Free Writing Prospectus Filed Pursuant to Rule 433
To Prospectus dated May 16, 2023
Preliminary Prospectus Supplement dated May 25, 2023
Registration Statement File No. 333- 268260
May 26, 2023

TScan Therapeutics, Inc.

This free writing prospectus relates to the offering of shares of common stock and, in lieu of voting common stock to certain investors that so choose, pre-funded warrants to purchase shares of common stock of TScan Therapeutics, Inc. (the "Company") and should be read together with the preliminary prospectus supplement dated May 25, 2023 (the "Preliminary Prospectus"), which supplements the prospectus included in the Company's Registration Statement on Form S-3 (File No. 333-268260), relating to the offering of such securities. Capitalized and other terms used but not defined herein have the meaning as set forth in the Preliminary Prospectus.

The following information supplements and updates the information contained in the Preliminary Prospectus.

Issuer: TScan Therapeutics, Inc.

Trade Date: May 26, 2023

Expected Settlement

Date:

May 31, 2023, for the voting common stock, and June 1, 2023, for the prefunded warrants(*). In each case, settlement is subject to customary closing conditions, and there can be no assurance that settlement with respect to the pre-funded warrants will occur even if settlement of the voting common stock occurs.

Shares of Common Stock offered by the Company:

22,989,474 shares of voting common stock

Pre-Funded Warrants to purchase Common Stock offered by the Company: Pre-funded warrants to purchase up to an aggregate of 47,010,526 shares of our voting common stock. Each pre-funded warrant will have an exercise price of \$0.0001 per share, will be exercisable upon issuance and does not expire.

Option to Purchase Additional Shares of Common Stock offered by the Company: 10,500,000 shares of voting common stock

Public Offering Price:

\$2.0000 per share of our common stock and \$1.9999 per pre-funded warrant (which equals the public offering price of the

common stock less the \$0.0001 per share exercise price of each such pre-funded warrant).

Listing:

The shares of voting common stock are listed on the Nasdaq Global Market under the symbol "TCRX." Our pre-funded warrants are not listed for trading on any securities exchange. We do not intend to list the pre-funded warrants on the Nasdaq Global Market, any other nationally recognized securities exchange or any other nationally recognized trading system.

Indications of Interest:

Investment entities affiliated with our directors and who own 10% or more of our outstanding capital stock have expressed an interest in purchasing an aggregate of \$75.0 million of our securities in this offering at the public offering price. Although we anticipate that these entities will purchase, and that the underwriter will sell to these entities, all of these securities, indications of interest are not binding agreements or commitments to purchase, the underwriter could determine to sell more, less or no shares of common stock or pre-funded warrants to purchase shares of common stock to these entities and these entities could determine to purchase more, less or no securities in this offering.

Use of Proceeds:

We estimate that the net proceeds of this offering, after deducting underwriting discounts and commissions and estimated offering expenses, will be approximately \$134.1 million (or approximately \$153.8 million if the underwriters exercise their over-allotment option in full). We currently intend to use the net proceeds of this offering for general corporate purposes. Following this offering, we expect our existing cash and cash equivalents will enable us to fund our operating expenses and capital expenditure requirements into 2026.

Underwriters:

Morgan Stanley & Co. LLC Wedbush Securities Inc.

Participation in this offering by certain of our existing stockholders would not increase the available public float of our shares.

Certain of our existing stockholders, including stockholders affiliated with our directors and who own 10% or more of our outstanding capital stock, have indicated an interest in purchasing securities in this offering at the public offering price. However, because indications of interest are not binding agreements or commitments to purchase, the underwriters may determine to sell more, fewer or no securities in this offering to any of these stockholders, or any of these stockholders may determine to purchase more, fewer or no securities in this offering. To the extent these stockholders purchase any securities in this offering, such purchase may not increase the available public float of our shares because such stockholders may be restricted from selling the securities by restrictions under applicable securities laws. As a result, any purchase of securities by such stockholders in this offering may not improve, or may reduce or have no effect on, the liquidity of our common stock relative to what it would have been had these shares been purchased by investors that were not existing stockholders.

(*)It is expected that the delivery of the pre-funded warrants will be made against payment therefor on or about June 1, 2023, which will be the third business day after the date of the prospectus supplement. Under Rule 15c6-1 of the Securities and Exchange Commission (the "SEC") under the Securities Exchange Act of 1934, as amended, trades in the secondary market generally are required to settle in two business days, unless the parties to a trade expressly agree otherwise. Accordingly, purchasers who wish to trade the pre-funded warrants prior to the second business day preceding such settlement date will be required, by virtue of the fact that the pre-funded warrants will settle in three business days, to specify an alternative settlement cycle at the time of any such trade to prevent a failed settlement. Such purchasers should consult their own advisors in this regard.

The Company has filed a registration statement and a Preliminary Prospectus and accompanying prospectus with the SEC for the offering to which this communication relates. Before you invest, you should read the Preliminary Prospectus and accompanying prospectus and the documents incorporated by reference therein that the Company has filed with the SEC for more complete information about the Company and this offering. You may get these documents, including the Preliminary Prospectus and accompanying prospectus, for free by visiting EDGAR on the SEC website at http://www.sec.gov. Alternatively, the Company, any underwriter or any dealer participating in the offering will arrange to send you the Preliminary Prospectus and accompanying prospectus if you request it by contacting Morgan Stanley & Co. LLC, 180 Varick St, 2nd Floor, New York, NY 10014 by phone: 1-866-718-1649 or by email: prospectus@morganstanley.com or Wedbush Securities Inc., Attention: ECM Prospectus Department, 1000 Wilshire Blvd. Los Angeles, CA 90017, phone: (213) 688-8000.