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

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**FORM S-3  
REGISTRATION STATEMENT  
UNDER  
THE SECURITIES ACT OF 1933**

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

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Delaware  
(State or other jurisdiction of  
incorporation or organization)

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

101 Hartwell Avenue  
Lexington, MA 02421  
(781) 761-4646

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

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John Sperzel  
President, Chief Executive Officer and Chairman of the Board  
T2 Biosystems, Inc.  
101 Hartwell Avenue  
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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*Copies to:*

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Michael T. Gibbs  
Senior Vice President and General Counsel  
T2 Biosystems, Inc.  
101 Hartwell Avenue  
Lexington, MA 02421  
(781) 761-4646

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**Approximate date of commencement of proposed sale to the public:** From time to time after this registration statement becomes effective.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

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, other than securities offered only in connection with dividend or interest reinvestment plans, 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 registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

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

Accelerated filer

Non-accelerated filer

Smaller reporting company

Emerging growth company

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

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

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**The information contained in this prospectus is not complete and may be changed. The selling stockholder named in this prospectus may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities, and it is not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.**

**Subject to Completion, Dated May 24, 2024**

**PROSPECTUS**



**6,217,723 Shares of Common Stock**

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This prospectus relates to the resale from time to time by the selling stockholders identified in this prospectus of up to 6,217,723 shares of our common stock, par value \$0.001 per share (the “Common Stock”), comprising (i) 1,700,000 shares of Common Stock currently outstanding, (ii) 325,317 shares of Common Stock issuable upon exercise of the Pre-Funded Warrant (as defined below), (iii) 2,025,317 shares of Common Stock issuable upon exercise of the Series A Warrant (as defined below), (iv) 2,025,317 shares of Common Stock issuable upon exercise of the Series B Warrant (as defined below) and (v) 141,772 shares of Common Stock issuable upon exercise of the Wainwright Warrants (as defined below). The shares of Common Stock referenced in the preceding sentence were acquired by the selling stockholders on May 17, 2024, in a transaction more fully described in the section entitled “Selling Stockholders.”

We are not selling any shares of Common Stock under this prospectus and will not receive any proceeds from any sale by the selling stockholders of the shares of Common Stock offered by this prospectus and any prospectus supplement. We will, however, receive proceeds on the exercise by the selling stockholders of Pre-funded Warrant, Common Warrants (as defined below) or the Wainwright Warrants for shares of Common Stock covered by this prospectus if such warrants are exercised for cash. The selling stockholders will bear all commissions and discounts, if any, attributable to the sales of shares of Common Stock offered by this prospectus and any prospectus supplement. We will bear all other costs, expenses and fees in connection with the registration of the shares of Common Stock offered by this prospectus and any prospectus supplement. The selling stockholders identified in this prospectus and any of their pledgees, donees, transferees, assignees or other successors-in-interest may sell the shares of Common Stock covered by this prospectus in a number of different ways and at varying prices. We provide more information about how the selling stockholders may sell the securities in the section entitled “Plan of Distribution.”

Our Common Stock is traded on The NASDAQ Capital Market under the symbol “TTOO”. On May 23, 2024, the last reported sale price for our shares of Common Stock on The NASDAQ Capital Market was \$5.16 per share.

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**Investing in our Common Stock involves a high degree of risk. Before making an investment decision, please read the information under the heading “[Risk Factors](#)” on page 3 of this prospectus and in the documents incorporated by reference into this prospectus.**

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

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

**TABLE OF CONTENTS**

<a href="#">ABOUT THIS PROSPECTUS</a>	1
<a href="#">PROSPECTUS SUMMARY</a>	2
<a href="#">RISK FACTORS</a>	3
<a href="#">CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS</a>	4
<a href="#">USE OF PROCEEDS</a>	6
<a href="#">SELLING STOCKHOLDERS</a>	7
<a href="#">PLAN OF DISTRIBUTION</a>	9
<a href="#">LEGAL MATTERS</a>	11
<a href="#">EXPERTS</a>	12
<a href="#">WHERE YOU CAN FIND MORE INFORMATION</a>	13

## ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the U.S. Securities and Exchange Commission, or the SEC, using a “shelf” registration process. By using a shelf registration statement, the selling stockholders may sell shares of our Common Stock from time to time and in one or more offerings as described in this prospectus and may provide a prospectus supplement to this prospectus that contains specific information about the shares being offered and sold and the specific terms of that offering. We may also authorize one or more free writing prospectuses to be provided to you that may contain material information relating to these offerings. The prospectus supplement or free writing prospectus may also add, update or change information contained in this prospectus with respect to that offering. If there is any inconsistency between the information in this prospectus and the applicable prospectus supplement or free writing prospectus, you should rely on the prospectus supplement or free writing prospectus, as applicable. Before purchasing any shares, you should carefully read both this prospectus and the applicable prospectus supplement (and any applicable free writing prospectuses), together with the additional information described under the heading “Where You Can Find More Information.”

Neither we, the selling stockholders nor any underwriter has authorized anyone to provide you with any information or to make any representations other than those contained in this prospectus, any applicable prospectus supplement or any free writing prospectuses prepared by or on behalf of us or to which we have referred you. Neither we, the selling stockholders nor any underwriter takes responsibility for, and can provide no assurances as to the reliability of, any other information that others may give you. Neither we nor the selling stockholders will make an offer to sell the shares in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus and the applicable prospectus supplement to this prospectus is accurate only as of the date on its respective cover, that the information appearing in any applicable free writing prospectus is accurate only as of the date of that free writing prospectus and that any information incorporated by reference is accurate only as of the date of the document incorporated by reference, unless indicated otherwise. Our business, financial condition, results of operations and prospects may have changed since those dates. This prospectus incorporates by reference, and any prospectus supplement or free writing prospectus may contain and incorporate by reference, market data and industry statistics and forecasts that are based on independent industry publications and other publicly available information. Although we believe these sources are reliable, we do not guarantee the accuracy or completeness of this information and we have not independently verified this information. In addition, the market and industry data and forecasts that may be included or incorporated by reference in this prospectus, any prospectus supplement or any applicable free writing prospectus may involve estimates, assumptions and other risks and uncertainties and are subject to change based on various factors, including those discussed under the heading “Risk Factors” contained in this prospectus, the applicable prospectus supplement and any applicable free writing prospectus, and under similar headings in other documents that are incorporated by reference into this prospectus. Accordingly, investors should not place undue reliance on this information.

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.

## PROSPECTUS SUMMARY

### 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.

We own various U.S. federal trademark registrations and applications, and unregistered trademarks and service marks, including T2 Biosystems®, T2MR®, T2Dx®, T2Candida®, T2Bacteria®, T2SARS-CoV-2™ and T2Lyme™.

We were incorporated under the laws of the State of Delaware in 2006. Our principal executive offices are located at 101 Hartwell Avenue, Lexington, MA 02421 and our telephone number is (781) 761-4646.

### The Offering

Shares of Common Stock offered hereby	Up to 6,217,723 shares of Common Stock, including (i) 1,700,000 shares of Common Stock currently outstanding, (ii) 325,317 shares of Common Stock issuable upon exercise of the Pre-Funded Warrant, (iii) 2,025,317 shares of Common Stock issuable upon exercise of the Series A Warrant, (iv) 2,025,317 shares of Common Stock issuable upon exercise of the Series B Warrant and (v) 141,772 shares of Common Stock issuable upon exercise of the Wainwright Warrants.
Use of proceeds	We will not receive any proceeds from the sale of shares by the selling stockholders. We will, however, receive proceeds on the exercise by the selling stockholders of outstanding Pre-funded Warrant, Common Warrants or Wainwright Warrants if such warrants are exercised for cash.
Risk Factors	You should read the “Risk Factors” section of this prospectus for a discussion of factors to consider carefully before deciding to invest in shares of our common stock.
Nasdaq Exchange symbol	TTOO

## **RISK FACTORS**

Investment in any securities offered pursuant to this prospectus involves risks. You should carefully consider and evaluate all of the information included and incorporated by reference or deemed to be incorporated by reference in this prospectus, including the risks described under the caption “Risk Factors” included in Part I, Item 1A of our Annual Report on Form 10-K for the fiscal year ended December 31, 2023, and any subsequent Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q or Current Reports on Form 8-K we file after the date of this prospectus, and all other information contained or incorporated by reference into this prospectus, as updated by our subsequent filings under the Securities Exchange Act of 1934, as amended, or the Exchange Act, and the risk factors and other information contained in the applicable prospectus supplement before acquiring any of such securities. The occurrence of any of these risks might cause you to lose all or part of your investment in the offered securities.

## CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, including the documents that we incorporate by reference, contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Exchange Act. All statements other than statements of historical facts contained in this prospectus, including 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, are forward-looking statements. These statements are often, but are not always, made through the use of words or phrases such as “may,” “will,” “should,” “expect,” “plan,” “anticipate,” “could,” “intend,” “target,” “project,” “contemplate,” “believe,” “estimate,” “predict,” “potential” or “continue” or the negative of these terms or other similar expressions. Accordingly, these statements involve estimates, assumptions and uncertainties which could cause actual results to differ materially from those expressed in them. Any forward-looking statements are qualified in their entirety by reference to the factors discussed throughout this report, and in particular those factors referenced in the section “Risk Factors.”

This prospectus contains forward-looking statements that are based on our management’s belief and assumptions and on information currently available to our management. These statements relate to future events or our future financial performance, and involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from any future results, levels of activity, performance or achievements expressed or implied by these forward-looking statements. These forward-looking statements are subject to numerous risks, including, without limitation, the following:

- our ability to continue as a going concern;
- our ability to regain and maintain compliance with Nasdaq listing requirements;
- our expectation that we will incur losses in the future and be unable to utilize limited net operating losses against future profitability, if any;
- compliance with the terms of our debt instruments;
- our future capital needs and our ability to raise additional funds;
- the 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;
- 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;

## Table of Contents

- 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;
- 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.

You should read this prospectus and the documents incorporated by reference herein completely and with the understanding that our actual results may differ materially from what we expect as expressed or implied by our forward-looking statements. In light of the significant risks and uncertainties to which our forward-looking statements are subject, you should not place undue reliance on or regard these statements as a representation or warranty by us or any other person that we will achieve our objectives and plans in any specified timeframe, or at all. We discuss many of these risks in greater detail in the documents incorporated by reference herein, including under the heading “Risk Factors.” These forward-looking statements represent our estimates and assumptions only as of the dates of this prospectus and the documents incorporated by reference herein and therein, and any free writing prospectus, as applicable, regardless of the time of delivery of this prospectus or any sale of our Common Stock and, except as required by law, we undertake no obligation to update or revise publicly any forward-looking statements, whether as a result of new information, future events or otherwise, after the date of this prospectus. In addition, statements that “we believe” and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date they were made, and while we believe such information formed a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain and investors are cautioned not to unduly rely upon these statements. For all forward-looking statements, we claim the protection of the safe harbor for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995.



## USE OF PROCEEDS

The selling stockholders will receive all of the proceeds from this offering. We will not receive any of the proceeds from the sale of shares of our Common Stock in this offering. We will, however, receive proceeds on the exercise by the selling stockholders of outstanding Pre-funded Warrant, Common Warrants or Wainwright Warrants if the Pre-funded Warrant, Common Warrants or Wainwright Warrants are exercised for cash.

The selling stockholders will pay any underwriting discounts and commissions and their own costs and expenses, including, but not limited to, all fees and disbursements to counsel or other advisors to the selling stockholders and any stock transfer taxes. We will bear all other costs, fees and expenses incurred in effecting the registration of the shares covered by this prospectus, including, without limitation, all registration and filing fees and fees and expenses of our counsel.

## SELLING STOCKHOLDERS

On May 14, 2024, we entered into a Securities Purchase Agreement with the investor named therein pursuant to which we agreed to issue and sell, in a private placement (the “Private Placement”), to such investor an aggregate of: (i) 1,700,000 shares of Common Stock then outstanding, (ii) a pre-funded warrant to purchase 325,317 shares of Common Stock (the “Pre-Funded Warrant”), (iii) a series A warrant to purchase up to 2,025,317 shares of Common Stock (the “Series A Warrant”) and (iv) a series B warrant to purchase up to 2,025,317 shares of Common Stock (the “Series B Warrant”) and together with Series A Warrant, the “Common Warrants”), at a combined purchase price of \$3.95 per share of Common Stock and accompanying Common Warrants, or \$3.949 per Pre-Funded Warrant and accompanying Common Warrants. The exercise price of the Pre-Funded Warrant is \$0.001 per underlying share of Common Stock. The exercise price of each of the Common Warrants is \$3.70 per underlying share of Common Stock.

The closing of the Private Placement occurred on May 17, 2024. The gross proceeds from the Private Placement were approximately \$8.0 million.

In connection with the Private Placement, we entered into an agreement with Wainwright, pursuant to which we have, among other things, issued to Wainwright’s designees warrants to purchase up to 141,772 shares of Common Stock (the “Wainwright Warrants”). The terms of the Wainwright Warrants are substantially the same as the terms of the Series A Warrant except that they have an exercise price of \$4.9375 per share.

We are registering the above-referenced shares of Common Stock, including the Common Stock issuable upon the exercise of the Pre-Funded Warrant, the Common Warrants and the Wainwright Warrant, to permit the selling stockholders and their pledgees, donees, assignees, transferees or other successors-in-interest that receive their shares of Common Stock after the date of this prospectus to resell or otherwise dispose of the shares in the manner contemplated under “Plan of Distribution” below.

The following table sets forth the name of the selling stockholders, the number of shares owned by the selling stockholders, the number of shares that may be offered under this prospectus and the number of shares of our Common Stock owned by the selling stockholders assuming all of the shares covered hereby are sold. The number of shares in the column “Number of Shares Being Offered” represents all of the shares that the selling stockholders may offer under this prospectus. The selling stockholders may sell some, all or none of their shares. We do not know how long the selling stockholders will hold the shares before selling them, and, except as described in this prospectus, we currently have no agreements, arrangements or understandings with the selling stockholders regarding the sale or other disposition of any of the shares. The shares covered hereby may be offered from time to time by the selling stockholders.

The information set forth below is based upon information obtained from the selling stockholders and upon information in our possession regarding the issuance of shares of Common Stock, the Pre-Funded Warrant, the Common Warrants and the Wainwright Warrant in connection with the Private Placement. The percentages of Common Stock owned is based on 17,066,085 shares of Common Stock outstanding as of May 20, 2024, including the Common Stock registered for resale hereby.

Name of Selling Stockholder	Shares of Common Stock Beneficially Owned Prior to Offering <sup>(1)</sup>	Shares of Common Stock Being Offered <sup>(2)</sup>	Shares of Common Stock Beneficially Owned After Offering <sup>(3)</sup>	
			Number	Percent *
Armistice Capital, LLC <sup>(4)</sup>	6,140,765	6,075,951	64,814	—
Michael Vasinkevich <sup>(5)</sup>	90,911	90,911	—	—
Noam Rubinstein <sup>(5)</sup>	44,658	44,658	—	—
Craig Schwabe <sup>(5)</sup>	4,785	4,785	—	—
Charles Worthman <sup>(5)</sup>	1,418	1,418	—	—

## Table of Contents

- (1) “Beneficial ownership” is a term broadly defined by the SEC in Rule 13d-3 under the Exchange Act and includes more than the typical form of stock ownership, that is, stock held in the person’s name. The term also includes what is referred to as “indirect ownership,” meaning ownership of shares as to which a person has or shares investment power. For purposes of this table, a person or group of persons is deemed to have “beneficial ownership” of any shares that are currently exercisable or exercisable within 60 days of May 20, 2024.
- (2) The number of shares of Common Stock being offered are inclusive of the shares of Common Stock issuable upon the exercise of the Pre-Funded Warrant, the Common Warrants and the Wainwright warrants.
- (3) Assumes that all shares being registered in this prospectus are resold to third parties and that the selling stockholder sell all shares of Common Stock registered under this prospectus.
- (4) The securities are directly held by Armistice Capital Master Fund Ltd., a Cayman Islands exempted company (the “Master Fund”), and may be deemed to be beneficially owned by: (i) Armistice Capital, LLC (“Armistice Capital”), as the investment manager of the Master Fund; and (ii) Steven Boyd, as the Managing Member of Armistice Capital. The warrants are subject to a beneficial ownership limitation of 4.99%, which such limitation restricts the Selling Stockholder from exercising that portion of the warrants that would result in the Selling Stockholder and its affiliates owning, after exercise, a number of shares of common stock in excess of the beneficial ownership limitation. The address of Armistice Capital Master Fund Ltd. is c/o Armistice Capital, LLC, 510 Madison Avenue, 7th Floor, New York, NY 10022.
- (5) The selling stockholder is affiliated with H.C. Wainwright & Co., LLC, a registered broker dealer with a registered address of c/o H.C. Wainwright & Co., 430 Park Ave, 3rd Floor, New York, NY 10022, and has sole voting and dispositive power over the securities held. The number of shares to be sold in this offering consists of shares of common stock issuable upon exercise of placement agent warrants, which were received as compensation for our private placement. The selling stockholder acquired the placement agent warrants in the ordinary course of business and, at the time the placement agent warrants were acquired, the selling stockholder had no agreement or understanding, directly or indirectly, with any person to distribute such securities.

## PLAN OF DISTRIBUTION

The selling stockholders and any of their pledgees, donees, transferees, assignees or other successors-in-interest may, from time to time, sell, transfer or otherwise dispose of any or all of their shares of Common Stock or interests in shares of Common Stock on any stock exchange, market or trading facility on which the shares are traded or in private transactions. These dispositions may be at fixed prices, at prevailing market prices at the time of sale, at prices related to the prevailing market price, at varying prices determined at the time of sale, or at negotiated prices. The selling stockholders may use one or more of the following methods when disposing of the shares or interests therein:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- through brokers, dealers or underwriters that may act solely as agents;
- purchases by a broker-dealer as principal and resale by the broker-dealer for their account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- through the writing or settlement of options or other hedging transactions entered into after the effective date of the registration statement of which this prospectus is a part, whether through an options exchange or otherwise;
- broker-dealers may agree with the selling stockholders to sell a specified number of such shares at a stipulated price per share;
- one or more underwritten offerings on a firm commitment or best efforts basis;
- a combination of any such methods of disposition; and
- any other method permitted pursuant to applicable law.

The selling stockholders may also sell shares under Rule 144 under the Securities Act, if available, rather than under this prospectus.

Broker-dealers engaged by the selling stockholders may arrange for other broker-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the selling stockholders (or, if any broker-dealer acts as agent for the purchaser of shares, from the purchaser) in amounts to be negotiated. The selling stockholders do not expect these commissions and discounts to exceed what is customary in the types of transactions involved.

The selling stockholders may from time to time pledge or grant a security interest in some or all of the shares of Common Stock owned by them and, if they default in the performance of their secured obligations, the pledgees or secured parties may offer and sell shares of Common Stock from time to time under this prospectus, or under a supplement or amendment to this prospectus under Rule 424(b) (3 ) or other applicable provision of the Securities Act amending the list of selling stockholders to include the pledgee, transferee or other successors in interest as selling stockholders under this prospectus.

Upon being notified in writing by the selling stockholders that any material arrangement has been entered into with a broker-dealer for the sale of Common Stock through a block trade, special offering, exchange distribution or secondary distribution or a purchase by a broker or dealer, we will file a supplement to this prospectus, if required, pursuant to Rule 424(b) under the Securities Act, disclosing (i) the name of the selling stockholders and of the participating broker-dealer(s), (ii) the number of shares involved, (iii) the price at which

## Table of Contents

such shares of Common Stock were sold, (iv) the commissions paid or discounts or concessions allowed to such broker-dealer(s), where applicable, (v) that such broker-dealer(s) did not conduct any investigation to verify the information set out or incorporated by reference in this prospectus, and (vi) other facts material to the transaction. In addition, upon being notified in writing by the selling stockholders that a donee or pledge intends to sell more than 500 shares of Common Stock, we will file a supplement to this prospectus if then required in accordance with applicable securities law.

The selling stockholders also may transfer the shares of Common Stock in other circumstances, in which case the pledgees, donees, transferees, assignees or other successors-in-interest will be the selling beneficial owners for purposes of this prospectus.

In connection with the sale of the shares of Common Stock or interests in shares of Common Stock, the selling stockholders may enter into hedging transactions after the effective date of the registration statement of which this prospectus is a part with broker-dealers or other financial institutions, which may in turn engage in short sales of the Common Stock in the course of hedging the positions they assume. The selling stockholders may also sell shares of Common Stock short after the effective date of the registration statement of which this prospectus is a part and deliver these securities to close out their short positions, or loan or pledge the Common Stock to broker-dealers that in turn may sell these securities. The selling stockholders may also enter into option or other transactions after the effective date of the registration statement of which this prospectus is a part with broker-dealers or other financial institutions or the creation of one or more derivative securities which require the delivery to such broker-dealer or other financial institution of shares offered by this prospectus, which shares such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

The selling stockholders and any broker-dealers or agents that are involved in selling the shares may be deemed to be “underwriters” within the meaning of the Securities Act in connection with such sales. In such event, any commissions received by such broker-dealers or agents and any profit on the resale of the shares purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act.

We have advised the selling stockholders that it is required to comply with Regulation M promulgated under the Exchange Act during such time as they may be engaged in a distribution of the shares. The foregoing may affect the marketability of the Common Stock.

The aggregate proceeds to the selling stockholders from the sale of the Common Stock offered hereby will be the purchase price of the Common Stock less discounts or commissions, if any. The selling stockholders reserve the right to accept and, together with their agents from time to time, to reject, in whole or in part, any proposed purchase of Common Stock to be made directly or through agents. We will not receive any of the proceeds from this offering.

We are required to pay all fees and expenses incident to the registration of the shares. We have agreed to indemnify the selling stockholders against certain losses, claims, damages and liabilities, including liabilities under the Securities Act or otherwise.

We have agreed with the selling stockholders, subject to certain exceptions, to keep the registration statement of which this prospectus constitutes a part effective until the earlier of (i) such time as all of the shares covered by this prospectus have been disposed of pursuant to the registration statement, and (ii) the date on which the shares of Common Stock covered by this prospectus may be sold by non-affiliates without any volume or manner of sale restrictions or current public information pursuant to Rule 144 of the Securities Act.

**LEGAL MATTERS**

The validity of the shares of Common Stock being offered by this prospectus will be passed upon for us by Latham & Watkins 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

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the internet at the SEC's website at [www.sec.gov](http://www.sec.gov). Copies of certain information filed by us with the SEC are also available on our website at [www.t2biosystems.com](http://www.t2biosystems.com). The information on our web site, however, is not, and should not be deemed to be, a part of or incorporated by reference in this prospectus.

This prospectus is a part of a registration statement on Form S-3 that we filed with the SEC and does not contain all of the information in the registration statement. This prospectus omits some information contained in the registration statement in accordance with SEC rules and regulations. The full registration statement may be obtained from the SEC or us, as provided below. Other documents establishing the terms of the offered securities are or may be filed as exhibits to the registration statement. Statements in this prospectus about these documents are summaries and each statement is qualified in all respects by reference to the document to which it refers. You should refer to the actual documents for a more complete description of the relevant matters. You may inspect a copy of the registration statement through the SEC's website, as provided above.

The SEC's rules allow us to "incorporate by reference" information into this prospectus, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is deemed to be part of this prospectus, and subsequent information that we file with the SEC will automatically update and supersede that information. Any statement contained in a previously filed document incorporated by reference will be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus modifies or replaces that statement.

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 fiscal year ended December 31, 2023, filed with the SEC on April 1, 2024;
- Our Quarterly Reports on [Form 10-Q](#) for the fiscal quarter ended March 31, 2024, filed with the SEC on May 6, 2024;
- Our Current Reports on Form 8-K filed with the SEC on [January 5, 2024](#), [February 15, 2024](#), [March 12, 2024](#), [March 18, 2024](#), [March 20, 2024](#), [March 28, 2024](#), [April 12, 2024](#), [April 18, 2024](#), [May 6, 2024](#), [May 7, 2024](#), [May 14, 2024](#), [May 20, 2024](#) and [May 22, 2024](#) (each to the extent filed and not furnished); and
- The description of our Common Stock contained in our registration statement on Form 8-A, filed with the SEC on [July 25, 2014](#) and any amendment or report filed with the SEC for the purpose of updating such description.

All reports and other documents we subsequently file pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act in this prospectus, 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, but excluding any information furnished to, rather than filed with, the SEC, will also be incorporated by reference into this prospectus and deemed to be part of this prospectus from the date of the filing of such reports and documents.

You may request a free copy of any of the documents incorporated by reference in this prospectus (other than exhibits, unless they are specifically incorporated by reference in the documents) by writing or telephoning us at the following address:

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

Exhibits to the filings will not be sent, however, unless those exhibits have specifically been incorporated by reference in this prospectus.



**PART II**  
**INFORMATION NOT REQUIRED IN PROSPECTUS**

**Item 14. Other Expenses of Issuance and Distribution.**

The following is an estimate of the expenses (all of which are to be paid by the registrant) that we may incur in connection with the securities being registered hereby, other than the Securities and Exchange Commission registration fee.

SEC registration fee	\$ 4,975
Legal fees and expenses	25,000
Accounting fees and expenses	25,000
Printing and miscellaneous expenses	5,025
Total	<u>\$ 60,000</u>

**Item 15. 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 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

## Table of Contents

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 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.

## Table of Contents

### **Item 16. Exhibits.**

<b>Exhibit Number</b>	<b>Description</b>
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 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 filed on October 12, 2022).</a>
3.4	<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 filed on July 6, 2023).</a>
3.5	<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 filed on July 6, 2023).</a>
3.6	<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 filed on October 12, 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 filed on August 16, 2022).</a>
5.1	<a href="#">Opinion of Latham &amp; Watkins LLP.</a>
10.1	<a href="#">Securities Purchase Agreement, dated May 14, 2024, by and between the Company the Purchaser party thereto (incorporated by reference to Exhibit 10.1 of the Company's Form 8-K filed on May 20, 2024).</a>
10.2	<a href="#">Form of Registration Rights Agreement, dated as of May 14, 2024, by and between the Company and the Investor party thereto (incorporated by reference to Exhibit 10.2 of the Company's Form 8-K filed on May 20, 2024).</a>
23.1	<a href="#">Consent of BDO USA, P.C., Independent Registered Public Accounting Firm</a>
23.2	Consent of Latham & Watkins LLP (included in Exhibit 5.1).
24.1	<a href="#">Powers of Attorney (incorporated by reference to the signature page hereto).</a>
107	<a href="#">Filing Fee Table.</a>

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

(a) The undersigned registrant hereby undertakes:

(1) 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 of 1933;

(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

## Table of Contents

prospectus filed with the Commission 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 (a)(1)(i), (a)(1)(ii), and (a)(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 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, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is a part of the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, 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.

(3) 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.

(4) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:

(i) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

(ii) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof. *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 effective date, 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 effective date.

(5) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities:

The undersigned registrant 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;

## Table of Contents

- (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 communications that is an offer in the offering made by the undersigned registrant to the purchaser.

(b) The undersigned registrant hereby undertakes 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.

(c) 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 Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities 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 Securities Act and will be governed by the final adjudication of such issue.

## SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in Lexington, Massachusetts, on the 24th day of May, 2024.

### T2 BIOSYSTEMS, INC.

By: /s/ John Sperzel  
Name: John Sperzel  
Title: President, Chief Executive Officer and Chairman of the Board

## POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints John Sperzel, Michael Gibbs, or either of them, as his or her true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to file and sign any and all amendments, including post-effective amendments and any registration statement for the same offering that is to be effective under Rule 462(b) of the Securities Act, to this registration statement, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or their substitute or substitutes may lawfully do or cause to be done by virtue hereof. This power of attorney shall be governed by and construed with the laws of the State of Delaware and applicable federal securities laws.

Pursuant to the requirements of the Securities Act, this registration statement has been signed below by the following persons on behalf of the registrant in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ John Sperzel</u> <b>John Sperzel</b>	President, Chief Executive Officer and Chairman of the Board (principal executive officer)	May 24, 2024
<u>/s/ John M. Sprague</u> <b>John M. Sprague</b>	Chief Financial Officer (principal financial and accounting officer)	May 24, 2024
<u>/s/ Laura Adams</u> <b>Laura Adams</b>	Director	May 24, 2024
<u>/s/ John W. Cumming</u> <b>John W. Cumming</b>	Director	May 24, 2024
<u>/s/ David Elsbree</u> <b>David Elsbree</b>	Director	May 24, 2024
<u>/s/ Seymour Liebman</u> <b>Seymour Liebman</b>	Director	May 24, 2024

[Table of Contents](#)

/s/ Dr. Ninfa M. Saunders

**Dr. Ninfa M. Saunders**

Director

May 24, 2024

/s/ Robin Toft

**Robin Toft**

Director

May 24, 2024



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 www.lw.com

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 Houston Tel Aviv  
 London Tokyo  
 Los Angeles Washington, D.C.  
 Madrid

May 24, 2024

T2 Biosystems, Inc.  
 101 Hartwell Ave.  
 Lexington, MA 02421

Re: Registration Statement on Form S-3; 6,217,723 shares of Common Stock, par value \$0.001 per share

To the addressee set forth above:

We have acted as special counsel to T2 Biosystems, Inc., a Delaware corporation (the “Company”), in connection with the resale from time to time by the selling stockholders (the “Selling Stockholders”) named in the Registration Statement (as defined below) of 6,217,723 shares (the “Shares”) of the Company’s common stock, par value \$0.001 per share (the “Common Stock”). The Shares include (a) 1,700,000 outstanding shares (the “Issued Shares”) of Common Stock, (b) 325,317 shares of Common Stock issuable upon exercise of a pre-funded warrant to purchase shares of Common Stock (the “Pre-Funded Warrant Shares”), (c) 2,025,317 shares of Common Stock issuable upon exercise of a series A warrant to purchase shares of Common Stock (the “Series A Warrant Shares”), (d) 2,025,317 shares of Common Stock issuable upon exercise of a series B warrant to purchase shares of Common Stock (the “Series B Warrant Shares”) and (e) 141,772 shares of Common Stock issuable upon exercise of warrants to purchase shares of Common Stock (the “Wainwright Warrant Shares” and, together with the Pre-Funded Warrant Shares, the Series A Warrant Shares and the Series B Warrant Shares, the “Warrant Shares”). The Shares and Warrant Shares are included in a registration statement on Form S-3 under the Securities Act of 1933, as amended (the “Act”), filed with the Securities and Exchange Commission (the “Commission”) on May 24, 2024 (the “Registration Statement”). This opinion is being furnished in connection with the requirements of Item 601(b)(5) of Regulation S-K under the Act, and no opinion is expressed herein as to any matter pertaining to the contents of the Registration Statement or the related Prospectus, other than as expressly stated herein with respect to the issue of the Shares and Warrant Shares.

As such counsel, we have examined such matters of fact and questions of law as we have considered appropriate for purposes of this letter. With your consent, we have relied upon certificates and other assurances of officers of the Company and others as to factual matters



## LATHAM & WATKINS LLP

without having independently verified such factual matters. We are opining herein as to the General Corporation Law of the State of Delaware (the “DGCL”), and we express no opinion with respect to any other laws.

Subject to the foregoing and the other matters set forth herein, it is our opinion that, as of the date hereof:

1. The issuance of the Issued Shares has been duly authorized by all necessary corporate action of the Company, and the Issued Shares are validly issued, fully paid and nonassessable.

2. When the Warrant Shares shall have been duly registered on the books of the transfer agent and registrar therefor in the name or on behalf of the Warrant holders, and have been issued by the Company against payment therefor (not less than par value) in the circumstances contemplated by the respective warrants, the issue of the Warrant Shares will have been duly authorized by all necessary corporate action of the Company, and the Warrant Shares will be validly issued, fully paid and nonassessable. In rendering the foregoing opinion, we have assumed that (i) the Company will comply with all applicable notice requirements regarding uncertificated shares provided in the DGCL and (ii) upon the issue of any of the Warrant Shares, the total number of shares of Common Stock issued and outstanding will not exceed the total number of shares of Common Stock that the Company is then authorized to issue under its Restated Certificate of Incorporation, as amended, and by the board of directors of the Company in connection with the offering contemplated by the Registration Statement.

With your consent, we have assumed that the warrants relating to the issuance of the Warrant Shares have been duly executed and delivered by the Company and, under the internal laws of the State of New York, constitute valid and legally binding obligations of the Company.

This opinion is for your benefit in connection with the Registration Statement and may be relied upon by you and by persons entitled to rely upon it pursuant to the applicable provisions of the Act. We consent to your filing this opinion as an exhibit to the Registration Statement and to the reference to our firm in the prospectus under the heading “Legal Matters.” In giving such consent, we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Act or the rules and regulations of the Commission thereunder.

Sincerely,

/s/ Latham & Watkins LLP

Consent of Independent Registered Public Accounting Firm

We hereby consent to the incorporation by reference in the Prospectus constituting a part of this Registration Statement of our report dated April 1, 2024, relating to the consolidated financial statements of T2 Biosystems, Inc. (the Company) appearing in the Company's Annual Report on Form 10-K for the year ended December 31, 2023. Our report contains an explanatory paragraph regarding the Company's ability to continue as a going concern.

We also consent to the reference to us under the caption "Experts" in the Prospectus.

/s/ BDO USA, P.C.  
Boston, Massachusetts

May 24, 2024

**Calculation of Filing Fee Table**

**Registration Statement on Form S-1**  
(Form Type)

**T2 Biosystems, Inc.**  
(Exact Name of Registrant as Specified in its Charter)

**Table 1: Newly Registered and Carry Forward Securities**

Security Type	Security Class Title	Fee Calculation or Carry Forward Rule	Amount Registered(1)	Proposed Maximum Offering Price Per Unit	Maximum Aggregate Offering Price(2)	Fee Rate	Amount of Registration Fee
Fees to Be Paid	Common Stock, \$0.001 par value per share						
Equity	("Common Stock")	457(c)	6,217,723		\$33,700,058	0.00014760	\$4,975
<b>Total Offering Amounts</b>					\$33,700,058	0.00014760	\$4,975
<b>Total Fees Previously Paid</b>							—
<b>Total Fee Offsets</b>							—
<b>Net Fee Due</b>							\$4,975

- (1) Consists of 1,700,000 shares of our outstanding common stock and 4,517,723 shares of our common stock issuable to the selling stockholders upon exercise of warrants to purchase common stock. Pursuant to Rule 416 under the Securities Act of 1933, as amended, the shares of common stock being registered hereunder include such indeterminate number of shares of common stock as may be issuable with respect to the shares of common stock being registered hereunder as a result of stock splits, stock dividends or similar transactions.
- (2) Estimated solely for the purpose of calculating the amount of the registration fee pursuant to Rule 457(c) of the Securities Act, on the basis of the average of the high and low prices for a share of the registrant's common stock as reported on the Nasdaq Capital Market on May 23, 2024, which date is a date within five business days prior to the filing of this registration statement.