T2 Biosystems, Inc.
Form S-3
March 20, 2017
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As filed with the Securities and Exchange Commission on March 20, 2017

Registration No. 333-

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-3

REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

T2 BIOSYSTEMS, INC.

(Exact name of registrant as specified in its charter)

Delaware	**101 Hartwell Ave.** **Lexington, MA 02421** **(781) 761-4646**	**20-4827488**
(State or other jurisdiction of incorporation or organization)	(Address, including zip code, and telephone number, including area code, of registrant s principal executive offices)	(I.R.S. Employer Identification Number)

John McDonough

President and Chief Executive Officer

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)

Copies to:

Johan V. Brigham
Evan G. Smith
Latham & Watkins LLP
John Hancock Tower, 27th Floor
200 Clarendon Street
Boston, MA 02116
(617) 948-6000

Michael T. Gibbs
Senior Corporate Counsel
T2 Biosystems, Inc.
101 Hartwell Ave.
Lexington, MA 02421
(781) 761-4646

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

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

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. x

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. o

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. o

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. o

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. o

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

Large accelerated filer	o	Accelerated Filer	x
Non-accelerated filer (Do not check if a smaller reporting company)	o	Smaller reporting Company	¨

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Amount to be Registered (1)	Proposed Maximum Aggregate Offering Price (2)	Amount of Registration Fee
Common Stock, $0.001 par value per share	6,055,341 shares	$ 34,333,783.47	$ 3,979.29

(1) Pursuant to Rule 416(a) of the Securities Act of 1933, as amended, this registration statement also covers such additional shares as may hereafter be offered or issued to prevent dilution resulting from stock splits, stock dividends, recapitalizations or certain other capital adjustments.

(2) Estimated solely for the purpose of calculating the registration fee in accordance with Rule 457(c) under the Securities Act of 1933, as amended. The price per share and aggregate offering price are based on the average of the high and low prices of the registrant s common stock on March 14, 2017, as reported on The NASDAQ Global Market.

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 state where the offer or sale is not permitted.

Subject to Completion, Dated March 20, 2017

PROSPECTUS

6,055,341 Shares of Common Stock

This prospectus relates to the proposed resale or other disposition of up to 6,055,341 shares of T2 Biosystems, Inc. common stock, par value $0.001 per share, by the selling stockholder identified in this prospectus. We are not selling any shares of common stock under this prospectus and will not receive any of the proceeds from the sale or other disposition of common stock by the selling stockholder.

The selling stockholder or its pledgees, assignees or successor-in-interest may offer and sell or otherwise dispose of the shares of common stock described in this prospectus from time to time through public or private transactions at prevailing market prices, at prices related to prevailing market prices or at privately negotiated prices. The selling stockholder will bear all commissions and discounts, if any, attributable to the sales of shares. We will bear all other costs, expenses and fees in connection with the registration of the shares. See Plan of Distribution beginning on page 9 for more information about how the selling stockholder may sell or dispose of its shares of common stock.

Our common stock is traded on The NASDAQ Global Market under the symbol TTOO . On March 17, 2017, the last reported sale price for our common stock on The NASDAQ Global Market was $6.06 per share.

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 beginning on page 2 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.

The date of this prospectus is , 2017.

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ABOUT THIS PROSPECTUS

This prospectus is a part of a registration statement that we filed with the Securities and Exchange Commission, or the SEC, utilizing a shelf registration process. Under this shelf registration process, the selling stockholder may from time to time sell the shares of common stock described in this prospectus in one or more offerings.

We have not authorized anyone to give any information or to make any representation other than those contained or incorporated by reference in this prospectus. You must not rely upon any information or representation not contained or incorporated by reference in this prospectus. The selling stockholder is offering to sell, and seeking offers to buy, shares of our common stock only in jurisdictions where it is lawful to do so. This prospectus does not constitute an offer to sell or the solicitation of an offer to buy any shares other than the registered shares to which they relate, nor does this prospectus constitute an offer to sell or the solicitation of an offer to buy shares in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction. You should not assume that the information contained in this prospectus is accurate on any date subsequent to the date set forth on the front of the document or that any information we have incorporated by reference is correct on any date subsequent to the date of the document incorporated by reference, even though this prospectus is delivered or shares are sold on a later date.

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ABOUT THE COMPANY

We are an *in vitro* diagnostics company that has developed an innovative and proprietary technology platform that offers a rapid, sensitive and simple alternative to existing diagnostic methodologies. We are using our T2 Magnetic Resonance technology, or T2MR, to develop a broad set of applications aimed at lowering mortality rates, improving patient outcomes and reducing the cost of healthcare by helping medical professionals make targeted treatment decisions earlier.

We were incorporated under the laws of the State of Delaware in 2006. Our principal executive offices are located at 101 Hartwell Ave., Lexington, MA 02421 and our telephone number is (781) 761-4646. Our website address is www.t2biosystems.com. The information on, or that can be accessed through, our website is not part of this prospectus. We have included our website address as an inactive textual reference only. References in this prospectus to we, us, our, our company or T2 refer to T2 Biosystems, Inc.

We are an emerging growth company, as defined in the Jumpstart Our Business Startups Act of 2012. We will remain an emerging growth company until the earlier of (i) the last day of the fiscal year following the fifth anniversary of the completion of our initial public offering of common stock on August 12, 2014, (ii) the last day of the fiscal year in which we have total annual gross revenue of at least $1.0 billion, (iii) the last day of the fiscal year in which we are deemed to be a large accelerated filer, which means the market value of our common stock that is held by non-affiliates exceeds $700.0 million as of the prior June 30th, and (iv) the date on which we have issued more than $1.0 billion in non-convertible debt during the prior three-year period.

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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, 2016 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.

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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 anticipate, believe, contemplate, continue, could, estimate, expect, intend, may, plan, potential, should, target, will, would, 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 expectation to incur losses in the future;
- the market acceptance of our T2MR technology;
- our ability to timely and successfully develop and commercialize our existing products and future product candidates;
- the length of our anticipated sales cycle;
- our ability to gain the support of leading hospitals and key thought leaders and publish the results of our clinical trials in peer-reviewed journals;
- our ability to successfully manage our growth;

- our future capital needs and our need to raise additional funds;

- the performance of our diagnostics;

- our ability to compete in the highly competitive diagnostics market;

- our ability to obtain marketing clearance from the FDA or regulatory clearance for new product candidates in the United States or any other jurisdiction;

- federal, state, and foreign regulatory requirements, including FDA regulation of our product candidates; and

- our ability to protect and enforce our intellectual property rights, including our trade secret-protected proprietary rights in T2MR.

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

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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. 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.

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USE OF PROCEEDS

We will not receive any of the proceeds from the sale of shares of our common stock in this offering. The selling stockholder will receive all of the proceeds from this offering.

The selling stockholder will pay any underwriting discounts and commissions and its own costs and expenses, including, but not limited to, all fees and disbursements to counsel or other advisors to the selling stockholder 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.

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SELLING STOCKHOLDER

On September 21, 2016, we entered into a Stock Purchase Agreement with the selling stockholder, pursuant to which we sold in a private placement transaction an aggregate of 6,055,341 shares of our common stock. This prospectus covers the resale or other disposition by the selling stockholder or its transferees of up to the total number of shares of common stock issued to the selling stockholder pursuant to the Stock Purchase Agreement. Throughout this prospectus, when we refer to the selling stockholder in this prospectus, we are referring to the purchaser under the Stock Purchase Agreement.

We are registering the above-referenced shares to permit the selling stockholder and its pledgees, donees, transferees or other successors-in-interest that receive their shares after the date of this prospectus to resell or otherwise dispose of the shares in the manner contemplated under Plan of Distribution below.

Except as otherwise disclosed below, the selling stockholder does not have, and within the past three years has not had, any position, office or other material relationship with us.

The following table sets forth the name of the selling stockholder, the number of shares owned by the selling stockholder, the number of shares that may be offered under this prospectus and the number of shares of our common stock owned by the selling stockholder 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 stockholder may offer under this prospectus. The selling stockholder may sell some, all or none of its shares. We do not know how long the selling stockholder 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 stockholder 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 stockholder.

The information set forth below is based upon information obtained from the selling stockholder and upon information in our possession regarding the issuance of shares of common stock to the selling stockholder in connection with the private placement transaction. The percentages of shares owned after the offering are based on 30,576,110 shares of our common stock outstanding as of March 3, 2017, including the shares of common stock covered hereby.

Name of Selling Stockholder	Shares of Common Stock Beneficially Owned Prior to Offering (1)	Number of Shares Being Offered	Shares of Common Stock Beneficially Owned After Offering (2)	
			Number	Percent
Canon U.S.A., Inc.(3)	6,055,341	6,055,341		

(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 March 3, 2017.

(2) Assumes that all shares being registered in this prospectus are resold to third parties and that the selling stockholder sells all shares of common stock registered under this prospectus held by such selling stockholder.

(3) Consists of 6,055,341 shares of common stock directly owned by Canon U.S.A., Inc., a New York corporation, or Canon USA. Canon USA is solely owned by Canon Inc., a Japanese corporation, or Canon Parent. The address of Canon USA is One Canon Park, Melville, New York 11747. The address of Canon Parent is 30-2, Shimomaruko 3-chome, Ohta-ku, Tokyo 146-8501, Japan.

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Relationship with the Selling Stockholder

Private Placement

In addition to the Stock Purchase Agreement referenced above, on September 21, 2016, we entered into a Voting and Standstill Agreement and a Registration Rights Agreement with Canon USA, the selling stockholder.

Voting and Standstill Agreement

The Voting and Standstill Agreement provides that, subject to certain exceptions, until September 21, 2018, or the Standstill Period, Canon USA and certain affiliates, collectively referred to as the Standstill Parties, will be prohibited from taking certain actions to influence or control us (including acquiring additional of our securities in excess of 19.9% of the outstanding shares of our common stock, or Common Stock).

During the Standstill Period, subject to the terms and conditions of the Voting and Standstill Agreement, we agreed to use commercially reasonable efforts to provide the Standstill Parties the opportunity to participate in private placements or registered public offerings of our equity securities up to the lesser of (i) the Standstill Parties pro rata portion of the securities being offered and (ii) 19.9% of the outstanding shares of Common Stock after the closing of such offering.

Until March 21, 2018, or the Lock-Up Period, Canon USA has agreed not to transfer or dispose of any shares of Common Stock, subject to certain exceptions. Following the expiration of the Lock-Up Period, for so long as the Standstill Parties beneficially own at least five million shares of Common Stock or such lesser number which then constitutes at least 10% of the outstanding shares of Common Stock, or the Ownership Threshold, Canon USA has agreed not to transfer or dispose of any shares of Common Stock, except (i) to us; (ii) to a controlled affiliate or to a parent holding company that become bound by the Voting and Standstill Agreement; (iii) in a tender offer, merger, consolidation, recapitalization or similar transaction approved by a majority of the Board or other change of control transaction approved by the Board; (iv) pursuant to a registered public offering in accordance with the Registration Rights Agreement; (v) pursuant to Rule 144 under the Securities Act; or (vi) pursuant to privately negotiated sales in transactions exempt from the registration requirements of the Securities Act; provided, that Canon USA and its controlled affiliates cannot sell Common Stock to a person or entity Canon USA or such controlled affiliate knows is one of our competitors (other than to its controlled affiliates or to a parent holding company that become bound by the Voting and Standstill Agreement).

For so long as the Standstill Parties meet the Ownership Threshold, Canon USA has agreed generally to vote its shares in accordance with the recommendation of a majority of the Board except with respect to change of control transactions.

Additionally, for so long as the Standstill Parties meet the Ownership Threshold, we have agreed to give Canon USA certain Board designation rights. Effective September 21, 2016, the Board elected Seymour Liebman, Executive Vice President, Chief Administrative Officer and General Counsel of Canon USA, as a Class I director on the Board, to fill a vacancy on the Board. In addition to his role as an executive officer of Canon USA, Mr. Liebman is also an officer and/or director of other entities affiliated with Canon USA, including Canon Parent and Canon U.S. Life

Sciences, Inc., or Canon US Life Sciences. We have agreed to nominate Mr. Liebman or another Canon USA designee for election and reelection to the Board, provided in each case that such Canon USA designee is reasonably acceptable to the nominating and governance committee of the Board. We have the right to terminate this Board nomination provision upon the uncured material breach by Canon USA or its affiliates of the standstill provisions of the Voting and Standstill Agreement.

The rights and restrictions applicable to Canon USA under the Voting and Standstill Agreement are subject to termination upon the mutual written agreement of the Company and Canon USA or the occurrence of a change of control.

Registration Rights Agreement

Pursuant to the Registration Rights Agreement with Canon USA, we agreed to prepare and file with the SEC a registration statement that permits the resale of Canon USA s shares and, subject to certain exceptions, use commercially reasonable efforts to keep such a registration statement effective under the Securities Act until the date when all securities under such registration statement have either (i) been sold pursuant to such registration statement; (ii) been sold in accordance with Rule 144 under the Securities Act; (iii) become eligible for resale

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without volume or manner-of-sale restrictions and without current public information pursuant to Rule 144; (iv) been sold, transferred or disposed of in a transaction in which the holder s rights under the Registration Rights Agreement were not properly assigned; or (v) ceased to be outstanding.

We have also agreed, among other things, to indemnify Canon USA, its controlling persons and their officers, directors, partners, members, stockholders, employees and agents under the registration statement from certain liabilities and to pay all fees and expenses (excluding any legal fees of the selling holder(s), and any underwriting discounts and selling commissions) incident to our obligations under the Registration Rights Agreement.

Co-Development Partnership Agreement

On February 3, 2015, we entered into a Co-Development Partnership Agreement, or the Co-Development Agreement with an affiliate of Canon USA, Canon US Life Sciences, to develop a diagnostic test panel to rapidly detect Lyme disease. Under the terms of the Co-Development Agreement, we received an upfront payment of $2.0 million from Canon US Life Sciences with potential eligibility to receive an additional $6.5 million upon achieving certain development and regulatory milestones. In October 2015, we received $1.5 million in connection with the achievement of one such milestone. We are eligible to receive an additional $5.0 million under the arrangement, in two milestone payments of $2.0 million and $3.0 million, if we achieve additional development and regulatory milestones. We retain exclusive worldwide commercialization rights of any products developed under the Co-Development Agreement, including sales, marketing and distribution. Canon US Life Sciences will be entitled to receive royalty payments on the sales of all products developed under the Co-Development Agreement.

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PLAN OF DISTRIBUTION

The selling stockholder and any of its 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 stockholder 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 its 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 stockholder 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 stockholder may also sell shares under Rule 144 under the Securities Act, if available, rather than under this prospectus.

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

The selling stockholder may from time to time pledge or grant a security interest in some or all of the shares of common stock owned by it and, if it defaults in the performance of its 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 stockholder 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 such selling stockholder and of the participating broker-dealer(s), (ii) the number of shares involved, (iii) the price at which such shares of common stock were sold, (iv) the commissions paid or discounts or concessions allowed to such broker-dealer(s), where

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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 stockholder 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 stockholder also may transfer the shares of common stock in other circumstances, in which case the transferees, pledgees 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 stockholder 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 stockholder 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 stockholder 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 stockholder 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 stockholder that it is required to comply with Regulation M promulgated under the Exchange Act during such time as it 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 stockholder from the sale of the common stock offered by it will be the purchase price of the common stock less discounts or commissions, if any. The selling stockholder reserves the right to accept and, together with its 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 stockholder against certain losses, claims, damages and liabilities, including liabilities under the Securities Act or otherwise.

We have agreed with the selling stockholder, 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.

VALIDITY OF THE SECURITIES

The validity of the common stock being offered by this prospectus has been passed upon for us by Latham & Watkins LLP, Boston, Massachusetts.

EXPERTS

Ernst & Young LLP, independent registered public accounting firm, has audited our consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2016, as set forth in their report, which is incorporated by reference in this prospectus and elsewhere in the registration statement. Our

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financial statements are incorporated by reference in reliance on Ernst & Young LLP s report, given on their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. You may read and copy these reports, proxy statements and other information at the SEC s public reference room at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for more information about the operation of the Public Reference Room. You can request copies of these documents by writing to the SEC and paying a fee for the copying costs. Our SEC filings are also available at the SEC s website at www.sec.gov. In addition, we maintain a website that contains information about us at www.t2biosystems.com. The information found on, or otherwise accessible through, our website is not incorporated into, and does not form a part of, this prospectus or any other report or document we file with or furnish to the SEC.

This prospectus is part of a registration statement that we filed with the SEC. The registration statement contains more information than this prospectus regarding us and our common stock, including certain exhibits and schedules. With respect to the statements contained in this prospectus regarding the contents of any agreement or any other document, in each instance, the statement is qualified in all respects by the complete text of the agreement or document, a copy of which has been filed as an exhibit to, or incorporated by reference in, the registration statement. You can obtain a copy of the registration statement from the SEC at the address listed above or from the SEC s website.

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INCORPORATION BY REFERENCE

The SEC allows us to incorporate by reference the information we file with them which means that we can disclose important information to you by referring you to those documents instead of having to repeat the information in this prospectus. The information incorporated by reference is considered to be part of this prospectus, and later information that we file with the SEC will automatically update and supersede this information. We incorporate by reference the documents listed below and any future information filed (rather than furnished) with the SEC under Sections 13(a), 13(c), 14, or 15(d) of the Exchange Act between the date of this prospectus and the termination of this offering. We are not, however, incorporating by reference any documents or portions thereof, whether specifically listed below or filed in the future, that are not deemed filed with the SEC, including any information furnished pursuant to Items 2.02 or 7.01 of Form 8-K or related exhibits furnished pursuant to Item 9.01 of Form 8-K.

This prospectus and any accompanying prospectus supplement incorporate by reference the documents set forth below that have previously been filed with the SEC:

- Our Annual Report on Form 10-K for the fiscal year ended December 31, 2016, filed with the SEC on March 15, 2017 (File No. 001-36571).

- Our Current Reports on Form 8-K filed with the SEC on January 6, 2017, January 20, 2017, March 3, 2017 and March 8, 2017 (File No. 001-36571).

- The description of our common stock contained in our registration statement on Form 8-A (File No. 001-36323), filed with the SEC under Section 12(b) of the Exchange Act on July 25, 2014, including any amendments or reports filed for the purpose of updating such description.

These documents may also be accessed on our website at www.t2biosystems.com. Except as otherwise specifically incorporated by reference in this prospectus, information contained in, or accessible through, our website is not a part of this prospectus.

We will furnish without charge to you, upon written or oral request, a copy of any or all of the documents incorporated by reference, including exhibits to these documents by writing or telephoning us at the following address:

T2 Biosystems, Inc.

101 Hartwell Ave.

Lexington, MA 02421

(781) 761-4646

Attention: Michael Gibbs

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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	$	3,980
Legal fees and expenses		75,000
Accounting fees and expenses		8,000
Printing and miscellaneous expenses		10,000
Total	$	96,980

Item 15. Indemnification of Directors and Officers.

As permitted by Section 102 of the Delaware General Corporation Law, we have adopted provisions in our amended and restated certificate of incorporation and bylaws that limit or eliminate the personal liability of our directors for a breach of their fiduciary duties of care as directors. The duty of care generally requires that, when acting on behalf of the corporation, directors exercise an informed business judgment based on all material information reasonably available to them. Consequently, a director will not be personally liable to us or our stockholders for monetary damages for breach of fiduciary duty as a director, except for liability for:

- any breach of the director s duty of loyalty to us or our stockholders;
- any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- any act related to unlawful stock repurchases, redemptions or other distributions or payment of dividends; or
- any transaction from which the director derived an improper personal benefit.

These limitations of liability do not affect the availability of equitable remedies such as injunctive relief or rescission.

As permitted by Section 145 of the Delaware General Corporation Law, our amended and restated bylaws provide that:

- we may indemnify our directors, officers and employees, to the fullest extent permitted by the Delaware General Corporation Law, subject to limited exceptions;

- we may advance expenses to our directors, officers and employees, in connection with a legal proceeding to the fullest extent permitted by the Delaware General Corporation Law, subject to limited exceptions; and

- the rights provided in our amended and restated bylaws are not exclusive.

Our amended and restated certificate of incorporation and our amended and restated bylaws provide for the indemnification provisions described above and elsewhere herein. 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.

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These indemnification provisions and the indemnification agreements may be sufficiently broad to permit indemnification of our officers and directors for liabilities, including reimbursement of expenses incurred, arising under the Securities Act of 1933, as amended, or the Securities Act.

Item 16. Exhibits.

(a) *Exhibits*

A list of exhibits filed with this registration statement on Form S-3 is set forth on the Exhibit Index and is incorporated herein by reference.

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;

(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 the 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 Securities and Exchange Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 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) of this section 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, as amended, that are incorporated by reference in this registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

(2) 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.

(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.

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(4) That, for the purpose of determining liability under the Securities Act 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.

(b) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the registrant s annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934, as amended, (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, as amended) 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.

(h) Insofar as indemnification for liabilities arising under the Securities Act 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.

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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 20th day of March, 2017.

T2 Biosystems, Inc.

By:	/s/ John McDonough
Name:	John McDonough
Title:	President, Chief Executive Officer and Director

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints John McDonough, 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.

Signature	Title	Date
/s/ John McDonough **John McDonough**	President, Chief Executive Officer and Director (principal executive officer) (principal financial and accounting officer)	March 20, 2017
/s/Stanley N. Lapidus **Stanley N. Lapidus**	Director	March 20, 2017
/s/ Adrian Jones **Adrian Jones**	Director	March 20, 2017
/s/ Michael Cima, Ph.D. **Michael Cima, Ph.D.**	Director	March 20, 2017
/s/ David B. Eldsbree **David B. Elsbree**	Director	March 20, 2017
/s/ Seymour Liebman **Seymour Liebman**	Director	March 20, 2017

/s/ John W. Cumming **John W. Cumming**	Director	March 20, 2017

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EXHIBIT INDEX

Exhibit Number	Exhibit Description	Incorporated by Reference to Filings Indicated				Provided Herewith
		Form	File No.	Exhibit No.	Filing Date	
3.1	Amended and Restated Certificate of Incorporation.	8-K	001-36571	3.1	8/12/2014	
3.2	Amended and Restated Bylaws.	8-K	001-36571	3.2	8/12/2014	
4.1	Reference is made to Exhibits 3.1 through 3.2.					
4.2	Form of Common Stock Certificate.	S-1/A	333-197193	4.1	7/28/2014	
5.1	Opinion of Latham & Watkins LLP.					X
23.1	Consent of Independent Registered Public Accounting Firm.					X
23.2	Consent of Latham & Watkins LLP (included in Exhibit 5.1).					X
24.1	Powers of Attorney (incorporated by reference to the signature page hereto).					X
99.1	Voting and Standstill Agreement by and among T2 Biosystems, Inc. and Canon U.S.A, Inc., dated September 21, 2016.	8-K	001-36571	10.2	9/22/2016	
99.2	Registration Rights Agreement by and among T2 Biosystems, Inc. and Canon U.S.A, Inc., dated September 21, 2016.	8-K	001-36571	10.3	9/22/2016	