's beneficial ownership of our common stock.

Sale or Other Disposition of Common Stock or Pre-Funded Warrants

For U.S. federal income tax purposes, gain or loss realized on the sale or other disposition of common stock or pre-funded warrants will be capital gain or loss, and will be long-term capital gain or loss if you have held the common stock or pre-funded warrants for more than one year. The amount of the gain or loss will equal the difference between your tax basis in the common stock or pre-funded warrants disposed of and the amount realized on the disposition. Long-term capital gains recognized by non-corporate U.S. Holders will be subject to reduced tax rates. The deductibility of capital losses is subject to limitations.

Information Reporting and Backup Withholding

Information reporting requirements generally will apply to any payments of dividends on our common stock and pre-funded warrants, constructive dividends on our pre-funded warrants, and gross proceeds on the sale or other disposition of our common stock and pre-funded warrants, unless the U.S. Holder is an exempt recipient (such as a corporation). Backup withholding (currently at a 24% rate) will apply to those payments if the U.S. Holder fails to provide its correct taxpayer identification number, or certification of exempt status, or if the U.S. Holder is notified by the IRS that it has failed to report in full payments of interest and dividend income. Any amounts withheld under the backup withholding rules will be allowed as a refund or a credit against a U.S. Holder's U.S. federal income tax liability provided the required information is furnished timely to the IRS.

Tax Consequences to Non-U.S. Holders

For purposes of this discussion, a Non-U.S. Holder is a beneficial owner of our common stock or pre-funded warrants that, for U.S. federal income tax purposes, is neither a U.S. Holder (as defined above) nor a partnership or other pass-through entity. If you are not a Non-U.S. Holder, this section does not apply to you.

Distributions on Common Stock and Pre-funded Warrants

As stated under “Dividend Policy,” we do not expect to make any distributions on our common stock (or pre-funded warrants) in the foreseeable future. If we do make distributions on our common stock (or pre-funded warrants), however, such distributions made to a Non-U.S. Holder will constitute dividends for U.S. tax purposes to the extent paid out of our current or accumulated earnings and profits (as 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 our common stock (or pre-funded warrants). Any remaining excess will be treated as gain realized as described below under the section titled “—Sale or Other Disposition of Common Stock and Pre-Funded Warrants.”

Any distribution on our common stock (or pre-funded warrants) that is treated as a dividend paid to a Non-U.S. Holder that is not effectively connected with the holder’s conduct of a trade or business in the United States will generally be subject to withholding tax at a 30% rate or such lower rate as may be specified by an applicable income tax treaty between the United States and the Non-U.S. Holder’s country of residence. To obtain a reduced rate of withholding under a treaty, a Non-U.S. Holder generally will be required to provide the applicable withholding agent with a properly executed IRS Form W-8BEN, IRS Form W-8BEN-E or other appropriate form, certifying the Non-U.S. Holder’s entitlement to benefits under that treaty. Such form must be provided prior to the payment of dividends and must be updated periodically. If a Non-U.S. Holder holds stock through a financial institution or other agent acting on the holder’s behalf, the holder will be required to provide appropriate documentation to such agent. The holder’s agent may 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. withholding tax under an income tax treaty, you should consult with your own tax advisor to determine if you are able to obtain a refund or credit of any excess amounts withheld by timely filing an appropriate claim with the IRS.

An applicable withholding agent generally is not required to withhold tax on dividends paid (or constructive dividends deemed paid) to a Non-U.S. Holder that are effectively connected with the holder’s conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, are attributable to a permanent establishment that the holder maintains in the United States) if a properly executed IRS Form W-8ECI, stating that the dividends are so connected, is furnished to the applicable withholding agent. In general, such effectively connected dividends will be subject to U.S. federal income tax on a net income basis at the regular graduated rates applicable to U.S. persons, unless a specific treaty exemption applies. A corporate Non-U.S. Holder receiving effectively connected dividends may also be subject to an additional “branch profits tax,” which is imposed, under certain circumstances, at a rate of 30% (or such lower rate as may be specified by an applicable treaty) on the corporate Non-U.S. Holder’s effectively connected earnings and profits, subject to certain adjustments.

See also the section below titled “—Foreign Accounts” for additional withholding rules that may apply to dividends paid to certain foreign financial institutions or non-financial foreign entities.

A Non-U.S. Holder of a pre-funded warrant is expected to receive certain distributions, including cash dividends, paid with respect to common stock prior to the exercise of the pre-funded warrant and, in such case, would be taxed in the same manner as a Non-U.S. Holder of common stock that receives such a distribution. However, under certain circumstances, it is possible for all or a portion of certain distributions to be held in abeyance for a Non-U.S. Holder until a pre-funded warrant is exercised or the ownership limitations (described under “Description of Pre-Funded Warrants”) would not be exceeded. In this case, upon the earlier of the ownership limitations not being exceeded or the pre-funded warrant being exercised, the Non-U.S. Holder would be entitled to receive distributions. It is possible that such entitlement to distributions could cause the declaration of a distribution on our common stock to be currently taxable to the Non-U.S. Holders of pre-funded warrants, including under the principles governing Section 305 of the Code. Additionally, it is possible that other

adjustments to the terms of the pre-funded warrant could be considered a constructive distribution under Section 305 of the Code. A holder of a pre-funded warrant should consult its tax advisor regarding the tax treatment of any distribution with respect to such pre-funded warrant that is held in abeyance in connection with any applicable limitation on the holder's beneficial ownership of our common stock.

Sale or Other Disposition of Common Stock and Pre-Funded Warrants

Subject to the discussion below under the sections titled “—Information Reporting and Backup Withholding” and “—Foreign Accounts,” a Non-U.S. Holder generally will not be subject to U.S. federal income or withholding tax with respect to gain realized on a sale or other disposition of our common stock or pre-funded warrants unless (a) the gain is effectively connected with a trade or business of the holder in the United States (and, if required by an applicable income tax treaty, is attributable to a permanent establishment that the holder maintains in the United States), (b) the Non-U.S. Holder is a nonresident alien individual and is present in the United States for a period or periods aggregating 183 or more days in the taxable year of the disposition and certain other conditions are met, or (c) we are or have been a “United States real property holding corporation” within the meaning of Code Section 897(c)(2), unless any class of our stock is regularly traded on an established securities market and the Non-U.S. Holder disposes of such class of stock and holds no more than 5% of such class of stock, directly or indirectly, actually or constructively, during the shorter of the 5-year period ending on the date of the disposition or the period that the Non-U.S. Holder held such class of stock.

If you are a Non-U.S. Holder described in (a) above, you will be required to pay tax on the net gain derived from the sale at the regular graduated U.S. federal income tax rates applicable to U.S. persons, unless a specific treaty exemption applies. Corporate Non-U.S. Holders described in (a) above may also be subject to the additional branch profits tax at a 30% rate or such lower rate as may be specified by an applicable income tax treaty. If you are an individual Non-U.S. Holder described in (b) above, you will be required to pay a flat 30% tax on the gain derived from the sale, which gain may be offset by certain U.S. source capital losses (even though you are not considered a resident of the United States), provided you have timely filed U.S. federal income tax returns with respect to such losses. With respect to (c) above, in general, we would be a U.S. real property holding corporation if interests in U.S. real estate comprised (by fair market value) at least half of our worldwide real property interests plus our other assets used or held for use in a trade or business. We believe that we are not, and do not anticipate becoming, a U.S. real property holding corporation. However, there can be no assurance that we will not become a U.S. real property holding corporation in the future. Special rules may apply to Non-U.S. Holders of pre-funded warrants (which may constitute a non-regularly traded class of stock for purposes of the rules described above), and non-U.S. Holders should consult their tax advisors concerning those rules.

Information Reporting and Backup Withholding

Generally, we or certain financial middlemen must report information to the IRS with respect to any dividends we pay on our common stock or pre-funded warrants and any constructive dividends deemed paid on pre-funded warrants including the amount of any such dividends, the name and address of the recipient, and the amount, if any, of tax withheld. A similar report is sent to the holder to whom any such dividends are paid. Pursuant to tax treaties or certain other agreements, the IRS may make its reports available to tax authorities in the recipient's country of residence.

Dividends paid by us (or our paying agents) to a Non-U.S. Holder may also be subject to U.S. backup withholding. U.S. backup withholding generally will not apply to a Non-U.S. Holder who provides a properly executed IRS Form W-8BEN, W-8BEN-E or W-8ECI, as applicable, or otherwise establishes an exemption, provided that the applicable withholding agent does not have actual knowledge or reason to know the holder is a U.S. person.

Under current U.S. federal income tax law, U.S. information reporting and backup withholding requirements generally will apply to the proceeds of a disposition of our common stock or pre-funded warrants

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effected by or through a U.S. office of any broker, U.S. or non-U.S., unless the Non-U.S. Holder provides a properly executed IRS Form W-8BEN, W-8BEN-E or W-8ECI, as applicable, or otherwise meets documentary evidence requirements for establishing non-U.S. person status or otherwise establishes an exemption. Generally, U.S. information reporting and backup withholding requirements will not apply to a payment of disposition proceeds to a Non-U.S. Holder where the transaction is effected outside the United States through a non-U.S. office of a non-U.S. broker. Information reporting and backup withholding requirements may, however, apply to a payment of disposition proceeds if the broker has actual knowledge, or reason to know, that the holder is, in fact, a U.S. person. For information reporting purposes, certain brokers with substantial U.S. ownership or operations will generally be treated in a manner similar to U.S. brokers.

Backup withholding is not an additional tax. If backup withholding is applied to you, you should consult with your own tax advisor to determine whether you have overpaid your U.S. federal income tax, and whether you are able to obtain a tax refund or credit of the overpaid amount.

Foreign Accounts

In addition to, and separately from the withholding rules described above, U.S. federal withholding taxes may apply under the provisions of the Code commonly known as the Foreign Account Tax Compliance Act, or FATCA, on certain types of payments, including dividends to non-U.S. financial institutions and certain other non-U.S. entities. Specifically, a 30% withholding tax may be imposed on dividends paid in respect of our common stock or pre-funded warrants, constructive distributions deemed paid with respect to pre-funded warrants and the gross proceeds of the disposition on our common stock or pre-funded warrants paid to a “foreign financial institution” or a “non-financial foreign entity” (each as defined in the Code), unless (1) the foreign financial institution agrees to undertake certain diligence and reporting obligations, (2) the non-financial foreign entity either certifies it does not have any “substantial United States owners” (as defined in the Code) or furnishes identifying information regarding each substantial United States owner, or (3) the foreign financial institution or non-financial foreign entity otherwise qualifies for an exemption from these rules. The 30% federal withholding tax described in this paragraph cannot be reduced under an income tax treaty with the United States. If the payee is a foreign financial institution and is subject to the diligence and reporting requirements in (1) above, it must enter into an agreement with the U.S. Department of the Treasury requiring, among other things, that it undertake to identify accounts held by certain “specified United States persons” or “United States-owned foreign entities” (each as defined in the Code), annually report certain information about such accounts, and withhold 30% on certain payments to non-compliant foreign financial institutions and certain other account holders. Foreign financial institutions located in jurisdictions that have an intergovernmental agreement with the United States governing FATCA may be subject to different rules.

The Treasury Secretary has issued proposed regulations providing that the withholding provisions under FATCA do not apply with respect to payment of gross proceeds from a sale or other disposition of our notes or common stock, which may be relied upon by taxpayers until final regulations are issued. Prospective investors should consult their tax advisors regarding the potential application of withholding under FATCA to their investment in our common stock or pre-funded warrants.

EACH PROSPECTIVE INVESTOR SHOULD CONSULT ITS OWN TAX ADVISOR REGARDING THE TAX CONSEQUENCES OF PURCHASING, HOLDING AND DISPOSING OF OUR COMMON STOCK AND PRE-FUNDED WARRANTS, INCLUDING THE CONSEQUENCES OF ANY PROPOSED CHANGE IN APPLICABLE LAW, AS WELL AS TAX CONSEQUENCES ARISING UNDER ANY STATE, LOCAL, NON-U.S. OR U.S. FEDERAL NON-INCOME TAX LAWS SUCH AS ESTATE AND GIFT TAX.

PLAN OF DISTRIBUTION

We have arranged for the sale of the pre-funded warrants we are offering pursuant to this prospectus supplement and the accompanying prospectus to certain institutional investors pursuant to a securities purchase agreement directly between the such investors and us. The pre-funded warrants were offered on a best efforts basis directly to the investors without a placement agent, underwriter, broker or dealer. The closing of this offering is subject to customary closing conditions. We expect that the sale of the pre-funded warrants will be completed on or around the date indicated on the cover page of this prospectus supplement.

Our common shares are traded on the Nasdaq Global Market under the symbol “TCRX.” The transfer agent and registrar for our common shares is Equiniti Trust Company, LLC. The pre-funded warrants are not listed for trading on any securities exchange. There is no established public trading market for the pre-funded warrants, and we do not expect a market to develop. We do not intend to list the pre-funded warrants on the Nasdaq Global Market or any other national securities exchange or nationally recognized trading system. We will act as warrant agent for the pre-funded warrants.

We have entered into an investment agreement with the investor covering the sale of the pre-funded warrants offered under this prospectus supplement. For the complete terms of the securities purchase agreement, you should refer to the form of securities purchase agreement which will be filed as an exhibit to the Current Report on Form 8-K to be filed with the SEC in connection with this offering, and which is incorporated by reference into the registration statement of which this prospectus supplement is part.

LEGAL MATTERS

The validity of the pre-funded warrants offered hereby and the common stock issuable upon exercise of such pre-funded warrants and certain legal matters in connection with this offering will be passed upon by Goodwin Procter LLP, Boston, Massachusetts.

EXPERTS

The financial statements of TScan Therapeutics, Inc., incorporated by reference in this prospectus supplement, have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report. Such financial statements are incorporated by reference in reliance upon the report of such firm, given their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-3 (Registration No. 333-268260) under the Securities Act with respect to the securities offered hereby. This prospectus supplement, which constitutes a part of such registration statement, does not contain all of the information set forth in such registration statement or the exhibits filed therewith. For further information about us and the pre-funded warrants, including the shares of common stock issuable upon exercise thereof, offered hereby, reference is made to the accompanying prospectus and the registration statement of which such accompanying prospectus is a part and the exhibits filed therewith. Statements contained in this prospectus supplement regarding the contents of any contract or any other document that is filed as an exhibit to the accompanying prospectus and the registration statement of which such accompanying prospectus is a part are not necessarily complete, and in each instance we refer you to the copy of such contract or other document filed as an exhibit to such registration statement or the exhibits to the reports or other documents incorporated by reference in this prospectus supplement for a copy of such contract or other document.

We are subject to the informational requirements of the Exchange Act and are required to file annual, quarterly and other reports, proxy statements and other information with the SEC. The SEC maintains an Internet site (<http://www.sec.gov>) that contains reports, proxy and information statements, and various other information about us.

Information about us is also available at our website at www.tscan.com. However, the information on our website is not a part of this prospectus supplement and is not incorporated by reference into this prospectus supplement.

INCORPORATION OF INFORMATION BY REFERENCE

The SEC allows us to incorporate by reference much of the information we file with the SEC, which means that we can disclose important information to you by referring you to those publicly available documents. The information that we incorporate by reference in this prospectus is considered to be part of this prospectus. Because we are incorporating by reference future filings with the SEC, this prospectus is continually updated and those future filings may modify or supersede some of the information included or incorporated in this prospectus. We are incorporating by reference the documents listed below, which we have already filed with the SEC, and any future filings we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, except as to any portion of any future report or document that is not deemed filed under such provisions, after the date of this prospectus supplement and prior to the termination of this offering:

- Annual Report on [Form 10-K](#) for the fiscal year ended December 31, 2023, filed with the SEC on March 6, 2024, as supplemented and amended by the Amendment No. 1 on [Form 10-K/A](#) to our Annual Report for the fiscal year ended December 31, 2023, filed with the SEC on April 10, 2024;
- Quarterly Reports on Form 10-Q for the fiscal quarters ended March 31, 2024, June 30, 2024 and September 30, 2024, as filed with the SEC on [May 13, 2024](#), [August 12, 2024](#) and [November 12, 2024](#), respectively;
- Current Reports on Form 8-K filed with the SEC on [January 29, 2024](#), [April 8, 2024](#), [April 16, 2024](#), [April 17, 2024](#), [June 14, 2024](#), [November 1, 2024](#), [November 21, 2024](#), [December 10, 2024](#) and [December 23, 2024](#); and
- The description of our common stock contained in our Registration Statement on [Form 8-A](#) filed on July 13, 2021, including any amendments or reports filed for the purpose of updating such description (including [Exhibit 4.4](#) to our Annual Report on [Form 10-K](#) for the year ended December 31, 2021 filed with the SEC on March 9, 2022).

We are not, however, incorporating by reference any documents or portions thereof filed in the future that are not deemed “filed” with the SEC, including any information furnished pursuant to Items 2.02 or 7.01 of Form 8-K or certain exhibits furnished pursuant to Item 9.01 of Form 8-K.

Pursuant to Rule 412 under the Securities Act, any statement contained in a document incorporated or deemed to be incorporated by reference into this prospectus supplement and the accompanying prospectus will be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus supplement, the accompanying prospectus or any other subsequently filed document that is deemed to be incorporated by reference into this prospectus supplement and the accompanying prospectus modifies or supersedes the statement. Any statement so modified or superseded will not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

You should not assume that the information in this prospectus supplement, the accompanying prospectus or in the documents incorporated by reference is accurate as of any date other than the date on the front of this prospectus supplement, and the accompanying prospectus or those documents.

You may request a copy of these filings, at no cost, by writing or telephoning us at the following address or telephone number:

TScan Therapeutics, Inc.
830 Winter Street
Waltham, Massachusetts 02451
Attn: Corporate Secretary
(857) 399-9500

PROSPECTUS



\$250,000,000

TSCAN THERAPEUTICS, INC.

**Common Stock
Preferred Stock
Debt Securities
Warrants
Units**

We may from time to time issue, in one or more series or classes, up to \$250,000,000 in aggregate principal amount of our voting common stock, preferred stock, debt securities, warrants and/or units, in any combination, together or separately, in one or more offerings in amounts, at prices and on the terms that we will determine at the time of the offering and which will be set forth in a prospectus supplement to this prospectus and any related free writing prospectus.

We may offer these securities separately or together in units. Each time we sell securities described herein, we will provide prospective investors with a supplement to this prospectus that will specify the terms of the securities being offered. We may sell these securities to or through underwriters or dealers and also to other purchasers or through agents. We will set forth the names of any underwriters or agents, and any fees, conversions, or discount arrangements, in the applicable prospectus supplement. We may not sell any securities under this prospectus without delivery of the applicable prospectus supplement. You should read this document and any prospectus supplement or amendment carefully before you invest in our securities.

Our voting common stock is listed on The Nasdaq Global Market under the symbol "TCRX." On May 15, 2023, the closing price for our voting common stock, as reported on The Nasdaq Global Market, was \$4.03 per share. Our principal executive offices are located at 830 Winter Street, Waltham, Massachusetts 02451.

Investing in these securities involves certain risks. See "[Risk Factors](#)" on page 2 of this prospectus as well as those included in any applicable prospectus supplement and in the documents incorporated by reference in this prospectus for a discussion of the factors you should carefully consider before deciding to purchase these securities.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus is May 16, 2023.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission, which we refer to as the “SEC,” utilizing a “shelf” registration process. Under this shelf registration process, we may from time to time sell any combination of the securities described in this prospectus in one or more offerings for an aggregate initial offering price of up to \$250,000,000.

This prospectus provides you with a general description of the securities we may offer. Each time we sell securities, we will provide one or more prospectus supplements that will contain specific information about the terms of the offering. The prospectus supplement may also add, update or change information contained in this prospectus. This prospectus, together with any applicable prospectus supplement, contains important information you should know before investing in our securities, including important information about us and the securities being offered. You should read both this prospectus and any applicable prospectus supplement together with the additional information described under the headings “Where You Can Find More Information” and “Incorporation by Reference” beginning on page 26 of this prospectus.

You should rely only on the information contained in or incorporated by reference in this prospectus, any prospectus supplement or in any related free writing prospectus filed by us with the SEC. We have not authorized anyone to provide you with different information. This prospectus and any applicable prospectus supplement do not constitute an offer to sell or the solicitation of an offer to buy any securities other than the securities described in any applicable prospectus supplement or an offer to sell or the solicitation of an offer to buy such securities in any circumstances in which such offer or solicitation is unlawful. You should assume that the information appearing in this prospectus, any prospectus supplement, the documents incorporated by reference and any related free writing prospectus is accurate only as of their respective dates. Our business, financial condition, results of operations and prospects may have changed materially since those dates. This prospectus, any applicable prospectus supplement and the information incorporated herein or therein by reference contains market data, industry statistics and other data that have been obtained or compiled from information made available by independent third parties. We have not independently verified the accuracy and completeness of such data.

THIS PROSPECTUS MAY NOT BE USED TO OFFER AND SELL SECURITIES UNLESS IT IS ACCOMPANIED BY AN ADDITIONAL PROSPECTUS OR A PROSPECTUS SUPPLEMENT.

As used in this prospectus, unless the context otherwise requires, references to “TScan,” “the Company,” “we,” “us” and “our” refer to TScan Therapeutics, Inc. and, where appropriate, our subsidiaries.

We own various U.S. federal trademark applications and unregistered trademarks, including our company name. All other trademarks or trade names referred to in this prospectus are the property of their respective owners. Solely for convenience, the trademarks and trade names in this prospectus are referred to without the symbols ® and ™, but such references should not be construed as any indicator that their respective owners will not assert, to the fullest extent under applicable law, their rights thereto.

RISK FACTORS

Investing in our securities involves a high degree of risk. You should carefully consider the risks set forth in our filings with the SEC that are incorporated by reference herein and any prospectus supplement, as well as other information we include or incorporate by reference into this prospectus and any applicable prospectus supplement, before making an investment decision. Our business, financial condition or results of operations could be materially adversely affected by the materialization of any of these risks. The trading price of our securities could decline due to the materialization of any of these risks, and you may lose all or part of your investment. This prospectus and the documents incorporated herein by reference also contain forward-looking statements that involve risks and uncertainties. Actual results could differ materially from those anticipated in these forward-looking statements as a result of certain factors, including the risks described in the documents incorporated herein by reference, including our most recent Annual Report on Form 10-K, our Quarterly Reports on Form 10-Q and our Current Reports on Form 8-K and the other documents we file with the SEC that are deemed incorporated by reference into this prospectus.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, including the documents that we incorporate by reference, includes forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the “Securities Act”), and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). Forward-looking statements relate to, among others, our plans, objectives and expectations for our business, operations and financial performance and condition, and can be identified by terminology such as “may,” “can,” “will,” “could,” “should,” “expect,” “intend,” “plan,” “anticipate,” “believe,” “estimate,” “predict,” “potential,” “possible,” “project,” “seek,” “endeavor,” “target,” “continue” and similar expressions that do not relate solely to historical matters. Forward-looking statements are based on management’s belief and assumptions and on information currently available to management. Although we believe that the expectations reflected in forward-looking statements are reasonable, such statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by forward-looking statements.

Forward-looking statements include, but are not limited to, statements about:

- the beneficial characteristics, safety, efficacy, therapeutic effects and potential advantages of our T cell receptor-engineered T cell, or 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;
- the timing of and our ability to submit applications for, and obtain and, if approved, maintain regulatory approvals for our product candidates;
- 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 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, on any of the foregoing or other aspects of our business or operations;

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- the effects of rising inflation rates and the impact on operating costs, liquidity and access to credit on any of the foregoing or other aspects of our business operations;
- the effects of global economic uncertainty and financial market volatility caused by political instability, changes in international trade relationships and conflicts, such as the ongoing conflict between Russia and Ukraine, on any of the foregoing or other aspects of our business or operations; and
- our anticipated use of our existing cash resources and our ability to obtain additional financing in the future.

The forward-looking statements in this prospectus represent our views as of the date of this prospectus. We anticipate that subsequent events and developments will cause our views to change. However, while we may elect to update these forward-looking statements at some point in the future, we have no current intention of doing so except to the extent required by applicable law. You should therefore not rely on these forward-looking statements as representing our views as of any date subsequent to the date of this prospectus.

We may from time-to-time provide estimates, projections and other information concerning our industry, our business and the markets for our programs and product candidates. Information that is 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 our own internal estimates and research as well as from reports, research surveys, studies, and similar data prepared by market research firms and other third parties, industry, medical and general publications, government data and similar sources. While we are not aware of any misstatements regarding any third-party information presented in this prospectus, their estimates, in particular, as they relate to projections, involve numerous assumptions, are subject to risks and uncertainties and are subject to change based on various factors. You should read this prospectus, any applicable prospectus supplement and any related free writing prospectus and the documents that we reference therein and have filed with the SEC as exhibits thereto completely and with the understanding that our actual future results may be materially different from any future results expressed or implied by these forward-looking statements. These estimates involve numerous assumptions, are subject to risks and uncertainties and are subject to change based on various factors, including those discussed under “Item 1A: Risk Factors” and elsewhere in our most recent Annual Report on Form 10-K, our subsequent Quarterly Reports on Form 10-Q and our Current Reports on Form 8-K, and the section of any accompanying prospectus supplement entitled “Risk Factors.”

OUR COMPANY

Overview

We are a clinical-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 aim to reduce the risk and enhance the safety profile of these therapeutic TCRs by screening them using SafetyScan 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 three-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 product candidates, TSC-100 and TSC-101, are in development for the treatment of patients with hematologic malignancies to eliminate residual disease and prevent relapse following allogeneic hematopoietic cell transplantation, or HCT. TSC-100 and TSC-101 target the 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 submitted 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. The FDA has cleared the INDs for both TSC-100 and TSC-101. The Phase 1 clinical study of TSC-100 and TSC-101 is open for enrollment and recruiting patients. In addition, we are developing multiple TCR-T therapy candidates for the treatment of solid tumors. One of the key goals of 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 plan to populate the ImmunoBank with TCRs for multiple targets as well as multiple HLA types for each target, thus helping us overcome the key solid tumor resistance mechanisms of target loss and HLA loss. We are currently advancing multiple TCRs for five solid tumor targets: HPV16 E7 (TSC-200), PRAME (TSC-203), MAGEA1 (TSC-204), and the undisclosed targets of TSC-201 and TSC-202. TSC-204-C7 is an HLA-C*07:02-restricted TCR for MAGE-A1 in IND-enabling activities; TSC-204-A2 is an HLA-A*02:01-restricted TCR for MAGE-A1 in IND-enabling activities; TSC-200-A2 is an HLA-A*02:01-restricted TCR for HPV16 E7 in IND-enabling activities; and TSC-203-A2 is an HLA-A*02:01-restricted TCR for PRAME in lead optimization. TCRs for the TSC-201 and TSC-202 programs are in lead optimization. We expect to submit IND applications for two solid tumor TCR-T therapy candidates by the end of 2022 with INDs for additional TCR-T candidates expected to be submitted by the end of 2023.

Corporate History

We were incorporated under the laws of the State of Delaware on April 17, 2018. Our principal corporate office is located at 830 Winter Street, Waltham, Massachusetts 02451, and our telephone number is (857) 399-9500. Our website address is www.tscan.com. We do not incorporate the information on or accessible through our website into this prospectus, and you should not consider any information on, or that can be accessed through, our website as part of this prospectus.

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

We qualify as an “emerging growth company” as defined in the Jumpstart Our Business Startups Act of 2012, as amended. As an emerging growth company, we may take advantage of specified reduced disclosure and other requirements that are otherwise applicable generally to public companies. These provisions include:

- being permitted to only disclose 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;
- reduced disclosure about our executive compensation arrangements;
- not being required to hold advisory votes on executive compensation or to obtain stockholder approval of any golden parachute arrangements not previously approved; and
- an exemption from the auditor attestation requirement in the assessment of our internal control over financial reporting.

We may take advantage of these exemptions until the fifth anniversary of our initial public offering or such earlier time that we are no longer an emerging growth company. We would cease to be an emerging growth company on the date that is the earliest of (i) the last day of the fiscal year in which we have total annual gross revenue of \$1.235 billion or more; (ii) the last day of our fiscal year following the fifth anniversary of the date of the completion of our initial public offering; (iii) the date on which we have issued more than \$1.0 billion in nonconvertible debt during the previous three years; or (iv) the last day of the fiscal year in which we are deemed to be a large accelerated filer under the rules of the Securities and Exchange Commission, or SEC, which means the market value of our voting and non-voting common stock that is held by non-affiliates exceeds \$700 million as of the prior June 30th. We may choose to take advantage of some but not all of these exemptions. We have taken advantage of reduced reporting requirements in this prospectus. Accordingly, the information contained herein may be different from the information you receive from other public companies in which you hold stock. We are in the process of evaluating the benefits of relying on other exemptions and reduced reporting requirements under the JOBS Act. Subject to certain conditions, as an emerging growth company, we may rely on certain of these exemptions, including without limitation, providing an auditor’s attestation report on our system of internal controls over financial reporting pursuant to Section 404(b) of the Sarbanes-Oxley Act.

We are also a “smaller reporting company” as defined in the Exchange Act. We may continue to be a smaller reporting company even after we are no longer an emerging growth company. We may take advantage of certain of the scaled disclosures available to smaller reporting companies until the fiscal year following the determination that our voting and non-voting common stock held by non-affiliates is more than \$250 million measured on the last business day of our second fiscal quarter, or our annual revenues are less than \$100 million during the most recently completed fiscal year and our voting and non-voting common stock held by non-affiliates is more than \$700 million measured on the last business day of our second fiscal quarter.

USE OF PROCEEDS

We currently intend to use the net proceeds from this offering primarily to fund the research and development, including one or more clinical trials and process development and manufacturing, of our product candidates. This may include acquisitions or investments in businesses, products or technologies that are complementary to our own, although we have no current plans, commitments or agreements with respect to any acquisitions as of the date of this prospectus, and for working capital and general corporate purposes. Pending these uses, we may invest the net proceeds from this offering in short-term U.S. Treasury securities with insignificant rates of return, or may hold such proceeds as cash, until they are used for their stated purpose. We have not determined the amount of net proceeds to be used specifically for such purposes. As a result, management will retain broad discretion over the allocation of net proceeds.

SECURITIES THAT MAY BE OFFERED

This prospectus contains summary descriptions of the securities we may offer from time to time. These summary descriptions are not meant to be complete descriptions of each security. The particular terms of any security will be described in the applicable prospectus supplement. This prospectus provides you with a general description of the securities we may offer. Each time we sell securities described herein, we will provide prospective investors with a supplement to this prospectus that will contain specific information about the terms of that offering, including the specific amounts, prices and terms of the securities offered.

We may sell the securities to or through underwriters, dealers or agents, directly to purchasers or through a combination of any of these methods of sale or as otherwise set forth below under “Plan of Distribution.” We, as well as any agents acting on our behalf, reserve the sole right to accept and to reject in whole or in part any proposed purchase of securities. Any prospectus supplement will set forth the names of any underwriters, dealers, agents or other entities involved in the sale of securities described in that prospectus supplement and any applicable fee, commission or discount arrangements with them.

DESCRIPTION OF CAPITAL STOCK

The following description of our capital stock is intended as a summary only and, therefore, is not a complete description of our capital stock. This description is based upon, and is qualified by reference to, our certificate of incorporation, our bylaws, and applicable provisions of Delaware corporate law. You should read our certificate of incorporation and our bylaws, in each case, as amended and supplemented, which are filed as exhibits to the registration statement of which this prospectus forms a part, for the provisions that are important to you.

General

The total number of shares of all classes of capital stock that the Company is authorized to issue is 320,000,000 shares, all with par value \$0.0001 per share, of which (i) 300,000,000 shares are a class designated as voting common stock, (ii) 10,000,000 shares are a class designated as non-voting common stock and (iii) 10,000,000 shares are a class designated as preferred stock. The following description of our capital stock and provisions of our certificate of incorporation and bylaws are summaries and are qualified by reference to our certificate of incorporation and our bylaws, in each case, as amended and supplemented.

Common Stock and Non-Voting Common Stock

As of September 30, 2022, we had outstanding 18,931,793 shares of voting common stock and 5,143,134 shares of non-voting common stock, held of record by over 100 stockholders (which number does not include beneficial owners whose shares are held by nominees in street name).

The holders of our voting 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 (“Certificate of Incorporation”) or as required by applicable law, on any matter that is submitted to a vote by our stockholders, holders of our voting common stock are entitled to one vote per share of voting 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 voting 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 voting 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 voting common stock immediately prior to and following such conversion, unless otherwise expressly provided for in our 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.

Except as otherwise provided by law, our Certificate of Incorporation or our bylaws, in all matters other than the election of directors, the affirmative vote of the majority of the shares present in person or represented by proxy at a meeting at which a quorum is present and entitled to vote on the subject matter shall be the act of the stockholders. Directors shall be elected by a plurality of the shares present in person or represented by proxy at a meeting at which a quorum is present and entitled to vote on the election of directors.

Subject to preferences that may apply to shares of preferred stock outstanding at the time, the holders of our voting common stock and non-voting common stock are entitled to receive ratably any dividends and distributions and other distributions in cash, stock or property of the Company when, as and if declared thereon by our board of directors from time to time out of assets or funds legally available for that purpose, 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. Our voting common stock and non-voting common stock have no preemptive rights or other subscription rights or redemption or sinking fund provisions.

In the event of our liquidation, dissolution or winding up, holders of our voting common stock and non-voting common stock will be entitled to share ratably in all assets remaining after payment of all debts and other

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liabilities and any liquidation preference of any outstanding preferred stock. Holders of shares of our voting common stock and non-voting common stock are not required to make additional capital contributions. The shares to be issued by us in this offering will be, when issued and paid for, validly issued, fully paid and non-assessable.

Preferred Stock

As of September 30, 2022, no shares of our preferred stock were issued and outstanding, but we are 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 voting 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 voting common stock and the voting and other rights of the holders of voting common stock.

Registration Rights

Pursuant to the terms of our amended and restated investors' rights agreement, dated January 15, 2021 (the "Investors' Rights Agreement"), with certain of our stockholders, certain of our stockholders are entitled to rights with respect to the registration of their shares (which we refer to herein as "registrable securities") under the Securities Act of 1933, as amended (the "Securities Act"), including demand registration rights, piggyback registration rights, and short-form registration rights.

We will pay all expenses relating to any registration described above, other than underwriting discounts and commissions. The registration rights terminate upon the earliest to occur of: (i) July 15, 2024; (ii) a liquidation event; or (iii) with respect to the registration rights of an individual holder, such time 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

Certain holders of our common stock are entitled to demand registration rights. Under the terms of the Investors' Rights Agreement, we are required, upon the written request of at least 35% of the holders of the registrable securities then outstanding that would result in an aggregate offering price of at least \$10.0 million, to file a registration statement and to use commercially reasonable efforts to effect the registration of all or a portion of these shares for public resale. We are required to effect only two registrations pursuant to this provision of the Investors' Rights Agreement.

Short-form registration rights

Certain holders of our common stock are also entitled to short-form registration rights. Pursuant to the Investors' Rights Agreement, if we are eligible to file a registration statement on Form S-3, upon the request of the holders of the registrable securities then outstanding to sell registrable securities at an aggregate price of at least \$3.0 million, we will be required to use commercially reasonable efforts to effect a registration of such shares. We are required to effect only two registrations in any twelve-month period pursuant to this provision of the Investors' Rights Agreement.

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Piggyback registration rights

Pursuant to the Investors' Rights Agreement, if we register any of our securities either for our own account or for the account of other security holders, certain holders of our common stock are entitled to include their shares in the registration. Subject to certain exceptions contained in the Investors' Rights Agreement, we and the underwriters may limit the number of shares included in the underwritten offering to the number of shares which we and the underwriters determine in our sole discretion will not jeopardize the success of the offering.

Indemnification

The Investors' Rights Agreement contains customary cross-indemnification provisions, under which we are obligated to indemnify holders of registrable securities in the event of material misstatements or omissions in the registration statement attributable to us, and they are obligated to indemnify us for material misstatements or omissions attributable to them.

Expiration of registration rights

The demand registration rights and short-form registration rights granted under the Investors' Rights Agreement will terminate on the earlier of (i) the third anniversary of the completion of our initial public offering, (ii) the occurrence of a deemed liquidation event, as defined in our Certificate of Incorporation, and (iii) such time following our initial public offering as Rule 144 promulgated under the Securities Act or another similar exemption under the Securities Act is available for the sale of all of the shares of the parties to the Investors' Rights Agreement without limitation during a three-month period without registration.

Anti-takeover effects of our Certificate of Incorporation and Bylaws and Delaware Law

Our Certificate of Incorporation and Amended and Restated Bylaws ("Bylaws") include a number of provisions that may have the effect of delaying, deferring or preventing another party from acquiring control of us and encouraging persons considering unsolicited tender offers or other unilateral takeover proposals to negotiate with our board of directors rather than pursue non-negotiated takeover attempts. These provisions include the items described below.

Board composition and filling vacancies

Our Certificate of Incorporation provides for the division of our board of directors into three classes serving staggered three-year terms, with one class being elected each year. Subject to any special rights of the holders of one or more series of preferred stock to elect directors, our Certificate of Incorporation also provides that directors may be removed only for cause and then only by the affirmative vote of the holders of two-thirds or more of the shares then entitled to vote at an election of directors. Furthermore, subject to any special rights of the holders of one or more series of preferred stock to elect directors, any vacancy on our board of directors, however occurring, including a vacancy resulting from an increase in the size of our board, may only be filled by the affirmative vote of a majority of our directors then in office even if less than a quorum. The classification of directors, together with the limitations on removal of directors and treatment of vacancies, has the effect of making it more difficult for stockholders to change the composition of our board of directors.

No written consent of stockholders

Our Certificate of Incorporation provides that all stockholder actions are required to be taken by a vote of the stockholders at an annual or special meeting, and that stockholders may not take any action by written consent in lieu of a meeting. This limit may lengthen the amount of time required to take stockholder actions and would prevent the amendment of our bylaws or removal of directors by our stockholders without holding a meeting of stockholders.

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Meetings of stockholders

Our Certificate of Incorporation and Bylaws provide that special meetings of stockholders for any purpose or purposes may be called at any time by a resolution adopted by a majority of the members of our board of directors then in office, the chairman of the board of directors or the Company's chief executive officer, and may not be called by any other person or persons, and only those matters set forth in the notice of the special meeting may be considered or acted upon at a special meeting of stockholders.

Advance notice requirements

Our Bylaws establish advance notice procedures with regard to stockholder proposals relating to the nomination of candidates for election as directors or new business to be brought before meetings of our stockholders. These procedures provide that notice of stockholder proposals must be timely given in writing to our corporate secretary prior to the meeting at which the action is to be taken. Generally, to be timely, notice must be received at our principal executive offices not less than 90 days nor more than 120 days prior to the first anniversary date of the annual meeting for the preceding year; *provided, however*, that in the event the annual meeting is first convened more than 30 days before, or delayed by more than 60 days, from the first anniversary of the preceding year's annual meeting, notice by the stockholder to be timely must be received at our principal executive offices not later than the close of business on the later of the 120th day prior to the scheduled date of such annual meeting and not later than the close of business on the later of the 90th day prior to such annual meeting and the 10th day following the day on which public announcement of the date of such meeting is first made, whichever occurs first. Our Bylaws specify the requirements as to form and content of all stockholders' notices. These requirements may preclude stockholders from bringing matters before the stockholders at an annual or special meeting.

Amendment to Certificate of Incorporation and Bylaws

The Company reserves the right at any time from time to time to amend, alter, change or repeal any provision contained in our Certificate of Incorporation, and any other provisions authorized by the Delaware General Corporation Law 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 our Certificate of Incorporation are granted. Notwithstanding any other provision of our 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 our Certificate of Incorporation, the affirmative vote of the holders of at least 2/3 in voting power of the outstanding stock of the Company 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 our Certificate of Incorporation). 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.

Our board of directors is expressly authorized and empowered to adopt, amend and repeal the Bylaws by the affirmative vote of a majority of the whole board of directors. In addition, stockholders shall also have power to adopt, amend or repeal the Bylaws; *provided, however*, that, notwithstanding any other provision of our 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 Company required by applicable law or by our Certificate of Incorporation or the Bylaws, the affirmative vote of the holders of at least 2/3 in voting power of the outstanding shares of the stock of the Company 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.

Undesignated preferred stock

Our Certificate of Incorporation provides for 10,000,000 authorized shares of preferred stock. The existence of authorized but unissued shares of preferred stock may enable our board of directors to discourage an attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise. For example, if in the due exercise of its fiduciary obligations, our board of directors were to determine that a takeover proposal is not in the best interests of our stockholders, our board of directors could cause shares of preferred stock to be issued without stockholder approval in one or more private offerings or other transactions that might dilute the voting or other rights of the proposed acquirer or insurgent stockholder or stockholder group. In this regard, our Certificate of Incorporation grants our board of directors broad power to establish the rights and preferences of authorized and unissued shares of preferred stock. The issuance of shares of preferred stock could decrease the amount of earnings and assets available for distribution to holders of shares of voting and non-voting common stock. The issuance may also adversely affect the rights and powers, including voting rights, of these holders and may have the effect of delaying, deterring or preventing a change in control of us.

Exclusive Forum

Our Certificate of Incorporation provides that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware shall be the sole and exclusive forum for any state law claims for: (1) any derivative action or proceeding brought on our behalf; (2) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers and employees to us or our stockholders; (3) any action asserting a claim arising pursuant to the Delaware General Corporation Law or our Certificate of Incorporation or Bylaws (including the interpretation, validity or enforceability thereof) or (4) any action asserting a claim that is governed by the internal affairs doctrine; provided, however, that this provision shall not apply to any causes of action arising under the Securities Act or Exchange Act. In addition, our Certificate of Incorporation provides that, unless we consent in writing to an alternative forum, the federal district courts of the United States shall be the sole and exclusive forum for resolving any complaint asserting a cause of action under the Securities Act, or the Federal Forum Provision. Any person or entity purchasing or otherwise acquiring any interest in our securities shall be deemed to have notice of and consented to these forum provisions. These forum provisions may impose additional costs on stockholders, may limit our stockholders' ability to bring a claim in a forum they find favorable, and the designated courts may reach different judgments or results than other courts. In addition, there is uncertainty as to whether our Federal Forum Provision will be enforced, which may impose additional costs on us and our stockholders.

Section 203 of the Delaware General Corporation Law

We are subject to the provisions of Section 203 of the Delaware General Corporation Law. In general, Section 203 prohibits a publicly held Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a three-year period following the time that this stockholder becomes an interested stockholder, unless the business combination is approved in a prescribed manner. Under Section 203, a business combination between a corporation and an interested stockholder is prohibited unless it satisfies one of the following conditions:

- before the stockholder became interested, our board of directors approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- upon consummation of the transaction which resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the Company outstanding at the time the transaction commenced, excluding for purposes of determining the voting stock outstanding, shares owned by persons who are directors and also officers, and employee stock plans, in some instances, but not the outstanding voting stock owned by the interested stockholder; or
- at or after the time the stockholder became interested, the business combination was approved by our board of directors and authorized at an annual or special meeting of the stockholders by the affirmative vote of at least two-thirds of the outstanding voting stock which is not owned by the interested stockholder.

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Section 203 defines a business combination to include:

- any merger or consolidation involving the Company and the interested stockholder;
- any sale, transfer, lease, pledge or other disposition involving the interested stockholder of 10% or more of the assets of the Company;
- subject to exceptions, any transaction that results in the issuance or transfer by the Company of any stock of the Company to the interested stockholder;
- subject to exceptions, any transaction involving the Company that has the effect of increasing the proportionate share of the stock of any class or series of the Company beneficially owned by the interested stockholder; and
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges, or other financial benefits provided by or through the Company.

In general, Section 203 defines an interested stockholder as any entity or person beneficially owning 15% or more of the outstanding voting stock of the Company and any entity or person affiliated with or controlling or controlled by the entity or person.

Listing on the Nasdaq Global Market

Our voting common stock is listed on The Nasdaq Global Market under the symbol “TCRX.”

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Computershare Trust Company, N.A. The transfer agent and registrar’s address is 150 Royall Street, Canton, Massachusetts 02021, and its telephone number is (800) 942-5909.

DESCRIPTION OF DEBT SECURITIES

We may issue debt securities from time to time, in one or more series, as either senior or subordinated debt or as senior or subordinated convertible debt. While the terms we have summarized below will apply generally to any debt securities that we may offer under this prospectus, we will describe the particular terms of any debt securities that we may offer in more detail in the applicable prospectus supplement. The terms of any debt securities offered under a prospectus supplement may differ from the terms described below. Unless the context requires otherwise, whenever we refer to the indenture, we also are referring to any supplemental indentures that specify the terms of a particular series of debt securities.

We will issue the debt securities under the indenture that we will enter into with the trustee named in the indenture. The indenture will be qualified under the Trust Indenture Act of 1939, as amended (the "Trust Indenture Act"). We have filed the form of indenture as an exhibit to the registration statement of which this prospectus is a part, and supplemental indentures and forms of debt securities containing the terms of the debt securities being offered will be filed as exhibits to the registration statement of which this prospectus is a part, or will be incorporated by reference from, reports that we file with the SEC.

The following summary of material provisions of the debt securities and the indenture is subject to, and qualified in its entirety by reference to, all of the provisions of the indenture applicable to a particular series of debt securities. We urge you to read the applicable prospectus supplements and any related free writing prospectuses related to the debt securities that we may offer under this prospectus, as well as the complete indenture that contains the terms of the debt securities.

General

The indenture does not limit the amount of debt securities that we may issue. It provides that we may issue debt securities up to the principal amount that we may authorize and may be in any currency or currency unit that we may designate. Except for the limitations on consolidation, merger and sale of all or substantially all of our assets contained in the indenture, the terms of the indenture do not contain any covenants or other provisions designed to give holders of any debt securities protection against changes in our operations, financial condition or transactions involving us.

We may issue the debt securities issued under the indenture as "discount securities," which means they may be sold at a discount below their stated principal amount. These debt securities, as well as other debt securities that are not issued at a discount, may be issued with "original issue discount" ("OID") for U.S. federal income tax purposes because of interest payment and other characteristics or terms of the debt securities. Material U.S. federal income tax considerations applicable to debt securities issued with OID will be described in more detail in any applicable prospectus supplement.

We will describe in the applicable prospectus supplement the terms of the series of debt securities being offered, including:

- the title of the series of debt securities;
- any limit upon the aggregate principal amount that may be issued;
- the maturity date or dates;
- the form of the debt securities of the series;
- the applicability of any guarantees;
- whether or not the debt securities will be secured or unsecured, and the terms of any secured debt;
- whether the debt securities rank as senior debt, senior subordinated debt, subordinated debt or any combination thereof, and the terms of any subordination;

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- if the price (expressed as a percentage of the aggregate principal amount thereof) at which such debt securities will be issued is a price other than the principal amount thereof, the portion of the principal amount thereof payable upon declaration of acceleration of the maturity thereof, or if applicable, the portion of the principal amount of such debt securities that is convertible into another security or the method by which any such portion shall be determined;
- the interest rate or rates, which may be fixed or variable, or the method for determining the rate and the date interest will begin to accrue, the dates interest will be payable and the regular record dates for interest payment dates or the method for determining such dates;
- our right, if any, to defer payment of interest and the maximum length of any such deferral period;
- if applicable, the date or dates after which, or the period or periods during which, and the price or prices at which, we may, at our option, redeem the series of debt securities pursuant to any optional or provisional redemption provisions and the terms of those redemption provisions;
- the date or dates, if any, on which, and the price or prices at which we are obligated, pursuant to any mandatory sinking fund or analogous fund provisions or otherwise, to redeem, or at the holder's option to purchase, the series of debt securities and the currency or currency unit in which the debt securities are payable;
- the denominations in which we will issue the series of debt securities, if other than denominations of \$1,000 and any integral multiple thereof;
- any and all terms, if applicable, relating to any auction or remarketing of the debt securities of that series and any security for our obligations with respect to such debt securities and any other terms which may be advisable in connection with the marketing of debt securities of that series;
- whether the debt securities of the series shall be issued in whole or in part in the form of a global security or securities; the terms and conditions, if any, upon which such global security or securities may be exchanged in whole or in part for other individual securities; and the depository for such global security or securities;
- if applicable, the provisions relating to conversion or exchange of any debt securities of the series and the terms and conditions upon which such debt securities will be so convertible or exchangeable, including the conversion or exchange price, as applicable, or how it will be calculated and may be adjusted, any mandatory or optional (at our option or the holders' option) conversion or exchange features, the applicable conversion or exchange period and the manner of settlement for any conversion or exchange;
- if other than the full principal amount thereof, the portion of the principal amount of debt securities of the series which shall be payable upon declaration of acceleration of the maturity thereof;
- additions to or changes in the covenants applicable to the particular debt securities being issued, including, among others, the consolidation, merger or sale covenant;
- additions to or changes in the events of default with respect to the securities and any change in the right of the trustee or the holders to declare the principal, premium, if any, and interest, if any, with respect to such securities to be due and payable;
- additions to or changes in or deletions of the provisions relating to covenant defeasance and legal defeasance;
- additions to or changes in the provisions relating to satisfaction and discharge of the indenture;
- additions to or changes in the provisions relating to the modification of the indenture both with and without the consent of holders of debt securities issued under the indenture;
- the currency of payment of debt securities if other than U.S. dollars and the manner of determining the equivalent amount in U.S. dollars;

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- whether interest will be payable in cash or additional debt securities at our or the holders' option and the terms and conditions upon which the election may be made;
- the terms and conditions, if any, upon which we will pay amounts in addition to the stated interest, premium, if any and principal amounts of the debt securities of the series to any holder that is not a "United States person" for federal tax purposes;
- any restrictions on transfer, sale or assignment of the debt securities of the series; and
- any other specific terms, preferences, rights or limitations of, or restrictions on, the debt securities, any other additions or changes in the provisions of the indenture, and any terms that may be required by us or advisable under applicable laws or regulations.

Conversion or Exchange Rights

We will set forth in the applicable prospectus supplement the terms on which a series of debt securities may be convertible into or exchangeable for our voting common stock or our other securities. We will include provisions as to settlement upon conversion or exchange and whether conversion or exchange is mandatory, at the option of the holder or at our option. We may include provisions pursuant to which the number of shares of our voting common stock or our other securities that the holders of the series of debt securities receive would be subject to adjustment.

Consolidation, Merger or Sale

Unless we provide otherwise in the prospectus supplement applicable to a particular series of debt securities, the indenture will not contain any covenant that restricts our ability to merge or consolidate, or sell, convey, transfer or otherwise dispose of our assets as an entirety or substantially as an entirety. However, any successor to or acquirer of such assets (other than any subsidiary of ours) must assume all of our obligations under the indenture or the debt securities, as appropriate.

Events of Default under the Indenture

Unless we provide otherwise in the prospectus supplement applicable to a particular series of debt securities, the following are events of default under the indenture with respect to any series of debt securities that we may issue:

- if we fail to pay any installment of interest on any series of debt securities, as and when the same shall become due and payable, and such default continues for a period of 90 days; provided, however, that a valid extension of an interest payment period by us in accordance with the terms of any indenture supplemental thereto shall not constitute a default in the payment of interest for this purpose;
- if we fail to pay the principal of, or premium, if any, on any series of debt securities as and when the same shall become due and payable whether at maturity, upon redemption, by declaration or otherwise, or in any payment required by any sinking or analogous fund established with respect to such series; provided, however, that a valid extension of the maturity of such debt securities in accordance with the terms of any indenture supplemental thereto shall not constitute a default in the payment of principal or premium, if any;
- if we fail to observe or perform any other covenant or agreement contained in the debt securities or the indenture, other than a covenant specifically relating to another series of debt securities, and our failure continues for 90 days after we receive written notice of such failure, requiring the same to be remedied and stating that such is a notice of default thereunder, from the trustee or holders of at least 25% in aggregate principal amount of the outstanding debt securities of the applicable series; and
- if specified events of bankruptcy, insolvency or reorganization occur.

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If an event of default with respect to debt securities of any series occurs and is continuing, other than an event of default specified in the last bullet point above, the trustee or the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series, by notice to us in writing, and to the trustee if notice is given by such holders, may declare the unpaid principal of, premium, if any, and accrued interest, if any, due and payable immediately. If an event of default specified in the last bullet point above occurs with respect to us, the principal amount of and accrued interest, if any, of each issue of debt securities then outstanding shall be due and payable without any notice or other action on the part of the trustee or any holder.

The holders of a majority in principal amount of the outstanding debt securities of an affected series may waive any default or event of default with respect to the series and its consequences, except defaults or events of default regarding payment of principal, premium, if any, or interest, unless we have cured the default or event of default in accordance with the indenture. Any waiver shall cure the default or event of default.

Subject to the terms of the indenture, if an event of default under an indenture shall occur and be continuing, the trustee will be under no obligation to exercise any of its rights or powers under such indenture at the request or direction of any of the holders of the applicable series of debt securities, unless such holders have offered the trustee reasonable indemnity. The holders of a majority in principal amount of the outstanding debt securities of any series will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the trustee, or exercising any trust or power conferred on the trustee, with respect to the debt securities of that series, provided that:

- the direction so given by the holder is not in conflict with any law or the applicable indenture; and
- subject to its duties under the Trust Indenture Act, the trustee need not take any action that might involve it in personal liability or might be unduly prejudicial to the holders not involved in the proceeding.

A holder of the debt securities of any series will have the right to institute a proceeding under the indenture or to appoint a receiver or trustee, or to seek other remedies only if:

- the holder has given written notice to the trustee of a continuing event of default with respect to that series;
- the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series have made written request,
- such holders have offered to the trustee indemnity satisfactory to it against the costs, expenses and liabilities to be incurred by the trustee in compliance with the request; and
- the trustee does not institute the proceeding, and does not receive from the holders of a majority in aggregate principal amount of the outstanding debt securities of that series other conflicting directions within 90 days after the notice, request and offer.

These limitations do not apply to a suit instituted by a holder of debt securities if we default in the payment of the principal, premium, if any, or interest on, the debt securities.

We will periodically file statements with the trustee regarding our compliance with specified covenants in the indenture.

Modification of Indenture; Waiver

We and the trustee may change an indenture without the consent of any holders with respect to specific matters:

- to cure any ambiguity, defect or inconsistency in the indenture or in the debt securities of any series;
- to comply with the provisions described above under “Description of Debt Securities—Consolidation, Merger or Sale”;

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- to provide for uncertificated debt securities in addition to or in place of certificated debt securities;
- to add to our covenants, restrictions, conditions or provisions such new covenants, restrictions, conditions or provisions for the benefit of the holders of all or any series of debt securities, to make the occurrence, or the occurrence and the continuance, of a default in any such additional covenants, restrictions, conditions or provisions an event of default or to surrender any right or power conferred upon us in the indenture;
- to add to, delete from or revise the conditions, limitations, and restrictions on the authorized amount, terms, or purposes of issue, authentication and delivery of debt securities, as set forth in the indenture;
- to make any change that does not adversely affect the interests of any holder of debt securities of any series in any material respect;
- to provide for the issuance of and establish the form and terms and conditions of the debt securities of any series as provided above under “Description of Debt Securities—General” to establish the form of any certifications required to be furnished pursuant to the terms of the indenture or any series of debt securities, or to add to the rights of the holders of any series of debt securities;
- to evidence and provide for the acceptance of appointment under any indenture by a successor trustee; or
- to comply with any requirements of the SEC in connection with the qualification of any indenture under the Trust Indenture Act.

In addition, under the indenture, the rights of holders of a series of debt securities may be changed by us and the trustee with the written consent of the holders of at least a majority in aggregate principal amount of the outstanding debt securities of each series that is affected. However, unless we provide otherwise in the prospectus supplement applicable to a particular series of debt securities, we and the trustee may make the following changes only with the consent of each holder of any outstanding debt securities affected:

- extending the fixed maturity of any debt securities of any series;
- reducing the principal amount, reducing the rate of or extending the time of payment of interest, or reducing any premium payable upon the redemption of any series of any debt securities; or
- reducing the percentage of debt securities, the holders of which are required to consent to any amendment, supplement, modification or waiver.

Discharge

Each indenture provides that we can elect to be discharged from our obligations with respect to one or more series of debt securities, except for specified obligations, including obligations to:

- provide for payment;
- register the transfer or exchange of debt securities of the series;
- replace stolen, lost or mutilated debt securities of the series;
- pay principal of and premium and interest on any debt securities of the series;
- maintain paying agencies;
- hold monies for payment in trust;
- recover excess money held by the trustee;
- compensate and indemnify the trustee; and
- appoint any successor trustee.

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In order to exercise our rights to be discharged, we must deposit with the trustee money or government obligations sufficient to pay all the principal of, any premium, if any, and interest on, the debt securities of the series on the dates payments are due.

Form, Exchange and Transfer

We will issue the debt securities of each series only in fully registered form without coupons and, unless we provide otherwise in the applicable prospectus supplement, in denominations of \$1,000 and any integral multiple thereof. The indenture provides that we may issue debt securities of a series in temporary or permanent global form and as book-entry securities that will be deposited with, or on behalf of, The Depository Trust Company (“DTC”) or another depository named by us and identified in the applicable prospectus supplement with respect to that series. To the extent the debt securities of a series are issued in global form and as book-entry, a description of terms relating to any book-entry securities will be set forth in the applicable prospectus supplement.

At the option of the holder, subject to the terms of the indenture and the limitations applicable to global securities described in the applicable prospectus supplement, the holder of the debt securities of any series can exchange the debt securities for other debt securities of the same series, in any authorized denomination and of like tenor and aggregate principal amount.

Subject to the terms of the indenture and the limitations applicable to global securities set forth in the applicable prospectus supplement, holders of the debt securities may present the debt securities for exchange or for registration of transfer, duly endorsed or with the form of transfer endorsed thereon duly executed if so required by us or the security registrar, at the office of the security registrar or at the office of any transfer agent designated by us for this purpose. Unless otherwise provided in the debt securities that the holder presents for transfer or exchange, we will impose no service charge for any registration of transfer or exchange, but we may require payment of any taxes or other governmental charges.

We will name in the applicable prospectus supplement the security registrar, and any transfer agent in addition to the security registrar, that we initially designate for any debt securities. We may at any time designate additional transfer agents or rescind the designation of any transfer agent or approve a change in the office through which any transfer agent acts, except that we will be required to maintain a transfer agent in each place of payment for the debt securities of each series.

If we elect to redeem the debt securities of any series, we will not be required to:

- issue, register the transfer of, or exchange any debt securities of that series during a period beginning at the opening of business 15 days before the day of mailing of a notice of redemption of any debt securities that may be selected for redemption and ending at the close of business on the day of the mailing; or
- register the transfer of or exchange any debt securities so selected for redemption, in whole or in part, except the unredeemed portion of any debt securities we are redeeming in part.

Information Concerning the Trustee

The trustee, other than during the occurrence and continuance of an event of default under an indenture, undertakes to perform only those duties as are specifically set forth in the applicable indenture. Upon an event of default under an indenture, the trustee must use the same degree of care as a prudent person would exercise or use in the conduct of his or her own affairs. Subject to this provision, the trustee is under no obligation to exercise any of the powers given it by the indenture at the request of any holder of debt securities unless it is offered reasonable security and indemnity against the costs, expenses and liabilities that it might incur.

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Payment and Paying Agents

Unless we otherwise indicate in the applicable prospectus supplement, we will make payment of the interest on any debt securities on any interest payment date to the person in whose name the debt securities, or one or more predecessor securities, are registered at the close of business on the regular record date for the interest.

We will pay principal of and any premium and interest on the debt securities of a particular series at the office of the paying agents designated by us, except that unless we otherwise indicate in the applicable prospectus supplement, we will make interest payments by check that we will mail to the holder or by wire transfer to certain holders. Unless we otherwise indicate in the applicable prospectus supplement, we will designate the corporate trust office of the trustee as our sole paying agent for payments with respect to debt securities of each series. We will name in the applicable prospectus supplement any other paying agents that we initially designate for the debt securities of a particular series. We will maintain a paying agent in each place of payment for the debt securities of a particular series.

All money we pay to a paying agent or the trustee for the payment of the principal of or any premium or interest on any debt securities that remains unclaimed at the end of two years after such principal, premium or interest has become due and payable will be repaid to us, and the holder of the debt security thereafter may look only to us for payment thereof.

Governing Law

The indenture and the debt securities will be governed by and construed in accordance with the laws of the state of New York, except to the extent that the Trust Indenture Act is applicable.

DESCRIPTION OF WARRANTS

The following description, together with the additional information we may include in any applicable prospectus supplements, summarizes the material terms and provisions of the warrants that we may offer under this prospectus and the related warrant agreements and warrant certificates. While the terms summarized below will apply generally to any warrants that we may offer, we will describe the particular terms of any series of warrants in more detail in the applicable prospectus supplement. If we indicate in the prospectus supplement, the terms of any warrants offered under that prospectus supplement may differ from the terms described below. Specific warrant agreements will contain additional important terms and provisions and will be incorporated by reference as an exhibit to the registration statement, which includes this prospectus.

General

We may issue warrants for the purchase of voting common stock, preferred stock in one or more series. We may issue warrants independently or together with voting common stock, preferred stock, and the warrants may be attached to or separate from these securities.

We will evidence each series of warrants by warrant certificates that we will issue under a separate warrant agreement. We will enter into the warrant agreement with a warrant agent. We will indicate the name and address of the warrant agent in the applicable prospectus supplement relating to a particular series of warrants.

We will describe in the applicable prospectus supplement the terms of the series of warrants, including:

- the offering price and aggregate number of warrants offered;
- the currency for which the warrants may be purchased;
- if applicable, the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each such security or each principal amount of such security;
- if applicable, the date on and after which the warrants and the related securities will be separately transferable;
- in the case of warrants to purchase voting common stock or preferred stock, the number of shares of voting common stock or preferred stock, as the case may be, purchasable upon the exercise of one warrant and the price at which these shares may be purchased upon such exercise;
- in the case of warrants to purchase debt securities, the principal amount of debt securities purchasable upon exercise of one warrant and the price at, and currency in which, this principal amount of debt securities may be purchased upon such exercise;
- the effect of any merger, consolidation, sale or other disposition of our business on the warrant agreement and the warrants;
- the terms of any rights to redeem or call the warrants;
- any provisions for changes to or adjustments in the exercise price or number of securities issuable upon exercise of the warrants;
- the periods during which, and places at which, the warrants are exercisable;
- the manner of exercise;
- the dates on which the right to exercise the warrants will commence and expire;
- the manner in which the warrant agreement and warrants may be modified;
- federal income tax consequences of holding or exercising the warrants;
- the terms of the securities issuable upon exercise of the warrants; and
- any other specific terms, preferences, rights or limitations of or restrictions on the warrants.

DESCRIPTION OF UNITS

We may issue units comprised of shares of voting common stock, shares of preferred stock and warrants in any combination. We may issue units in such amounts and in as many distinct series as we wish. This section outlines certain provisions of the units that we may issue. If we issue units, they will be issued under one or more unit agreements to be entered into between us and a bank or other financial institution, as unit agent. The information described in this section may not be complete in all respects and is qualified entirely by reference to the unit agreement with respect to the units of any particular series. The specific terms of any series of units offered will be described in the applicable prospectus supplement. If so described in a particular supplement, the specific terms of any series of units may differ from the general description of terms presented below. We urge you to read any prospectus supplement related to any series of units we may offer, as well as the complete unit agreement and unit certificate that contain the terms of the units. If we issue units, forms of unit agreements and unit certificates relating to such units will be incorporated by reference as exhibits to the registration statement, which includes this prospectus.

Each unit that we may issue will be issued so that the holder of the unit is also the holder of each security included in the unit. Thus, the holder of a unit will have the rights and obligations of a holder of each included security. The unit agreement under which a unit is issued may provide that the securities included in the unit may not be held or transferred separately, at any time or at any time before a specified date. The applicable prospectus supplement may describe:

- the designation and terms of the units and of the securities comprising the units, including whether and under what circumstances those securities may be held or transferred separately;
- any provisions of the governing unit agreement;
- the price or prices at which such units will be issued;
- the applicable United States federal income tax considerations relating to the units;
- any provisions for the issuance, payment, settlement, transfer or exchange of the units or of the securities comprising the units; and
- any other terms of the units and of the securities comprising the units.

The provisions described in this section, as well as those described under “Description of Capital Stock,” and “Description of Warrants” will apply to the securities included in each unit, to the extent relevant and as may be updated in any prospectus supplements.

Issuance in Series

We may issue units in such amounts and in as many distinct series as we wish. This section summarizes terms of the units that apply generally to all series. Most of the financial and other specific terms of a particular series of units will be described in the applicable prospectus supplement.

Unit Agreements

We will issue the units under one or more unit agreements to be entered into between us and a bank or other financial institution, as unit agent. We may add, replace or terminate unit agents from time to time. We will identify the unit agreement under which each series of units will be issued and the unit agent under that agreement in the applicable prospectus supplement.

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The following provisions will generally apply to all unit agreements unless otherwise stated in the applicable prospectus supplement:

Modification without Consent

We and the applicable unit agent may amend any unit or unit agreement without the consent of any holder:

- to cure any ambiguity; any provisions of the governing unit agreement that differ from those described below;
- to correct or supplement any defective or inconsistent provision; or
- to make any other change that we believe is necessary or desirable and will not adversely affect the interests of the affected holders in any material respect.

We do not need any approval to make changes that affect only units to be issued after the changes take effect. We may also make changes that do not adversely affect a particular unit in any material respect, even if they adversely affect other units in a material respect. In those cases, we do not need to obtain the approval of the holder of the unaffected unit; we need only obtain any required approvals from the holders of the affected units.

Modification with Consent

We may not amend any particular unit or a unit agreement with respect to any particular unit unless we obtain the consent of the holder of that unit, if the amendment would:

- impair any right of the holder to exercise or enforce any right under a security included in the unit if the terms of that security require the consent of the holder to any changes that would impair the exercise or enforcement of that right; or
- reduce the percentage of outstanding units or any series or class the consent of whose holders is required to amend that series or class, or the applicable unit agreement with respect to that series or class, as described below.

Any other change to a particular unit agreement and the units issued under that agreement would require the following approval:

- If the change affects only the units of a particular series issued under that agreement, the change must be approved by the holders of a majority of the outstanding units of that series; or
- If the change affects the units of more than one series issued under that agreement, it must be approved by the holders of a majority of all outstanding units of all series affected by the change, with the units of all the affected series voting together as one class for this purpose.

These provisions regarding changes with majority approval also apply to changes affecting any securities issued under a unit agreement, as the governing document.

In each case, the required approval must be given by written consent.

Unit Agreements Will Not Be Qualified under Trust Indenture Act

No unit agreement will be qualified as an indenture, and no unit agent will be required to qualify as a trustee, under the Trust Indenture Act. Therefore, holders of units issued under unit agreements will not have the protections of the Trust Indenture Act with respect to their units.

Mergers and Similar Transactions Permitted; No Restrictive Covenants or Events of Default

The unit agreements will not restrict our ability to merge or consolidate with, or sell our assets to, another corporation or other entity or to engage in any other transactions. If at any time we merge or consolidate with, or

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sell our assets substantially as an entirety to, another corporation or other entity, the successor entity will succeed to and assume our obligations under the unit agreements. We will then be relieved of any further obligation under these agreements.

The unit agreements will not include any restrictions on our ability to put liens on our assets, nor will they restrict our ability to sell our assets. The unit agreements also will not provide for any events of default or remedies upon the occurrence of any events of default.

Governing Law

The unit agreements and the units will be governed by Delaware law.

Form, Exchange and Transfer

We will issue each unit in global—i.e., book-entry—form only. Units in book-entry form will be represented by a global security registered in the name of a depository, which will be the holder of all the units represented by the global security. Those who own beneficial interests in a unit will do so through participants in the depository's system, and the rights of these indirect owners will be governed solely by the applicable procedures of the depository and its participants. We will describe book-entry securities, and other terms regarding the issuance and registration of the units in the applicable prospectus supplement.

Each unit and all securities comprising the unit will be issued in the same form.

If we issue any units in registered, non-global form, the following will apply to them.

The units will be issued in the denominations stated in the applicable prospectus supplement. Holders may exchange their units for units of smaller denominations or combined into fewer units of larger denominations, as long as the total amount is not changed.

- Holders may exchange or transfer their units at the office of the unit agent. Holders may also replace lost, stolen, destroyed or mutilated units at that office. We may appoint another entity to perform these functions or perform them ourselves.
- Holders will not be required to pay a service charge to transfer or exchange their units, but they may be required to pay for any tax or other governmental charge associated with the transfer or exchange. The transfer or exchange, and any replacement, will be made only if our transfer agent is satisfied with the holder's proof of legal ownership. The transfer agent may also require an indemnity before replacing any units.
- If we have the right to redeem, accelerate or settle any units before their maturity, and we exercise our right as to less than all those units or other securities, we may block the exchange or transfer of those units during the period beginning 15 days before the day we mail the notice of exercise and ending on the day of that mailing, in order to freeze the list of holders to prepare the mailing. We may also refuse to register transfers of or exchange any unit selected for early settlement, except that we will continue to permit transfers and exchanges of the unsettled portion of any unit being partially settled. We may also block the transfer or exchange of any unit in this manner if the unit includes securities that are or may be selected for early settlement.

Only the depository will be entitled to transfer or exchange a unit in global form, since it will be the sole holder of the unit.

Payments and Notices

In making payments and giving notices with respect to our units, we will follow the procedures as described in the applicable prospectus supplement.

PLAN OF DISTRIBUTION

We may sell the securities offered through this prospectus and any applicable prospectus supplement, if required, in any of the following ways: (i) to or through underwriters or dealers, (ii) directly to purchasers, including our affiliates, (iii) through agents, (iv) in an “at the market offering,” within the meaning of Rule 415(a)(4) of the Securities Act or (v) through a combination of any of these methods or any other method permitted by law. The securities may be distributed at a fixed price or prices, which may be changed, market prices prevailing at the time of sale, prices related to the prevailing market prices, or negotiated prices, either:

- on or through the facilities of The Nasdaq Global Market or any other securities exchange or quotation or trading service on which such securities may be listed, quoted or traded at the time of sale; and/or
- to or through a market maker otherwise than on The Nasdaq Global Market or such other securities exchanges or quotation or trading services.

In addition, we may issue the securities as a dividend or distribution or in a subscription rights offering to our existing security holders.

We may directly solicit offers to purchase securities, or agents may be designated to solicit such offers. In the prospectus supplement relating to such offering, we will name any agent that could be viewed as an underwriter under the Securities Act and describe any commissions that we must pay to any such agent. Any such agent will be acting on a best efforts basis for the period of its appointment or, if indicated in the applicable prospectus supplement, on a firm commitment basis. This prospectus may be used in connection with any offering of our securities through any of these methods or other methods described in the applicable prospectus supplement.

Each prospectus supplement will describe the method of distribution of the securities and any applicable restrictions.

The prospectus supplement with respect to the securities of a particular series will describe the terms of the offering of the securities, including the following:

- the name of the agent or any underwriters;
- the public offering or purchase price;
- any discounts and commissions to be allowed or paid to the agent or underwriters;
- all other items constituting underwriting compensation;
- any discounts and commissions to be allowed or paid to dealers; and
- any exchanges on which the securities will be listed.

If any underwriters or agents are used in the sale of the securities in respect of which this prospectus is delivered, we will enter into an underwriting agreement, sales agreement or other agreement with them at the time of sale to them, and we will set forth in the prospectus supplement relating to such offering the names of the underwriters or agents and the terms of the related agreement with them.

In connection with the offering of securities, we may grant to the underwriters an option to purchase additional securities with an additional underwriting commission, as may be set forth in any applicable prospectus supplement. If we grant any such option, the terms of such option will be set forth in the prospectus supplement for such securities.

If a dealer is used in the sale of the securities in respect of which the prospectus is delivered, we will sell such securities to the dealer, as principal. The dealer, who may be deemed to be an “underwriter” as that term is defined in the Securities Act, may then resell such securities to the public at varying prices to be determined by such dealer at the time of resale.

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If we offer securities in a subscription rights offering to our existing security holders, we may enter into a standby underwriting agreement with dealers, acting as standby underwriters. We may pay the standby underwriters a commitment fee for the securities they commit to purchase on a standby basis. If we do not enter into a standby underwriting arrangement, we may retain a dealer-manager to manage a subscription rights offering for us.

Agents, underwriters, dealers and other persons may be entitled under agreements which they may enter into with us to indemnification by us against certain civil liabilities, including liabilities under the Securities Act, and may be customers of, engage in transactions with or perform services for us in the ordinary course of business.

If so indicated in the applicable prospectus supplement, we will authorize underwriters or other persons acting as our agents to solicit offers by certain institutions to purchase securities from us pursuant to delayed delivery contracts providing for payment and delivery on the date stated in the prospectus supplement. Each contract will be for an amount not less than, and the aggregate amount of securities sold pursuant to such contracts shall not be less nor more than, the respective amounts stated in the prospectus supplement. Institutions with whom the contracts, when authorized, may be made include commercial and savings banks, insurance companies, pension funds, investment companies, educational and charitable institutions and other institutions, but shall in all cases be subject to our approval. Delayed delivery contracts will not be subject to any conditions except that:

- the purchase by an institution of the securities covered under that contract shall not at the time of delivery be prohibited under the laws of the jurisdiction to which that institution is subject; and
- if the securities are also being sold to underwriters acting as principals for their own account, the underwriters shall have purchased such securities not sold for delayed delivery. The underwriters and other persons acting as our agents will not have any responsibility in respect of the validity or performance of delayed delivery contracts.

Offered securities may also be offered and sold, if so indicated in the prospectus supplement, in connection with a remarketing upon their purchase, in accordance with a redemption or repayment pursuant to their terms, or otherwise, by one or more remarketing firms, acting as principals for their own accounts or as agents for us. Any remarketing firm will be identified and the terms of its agreement, if any, with us and its compensation will be described in the applicable prospectus supplement. Remarketing firms may be deemed to be underwriters in connection with their remarketing of offered securities.

Certain agents, underwriters and dealers, and their associates and affiliates, may be customers of, have borrowing relationships with, engage in other transactions with, or perform services, including investment banking services, for us or one or more of our respective affiliates in the ordinary course of business.

In order to facilitate the offering of the securities, any underwriters may engage in transactions that stabilize, maintain or otherwise affect the price of the securities or any other securities the prices of which may be used to determine payments on such securities. Specifically, any underwriters may overallocate in connection with the offering, creating a short position for their own accounts. In addition, to cover overallocations or to stabilize the price of the securities or of any such other securities, the underwriters may bid for, and purchase, the securities or any such other securities in the open market. Finally, in any offering of the securities through a syndicate of underwriters, the underwriting syndicate may reclaim selling concessions allowed to an underwriter or a dealer for distributing the securities in the offering if the syndicate repurchases previously distributed securities in transactions to cover syndicate short positions, in stabilization transactions or otherwise. Any of these activities may stabilize or maintain the market price of the securities above independent market levels. Any such underwriters are not required to engage in these activities and may end any of these activities at any time.

We may engage in at the market offerings into an existing trading market in accordance with Rule 415(a)(4) under the Securities Act. In addition, we may enter into derivative transactions with third parties, or sell securities not covered by this prospectus to third parties in privately negotiated transactions. If the applicable

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prospectus supplement so indicates, in connection with those derivatives, the third parties may sell securities covered by this prospectus and the applicable prospectus supplement, including in short sale transactions. If so, the third party may use securities pledged by us or borrowed from us or others to settle those sales or to close out any related open borrowings of stock, and may use securities received from us in settlement of those derivatives to close out any related open borrowings of stock. The third party in such sale transactions will be an underwriter and, if not identified in this prospectus, will be named in the applicable prospectus supplement (or a post-effective amendment). In addition, we may otherwise loan or pledge securities to a financial institution or other third party that in turn may sell the securities short using this prospectus and an applicable prospectus supplement. Such financial institution or other third party may transfer its economic short position to investors in our securities or in connection with a concurrent offering of other securities.

Under Rule 15c6-1 of the Exchange Act, trades in the secondary market generally are required to settle in two business days, unless the parties to any such trade expressly agree otherwise. The applicable prospectus supplement may provide that the original issue date for your securities may be more than two scheduled business days after the trade date for your securities. Accordingly, in such a case, if you wish to trade securities on any date prior to the second business day before the original issue date for your securities, you will be required, by virtue of the fact that your securities initially are expected to settle in more than two scheduled business days after the trade date for your securities, to make alternative settlement arrangements to prevent a failed settlement.

The securities may be new issues of securities and may have no established trading market. The securities may or may not be listed on a national securities exchange. We can make no assurance as to the liquidity of or the existence of trading markets for any of the securities.

The specific terms of any lock-up provisions in respect of any given offering will be described in the applicable prospectus supplement.

Any underwriters, dealers and agents may engage in transactions with us, or perform services for us, in the ordinary course of business for which they receive compensation.

The anticipated date of delivery of offered securities will be set forth in the applicable prospectus supplement relating to each offer.

LEGAL MATTERS

Unless the applicable prospectus supplement indicates otherwise, the validity of the securities in respect of which this prospectus is being delivered will be passed upon by Goodwin Procter LLP, Boston, Massachusetts. Any underwriters or agents will be advised about legal matters relating to any offering by their own counsel, which will be named in the applicable prospectus supplement.

EXPERTS

The financial statements of TScan Therapeutics, Inc. incorporated by reference in this Prospectus have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report. Such financial statements are incorporated by reference in reliance upon the report of such firm, given their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC's website at www.sec.gov and on our investor website at <https://www.tscan.com>. Our website is not a part of this prospectus and is not incorporated by reference in this prospectus.

We have the authority to designate and issue more than one class or series of stock having various preferences, conversion and other rights, voting powers, restrictions, limitations as to dividends, qualifications, and terms and conditions of redemption. See "Description of Capital Stock." We will furnish a full statement of the relative rights and preferences of each class or series of our stock which has been so designated and any restrictions on the ownership or transfer of our stock to any stockholder upon request and without charge. Written requests for such copies should be directed to TScan Therapeutics, Inc., 830 Winter Street, Waltham, Massachusetts 02451, Attention: Corporate Secretary.

This prospectus is part of a registration statement on Form S-3 we filed with the SEC. This prospectus omits some information contained in the registration statement in accordance with SEC rules and regulations. You should review the information and exhibits in the registration statement for further information about us and our consolidated subsidiaries and the securities we are offering. Statements in this prospectus concerning any document we filed as an exhibit to the registration statement or that we otherwise filed with the SEC are not intended to be comprehensive and are qualified by reference to these filings. You should review the complete document to evaluate these statements.

INCORPORATION BY REFERENCE

The SEC allows us to incorporate by reference much of the information we file with the SEC, which means that we can disclose important information to you by referring you to those publicly available documents. The information that we incorporate by reference in this prospectus is considered to be part of this prospectus. Because we are incorporating by reference future filings with the SEC, this prospectus is continually updated and those future filings may modify or supersede some of the information included or incorporated in this prospectus. This means that you must look at all of the SEC filings that we incorporate by reference to determine if any of the statements in this prospectus or in any document previously incorporated by reference have been modified or superseded. This prospectus incorporates by reference the documents listed below and any future filings we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act (in each case, other than those documents or the portions of those documents not deemed to be filed) between the date of the initial registration statement and the effectiveness of the registration statement and following the effectiveness of the registration statement until the offering of the securities under the registration statement is terminated or completed:

- Annual Report on [Form 10-K](#) for the fiscal year ended December 31, 2022, filed with the SEC on March 8, 2023;
- The information specifically incorporated by reference into our Annual Report on Form 10-K for the year ended December 31, 2022 from our [definitive proxy statement](#) on Schedule 14A (other than information furnished rather than filed) filed with the SEC on April 25, 2023;
- Quarterly Reports on [Form 10-Q](#) filed with the SEC for the quarters ended March 31, 2023 filed with the SEC on May 10, 2023;
- Current Reports on Form 8-K filed with the SEC on [January 23, 2023](#), [March 31, 2023](#), [April 10, 2023](#) and [May 9, 2023](#); and
- The description of our common stock contained in our Registration Statement on [Form 8-A](#) filed on July 13, 2021, including any amendments or reports filed for the purpose of updating such description (including [Exhibit 4.4](#) to our Annual Report on [Form 10-K](#) for the year ended December 31, 2021 filed with the SEC on March 9, 2022).

In addition, all reports and other documents filed by us pursuant to the Exchange Act after the date of the initial registration statement and prior to effectiveness of the registration statement shall be deemed to be incorporated by reference into this prospectus.

You may request a copy of these filings, at no cost, by writing or telephoning us at the following address or telephone number:

TScan Therapeutics, Inc.
830 Winter Street
Waltham, Massachusetts 02451
Attn: Corporate Secretary
(857) 399-9500



Pre-Funded Warrants to Purchase 7,500,000 Shares of Common Stock

PROSPECTUS SUPPLEMENT

December 26, 2024