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

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**Amendment No. 2**  
to  
**FORM S-1**  
**REGISTRATION STATEMENT**  
UNDER  
*THE SECURITIES ACT OF 1933*

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**T2 BIOSYSTEMS, INC.**  
(Exact name of registrant as specified in its charter)

**Delaware**  
(State or other jurisdiction of  
incorporation or organization)

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**3841**  
(Primary Standard Industrial  
Classification Code Number)  
**101 Hartwell Ave.**  
**Lexington, MA 02421**  
**(781) 761-4646**  
(Address, including zip code, and telephone number, including  
area code, of registrant's principal executive offices)

**20-4827488**  
(I.R.S. Employer  
Identification Number)

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**Michael T. Gibbs**  
**General Counsel**  
**T2 Biosystems, Inc.**  
**101 Hartwell Ave.**  
**Lexington, MA 02421**  
**(781) 761-4646**  
(Name, address, including zip code, and telephone number, including area code, of agent for service)

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**Approximate date of commencement of proposed sale to public:**  
**As soon as practicable after this Registration Statement is declared effective.**

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

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

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

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

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

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

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

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

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The information contained in this preliminary prospectus is not complete and may be changed. These securities may not be sold until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

**SUBJECT TO COMPLETION  
PRELIMINARY PROSPECTUS DATED MAY 6, 2024**

**Up to 3,322,259 Shares of Common Stock  
Pre-Funded Warrants to Purchase up to 3,322,259 Shares of Common Stock  
Series B-1 Common Warrants to Purchase up to 3,322,259 Shares of Common Stock  
Series B-2 Common Warrants to Purchase up to 3,322,259 Shares of Common Stock**

We are offering on a “reasonable best efforts” basis up to 3,322,259 shares of common stock, \$0.001 par value per share (the “common stock”), together with Series B-1 common warrants to purchase up to 3,322,259 shares of common stock and Series B-2 common warrants (the “Common Warrants”) to purchase up to 3,322,259 shares of common stock. Each share of our common stock, or pre-funded warrant (the “Pre-Funded Warrant”) in lieu thereof, is being sold together with a Series B-1 common warrant to purchase one share of our common stock and a Series B-2 common warrant to purchase one share of our common stock. The shares of common stock and Common Warrants are immediately separable and will be issued separately in this offering, but must be purchased together in this offering.

We are also offering Pre-Funded Warrants to purchase up to 3,322,259 shares of common stock to those purchasers whose purchase of shares of common stock in this offering would result in the purchaser, together with its affiliates and certain related parties, beneficially owning more than 4.99% of our outstanding common stock immediately following the consummation of this offering, in lieu of shares of common stock that would result in beneficial ownership in excess of 4.99% (or, at the election of the purchaser, 9.99%) of our outstanding common stock. Each Pre-Funded Warrant is exercisable for one share of our common stock at an exercise price equal to \$0.001, the exercise price of each Pre-Funded Warrant. Each Pre-Funded Warrant is being offered together with the Common Warrants at price equal to the purchase price of one share of common stock and accompanying Common Warrants in this offering minus the exercise price of each Pre-Funded Warrant. The Pre-Funded Warrants and Common Warrants are immediately separable and will be issued separately in this offering but must be purchased together in this offering. For each Pre-Funded Warrant that we sell, the number of shares of common stock we are offering will be reduced on a one-for-one basis.

Pursuant to this prospectus, we are also offering the shares of common stock issuable upon the exercise of Pre-Funded Warrants and Common Warrants offered hereby.

The shares of our common stock, Pre-Funded Warrants and Common Warrants being offered will be sold in a single closing. The shares issuable upon exercise of the Pre-Funded Warrants or Common Warrants will be issued upon the exercise thereof. Because there is no minimum number of securities or minimum aggregate amount of proceeds for this offering to close, we may sell fewer than all of the securities offered hereby, and investors in this offering will not receive a refund in the event that we do not sell an amount of securities sufficient to pursue the business goals outlined in this prospectus. Because there is no escrow account and there is no minimum offering amount, investors could be in a position where they have invested in our company, but we are unable to fulfill our objectives due to a lack of interest in this offering. Also, any proceeds from the sale of securities offered by us will be available for our immediate use, despite uncertainty about whether we would be able to use such funds effectively. The offering of the shares of our common stock, Pre-Funded Warrants and Common Warrants will terminate no later than May 15, 2024; however, the shares of our common stock underlying the Pre-Funded Warrants and the Common Warrants will be offered on a continuous basis pursuant to Rule 415 under the Securities Act of 1933, as amended (the “Securities Act”).

Our common stock is listed on the Nasdaq Capital Market, or Nasdaq, under the symbol “TTOO.” The closing price of our common stock on Nasdaq on May 1, 2024 was \$3.01 per share. There is no established public trading market for the Pre-Funded Warrants and the Common Warrants, and we do not expect a market to develop.

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Without an active trading market, the liquidity of the Pre-Funded Warrants and the Common Warrants will be limited. In addition, we do not intend to apply for a listing of the Pre-Funded Warrants or the Common Warrants on any national securities exchange or other nationally recognized trading system.

Certain information in this prospectus is based on an assumed combined public offering price of \$3.01 per share and accompanying Common Warrants (the last reported sale price of our common stock on Nasdaq on May 1, 2024). The actual combined public offering price per share and accompanying Common Warrants will be determined between us and prospective investors in consultation with A.G.P. (the “Placement Agent”), as the placement agent, based on market conditions at the time of pricing, and may be at a discount to the current market price of our common stock. The Placement Agent is not required to buy or sell any specific number or dollar amount of the securities offered hereby, but they will use their reasonable best efforts to solicit offers to purchase the securities offered by this prospectus. See the section entitled “Plan of Distribution” of this prospectus.

You should read this prospectus carefully, together with additional information described under the heading “Where You Can Find More Information,” before you invest in any of our securities.

If we fail to regain compliance with the continued listing requirements of The Nasdaq Capital Market for 10 business days before May 20, 2024, Nasdaq may delist our common stock. For additional information see “Risk Factors—Our failure to meet the continued listing requirements of The Nasdaq Capital Market could result in a delisting of our common stock.”

There is substantial doubt about our ability to continue as a going concern. As a reasonable best efforts offering in which no minimum number or dollar amount of securities is required to be sold, we may be unable to raise sufficient capital to extend our cash runway through the end of the second quarter of 2024. For additional information see “Risk Factors—There is substantial doubt about our ability to continue as a going concern.”

We recently issued 4,748,335 shares of common stock in exchange for the cancellation of \$15 million of indebtedness with entities affiliated with CRG Partners III L.P. (collectively, “CRG”), which resulted in CRG owning approximately 65% of our outstanding shares of common stock and controlling the Company. For additional information see “Prospectus Summary—Recent Developments” and “Risk Factors—Our principal stockholder could exert significant control over our business.”

**Investing in our securities is highly speculative and involves a high degree of risk. See “[Risk Factors](#)” beginning on page 6 of this prospectus and in the documents incorporated by reference into this prospectus for a discussion of information that should be considered in connection with an investment in our securities.**

	<u>Per Share and Related Warrant</u>	<u>Per Pre-Funded Warrant and Related Warrant</u>	<u>Total</u>
Public offering price	\$	\$	\$
Placement agent fees <sup>(1)</sup>	\$	\$	\$
Proceeds to us, before expenses <sup>(2)</sup>	\$	\$	\$

(1) We have agreed to pay the Placement Agent a cash placement commission up to 7.0% of the aggregate gross proceeds from this offering. We have also agreed to reimburse the Placement Agent for certain expenses. See “Plan of Distribution” for additional information.

(2) The amount of the offering proceeds to us presented in this table does not give effect to any exercise of the Pre-Funded Warrants or Common Warrants being issued in this offering.

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

Delivery of the securities being offered pursuant to this prospectus is expected to be made on or about \_\_\_\_\_, 2024, subject to the satisfaction of certain closing conditions.

*Sole Placement Agent*

**A.G.P.**

**The date of this prospectus is \_\_\_\_\_, 2024.**

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## ABOUT THIS PROSPECTUS

We incorporate by reference important information into this prospectus. You may obtain the information incorporated by reference without charge by following the instructions under “Where You Can Find More Information.” You should carefully read this prospectus as well as additional information described under “Incorporation of Certain Information By Reference,” before deciding to invest in our securities.

Neither we nor the Placement Agent have authorized anyone to provide you with information different from or inconsistent with the information contained in or incorporated by reference in this prospectus. We and the Placement Agent take no responsibility for, and can 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 and the documents incorporated by reference in this prospectus is accurate only as of the date of those respective documents, regardless of the time of delivery of those respective documents. Our business, financial condition, results of operations and prospects may have changed since those dates.

The information incorporated by reference or provided in this prospectus contains statistical data and estimates, including those relating to market size and competitive position of the markets in which we participate, that we obtained from our own internal estimates and research, as well as from industry and general publications and research, surveys and studies conducted by third parties. Industry publications, studies and surveys generally state that they have been obtained from sources believed to be reliable. While we believe our internal company research is reliable and the definitions of our market and industry are appropriate, neither this research nor these definitions have been verified by any independent source.

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 into this prospectus 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 agreement, 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 are offering to sell, and seeking offers to buy, shares of our common stock only in jurisdictions where offers and sales are permitted. The distribution of this prospectus and the offering of our common stock in certain jurisdictions may be restricted by law. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of our common stock and the distribution of this prospectus outside the United States. This prospectus 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 by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

When we refer to “T2 Biosystems,” “we,” “our,” “us” and the “Company” in this prospectus, we mean T2 Biosystems, Inc. and its consolidated subsidiaries, unless otherwise specified.

This prospectus contains, or incorporates by reference, trademarks, tradenames, service marks and service names of T2 Biosystems, Inc. and its subsidiaries.

## PROSPECTUS SUMMARY

*This summary highlights information contained elsewhere in this prospectus. This summary does not contain all of the information that you should consider before deciding to invest in our securities. You should read this entire prospectus carefully, including the “Risk Factors” section in this prospectus and under similar captions in the documents incorporated by reference into this prospectus. If any of the risks materialize, our business, financial condition, operating results, and prospects could be materially and adversely affected. In that event, the price of our securities could decline, and you could lose part or all of your investment. In this prospectus, unless otherwise stated or the context otherwise requires, references to “T2 Biosystems”, “Company”, “we”, “us”, “our” or similar references mean T2 Biosystems, Inc. and its subsidiaries on a consolidated basis.*

### **The Company**

We are an in vitro diagnostics company and leader in the rapid detection of sepsis-causing pathogens and antibiotic resistance genes. Our technology enables rapid detection of pathogens, biomarkers and other abnormalities in a variety of unpurified patient sample types, including whole blood, plasma, serum, saliva, sputum and urine, and can detect cellular targets at limits of detection as low as one colony forming unit per milliliter, or CFU/mL. We are currently targeting what we believe to be a range of critically underserved healthcare conditions, focusing initially on those for which rapid detection may enable faster targeted antimicrobial treatment, improve patient outcomes, and reduce cost. Our current focus includes three areas – sepsis, bioterrorism, and Lyme disease – which we believe collectively represent a multi-billion dollar market opportunity.

Our primary commercial products for the year ended December 31, 2023 include the T2Dx<sup>®</sup> Instrument, the T2Bacteria<sup>®</sup> Panel, the T2Candida<sup>®</sup> Panel, the T2Resistance<sup>®</sup> Panel, and the T2Biothreat<sup>™</sup> Panel. Our sepsis products – including the T2Dx Instrument, the T2Bacteria Panel, and the T2Candida Panel – are FDA-cleared products able to detect sepsis-causing pathogens directly from blood. Where traditional diagnostics like blood cultures and post-culture diagnostics may take days to produce results, our products detect these pathogens in three to five hours. We believe our products provide a significant and sustainable competitive advantage compared to other products in our markets.

### **Recent Developments**

On May 3, 2024, we entered into a Securities Purchase Agreement (the “May SPA”) with CRG Partners III L.P., CRG Partners III - Parallel Fund “A” L.P., CRG Partners III (Cayman) Unlev AIV I L.P., CRG Partners III (Cayman) Lev AIV I L.P. and CRG Partners III Parallel Fund “B” (Cayman) L.P. (collectively in such capacity, the “Lenders” or the “Purchasers”) pursuant to which the Company issued to the Lenders in a private placement offering 4,748,335 shares of the Company’s common stock in exchange for the Lenders surrendering for cancellation \$15.0 million of outstanding loans (the “May Exchange”) under that certain Term Loan Agreement, dated as of December 30, 2016, by and among the Company, CRG Servicing LLC, as administrative agent and collateral agent, and the lenders named therein (as amended from time to time to date, the “Loan Agreement”).

On May 3, 2024, we entered into a Consent and Amendment No. 11 to Term Loan Agreement (“Consent No. 11”) to the Loan Agreement. Consent No. 11 provides for, among other things, (i) the consent of the Administrative Agent and the Lenders (who constitute all of the lenders under the Loan Agreement) to the May Exchange and (ii) an amendment to the “Change of Control” definition to allow the Lenders or their affiliates to acquire a majority of shares in the Company without causing a Change of Control under the Loan Agreement.

On April 12, 2024, we issued 3,280,618 shares of Common Stock and 17,160.48 shares of Series A Convertible Preferred Stock, par value \$0.001 per share (the “Series A Preferred Stock”) to the Lenders in

exchange for the cancellation of \$15.0 million of outstanding loans under the Loan Agreement (the “April Exchange” and, together with the May Exchange, the “CRG Exchanges”). The April Exchange was completed pursuant to the Securities Purchase Agreement (the “April SPA”), dated as of February 15, 2024, with the Lenders. Each share of Series A Preferred Stock is convertible into 100 shares of Common Stock.

On April 12, 2024, we entered into a Consent and Amendment No. 10 to Term Loan Agreement (“Consent No. 10”) to the Loan Agreement. Consent No. 10 provides for, among other things, (i) the consent of the Administrative Agent and the Lenders (who constitute all of the lenders under the Loan Agreement) to the April Exchange and (ii) the extension of the period in which the Company may elect to pay a portion of the accrued interest on the term loans in-kind to the earlier of (a) December 31, 2025 and (b) the date on which a default has occurred.

**Corporate Information**

Our address is 101 Hartwell Ave., Lexington, MA 02421 and our telephone number is (781) 761-4646. Our corporate website is: [www.t2biosystems.com](http://www.t2biosystems.com). Our website and the information contained on, or that can be accessed through, our website shall not be deemed to be incorporated by reference in, and are not considered part of, this prospectus. You should not rely on any such information in making your decision whether to purchase our securities.

## THE OFFERING

Common Stock Offered:	Up to 3,322,259 shares.
Pre-Funded Warrants Offered:	We are offering to certain purchasers whose purchase of shares of common stock in this offering would otherwise result in the purchaser, together with its affiliates and certain related parties, beneficially owning more than 4.99% of our outstanding shares of common stock immediately following the closing of this offering, the opportunity to purchase, if such purchasers so choose, Pre-Funded Warrants, in lieu of shares of common stock that would otherwise result in any such purchaser's beneficial ownership, together with its affiliates and certain related parties, exceeding 4.99% (or, at the election of such purchaser, 9.99%) of our outstanding shares of common stock immediately following the consummation of this offering. The purchase price of each Pre-Funded Warrant is equal to the purchase price of the shares of common stock in this offering minus \$0.001, the exercise price of each Pre-Funded Warrant. Each Pre-Funded Warrant is immediately exercisable and may be exercised at any time until it has been exercised in full. For each Pre-Funded Warrant we sell, the number of shares of common stock we are offering will be decreased on a one-for-one basis. This offering also relates to the shares of common stock issuable upon exercise of any Pre-Funded Warrants sold in this offering.
Common Stock Outstanding after this Offering:	Up to 16,863,544 shares of common stock, assuming (i) no sales of Pre-Funded Warrants which, if sold, would reduce the number of shares of common stock that we are offering on a one-for-one basis, (ii) no conversion of the Common Warrants and (iii) the issuance of 4,748,335 shares in the May Exchange.
Common Warrants:	Each share of common stock will be sold together with a Series B-1 common warrant to purchase one share of our common stock and a Series B-2 common warrant to purchase one share of our common stock. Each Common Warrant has an assumed exercise price per share equal to \$3.01. The Series B-1 common warrants expire on the fifth anniversary of the original issuance date and the Series B-2 common warrants expire 18-months after the original issuance date. Because we will issue a Series B-1 common warrant and a Series B-2 common warrant for each share of common stock and for each Pre-Funded Warrant sold in this offering, the number of Common Warrants sold in this offering will not change as a result of a change in the mix of shares of common stock and Pre-Funded Warrants sold. This offering also relates to the shares of common stock issuable upon exercise of any Common Warrants sold in this offering.
Reasonable Best Efforts:	We have agreed to issue and sell the securities offered hereby to the purchasers through the Placement Agent. The Placement Agent is not required to buy or sell any specific number or dollar amount of the

securities offered hereby, but they will use their reasonable best efforts to solicit offers to purchase the securities offered by this prospectus. See the section entitled “Plan of Distribution” of this prospectus

Use of Proceeds:

We estimate that the net proceeds of this offering, after deducting estimated placement agent fees and estimated offering expenses, will be approximately \$9.1 million if all of the securities offered hereby are sold in this offering. However, this is a reasonable best efforts offering with no minimum number of securities or amount of proceeds as a condition to closing, and we may not sell all or any of the securities offered pursuant to this prospectus; and, as a result, we may receive significantly less in net proceeds in this offering. For example, if we sell only 10%, 25%, 50% or 75% of the maximum amount offered, our net proceeds will be approximately \$0.7 million, \$2.1 million, \$4.4 million or \$6.7 million, respectively. We intend to use all of the net proceeds we receive from this offering for working capital and general corporate purposes, including sales and marketing, manufacturing and clinical development costs. See “Use of Proceeds.”

Lock-up:

All of our directors and executive officers have agreed with the Placement Agent, subject to certain exceptions, not to sell, transfer or dispose of, directly or indirectly, any of our common stock or securities convertible into or exercisable or exchangeable for our common stock for a period of 45 days after the date of this prospectus. In addition, we have agreed that, subject to certain exceptions, we will not conduct any issuances of our common stock for a period of 45 days following closing of this offering. See “Plan of Distribution” for more information.

Risk Factors:

Investment in our securities involves a high degree of risk and could result in a loss of your entire investment. See “Risk Factors” beginning on page 6, and the other information included and incorporated by reference in this prospectus for a discussion of the factors you should consider carefully before deciding to invest in our securities.

If we fail to regain compliance with Nasdaq Listing Rule 5550(b)(2)’s requirement to have a \$35.0 million market value of listed securities for 10 business days before May 20, 2024, Nasdaq may delist our common stock. In order to regain compliance we must maintain a closing market value of at least \$35.0 million for at least ten consecutive business days, beginning on May 7, 2024. Based on 13,541,285 shares of common stock expected to be outstanding as of May 7, 2024, the closing price of our Common Stock on Nasdaq will need to be at least \$2.59 for a minimum of ten consecutive business days to avoid being delisted. For additional information see “Risk Factors—Our failure to meet the continued listing requirements of The Nasdaq Capital Market could result in a delisting of our common stock.”

There is substantial doubt about our ability to continue as a going concern. As a reasonable best efforts offering in which no minimum number or dollar amount of securities is required to be sold, we may be unable to raise sufficient capital to extend our cash runway through the end of the second quarter of 2024. For additional information see “Risk Factors—There is substantial doubt about our ability to continue as a going concern.”

We recently issued 4,748,335 shares of common stock in exchange for the cancellation of \$15 million of indebtedness with entities affiliated with CRG Partners III L.P. (collectively, “CRG”), which resulted in CRG owning approximately 65% of our outstanding shares of common stock and controlling the Company. For additional information see “Prospectus Summary—Recent Developments” and “Risk Factors—Our principal stockholder could exert significant control over our business.”

Nasdaq Capital Market Symbol: TTOO

The above discussion is based on 8,792,950 shares of our common stock outstanding as of April 16, 2024, does not give effect to the shares of common stock issuable upon exercise of the Pre-Funded Warrants and Common Warrants issued in this offering, and excludes (unless otherwise indicated), as of such date:

- 1,527 shares of our common stock issuable upon the exercise of stock options outstanding as of April 16, 2024, having a weighted average exercise price of \$12,557.27 per share;
- 67,311 shares of our common stock issuable upon the exercise of warrants outstanding as of April 16, 2024, having a weighted average exercise price of \$136.83 per share;
- 8,285 shares of common stock issuable upon the vesting of restricted stock units outstanding as of April 16, 2024;
- An aggregate of 1,381,276 shares of common stock reserved for future issuance under our under our equity incentive and employee stock purchase plans as of April 16, 2024;
- 1,716,048 shares of common stock issuable upon the conversion of outstanding shares of Series A Convertible Preferred Stock;
- 108,750 shares of common stock issuable upon the conversion of outstanding shares of Series B Convertible Preferred Stock; and
- The issuance of 4,748,335 shares of common stock in exchange for the cancellation of \$15 million of outstanding indebtedness pursuant to the May Exchange.

Unless expressly indicated or the context requires otherwise, all information in this prospectus assumes (i) no investor elects to purchase Pre-Funded Warrants, (ii) no exercise of the Common Warrants offered hereby, (iii) no conversion of outstanding warrants or stock options after April 16, 2024 and (iv) no change in the exercise price of currently outstanding warrants, which may occur in connection with this offering.

## RISK FACTORS

*An investment in our common stock involves a high degree of risk. Before deciding whether to invest in our securities, you should carefully consider the risks and uncertainties described below, together with the information under the heading “Risk Factors” in our most recent Annual Report on Form 10-K for the fiscal year ended December 31, 2023 filed with the Securities and Exchange Commission, all of which are incorporated herein by reference, as updated or superseded by the risks and uncertainties described under similar headings in the other documents that are filed after the date hereof and incorporated by reference into this prospectus, together with all of the other information contained or incorporated by reference in this prospectus, and any free writing prospectus that we have authorized for use in connection with this offering before you make a decision to invest in our securities. 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 operations. Past financial performance may not be a reliable indicator of future performance, and historical trends should not be used to anticipate results or trends in future periods. If any of these risks actually occurs, our business, business prospects, financial condition or results of operations could be seriously harmed. This could cause the trading price of our common stock to decline, resulting in a loss of all or part of your investment. Please also read carefully the section below entitled “Cautionary Note Regarding Forward-Looking Statements.”*

### Risks Related to This Offering

***Our failure to meet the continued listing requirements of The Nasdaq Capital Market could result in a delisting of our common stock.***

If we fail to regain or maintain compliance with the continued listing requirements of The Nasdaq Capital Market, Nasdaq may delist our common stock.

On October 31, 2023, the Company received written notice from The Nasdaq Stock Market LLC (“Nasdaq”) indicating that the Company had evidenced compliance with all applicable criteria for continued listing on The Nasdaq Capital Market. The notice also indicated that, in accordance with the Nasdaq Listing Rules, Nasdaq had imposed a “Mandatory Panel Monitor” as that term is defined in Nasdaq Listing Rule 5815(d)(4)(B), for a period of one year from the date of the compliance determination, October 31, 2024. Pursuant to the terms of the Mandatory Panel Monitor, in the event the Company were to fall below the minimum thresholds for bid price or market value of listed securities (“MVLS”) on or before October 31, 2024, which were the listing issues considered by the Nasdaq Hearings Panel (the “Panel”) in its decision dated July 27, 2023, the Nasdaq Listing Qualifications Staff (the “Staff”) would immediately issue a delisting determination rather than grant the Company a grace period to regain compliance with those requirements as otherwise provided for by the Nasdaq Listing Rules.

On November 20, 2023, the Staff notified the Company that it failed to satisfy the minimum \$35 million MVLS threshold for the previous 30 consecutive business days and, as a result, no longer satisfied Nasdaq Listing Rule 5550(b)(2). In accordance with the terms of the Mandatory Panel Monitor, the Staff did not grant the Company a grace period but rather issued a delist determination, which will be stayed if the Company exercises its right to appeal the Staff’s determination, pursuant to the procedures set forth in the Nasdaq Listing Rule 5800 Series, by requesting a hearing and paying a non-refundable \$20,000 fee. On November 27, 2023, the Company requested a hearing, which was held on February 15, 2024.

On March 11, 2024, the Company received notice from the Nasdaq Hearings Panel that it has granted the Company’s request for continued listing on the Nasdaq Stock Market, subject to the Company demonstrating compliance with Nasdaq’s market value of listed securities (“Market Value”) requirement, as set forth in Nasdaq Listing Rule 5550(b)(2) (the “Rule”) on or before May 20, 2024.

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In order to regain compliance with the Rule's Market Value requirement the Company must maintain a closing Market Value of at least \$35.0 million for at least ten consecutive business days, beginning on May 7, 2024. The Company expects there will be 13,541,285 shares of common stock outstanding as of May 7, 2024, without giving effect to this offering or the conversion of any of our additional outstanding securities into Common Stock. As a result, the closing price of our Common Stock on Nasdaq will need to be at least \$2.59 for a minimum of ten consecutive business days, beginning on May 7, 2024 to avoid being delisted.

The delisting of our common stock from Nasdaq may make it more difficult for us to raise capital on favorable terms in the future. Such a delisting would likely have a negative effect on the price of our common stock and would impair your ability to sell or purchase our common stock when you wish to do so. Further, if we were to be delisted from Nasdaq, our common stock would cease to be recognized as covered securities and we would be subject to regulation in each state in which we offer our securities. Moreover, there is no assurance that any actions that we take to restore our compliance with the minimum bid price requirement would stabilize the market price or improve the liquidity of our common stock, prevent our common stock from falling below the minimum bid price required for continued listing again, or prevent future non-compliance with Nasdaq's listing requirements.

### ***There is substantial doubt about our ability to continue as a going concern.***

As of December 31, 2023, we had \$15.7 million in cash and cash equivalents which, without additional funding, will not be sufficient to meet our obligations through the second quarter of 2024. As substantial doubt about our ability to continue as a going concern exists, our ability to finance our operations through equity financings or otherwise could be impaired. Our ability to fund working capital, make capital expenditures, and service our debt depends on our ability to generate cash from operating activities, which is subject to its future operating success, and obtain financing on reasonable terms, which is subject to factors beyond our control, including general economic, political, and financial market conditions. Additionally, even if this offering is successful we will only be able to extend our cash runway into the third quarter of 2024. Further, as a reasonable best efforts offering in which no minimum number or dollar amount of securities is required to be sold, we may be unable to raise sufficient capital to extend our cash runway through the end of the second quarter of 2024. See "Risk Factors—This is a reasonable best efforts offering, in which no minimum number or dollar amount of securities is required to be sold, and we may not raise the amount of capital we believe is required for our business plans."

If we are unsuccessful in our operations to secure financing, or if any such incremental financing is not sufficient to fund our operations for the foreseeable future, we may be forced to sell material assets or need to commence proceedings under Chapter 11 of the U.S. Bankruptcy Code, which would harm our business, financial condition, and results of operations.

### ***Management will have broad discretion as to the use of the proceeds from this offering, and we may not use the proceeds 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 could spend the proceeds in ways that do not improve our results of operations or enhance the value of our common stock. Our failure to apply these funds effectively could have a material adverse effect on our business and cause the price of our common stock to decline.

### ***You will experience immediate and substantial dilution in the net tangible book value per share of the common stock you purchase.***

Based on an assumed combined public offering price of \$3.01 per share and accompanying Common Warrants (the last reported sales price of our common stock on Nasdaq on May 1, 2024), if you purchase shares of our common stock and related warrants in this offering, you will suffer immediate and substantial dilution of

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\$4.96 per share with respect to the net tangible book value of the common stock. See the section entitled “Dilution” below for a more detailed discussion of the dilution you will incur if you purchase common stock in this offering.

***You may experience future dilution as a result of future equity offerings and other issuances of our common stock or other securities. In addition, this offering and future equity offerings and other issuances of our common stock or other securities may adversely affect our common stock price.***

In order to raise additional capital, we may in the future offer additional shares of our common stock or other securities convertible into or exchangeable for our common stock at prices that may not be the same as the price per share in this offering. We may not be able to sell shares or other securities in any other offering at a price per share that is equal to or greater than the price per share paid by investors in this offering, and investors purchasing shares or other securities in the future could have rights superior to existing stockholders. The price per share at which we sell additional shares of our common stock or securities convertible into common stock in future transactions may be higher or lower than the price per share in this offering. You will incur dilution upon exercise of any outstanding stock options, warrants or upon the issuance of shares of common stock under our stock incentive programs. In addition, the sale of shares in this offering and any future sales of a substantial number of shares of our common stock in the public market, or the perception that such sales may occur, could adversely affect the price of our common stock. We cannot predict the effect, if any, that market sales of those shares of common stock or the availability of those shares of common stock for sale will have on the market price of our common stock.

***There is no public market for the Pre-Funded Warrants and Common Warrants being offered in this offering.***

There is no established public trading market for the Pre-Funded Warrants and Common Warrants being offered in this offering, and we do not expect a market to develop. In addition, we do not intend to apply to list the Pre-Funded Warrants and Common Warrants on any securities exchange or nationally recognized trading system. Without an active market, the liquidity of the Pre-Funded Warrants and Common Warrants will be limited.

***Holders of our Pre-Funded Warrants and Common Warrants will have no rights as common stockholders until they acquire our common stock.***

Until you acquire shares of common stock upon exercise of your Pre-Funded Warrants or the Common Warrants, you will have no rights with respect to the shares of common stock issuable upon exercise of your Common Warrants. Upon exercise of your Pre-Funded Warrants or the Common Warrants, you will be entitled to exercise the rights of a holder of shares only as to matters for which the record date occurs after the exercise date.

***If we do not maintain a current and effective prospectus relating to the common stock issuable upon exercise of the Pre-Funded Warrants and Common Warrants, holders will only be able to exercise such Pre-Funded Warrants and Common Warrants on a “cashless basis.”***

If we do not maintain a current and effective prospectus relating to the shares of common stock issuable upon exercise of the Pre-Funded Warrants or the Common Warrants at the time that holders wish to exercise such warrants, they will only be able to exercise them on a “cashless basis,” and under no circumstances would we be required to make any cash payments or net cash settle such warrants to the holders. As a result, the number of shares of common stock that holders will receive upon exercise of the Pre-Funded Warrants or the Common Warrants will be fewer than it would have been had such holders exercised their Pre-Funded Warrants or the Common Warrants for cash. Under the terms of the Pre-Funded Warrants or the Common Warrants, we have agreed to use our reasonable best efforts to maintain a current and effective prospectus relating to the shares of common stock issuable upon exercise of such warrants until the expiration of such warrants. However, we cannot

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assure you that we will be able to do so. If we are unable to do so, the potential “upside” of the holder’s investment in our company may be reduced.

### ***The Pre-Funded Warrants and the Common Warrants are speculative in nature.***

The Pre-Funded Warrants and Common Warrants offered hereby do not confer any rights of common stock ownership on their holders, such as voting rights or the right to receive dividends, but rather merely represent the right to acquire shares of common stock at a fixed price. Specifically, commencing on the date of issuance, holders of the Pre-Funded Warrants may acquire the common stock issuable upon exercise of such warrants at an exercise price of \$0.001 per share and holders of the Common Warrants may acquire the common stock issuable upon exercise of such warrants at an exercise price per share equal to the combined public offering price per share and accompanying Common Warrant in this offering. Moreover, following this offering, the market value of the Pre-Funded Warrants and the Common Warrants is uncertain, and there can be no assurance that the market value of the Pre-Funded Warrants or the Common Warrants will equal or exceed their public offering price.

### ***The Common Warrants may not have any value.***

Each Common Warrant has an exercise price per share equal to the combined public offering price per share of common stock and accompanying Common Warrant in this offering. The Series B-1 common warrants will expire on the five-year anniversary of the date of issuance and the Series B-2 common warrants will expire 18 months from the date of issuance. In the event the market price per share of common stock does not exceed the exercise price of the Common Warrants during the period when the Common Warrants are exercisable, the Common Warrants may not have any value.

### ***This is a reasonable best efforts offering, in which no minimum number or dollar amount of securities is required to be sold, and we may not raise the amount of capital we believe is required for our business plans.***

The Placement Agent has agreed to use its reasonable best efforts to solicit offers to purchase the securities in this offering. The Placement Agent has no obligation to buy any of the securities from us or to arrange for the purchase or sale of any specific number or dollar amount of the securities. There is no required minimum number of securities that must be sold as a condition to completion of this offering. Because there is no minimum offering amount required as a condition to the closing of this offering, the actual offering amount, placement agent fees and proceeds to us are not presently determinable and may be substantially less than the maximum amounts set forth herein. We may sell fewer than all of the securities offered hereby, which may significantly reduce the amount of proceeds received by us, and investors in this offering will not receive a refund in the event that we do not sell an amount of securities sufficient to support our operations. Thus, we may not raise the amount of capital we believe is required for our operations in the short-term and may need to raise additional funds to complete such short-term operations. Such additional fundraises may not be available or available on terms acceptable to us.

### ***Certain provisions of the Pre-Funded Warrants and Common Warrants could discourage an acquisition of us by a third party.***

Certain provisions of the Pre-Funded Warrants and Common Warrants could make it more difficult or expensive for a third party to acquire us. The Pre-Funded Warrants and Common Warrants prohibit us from engaging in certain transactions constituting “fundamental transactions” unless, among other things, the surviving entity assumes our obligations under the Pre-Funded Warrants and Common Warrants. Further, the Common Warrants provide that, in the event of certain transactions constituting “fundamental transactions,” with some exception, holders of such warrants will have the right, at their option, to require us to repurchase such Common Stock Warrants at a price described in such warrants. These and other provisions of the Pre-Funded Warrants and Common Warrants could prevent or deter a third party from acquiring us even where the acquisition could be beneficial to you.

***Our principal stockholder could exert significant control over our business.***

Following the closing of the May CRG Exchange, CRG and its affiliates owned more than 50% of our outstanding common stock. CRG will have the ability, should they choose to do so, to exert significant control over our board of directors or sell some or all of their shares of our common stock in a privately negotiated transaction, which could result in another party gaining significant influence over us. The ability of our principal stockholder to sell their shares of our common stock privately, with no requirement for a concurrent offer to be made to acquire all of the shares of our outstanding common stock that will be publicly traded after this offering, could prevent you from realizing any change-of-control premium on your shares of our common stock that may accrue to our principal stockholder upon their private sales of our common stock. Additionally, in connection with the CRG Exchanges, CRG agreed to convert \$30 million of outstanding indebtedness into equity, significantly reducing the amount outstanding pursuant to our existing term loan and reducing our ongoing interest payment obligations. CRG may seek to revise the terms of our term loan to increase our interest obligations on the revised amount of outstanding indebtedness. Further, CRG's ownership of more than 50% of our outstanding common stock constitutes a "change of control" pursuant to certain contractual agreements, which could have a negative impact on our business.

## CAUTIONARY NOTE REGARDING FORWARD LOOKING STATEMENTS

The information in this prospectus and the documents incorporated by reference herein and any free writing prospectus that we have authorized for use in connection with this offering contain forward-looking statements and information within the meaning of Section 27A of the Securities Act and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act, which are subject to the “safe harbor” created by those sections. These forward-looking statements include, but are not limited to, statements regarding our future results of operations and financial position, business strategy, prospective products and product candidates, their expected performance and impact on healthcare costs, marketing clearance from the U.S. Food and Drug Administration, or the FDA, regulatory clearance, reimbursement for our product candidates, research and development costs, timing of regulatory filings, timing and likelihood of success, plans and objectives of management for future operations and future results of anticipated products. These statements involve known and unknown risks, uncertainties and other important 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 the forward-looking statements. In some cases, you can identify forward-looking statements by terms such as “may,” “will,” “should,” “expect,” “plan,” “anticipate,” “could,” “intend,” “target,” “project,” “contemplate,” “believe,” “estimate,” “forecast,” “predict,” “potential” or “continue” or the negative of these terms or other similar expressions. All such forward-looking statements involve significant risks and uncertainties, including, but not limited to, statements regarding:

- our ability to continue as a going concern;
- our ability to regain and maintain compliance with Nasdaq listing requirements;
- our expectation to incur losses in the future and our ability to utilize limited net operating losses against future profitability, if any;
- compliance with the terms of our debt instruments;
- impact of litigation, including our ability to adequately resolve current legal claims;
- our status as an early-stage commercial company;
- the market acceptance of our technology;
- our ability to timely and successfully develop and commercialize our existing products and future product candidates;
- the length and variability of our anticipated sales and adoption cycle;
- our ability to gain the support of hospitals and key thought leaders and publish the results of our clinical studies in peer-reviewed journals;
- our ability to successfully manage our growth;
- our future capital needs and our ability to raise additional funds;
- fluctuations in demand for, and prices of, raw materials and other supplies;
- our ability to recruit, train and retain key personnel;
- the performance of our diagnostics;
- our ability to compete in the highly competitive diagnostics market;
- manufacturing and other product risks, including unforeseen interruptions in the manufacturing of our products and backlogs in order fulfillment;
- our dependence on third parties;
- the impact of cybersecurity risks, including ransomware, phishing, and data breaches on our information technology systems;

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- our ability to obtain marketing clearance from the U.S. Food and Drug Administration or regulatory clearance or certifications for new product candidates in other jurisdictions. Including IVDR in the European Union;
- federal, state, and foreign regulatory requirements, including diagnostic product reimbursements and FDA regulation of our products and product candidates;
- our ability to protect and enforce our intellectual property rights, including our trade secret-protected proprietary rights in our technology;
- an active trading market for our common stock;
- volatility of our stock price which may be impacted by short sellers and day traders; and
- our ability to maintain an effective system of internal control over financial reporting.

As more fully described under the heading “Risk Factors” and elsewhere in this prospectus and under “Risk Factors” in our Annual Report on Form 10-K for the year ended December 31, 2023 and any additional documents incorporated by reference herein and any free writing prospectus, many important factors affect our ability to achieve our stated objectives and to develop and commercialize any product candidates. We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements and you should not place undue reliance on our forward-looking statements. These forward-looking statements involve risks and uncertainties that could cause our actual results to differ materially from those in the forward-looking statements, including, without limitation, the risks and uncertainties set forth in our filings with the SEC and incorporated by reference herein. You should read this prospectus and the documents incorporated by reference herein and any free writing prospectuses that we have authorized for use in this offering with the understanding that our actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements that we make. The forward-looking statements are applicable only as of the date on which they are made, and we do not assume any obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

You should read this prospectus and the documents that we incorporate by reference in this prospectus and have filed as exhibits to the registration statement of which this prospectus is a part completely and with the understanding that our actual future results may be materially different from what we expect. We qualify all of our forward-looking statements by these cautionary statements.

## USE OF PROCEEDS

We estimate that the net proceeds from this offering will be approximately \$9.1 million, assuming the number of shares of common stock and Pre-Funded Warrants offered by us, as set forth on the cover page of this prospectus, remains the same, assuming no exercise of the Common Warrants issued in connection with this offering, and after deducting the placement agent fees and estimated offering expenses payable to us.

However, this is a reasonable best efforts offering with no minimum number of securities or amount of proceeds as a condition to closing, and we may not sell all or any of the securities offered pursuant to this prospectus; and, as a result, we may receive significantly less in net proceeds in this offering. For example, if we sell only 10%, 25%, 50% or 75% of the maximum amount offered, our net proceeds will be approximately \$0.7 million, \$2.1 million, \$4.4 million or \$6.7 million, respectively.

We intend to use the net proceeds from the offering for working capital and general corporate purposes, including sales and marketing, manufacturing and clinical development costs. We have no specific acquisition contemplated at this time. As of the date of this prospectus, we cannot specify with certainty all of the particular uses for the net proceeds from this offering. The amounts and timing of our actual expenditures will depend on numerous factors, including factors described under “Risk Factors” in this prospectus and the documents incorporated by reference herein. Pending our use of the net proceeds from this offering, we intend to invest the net proceeds in a variety of capital preservation investments, including short-term, investment-grade, interest-bearing instruments and U.S. government securities.

## MARKET PRICE OF OUR COMMON STOCK

Our common stock is presently listed on the Nasdaq Capital Market under the symbol “TTOO”. On May 1, 2024, the last reported sale price of our common stock on Nasdaq was \$3.01 per share.

As of April 16, 2024, there were approximately 18 holders of record of our common stock.

## DILUTION

If you invest in our securities in this offering, assuming no sale of any Pre-Funded Warrants and no exercise of the Common Warrants issued in connection with this offering, your ownership interest will be immediately diluted to the extent of the difference between the assumed combined public offering price per share of our common stock and accompanying Common Warrants and the as adjusted net tangible book value per share of our common stock immediately after this offering.

The net tangible book value of our common stock as of December 31, 2023, was approximately \$(28.0) million, or approximately \$(6.91) per share of common stock based on 4,058,381 shares of common stock outstanding at that time. “Net tangible book value” is the amount of our total tangible assets minus our total liabilities. “Net tangible book value per share” is net tangible book value divided by the total number of shares outstanding as of December 31, 2023. After giving pro forma effect to the issuance and sale of 3,280,618 shares of common stock in connection with the cancellation of \$15 million of outstanding indebtedness on April 12, 2024, our pro forma net tangible book value as of December 31, 2023 would have been approximately \$(13.0) million, or approximately \$(1.78) per share of common stock.

After giving further effect to the sale of shares of common stock in this offering at an assumed combined public offering price of \$3.01 per share and accompanying Common Warrants (the last reported sale price of our common stock on Nasdaq on May 1, 2024), assuming no sale of any Pre-Funded Warrants and no exercise of the Common Warrants issued in connection with this offering, and after deducting placement agent fees and expenses and estimated offering expenses payable by us, our pro forma as adjusted net tangible book value as of December 31, 2023 would have been approximately \$(20.8) million, or approximately \$(1.95) per share of common stock. This amount represents an immediate increase in pro forma as adjusted net tangible book value of \$4.96 per share to our existing stockholders and an immediate dilution of \$4.96 per share to investors participating in this offering, as illustrated by the following table:

Assumed combined public offering price per share and accompanying Common Warrants	\$ 3.01
Net tangible book value per share of common stock as of December 31, 2023	\$(6.91)
Pro Forma net tangible book value per share of common stock as of December 31, 2023	\$(1.78)
Pro Forma as adjusted, net tangible book value per share after this offering	\$(1.95)
Dilution per share to new investors purchasing shares in this offering	\$ 4.96

Each \$1.00 increase or decrease in the assumed combined public offering price of \$3.01 per share and accompanying Common Warrants, which was the last reported sale price of our common stock on Nasdaq on May 1, 2024, would increase or decrease the pro forma as adjusted net tangible book value per share by \$0.29 per share and the dilution per share to investors participating in this offering by \$0.71 per share, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same, assuming no sale of any Pre-Funded Warrants and no exercise of the Common Warrants issued in connection with this offering, no change in the estimated valuation of the Common Warrants liabilities, and after deducting placement agent fees and estimated offering expenses payable by us.

We may also increase or decrease the number of shares we are offering. A 100,000 share increase in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase the pro forma as adjusted net tangible book value per share by approximately \$0.04 and decrease the dilution per share to new investors participating in this offering by approximately \$0.04, based on an assumed combined public offering price of \$3.01 per share and accompanying Common Warrants, which was the last reported sale price of our

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common stock on Nasdaq on May 1, 2024, remaining the same, assuming no sale of any Pre-Funded Warrants and no exercise of the Common Warrants issued in connection with this offering, no change in the estimated valuation of the Common Warrants liabilities, and after deducting placement agent fees and expenses and estimated offering expenses payable by us. Similarly, a 100,000 share decrease in the number of shares offered by us, as set forth on the cover page of this prospectus, would decrease the pro forma as adjusted net tangible book value per share by approximately \$0.04 and increase the dilution per share to new investors participating in this offering by approximately \$0.04, based on an assumed combined public offering price of \$3.01 per share and accompanying Common Warrants, which was the last reported sale price of our common stock on Nasdaq on May 1, 2024, remaining the same, assuming no sale of any Pre-Funded Warrants and no exercise of the Common Warrants issued in connection with this offering, no change in the estimated valuation of the Common Warrants liabilities, and after deducting placement agent fees and expenses and estimated offering expenses payable by us.

The information above is based on 4,058,381 shares of our common stock outstanding as of December 31, 2023, and excludes as of such date (unless otherwise indicated), the following:

- 1,573 shares of our common stock issuable upon the exercise of stock options outstanding as of December 31, 2023, having a weighted average exercise price of \$12,371.09 per share;
- 67,311 shares of our common stock issuable upon the exercise of warrants outstanding as of December 31, 2023, having a weighted average exercise price of \$136.83 per share;
- 3,691 shares of common stock issuable upon the vesting of restricted stock units outstanding as of December 31, 2023;
- An aggregate of 1,225,048 shares of common stock reserved for future issuance under our under our equity incentive and employee stock purchase plans as of December 31, 2023;
- The issuance of 3,280,618 shares of common stock in exchange for the cancellation of \$15 million of outstanding indebtedness on April 12, 2024;
- 1,716,048 shares of common stock issuable upon the conversion of outstanding shares of Series A Convertible Preferred Stock that was issued in exchange for the cancellation of \$15 million of outstanding indebtedness on April 12, 2024;
- 932,972 shares of common stock issuable upon the conversion of outstanding shares of Series B Convertible Preferred Stock; and
- The expected issuance of 4,748,335 shares of common stock in exchange for the cancellation of \$15 million of outstanding indebtedness pursuant to the May Exchange.

To the extent that outstanding exercisable options or warrants are exercised, you may experience further dilution. In addition, we may need to raise additional capital and to the extent that we raise additional capital by issuing equity or convertible debt securities your ownership will be further diluted. The information discussed above is illustrative only and will adjust based on the actual public offering price and other terms of this offering determined at pricing.

**CAPITALIZATION**

The following table sets forth our cash and cash equivalents, as well as our capitalization, as of December 31, 2023, as follows:

- on an actual basis;
- on a pro forma basis to give effect to the April Exchange; and
- on a pro forma as adjusted basis to give further effect to the sale by us of 3,322,259 shares of our common stock in this offering at the public offering price of \$3.01 per share of common stock and accompanying Common Warrants (assuming no sale of any Pre-Funded Warrants and no exercise of the Common Warrants being sold in this offering), assuming the Common Warrants are liability-classified and their fair values are estimated using the Black-Scholes model, and after deducting the placement agent fees and estimated offering expenses payable by us.

You should consider this table in conjunction with “Use of Proceeds” above as (well as our “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and our financial statements and the notes to those financial statements for the year ended December 31, 2023 incorporated by reference into this prospectus.

	<b>As of December 31, 2023</b>		
	<b>Actual</b>	<b>Pro Forma</b>	<b>Pro Forma As Adjusted</b>
		<i>(in thousands)</i>	
Cash and cash equivalents	\$ 15,689	\$ 15,689	\$ 24,739
Notes payable to related party	\$ 41,284	\$ 26,284	\$ 26,284
Stockholders’ deficit:			
Common stock, \$0.001 par value; 400,000,000 shares authorized; 4,058,381 shares issued and outstanding as of December 31, 2023, actual; 7,338,999 shares issued and outstanding as of December 31, 2023, pro forma; 10,661,258 shares issued and outstanding as of December 31, 2023, pro forma as adjusted;	4	7	10
Additional paid-in capital	556,256	571,253	580,895
Accumulated deficit	(584,296)	(584,296)	(601,675)
<b>Total capitalization</b>	<b>\$ 13,248</b>	<b>\$ 13,248</b>	<b>\$ 5,514</b>

The information above is based on 4,058,381 shares of our common stock outstanding as of December 31, 2023, and excludes as of such date (unless otherwise indicated), the following:

- 1,573 shares of our common stock issuable upon the exercise of stock options outstanding as of December 31, 2023, having a weighted average exercise price of \$12,371.09 per share;
- 67,311 shares of our common stock issuable upon the exercise of warrants outstanding as of December 31, 2023, having a weighted average exercise price of \$136.83 per share;
- 3,691 shares of common stock issuable upon the vesting of restricted stock units outstanding as of December 31, 2023;
- An aggregate of 1,225,048 shares of common stock reserved for future issuance under our under our equity incentive and employee stock purchase plans as of December 31, 2023;

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- The issuance of 3,280,618 shares of common stock in exchange for the cancellation of \$15 million of outstanding indebtedness on April 12, 2024;
- 1,716,048 shares of common stock issuable upon the conversion of outstanding shares of Series A Convertible Preferred Stock that was issued in exchange for the cancellation of \$15 million of outstanding indebtedness on April 12, 2024;
- 932,972 shares of common stock issuable upon the conversion of outstanding shares of Series B Convertible Preferred Stock; and
- The expected issuance of 4,748,335 shares of common stock in exchange for the cancellation of \$15 million of outstanding indebtedness pursuant to the May Exchange.

We may also increase or decrease the number of shares we are offering. A 100,000 share increase in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase the as adjusted total capitalization by approximately \$0.3 million, based on an assumed combined public offering price of \$3.01 per share and accompanying Common Warrants, which was the last reported sale price of our common stock on Nasdaq on May 1, 2024, remaining the same, assuming no sale of any Pre-Funded Warrants and no exercise of the Common Warrants issued in connection with this offering, no change in the estimated valuation of the Common Warrants liabilities, and after deducting placement agent fees and expenses and estimated offering expenses payable by us. Similarly, a 100,000 share decrease in the number of shares offered by us, as set forth on the cover page of this prospectus, would decrease the as adjusted total capitalization by approximately \$0.3 million, based on an assumed combined public offering price of \$3.01 per share and accompanying Common Warrants, which was the last reported sale price of our common stock on Nasdaq on May 1, 2024, remaining the same, assuming no sale of any Pre-Funded Warrants and no exercise of the Common Warrants issued in connection with this offering, no change in the estimated valuation of the Common Warrants liabilities, and after deducting placement agent fees and expenses and estimated offering expenses payable by us.

The information discussed above is illustrative only and will adjust based on the actual public offering price and other terms of this offering determined at pricing.

## DESCRIPTION OF CAPITAL STOCK

The following description of our capital stock is not complete and may not contain all the information you should consider before investing in our capital stock. This description is summarized from, and qualified in its entirety by reference to, our certificate of incorporation, which has been publicly filed with the SEC. See “Where You Can Find More Information; Incorporation by Reference.”

Our authorized capital stock consists of:

- 400,000,000 shares of common stock, \$0.001 par value; and
- 10,000,000 shares of preferred stock, \$0.001 par value.

### **Common Stock**

#### *Voting Rights and Election of Directors*

Holders of our common stock are entitled to one vote for each share held of record on all matters submitted to a vote of shareholders and do not have any cumulative voting rights. An election of directors by our stockholders is determined by a plurality of the votes cast by the stockholders entitled to vote in the election. Subject to the supermajority votes for some matters, other matters are decided by the affirmative vote of our stockholders having a majority in voting power of the votes cast by the stockholders present or represented and voting on such matter. Our directors may be removed only for cause and only by the affirmative vote of the holders of at least two-thirds in voting power of the outstanding shares of capital stock entitled to vote thereon. In addition, the affirmative vote of the holders of at least two-thirds in voting power of the outstanding shares of capital stock entitled to vote thereon is required to amend or repeal, or to adopt any provision inconsistent with, several of the provisions of our restated certificate of incorporation.

#### *Other Rights and Preferences*

Our common stock has no preemptive, subscription, redemption or conversion rights or sinking fund provisions.

#### *Liquidation*

In the event of our liquidation or dissolution, the holders of common stock are entitled to receive proportionately our net assets available for distribution to stockholders after the payment of all debts and other liabilities and subject to the prior rights of any outstanding preferred stock.

#### *Fully Paid and Non-Assessable*

All outstanding shares of common stock are fully paid and non-assessable.

#### **Transfer Agent**

The transfer agent and registrar for our common stock is Equiniti Trust Company, LLC.

#### **Dividend**

Holders of our common stock are entitled to receive proportionately any dividends as may be declared by the board of directors, subject to any preferential dividend rights of any outstanding preferred stock that we may designate and issue in the future. The Company has not paid cash dividends on any of its shares of capital stock.

#### **Preferred Stock**

Our board of directors is authorized to direct us to issue up to 10,000,000 shares of preferred stock in one or more series without shareholder approval. Our board of directors has the discretion to determine the rights,

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preferences, privileges and restrictions, including voting rights, dividend rights, conversion rights, redemption privileges and liquidation preferences, of each series of preferred stock.

The purpose of authorizing our board of directors to issue preferred stock and determine its rights and preferences is to eliminate delays associated with a stockholder vote on specific issuances. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions, future financings and other corporate purposes, could have the effect of making it more difficult for a third party to acquire, or could discourage a third party from seeking to acquire, a majority of our outstanding voting stock.

### **Staggered Board**

Our board of directors is divided into three classes. The directors in each class serve for a three year term, one class being elected each year by our stockholders. This system of electing and removing directors may tend to discourage a third party from making a tender offer or otherwise attempting to obtain control of us, because it generally makes it more difficult for stockholders to replace a majority of the directors.

### **Anti-Takeover Effects of Delaware Law**

We are subject to the provisions of Section 203 of the Delaware General Corporation Law. Under Section 203, we would generally be prohibited from engaging in any business combination with any interested stockholder for a period of three years following the time that this stockholder became an interested stockholder unless:

- prior to this time, the board of directors of the corporation approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder;
- upon consummation of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding shares owned by persons who are directors and also officers, and by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- at or subsequent to such time, the business combination is approved by the board of directors and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least 66 2/3% of the outstanding voting stock that is not owned by the interested stockholder.

Under Section 203, a “business combination” includes:

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

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

## DESCRIPTION OF SECURITIES WE ARE OFFERING

### Common Stock

The material terms and provisions of our common stock are described in the section titled, “Description of Capital Stock” in this prospectus.

### Pre-Funded Warrants

*The following summary of certain terms and provisions of Pre-Funded Warrants that are being offered hereby is not complete and is subject to, and qualified in its entirety by, the provisions of the Pre-Funded Warrant, the form of which is filed as an exhibit to the registration statement of which this prospectus forms a part. Prospective investors should carefully review the terms and provisions of the form of Pre-Funded Warrant for a complete description of the terms and conditions of the Pre-Funded Warrants.*

### *Duration and Exercise Price*

Each Pre-Funded Warrant offered hereby will have an assumed initial exercise price of \$0.001 per share. The Pre-Funded Warrants will be immediately exercisable and may be exercised at any time until the Pre-Funded Warrants are exercised in full. The exercise price and number of shares of common stock issuable upon exercise is subject to appropriate adjustment in the event of stock dividends, stock splits, reorganizations or similar events affecting our common stock and the exercise price, as described in the Pre-Funded Warrant.

### *Exercisability*

The Pre-Funded Warrants will be exercisable, at the option of each holder, in whole or in part, by delivering a duly executed exercise notice accompanied by payment in full for the number of purchased upon such exercise (except in the case of a cashless exercise as discussed below). A holder (together with its affiliates) may not exercise any portion of the Pre-Funded Warrant to the extent that the holder would own more than 4.99% of the outstanding common stock immediately after exercise, except that upon at least 61 days’ prior notice from the holder to us, the holder may increase the amount of ownership of outstanding stock after exercising the holder’s Pre-Funded Warrants up to 9.99% of the number of shares of common stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the Pre-Funded Warrants. No fractional shares of common stock will be issued in connection with the exercise of a Pre-Funded Warrant. In lieu of fractional shares, we will pay the holder an amount in cash equal to the fractional amount multiplied by the exercise price.

### *Cashless Exercise*

In lieu of making the cash payment otherwise contemplated to be made to us upon such exercise in payment of the aggregate exercise price, the holder may elect instead to receive upon such exercise (either in whole or in part) the net number of shares of common stock determined according to a formula set forth in the Pre-Funded Warrants.

### *Fundamental Transactions*

In the event of a fundamental transaction, as described in the Pre-Funded Warrants and generally including any reorganization, recapitalization or reclassification of our common stock pursuant to which the shares of common stock are converted or exchanged for other securities, cash, or property, 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 pursuant to which we are not the surviving entity, the acquisition of more than 50% of our outstanding voting securities, 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.

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### ***Transferability***

Subject to applicable laws, a Pre-Funded Warrant may be transferred at the option of the holder upon surrender of the Pre-Funded Warrant together with the appropriate instruments of transfer.

### ***Exchange Listing***

We do not intend to list the Pre-Funded Warrants on any securities exchange or nationally recognized trading system.

### ***Rights as a Stockholder***

Except as otherwise provided in the Pre-Funded Warrants or by virtue of such holder's ownership of, the holders of the Pre-Funded Warrants do not have the rights or privileges of holders of our common stock, including any voting rights, until they exercise their Pre-Funded Warrants.

### **Common Warrants**

*The following summary of certain terms and provisions of the Common Warrants that are being offered hereby is not complete and is subject to, and qualified in its entirety by, the provisions of the Common Warrants, the form of which is filed as an exhibit to the registration statement of which this prospectus forms a part. Prospective investors should carefully review the terms and provisions of the form of Common Warrant for a complete description of the terms and conditions of the Common Warrants.*

### ***Duration and Exercise Price***

Each Common Warrant offered has an assumed initial exercise price of \$3.01 per share (assuming an exercise price equal to the reported sales price of our common stock on Nasdaq on May 1, 2024). The Common Warrants will be exercisable immediately. The Series B-1 common warrants will expire on the five-year anniversary from the date of issuance and the Series B-2 common warrants will expire 18-months from the date of issuance. The exercise price and number of shares of common stock issuable upon exercise is subject to appropriate adjustment in the event of stock dividends, stock splits, reorganizations or similar events affecting our common stock and the exercise price, as described in the Common Warrant. Common Warrants will be issued separately from the common stock and Pre-Funded Warrants and may be transferred separately immediately thereafter. For each share of common stock (or Pre-Funded Warrant, as applicable) purchased in this offering, one and one-half Common Warrants will be issued. Each whole Common Warrant is exercisable for one share of common stock.

### ***Exercisability***

The Common Warrants will be exercisable, at the option of each holder, in whole or in part, by delivering a duly executed exercise notice accompanied by payment in full for the number of purchased upon such exercise (except in the case of a cashless exercise as discussed below). A holder (together with its affiliates) may not exercise any portion of the Common Warrant to the extent that the holder would own more than 4.99% of the outstanding common stock immediately after exercise, except that upon at least 61 days' prior notice from the holder to us, the holder may increase the amount of ownership of outstanding stock after exercising the holder's Common Warrants up to 9.99% of the number of shares of common stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the Common Warrants. No fractional shares of common stock will be issued in connection with the exercise of a Common Warrant. In lieu of fractional shares, we will pay the holder an amount in cash equal to the fractional amount multiplied by the exercise price.

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### ***Cashless Exercise***

If, at the time a holder exercises its Common Warrants, a registration statement registering the issuance of the shares of common stock underlying the Common Warrants under the Securities Act is not then effective or available, then in lieu of making the cash payment otherwise contemplated to be made to us upon such exercise in payment of the aggregate exercise price, the holder may elect instead to receive upon such exercise (either in whole or in part) the net number of shares of common stock determined according to a formula set forth in the Common Warrants.

### ***Fundamental Transaction***

In the event of a fundamental transaction, as described in the Common Warrants and generally including any reorganization, recapitalization or reclassification of our common stock pursuant to which the shares of common stock are converted or exchanged for other securities, cash, or property, 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 pursuant to which we are not the surviving entity, the acquisition of more than 50% of our outstanding voting securities, the holders of the Common Warrants will be entitled to receive upon exercise of the Common Warrants the kind and amount of securities, cash or other property that the holders would have received had they exercised the Common Warrants immediately prior to such fundamental transaction. In addition, the holders of the Common Warrants have the right to require us or a successor entity to redeem the Common Warrant for the cash paid in the fundamental transaction in the amount of the Black Scholes value of the unexercised portion of the Common Warrant on the date of the consummation of the fundamental transaction.

### ***Transferability***

Subject to applicable laws, a Common Warrant may be transferred at the option of the holder upon surrender of the Common Warrant together with the appropriate instruments of transfer.

### ***Exchange Listing***

We do not intend to list the Common Warrants on any securities exchange or nationally recognized trading system.

### ***Right as a Stockholder***

Except as otherwise provided in the Common Warrants or by virtue of such holder's ownership of, the holders of the Common Warrants do not have the rights or privileges of holders of our common stock, including any voting rights, until they exercise their Common Warrants.

## PLAN OF DISTRIBUTION

Pursuant to a placement agency agreement to be entered into between A.G.P. and us, we will engage A.G.P. to act as our exclusive placement agent in connection with this offering. The Placement Agent is not purchasing or selling any of the securities offered by this prospectus, nor is it required to arrange the purchase or sale of any specific number or dollar amount of securities, but has agreed to use its reasonable best efforts to arrange for the sale of all of the securities offered hereby. Therefore, we may not sell the entire amount of securities offered pursuant to this prospectus. We will enter into a securities purchase agreement directly with the investors, at the investor's option, who purchase our securities in this offering. Investors who do not enter into a securities purchase agreement shall rely solely on this prospectus in connection with the purchase of our securities in this offering.

We will deliver the securities being issued to the investors upon receipt of such investor funds for the purchase of the securities offered pursuant to this prospectus. We expect to deliver the securities being offered pursuant to this prospectus on or about \_\_\_\_\_, 2024, subject to the satisfaction of customary closing conditions.

### Fees and Expenses

We have engaged A.G.P. as our exclusive placement agent in connection with this offering. This offering is being conducted on a "reasonable best efforts" basis and the Placement Agent has no obligation to buy any of the securities from us or to arrange for the purchase or sale of any specific number or dollar amount of securities. We have agreed to pay the Placement Agent a fee based on the aggregate proceeds as set forth in the table below:

	<u>Per Share and Related Warrant</u>	<u>Per Pre-Funded Warrant and Related Warrant</u>	<u>Total</u>
Public offering price	\$	\$	\$
Placement agent fees <sup>(1)</sup>	\$	\$	\$
Proceeds to us, before expenses <sup>(2)</sup>	\$	\$	\$

(1) We have agreed to pay the Placement Agent a cash placement commission equal to 7.0% of the aggregate proceeds from this offering. We have also agreed to reimburse the Placement Agent for certain expenses incurred in connection with this offering.

(2) The amount of the offering proceeds to us presented in this table does not give effect to any exercise of the Pre-Funded Warrants or Common Warrants being issued in this offering.

We have also agreed to reimburse the Placement Agent at closing for legal and other out-of-pocket expenses incurred by them in connection with this offering in an aggregate amount up to \$100,000, as well as non-accountable expenses which shall not exceed \$15,000 including, but not limited to, IPREO software related expenses, background check(s), tombstones, marketing related expenses (i.e., roadshow, travel, clearing expenses, et al.) and any other expenses incurred by the Placement Agent in connection with this offering. We estimate the total expenses payable by us for this offering, excluding the placement agent fees and expenses, will be approximately \$135,000.

The Placement Agent may be deemed to be an underwriter within the meaning of Section 2(a)(11) of the Securities Act, and any commissions received by it and any profit realized on the resale of the shares sold by it while acting as principal might be deemed to be underwriting discounts or commissions under the Securities Act. As an underwriter, the Placement Agent would be required to comply with the requirements of the Securities Act and the Exchange Act, including, without limitation, Rule 415(a)(4) under the Securities Act and Rule 10b-5 and Regulation M under the Exchange Act. These rules and regulations may limit the timing of purchases and sales of shares by the Placement Agent acting as principal. Under these rules and regulations, the Placement Agent:

- may not engage in any stabilization activity in connection with our securities; and

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- may not bid for or purchase any of our securities or attempt to induce any person to purchase any of our securities, other than as permitted under the Exchange Act, until it has completed its participation in the distribution.

### **Indemnification**

We have agreed to indemnify the Placement Agent against specified liabilities, including liabilities under the Securities Act, and to contribute to payments the Placement Agent may be required to make in respect thereof.

### **Lock-up Agreements**

Our directors and executive officers have agreed to enter into lock-up agreements. Under these agreements, these individuals have agreed, subject to specified exceptions, not to sell or transfer any shares of common stock or securities convertible into, or exchangeable or exercisable for, our shares of common stock during a period ending days after the completion of this offering, without first obtaining the written consent of the investors. Specifically, these individuals have agreed, in part, not to:

- sell, offer, contract or grant any option to sell (including any short sale), pledge, transfer, establish an open “put equivalent position” within the meaning of Rule 16a-1(h) under the Securities Exchange Act of 1934, as amended;
- enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of our securities, whether any such transaction is to be settled by delivery of our shares of common stock, in cash or otherwise;
- make any demand for or exercise any right with respect to the registration of any of our securities;
- publicly disclose the intention to make any offer, sale, pledge or disposition, or to enter into any transaction, swap, hedge;
- or other arrangement relating to any of our securities.

Notwithstanding these limitations, these shares of common stock may be transferred under limited circumstances, including, without limitation, by gift, will or intestate succession.

In addition, we have agreed that, subject to certain exceptions, we will not conduct any issuances of our common stock for a period of 45 days following closing of this offering.

### **Discretionary Accounts**

The Placement Agent does not intend to confirm sales of the securities offered hereby to any accounts over which it has discretionary authority.

### **Other Activities and Relationships**

The Placement Agent and certain of its affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, investment research, principal investment, hedging, financing and brokerage activities. The Placement Agent and certain of its affiliates have, from time to time, performed, and may in the future perform, various commercial and investment banking and financial advisory services for us and our affiliates, for which they received or will receive customary fees and expenses.

In the ordinary course of their various business activities, the Placement Agent and certain of its affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative

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securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers, and such investment and securities activities may involve securities and/or instruments issued by us and our affiliates. If the Placement Agent or its affiliates have a lending relationship with us, they routinely hedge their credit exposure to us consistent with their customary risk management policies. The Placement Agent and its affiliates may hedge such exposure by entering into transactions that consist of either the purchase of credit default swaps or the creation of short positions in our securities or the securities of our affiliates, including potentially the common stock offered hereby. Any such short positions could adversely affect future trading prices of the common stock offered hereby. The Placement Agent and certain of its affiliates may also communicate independent investment recommendations, market color or trading ideas and/or publish or express independent research views in respect of such securities or instruments and may at any time hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

### **Offer Restrictions Outside the United States**

Other than in the United States, no action has been taken by us or the Placement Agent that would permit a public offering of the securities offered by this prospectus in any jurisdiction where action for that purpose is required. The securities offered by this prospectus may not be offered or sold, directly or indirectly, nor may this prospectus or any other offering material or advertisements in connection with the offer and sale of any such securities be distributed or published in any jurisdiction, except under circumstances that will result in compliance with the applicable rules and regulations of that jurisdiction. Persons into whose possession this prospectus comes are advised to inform themselves about and to observe any restrictions relating to the offering and the distribution of this prospectus. This prospectus does not constitute an offer to sell or a solicitation of an offer to buy any securities offered by this prospectus in any jurisdiction in which such an offer or a solicitation is unlawful.

## LEGAL MATTERS

Latham & Watkins LLP will pass upon certain legal matters relating to the issuance and sale of the securities offered hereby on behalf of T2 Biosystems. A.G.P. is being represented in connection with this offering by Kramer Levin Naftalis & Frankel LLP.

## EXPERTS

The consolidated financial statements of T2 Biosystems, Inc. (the Company) as of December 31, 2023 and 2022 and for each of the two years in the period ended December 31, 2023 incorporated by reference in this Prospectus and in the Registration Statement have been so incorporated in reliance on the report of BDO USA, P.C., an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting. The report on the consolidated financial statements contains an explanatory paragraph regarding the Company's ability to continue as a going concern.

## WHERE YOU CAN FIND MORE INFORMATION

This prospectus is part of a registration statement we filed with the SEC. This prospectus does not contain all of the information set forth in the registration statement and the exhibits to the registration statement. The registration statement, its exhibits and the documents incorporated by reference in this prospectus and their exhibits, all contain information that is material to the offering of the securities hereby. Whenever a reference is made in this prospectus to any of our contracts or other documents, the reference may not be complete. You should refer to the exhibits that are a part of the registration statement in order to review a copy of the contract or documents. You may obtain copies of the registration statement and its exhibits via the SEC's EDGAR database.

We file annual, quarterly and current reports, proxy statements and other information with the SEC. The SEC maintains an Internet site at <http://www.sec.gov> that contains reports, proxy and information statements, and other information regarding issuers, such as us, that file electronically with the SEC. Additionally, you may access our filings with the SEC through our website at [www.t2biosystems.com](http://www.t2biosystems.com). We have included our website address as an inactive textual reference only and our website and the information contained on, or that can be accessed through, our website will not be deemed to be incorporated by reference in, and are not considered part of, this prospectus.

We will provide you without charge, upon your oral or written request, with an electronic or paper copy of any or all reports, proxy statements and other documents we file with the SEC, as well as any or all of the documents incorporated by reference in this prospectus (other than exhibits to such documents unless such exhibits are specifically incorporated by reference into such documents). Requests for such copies should be directed to:

T2 Biosystems , Inc.  
101 Hartwell Avenue  
Lexington, MA 02421  
Attention: General Counsel  
(781) 761-4646

You should rely only on the information in this prospectus and the additional information described above and under the heading "Incorporation of Certain Information by Reference" below. We have not authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely upon it. We are not making an offer to sell these securities in any jurisdiction where such offer or sale is not permitted. You should assume that the information in this prospectus was accurate on the date of the front cover of this prospectus only. Our business, financial condition, results of operations and prospects may have changed since that date.

## INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to “incorporate by reference” information that we file with it into this prospectus, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is an important part of this prospectus. The information incorporated by reference is considered to be a part of this prospectus, and information that we file later with the SEC will automatically update and supersede information contained in this prospectus.

We incorporate by reference the following information or documents that we have filed with the SEC:

- our Annual Report on Form 10-K for the year ended December 31, 2023, filed on [April 1, 2024](#);
- our Quarterly Report on Form 10-Q for the quarter ended March 31, 2024, filed on May 6, 2024;
- our Current Reports on Form 8-K filed on [January 5, 2024](#), [February 15, 2024](#), [March 12, 2024](#), [March 18, 2024](#), [March 20, 2024](#), [March 28, 2024](#), [April 18, 2024](#) and May 6, 2024; and
- the description of our common stock contained in our Registration Statement on Form 8-A filed with the SEC on [July 25, 2014](#), including any amendments and reports filed for the purpose of updating such description.

All reports and other documents (other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed in such forms that are related to such items unless such Form 8-K expressly provides to the contrary) we subsequently file pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act, prior to the termination of this offering, including all such documents we may file with the SEC after the date of the initial registration statement and prior to the effectiveness of the registration statement will also be incorporated by reference in this prospectus and deemed to be part of this prospectus from the date of the filing of such reports and documents.

Any statement contained in a document incorporated or deemed to be incorporated by reference in this prospectus shall be deemed modified, superseded or replaced for purposes of this prospectus to the extent that a statement contained in this prospectus, or in any subsequently filed document that also is deemed to be incorporated by reference in this prospectus, modifies, supersedes or replaces such statement. Any statement so modified, superseded or replaced shall not be deemed, except as so modified, superseded or replaced, to constitute a part of this prospectus. None of the information that we disclose under Items 2.02 or 7.01 of any Current Report on Form 8-K or any corresponding information, either furnished under Item 9.01 or included as an exhibit therein, that we may from time to time furnish to the SEC will be incorporated by reference into, or otherwise included in, this prospectus, except as otherwise expressly set forth in the relevant document. Subject to the foregoing, all information appearing in this prospectus is qualified in its entirety by the information appearing in the documents incorporated by reference.

**Up to 3,322,259 Shares of Common Stock**  
**Pre-Funded Warrants to Purchase up to 3,322,259 Shares of Common Stock**  
**Series B-1 Common Warrants to Purchase up to 3,322,259 Shares of Common Stock**  
**Series B-2 Common Warrants to Purchase up to 3,322,259 Shares of Common Stock**

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**PROSPECTUS**

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*Sole Placement Agent*

**A.G.P.**

, 2024

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**PART II****INFORMATION NOT REQUIRED IN PROSPECTUS****Item 13. Other Expenses of Issuance and Distribution.**

The following table indicates the expenses to be incurred in connection with the offering described in this registration statement, other than underwriting discounts and commissions, all of which will be paid by us. All amounts are estimated except the Securities and Exchange Commission registration fee and the Financial Industry Regulatory Authority, Inc., or FINRA, filing fee.

	<u>Amount</u>
Securities and Exchange Commission registration fee	\$ 4,281
FINRA filing fee	\$ 5,000
Accountants' fees and expenses	\$ 75,000
Legal fees and expenses	\$ 165,000
Miscellaneous	\$ 719
Total expenses	<u>250,000</u>

**Item 14. Indemnification of Directors and Officers.**

Subsection (a) of Section 145 of the General Corporation Law of the State of Delaware, or the DGCL, empowers a corporation to indemnify any person who was or is a party or who is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the corporation) by reason of the fact that the person is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with such action, suit or proceeding if the person acted in good faith and in a manner the person reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe the person's conduct was unlawful.

Subsection (b) of Section 145 empowers a corporation to indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the corporation to procure a judgment in its favor by reason of the fact that the person acted in any of the capacities set forth above, against expenses (including attorneys' fees) actually and reasonably incurred by the person in connection with the defense or settlement of such action or suit if the person acted in good faith and in a manner the person reasonably believed to be in or not opposed to the best interests of the corporation, except that no indemnification shall be made in respect of any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or the court in which such action or suit was brought shall determine upon application that, despite the adjudication of liability but in view of all the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

Section 145 further provides that to the extent a director or officer of a corporation has been successful on the merits or otherwise in the defense of any action, suit or proceeding referred to in subsections (a) and (b) of Section 145, or in defense of any claim, issue or matter therein, such person shall be indemnified against expenses (including attorneys' fees) actually and reasonably incurred by such person in connection therewith; that indemnification provided for by Section 145 shall not be deemed exclusive of any other rights to which the

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indemnified party may be entitled; and the indemnification provided for by Section 145 shall, unless otherwise provided when authorized or ratified, continue as to a person who has ceased to be a director, officer, employee or agent and shall inure to the benefit of such person's heirs, executors and administrators. Section 145 also empowers the corporation to purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against any liability asserted against such person and incurred by such person in any such capacity, or arising out of his status as such, whether or not the corporation would have the power to indemnify such person against such liabilities under Section 145.

Section 102(b)(7) of the DGCL provides that a corporation's certificate of incorporation may contain a provision eliminating or limiting the personal liability of a director to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, provided that such provision shall not eliminate or limit the liability of a director (i) for any breach of the director's duty of loyalty to the corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of the DGCL, or (iv) for any transaction from which the director derived an improper personal benefit.

Any underwriting agreement or distribution agreement that the registrant enters into with any underwriters or agents involved in the offering or sale of any securities registered hereby may require such underwriters or dealers to indemnify the registrant, some or all of its directors and officers and its controlling persons, if any, for specified liabilities, which may include liabilities under the Securities Act of 1933, as amended.

Our restated certificate of incorporation provides that we will indemnify each person who was or is a party or threatened to be made a party to any threatened, pending or completed action, suit or proceeding (other than an action by or in the right of us) by reason of the fact that he or she is or was, or has agreed to become, a director or officer, or is or was serving, or has agreed to serve, at our request as a director, officer, partner, employee or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise (all such persons being referred to as an "Indemnitee"), or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred in connection with such action, suit or proceeding and any appeal therefrom, if such Indemnitee acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, our best interests, and, with respect to any criminal action or proceeding, he or she had no reasonable cause to believe his or her conduct was unlawful. Our restated certificate of incorporation provides that we will indemnify any Indemnitee who was or is a party to an action or suit by or in the right of us to procure a judgment in our favor by reason of the fact that the Indemnitee is or was, or has agreed to become, a director or officer, or is or was serving, or has agreed to serve, at our request as a director, officer, partner, employee or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise, or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including attorneys' fees) and, to the extent permitted by law, amounts paid in settlement actually and reasonably incurred in connection with such action, suit or proceeding, and any appeal therefrom, if the Indemnitee acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, our best interests, except that no indemnification shall be made with respect to any claim, issue or matter as to which such person shall have been adjudged to be liable to us, unless a court determines that, despite such adjudication but in view of all of the circumstances, he or she is entitled to indemnification of such expenses. Notwithstanding the foregoing, to the extent that any Indemnitee has been successful, on the merits or otherwise, he or she will be indemnified by us against all expenses (including attorneys' fees) actually and reasonably incurred in connection therewith. Expenses must be advanced to an Indemnitee under certain circumstances.

We have entered into indemnification agreements with each of our directors and officers. These indemnification agreements may require us, among other things, to indemnify our directors and officers for some expenses, including attorneys' fees, judgments, fines and settlement amounts incurred by a director or officer in

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any action or proceeding arising out of his or her service as one of our directors or officers, or any other company or enterprise to which the person provides services at our request.

We maintain a general liability insurance policy that covers certain liabilities of directors and officers of our corporation arising out of claims based on acts or omissions in their capacities as directors or officers.

See also the undertakings set out in response to Item 17 of this Registration Statement.

### **Item 15. Recent Sales of Unregistered Securities.**

On April 12, 2024, the Company issued 3,280,618 shares of Common Stock and 17,160.48 shares of Series A Preferred Stock to accredited investors in a transaction that was exempt from registration under Section 4(a)(2) of the Securities Act of 1933, as amended.

On May 3, 2024, the Company agreed to issue 4,748,335 shares of Common Stock to accredited investors in a transaction that was exempt from registration under Section 4(a)(2) of the Securities Act of 1933, as amended.

### **Item 16. Exhibits and Financial Statement Schedules.**

<u>Exhibit Number</u>	<u>Description</u>
1.1**	<a href="#">Form of Placement Agency Agreement</a>
3.1	<a href="#">Restated Certificate of Incorporation of the Company, as amended (incorporated by reference to Exhibit 3.1 of the Company's Form 8-K (File No. 001-36571) filed on August 12, 2014)</a>
3.2	<a href="#">Certificate of Amendment of Restated Certificate of Incorporation of the Company dated July 23, 2021 (incorporated by reference to Exhibit 3.1 of the Company's Form 8-K (File No. 001-36571) filed on July 23, 2021)</a>
3.3	<a href="#">Certificate of Amendment of Restated Certificate of Incorporation of the Company dated October 12, 2022 (incorporated by reference to Exhibit 3.1 of the Company's Form 8-K (File No. 001-36571) filed on October 12, 2022)</a>
3.4	<a href="#">Certificate of Amendment of Restated Certificate of Incorporation of the Company dated October 12, 2023 (incorporated by reference to Exhibit 3.1 of the Company's Form 8-K (File No. 001-36571) filed on October 12, 2023)</a>
3.5	<a href="#">Certificate of Designation of Preferences, Rights and Limitations of Series A Convertible Preferred Stock (incorporated by reference to Exhibit 3.1 of the Company's Form 8-K (File No. 001-36571) filed on April 18, 2024)</a>
3.6	<a href="#">Certificate of Designation of Preferences, Rights and Limitations of Series B Convertible Preferred Stock (incorporated by reference to Exhibit 3.2 of the Company's Form 8-K (File No. 001-36571) filed on July 6, 2023)</a>
3.7	<a href="#">Third Amended and Restated Bylaws of the Company (incorporated by reference to Exhibit 3.4 of the Company's Form 10-Q (File No. 001-36571) filed on August 16, 2022)</a>
4.1	<a href="#">Form of Common Stock Certificate of the Company (incorporated by reference to Exhibit 4.1 to the Company's Registration Statement on Form S-1/A (File No. 333-197193) filed on July 28, 2014)</a>
4.2	<a href="#">Fourth Amended and Restated Investors' Rights Agreement, dated as of March 22, 2013, as amended (incorporated by reference to Exhibit 4.2 of the Company's Registration Statement on Form S-1/A (File No. 333-197193) filed on July 28, 2014)</a>
4.3	<a href="#">Registration Rights Agreement dated as of July 29, 2019 by and between T2 Biosystems Inc. and Lincoln Park Capital Fund, LLC (incorporated by reference to Exhibit 4.1 of the Company's Form 8-K (File No. 001-36571) filed on July 30, 2019)</a>
4.4	<a href="#">Description of Securities (incorporated by reference to Exhibit 4.4 of the Company's Form 10-K (File No. 001-36571) filed on April 1, 2024)</a>

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<u>Exhibit Number</u>	<u>Description</u>
4.5	<a href="#"><u>Common Stock Purchase Warrant (incorporated by reference to Exhibit 4.1 of the Company's Form 10-Q (File No. 001-36571) filed on August 16, 2022)</u></a>
4.6	<a href="#"><u>Pre-Funded Common Stock Purchase Warrant (incorporated by reference to Exhibit 4.1 of the Company's Form 8-K (File No. 001-36571) filed on February 16, 2023)</u></a>
4.7	<a href="#"><u>Common Stock Purchase Warrant (incorporated by reference to Exhibit 4.2 of the Company's Form 8-K (File No. 001-36571) filed on February 16, 2023)</u></a>
5.1**	<a href="#"><u>Opinion of Latham &amp; Watkins LLP</u></a>
10.1	<a href="#"><u>Amended and Restated 2006 Employee, Director and Consultant Stock Plan, as amended, and form of option agreements thereunder (incorporated by reference to Exhibit 10.1 to the Company's Registration Statement on Form S-1 (File No. 333-197193) filed on July 2, 2014)</u></a>
10.2	<a href="#"><u>Non-Employee Director Compensation Program, effective as of March 21, 2022 (incorporated by reference to Exhibit 10.2 to the Company's Form 10-K (File No. 001-36571) filed on March 23, 2022)</u></a>
10.3	<a href="#"><u>Form of Indemnification Agreement for Directors and Officers (incorporated by reference to Exhibit 10.4 to the Company's Registration Statement on Form S-1/A (File No. 333-197193) filed on July 28, 2014)</u></a>
10.4	<a href="#"><u>Exclusive License Agreement, dated as of November 7, 2006, as amended on December 2, 2008 and February 21, 2011, by and between The General Hospital Corporation d/b/a Massachusetts General Hospital and the Company (incorporated by reference to Exhibit 10.13 to the Company's Registration Statement on Form S-1 (File No. 333-197193) filed on July 2, 2014)</u></a>
10.5	<a href="#"><u>Commercial Lease, dated as of May 6, 2013, as amended on September 24, 2013, by and between the Company and Columbus Day Realty, Inc. (incorporated by reference to Exhibit 10.16 to the Company's Registration Statement on Form S-1 (File No. 333-197193) filed on July 2, 2014)</u></a>
10.6†	<a href="#"><u>Lease, dated as of August 6, 2010, by and between the Company and King 101 Hartwell LLC, as amended by the First Amendment to Lease on November 30, 2011 and the Second Amendment to Lease on July 11, 2014 (incorporated by reference to Exhibit 10.17 to the Company's Registration Statement on Form S-1/A (File No. 333-197193) filed on July 16, 2014)</u></a>
10.7†	<a href="#"><u>2014 Employee Stock Purchase Plan, as amended and restated (incorporated by reference to Exhibit 10.4 of the Company's Form 10-Q (File No. 001-36571) filed on November 15, 2023)</u></a>
10.8	<a href="#"><u>Supply Agreement by and between the Company and SMC Ltd., effective as of October 10, 2014 (incorporated by reference to Exhibit 10.1 of the Company's Form 8-K/A (File No. 001-36571) filed on January 21, 2015)</u></a>
10.9	<a href="#"><u>Third Amendment to Lease with King 101 Hartwell LLC on May 27, 2015 (incorporated by referenced to Exhibit 10.1 of the Company's Form 8-K (File No. 001-36571) filed on May 29, 2015)</u></a>
10.10	<a href="#"><u>Stock Purchase Agreement, dated September 21, 2016, by and among Canon U.S.A., Inc. and the Company (incorporated by reference to Exhibit 10.1 of the Company's Form 8-K (File No. 001-36571) filed on September 22, 2016)</u></a>
10.11	<a href="#"><u>Voting and Standstill Agreement, dated September 21, 2016, by and among Canon U.S.A., Inc. and the Company (incorporated by reference to Exhibit 10.2 of the Company's Form 8-K (File No. 001-36571) filed on September 22, 2016)</u></a>

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<u>Exhibit Number</u>	<u>Description</u>
10.12	<a href="#"><u>Registration Rights Agreement, dated September 21, 2016, by and among Canon U.S.A., Inc. and the Company (incorporated by reference to Exhibit 10.3 of the Company's Form 8-K (File No. 001-36571) filed on September 22, 2016)</u></a>
10.13	<a href="#"><u>Term Loan Agreement, dated December 30, 2016, by and among the Company, CRG Servicing LLC, as administrative and collateral agent, and the lenders from time to time party thereto and the subsidiary guarantors from time to time party thereto (incorporated by reference to Exhibit 10.29 of the Company's Form 10-K (File No. 001-36571) filed on March 15, 2017)</u></a>
10.14	<a href="#"><u>Security Agreement, dated December 30, 2016, by and among the Company, the other grantors from time to time party thereto and CRG Servicing LLC, as administrative and collateral agent (incorporated by reference to Exhibit 10.30 of the Company's Form 10-K (File No. 001-36571) filed on March 15, 2017)</u></a>
10.15	<a href="#"><u>Warrant to Purchase Shares of Common Stock of T2 Biosystems, Inc., dated December 30, 2016, by and between the Company and CRG Partners III—Parallel Fund "A" L.P. (incorporated by reference to Exhibit 10.32 of the Company's Form 10-K (File No. 001-36571) filed on March 15, 2017)</u></a>
10.16	<a href="#"><u>Warrant to Purchase Shares of Common Stock of T2 Biosystems, Inc., dated December 30, 2016, by and between the Company and CRG Partners III L.P. (incorporated by reference to Exhibit 10.33 of the Company's Form 10-K (File No. 001-36571) filed on March 15, 2017)</u></a>
10.17	<a href="#"><u>Warrant to Purchase Shares of Common Stock of T2 Biosystems, Inc., dated December 30, 2016, by and between the Company and CRG Partners III Parallel Fund "B" (Cayman) L.P. (incorporated by reference to Exhibit 10.34 of the Company's Form 10-K (File No. 001-36571) filed on March 15, 2017)</u></a>
10.18	<a href="#"><u>Fourth Amendment to Lease, dated March 2, 2017, by and between the Company and King 101 Harwell LLC (incorporated by reference to Exhibit 10.1 of the Company's Form 8-K (File No. 001-36571) filed on March 3, 2017)</u></a>
10.19	<a href="#"><u>Amendment No. 1 to Term Loan Agreement, dated March 1, 2017, by and among the Company, CRG Servicing LLC, as administrative and collateral agent, and the lenders party thereto (incorporated by reference to Exhibit 10.3 of the Company's Form 10-Q (File No. 001-36571) filed on May 8, 2017)</u></a>
10.20	<a href="#"><u>Amendment to Supply Agreement, by and between the Company and SMC Ltd., dated August 29, 2017 (incorporated by reference to Exhibit 10.1 of the Company's Form 8-K (File No. 001-36571) filed on August 29, 2017)</u></a>
10.21	<a href="#"><u>Second Amendment to Supply Agreement, by and between the Company and SMC Ltd., dated December 22, 2017 (incorporated by reference to Exhibit 10.1 of the Company's Form 8-K (File No. 001-36571) filed on December 27, 2017)</u></a>
10.22	<a href="#"><u>Employment Offer Letter, dated as of January 30, 2018, by and between the Company and John M. Sprague (incorporated by reference to Exhibit 10.38 of the Company's Form 10-K (File No. 001-36571) filed on March 19, 2018)</u></a>
10.23	<a href="#"><u>Amendment No. 2 to Commercial Lease, dated as of September 21, 2015, by and between the Company and Columbus Day Realty, Inc. (incorporated by reference to Exhibit 10.40 of the Company's Form 10-K (File No. 001-36571) filed on March 19, 2018)</u></a>
10.24	<a href="#"><u>Amendment No. 3 to Commercial Lease, dated as of August 10, 2017, by and between the Company and Columbus Day Realty, Inc. (incorporated by reference to Exhibit 10.41 of the Company's Form 10-K (File No. 001-36571) filed on March 19, 2018)</u></a>

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<u>Exhibit Number</u>	<u>Description</u>
10.25	<a href="#"><u>Amendment No. 2 to Term Loan Agreement, dated December 18, 2017, by and among the Company, CRG Servicing LLC, as administrative and collateral agent, and the lenders party thereto (incorporated by reference to Exhibit 10.42 of the Company's Form 10-K (File No. 001-36571) filed on March 19, 2018)</u></a>
10.26	<a href="#"><u>Amendment No. 3 to Term Loan Agreement, dated March 16, 2018, by and among the Company, CRG Servicing LLC, as administrative and collateral agent, and the lenders party thereto (incorporated by reference to Exhibit 10.43 of the Company's Form 10-K (File No. 001-36571) filed on March 19, 2018)</u></a>
10.27	<a href="#"><u>Third Amendment to Supply Agreement, by and between the Company and SMC Ltd., dated May 16, 2018 (incorporated by reference to Exhibit 10.1 of the Company's Form 8-K (File No. 001-36571) filed on May 17, 2018)</u></a>
10.28	<a href="#"><u>Amendment No. 4 to Commercial Lease, dated as of August 31, 2018, by and between the Company and Columbus Day Realty, Inc. (incorporated by reference to Exhibit 10.1 of the Company's Form 8-K (File No. 001-36571) filed on September 7, 2018)</u></a>
10.29	<a href="#"><u>Fifth Amendment to Lease, dated December 6, 2018, by and between the Company and King 101 Harwell LLC (incorporated by reference to Exhibit 10.1 of the Company's Form 8-K (File No. 001-36571) filed on December 12, 2018)</u></a>
10.30	<a href="#"><u>Employment Offer Letter, dated as of October 29, 2014, by and between the Company and Michael Gibbs (incorporated by reference to Exhibit 10.45 of the Company's Form 10-K (File No. 001-36571) filed on March 14, 2019)</u></a>
10.31	<a href="#"><u>Amendment No. 4 to Term Loan Agreement, dated March 13, 2019, between the Company and CRG Servicing LLC (incorporated by reference to Exhibit 10.50 of the Company's Form 10-K (File No. 001-36571) filed on March 14, 2019)</u></a>
10.32	<a href="#"><u>Amendment to Warrant to Purchase Shares of Common Stock, dated March 13, 2019, between the Company and CRG Partners III L.P. (incorporated by reference to Exhibit 10.51 of the Company's Form 10-K (File No. 001-36571) filed on March 14, 2019)</u></a>
10.33	<a href="#"><u>Amendment to Warrant to Purchase Shares of Common Stock, dated March 13, 2019, between the Company and CRG Partners III – Parallel Fund “A” L.P. (incorporated by reference to Exhibit 10.52 of the Company's Form 10-K (File No. 001-36571) filed on March 14, 2019)</u></a>
10.34	<a href="#"><u>Amendment to Warrant to Purchase Shares of Common Stock, dated March 13, 2019, between the Company and CRG Partners III Parallel Fund “B” (CAYMAN) L.P. (incorporated by reference to Exhibit 10.53 of the Company's Form 10-K (File No. 001-36571) filed on March 14, 2019)</u></a>
10.35	<a href="#"><u>Replacement Warrant to Purchase Shares of Common Stock of T2 Biosystems, Inc., dated March 13, 2019, between the Company and CRG PARTNERS III (CAYMAN) LEV AIV L.P. (incorporated by reference to Exhibit 10.54 of the Company's Form 10-K (File No. 001-36571) filed on March 14, 2019)</u></a>
10.36	<a href="#"><u>Replacement Warrant to Purchase Shares of Common Stock of T2 Biosystems, Inc., dated March 13, 2019, between the Company and CRG PARTNERS III (CAYMAN) UNLEV AIV 1 L.P. (incorporated by reference to Exhibit 10.55 of the Company's Form 10-K (File No. 001-36571) filed on March 14, 2019)</u></a>
10.37	<a href="#"><u>Amendment No. 5 to Term Loan Agreement dated as of September 10, 2019 by and between T2 Biosystems, Inc., CRG Servicing LLC and the lenders listed on the signature pages thereto (incorporated by reference to Exhibit 10.1 of the Company's Form 10-Q (File No. 001-36571) filed on November 18, 2019)</u></a>

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<u>Exhibit Number</u>	<u>Description</u>
10.38	<a href="#"><u>Supply Agreement, dated as of March 1, 2019, by and between the Company and GE Healthcare (incorporated by reference to Exhibit 10.1 of the Company's Form 10-Q (File No. 001-36571) filed on May 10, 2019)</u></a>
10.39	<a href="#"><u>Employment Agreement, dated as of January 8, 2020, by and between the Company and John Sperzel (incorporated by reference to Exhibit 10.1 of the Company's Form 8-K (File No. 001-36571) filed on January 9, 2020)</u></a>
10.40	<a href="#"><u>Sixth Amendment to Lease by and between the Company and LS King Hartwell Innovation Campus LLC, dated as of October 19, 2020 (incorporated by reference to Exhibit 10.2 of the Company's Form 10-Q (File No. 001-36571) filed on November 5, 2020)</u></a>
10.41	<a href="#"><u>First Amendment to Lease by and between the Company and LS King Hartwell Innovation Campus LLC, dated as of October 19, 2020 (incorporated by reference to Exhibit 10.3 of the Company's Form 10-Q (File No. 001-36571) filed on November 5, 2020)</u></a>
10.42	<a href="#"><u>Amendment No. 5 to Commercial Lease between Columbus Day Realty, Inc. and the Company, dated as of October 20, 2020 (incorporated by reference to Exhibit 10.4 of the Company's Form 10-Q (File No. 001-36571) filed on November 5, 2020)</u></a>
10.43	<a href="#"><u>Amendment No. 6 to Term Loan Agreement, dated January 25, 2021, between T2 Biosystems, Inc. and CRG Servicing LLC (incorporated by reference to Exhibit 10.63 of the Company's Form 10-K (File No. 001-36571) filed on March 31, 2021)</u></a>
10.44	<a href="#"><u>T2 Biosystems, Inc. 2014 Incentive Award Plan, as amended and restated (incorporated by reference to Exhibit 10.3 of the Company's Form 10-Q (File No. 001-36571) filed on November 15, 2023)</u></a>
10.45	<a href="#"><u>T2 Biosystems, Inc. Inducement Award Plan (as amended and restated, effective February 16, 2023) and form of option agreement, restricted stock agreement, and restricted stock unit agreement thereunder (incorporated by reference to Exhibit 10.51 of the Company's Form 10-K (File No. 001-36571) filed on March 31, 2023)</u></a>
10.46	<a href="#"><u>Employment Offer Letter, dated as of November 2, 2021, by and between the Company and Brett Giffin (incorporated by reference to Exhibit 10.52 of the Company's Form 10-K (File No. 001-36571) filed on March 31, 2023)</u></a>
10.47	<a href="#"><u>Change of Control Severance Agreement, dated March 21, 2022 by and between the Company and John Sprague (incorporated by reference to Exhibit 10.53 of the Company's Form 10-K (File No. 001-36571) filed on March 31, 2023)</u></a>
10.48	<a href="#"><u>Change of Control Severance Agreement, dated March 21, 2022 by and between the Company and Michael Gibbs (incorporated by reference to Exhibit 10.54 of the Company's Form 10-K (File No. 001-36571) filed on March 31, 2023)</u></a>
10.49	<a href="#"><u>Change of Control Severance Agreement, dated March 21, 2022 by and between the Company and Brett Giffin (incorporated by reference to Exhibit 10.55 of the Company's Form 10-K (File No. 001-36571) filed on March 31, 2023)</u></a>
10.50	<a href="#"><u>Amendment No. 7 to Term Loan Agreement, dated February 15, 2022, between T2 Biosystems, Inc. and CRG Servicing LLC (incorporated by reference to Exhibit 10.56 of the Company's Form 10-K (File No. 001-36571) filed on March 31, 2023)</u></a>
10.51	<a href="#"><u>Amendment No. 8 to Term Loan Agreement, dated November 10, 2022, between T2 Biosystems, Inc. and CRG Servicing LLC (incorporated by reference to Exhibit 10.5 of the Company's Form 10-Q (File No. 001-36571) filed on November 14, 2022)</u></a>

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<u>Exhibit Number</u>	<u>Description</u>
10.52	<a href="#"><u>Amendment No. 6 to Commercial Lease between Columbus Day Realty, Inc. and T2 Biosystems, Inc. dated September 26, 2022 (incorporated by reference to Exhibit 10.64 of the Company's Form 10-K (File No. 001-36571) filed on March 31, 2023)</u></a>
10.53	<a href="#"><u>Waiver, dated January 23, 2023 to that certain Term Loan Agreement, dated as of December 30, 2016, by and among the Company, CRG Servicing LLC, as administrative agent and collateral agent incorporated by reference to Exhibit 10.66 of the Company's Form 10-K (File No. 001-36571) filed on March 31, 2023)</u></a>
10.54	<a href="#"><u>Waiver and Consent to Term Loan Agreement with CRG Servicing LLC, dated May 19, 2023 (incorporated by reference to Exhibit 10.2 of the Company's Form 10-Q (File No. 001-36571) filed on May 22, 2023)</u></a>
10.55	<a href="#"><u>Amendment No. 9 to Term Loan Agreement, dated October 18, 2023, between T2 Biosystems, Inc. and CRG Servicing LLC (incorporated by reference to Exhibit 10.5 of the Company's Form 10-Q (File No. 001-36571) filed on November 15, 2023)</u></a>
10.56	<a href="#"><u>Purchase Agreement, dated July 5, 2023, by and between the Company and the Purchasers party thereto (incorporated by reference to Exhibit 10.1 of the Company's Form 8-K (File No. 001-36571) filed on November 15, 2023) filed on July 6, 2023</u></a>
10.57	<a href="#"><u>Securities Purchase Agreement, dated July 3, 2023, by and between the Company and the Lenders party thereto (incorporated by reference to Exhibit 10.2 of the Company's Form 8-K (File No. 001-36571) filed on November 15, 2023) filed on July 6, 2023</u></a>
10.58	<a href="#"><u>Securities Purchase Agreement, dated February 15, 2024 by and between the Company and the Lenders party thereto (incorporated by reference to Exhibit 10.1 of the Company's Form 8-K (File No. 001-36571) filed on February 15, 2024)</u></a>
10.59	<a href="#"><u>Equity Distribution Agreement, dated as of March 31, 2021, by and between T2 Biosystems, Inc. and Canaccord Genuity LLC. (incorporated by reference to Exhibit 1.2 to the Company's Registration Statement on Form S-3 (File No. 333-197193) filed on March 31, 2021)</u></a>
10.60	<a href="#"><u>Letter Agreement, dated March 31, 2024, by and between T2 Biosystems, Inc. and John Sprague (incorporated by reference to Exhibit 10.60 of the Company's Form 10-K (File No. 001-36571) filed on April 1, 2024)</u></a>
10.61	<a href="#"><u>Letter Agreement, dated March 31, 2024, by and between T2 Biosystems, Inc. and Michael Gibbs (incorporated by reference to Exhibit 10.61 of the Company's Form 10-K (File No. 001-36571) filed on April 1, 2024)</u></a>
10.62	<a href="#"><u>Consent and Amendment No. 10 to Term Loan Agreement, dated April 12, 2024, by and among the Company, CRG Servicing LLC as administrative agent and collateral agent, and the lenders party thereto (incorporated by reference to Exhibit 10.1 of the Company's Form 8-K (File No. 001-36571) filed on April 18, 2024)</u></a>
10.63**	<a href="#"><u>Form of Securities Purchase Agreement</u></a>
10.64**	<a href="#"><u>Form of Series B-1 Warrant</u></a>
10.65**	<a href="#"><u>Form of Series B-2 Warrant</u></a>
10.66**	<a href="#"><u>Form of Prefunded Warrant</u></a>
10.67	<a href="#"><u>Securities Purchase Agreement, dated May 3, 2024 by and between the Company the Lenders party thereto (incorporated by reference to Exhibit 10.1 of the Company's Form 8-K (File No. 001-36571) filed on May 6, 2024)</u></a>

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<u>Exhibit Number</u>	<u>Description</u>
10.68	Consent and Amendment No. 11 to Term Loan Agreement, dated May 3, 2024, by and among the Company, CRG Servicing LLC as administrative agent and collateral agent, and the lenders party thereto (incorporated by reference to Exhibit 10.2 of the Company's Form 8-K (File No. 001-36571) filed on May 6, 2024)
21.1	<a href="#">List of Subsidiaries (incorporated by reference to Exhibit 21.1 of the Company's Form 10-K (File No. 001-36571) filed on April 1, 2024)</a>
23.1**	<a href="#">Consent of BDO USA, P.C., Independent Registered Public Accounting Firm</a>
23.2**	<a href="#">Consent of Latham &amp; Watkins LLP (included in Exhibit 5.1)</a>
24.1**	<a href="#">Power of Attorney (included on the signature page)</a>
107**	<a href="#">Filing Fee Table</a>

† Confidential treatment is requested for certain confidential portions of this exhibit pursuant to Rule 24b-2 under the Exchange Act. In accordance with Rule 24b-2, these confidential portions have been omitted from this exhibit and filed separately with the Commission.

†† Schedule has been omitted pursuant to Item 601(a)(5) of Regulation S-K. The Company hereby undertakes to furnish copies of any of the omitted schedules upon request by the Securities and Exchange Commission.

\* Filed herewith.

\*\* Previously filed.

### **Item 17. Undertakings.**

(1) The undersigned registrant hereby undertakes:

(a) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the SEC pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

*provided, however*, that paragraphs (1)(i), (1)(ii) and (1)(iii) above do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Securities and Exchange Commission by the registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement.

(b) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

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(c) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(d) that, for the purpose of determining liability under the Securities Act of 1933 to any purchaser, each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

(e) That, for the purpose of determining liability of the registrant under the Securities Act to any purchaser in the initial distribution of the securities, the undersigned registrant hereby undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

- (i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424 (§ 230.424 of this chapter);
- (ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;
- (iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and
- (iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

(f) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

(g) That:

- (i) For purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the Registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.
- (ii) For the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement

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relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(h) That, for purposes of determining any liability under the Securities Act of 1933, each filing of the Registrant's annual report pursuant to section 13(a) or section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

