

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

**FORM S-8
REGISTRATION STATEMENT
Under
The Securities Act of 1933**

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

Delaware
(State or other jurisdiction
of incorporation or organization)

20-4827488
(IRS Employer
Identification No.)

101 Hartwell Avenue
Lexington, Massachusetts 02421
(Address of principal executive offices) (Zip code)

T2 Biosystems, Inc. 2014 Incentive Award Plan
T2 Biosystems, Inc. 2014 Employee Stock Purchase Plan
T2 Biosystems, Inc. Inducement Award Plan
(Full title of the plans)

John McDonough
President and Chief Executive Officer
T2 Biosystems, Inc.
101 Hartwell Avenue
Lexington, Massachusetts 02421
(781) 457-1200

Copy to:

Johan V. Brigham
Evan G. Smith
Latham & Watkins LLP
John Hancock Tower, 27th Floor
200 Clarendon Street
Boston, MA 02116
(617) 880-4500
(Name and address of agent for service)
(Telephone number, including area code, of agent for service)

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 Securities Exchange Act of 1934, as amended (the "Exchange Act").

Large accelerated filer Accelerated filer Non-accelerated filer Smaller reporting company
Emerging growth company

(Do not check if a smaller reporting 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 of 1933, as amended (the "Securities Act")

CALCULATION OF REGISTRATION FEE

Title of Securities to be Registered	Amount to be Registered(1)	Proposed Maximum Offering Price Per Share	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee
Common Stock, par value \$0.001 per share	1,138,471 shares(2)	\$5.32(3)	\$6,056,665.72	\$734.07
Common Stock, par value \$0.001 per share	4,044,090 shares(4)	\$5.32(3)	\$21,514,558.80	\$2,607.56
Common Stock, par value \$0.001 per share	2,395,149 shares(5)	\$8.40(6)	\$20,119,251.60	\$2,438.45
Common Stock, par value \$0.001 per share	625,000 shares(7)	\$5.72(8)	\$3,575,000.00	\$433.29

- (1) Pursuant to Rule 416 under the Securities Act, this registration statement (this "Registration Statement") shall also cover additional shares of the common stock, par value \$0.001 per share ("Common Stock"), of T2 Biosystems, Inc. (the "Registrant") that may become issuable under the T2 Biosystems, Inc. 2014 Incentive Award Plan (the "2014 Plan"), the T2 Biosystems, Inc. 2014 Employee Stock Purchase Plan (the "ESPP") and the T2 Biosystems, Inc. Inducement Award Plan (the "IAP") by reason of any stock split, stock dividend, recapitalization or other similar transaction.
- (2) Represents 1,138,471 shares of Common Stock available for future issuance under the ESPP, which number consists of (a) 200,971 shares of Common Stock available for immediate issuance under the ESPP and (b) an additional 937,500 shares of Common Stock that may become issuable under the ESPP pursuant to its terms. Shares of Common Stock available for issuance under the ESPP were previously registered on a Registration Statement on Form S-8 filed with the Securities and Exchange Commission (the "Commission") on August 7, 2014 (File No. 333-197946).
- (3) Estimated in accordance with Rule 457(c) and Rule 457(h) of the Securities Act solely for the purpose of calculating the registration fee, based on the average high and low prices reported on the Nasdaq Global Market for the Common Stock on October 12, 2018.
- (4) Represents 4,044,090 shares of Common Stock available for future issuance under the 2014 Plan, which number consists of (a) 294,090 shares of Common Stock available for immediate issuance under the 2014 Plan and (b) an additional 3,750,000 shares of Common Stock that may become issuable under the 2014 Plan pursuant to its terms. Shares of Common Stock available for issuance under the 2014 Plan were previously registered on a Registration Statement on Form S-8 filed with the Commission on August 7, 2014 (File No. 333-197946).

- (5) Represents the number of shares of Common Stock issuable upon the exercise of stock options outstanding under the 2014 Plan as of October 15, 2018. Shares of Common Stock available for issuance under the 2014 Plan were previously registered on a Registration Statement on Form S-8 filed with the Commission on August 7, 2014 (File No. 333-197946).
 - (6) Estimated in accordance with Rule 457(h) of the Securities Act solely for the purpose of calculating the registration fee, based on the weighted average exercise price (rounded to the nearest cent) for outstanding stock options granted pursuant to the 2014 Plan.
 - (7) Represents the number of shares of Common Stock issuable upon the exercise of stock options outstanding under the IAP as of October 15, 2018.
 - (8) Estimated in accordance with Rule 457(h) of the Securities Act solely for the purpose of calculating the registration fee, based on the weighted average exercise price (rounded to the nearest cent) for outstanding stock options granted pursuant to the IAP.
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PART I

INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS

The information called for in Part I of Form S-8 is not being filed with or included in this Registration Statement (by incorporation by reference or otherwise) in accordance with the rules and regulations of the Commission.

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3. Incorporation of Documents by Reference.

The following documents, which have been filed with the Commission by the Registrant, pursuant to the Exchange Act, are hereby incorporated by reference in, and shall be deemed to be a part of, this Registration Statement:

- (a) the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2017, filed with the Commission on March 19, 2018;
- (b) the Registrant's Current Report on Form 8-K, filed with the Commission on February 5, 2018; and
- (c) the description of the Registrant's Common Stock contained in the prospectus included in the Registrant's registration statement on Form 8-A (File No. 001-36571), filed with the Commission on July 25, 2014, pursuant to the Exchange Act, and any amendment or report filed for the purpose of updating such description.

All documents subsequently filed by the Registrant pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act subsequent to the date of this Registration Statement and prior to the filing of a post-effective amendment to this Registration Statement which indicates that all securities offered hereby have been sold or which deregisters all such securities then remaining unsold, shall be deemed to be incorporated by reference herein and to be a part hereof from the date of filing of such documents. Under no circumstances shall any information furnished under Item 2.02 or 7.01 of Form 8-K be deemed incorporated herein by reference unless such Form 8-K expressly provides to the contrary.

Any statement contained in this Registration Statement, in an amendment hereto or in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this Registration Statement to the extent that a statement contained herein or in any subsequently filed amendment to this Registration Statement or in any document that also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this Registration Statement, except as to specific sections of such statements as set forth therein.

Item 4. Description of Securities.

Not applicable.

Item 5. Interests of Named Experts and Counsel.

None.

Item 6. Indemnification of Directors and Officers.

Section 102 of the General Corporation Law of the State of Delaware permits a corporation to eliminate the personal liability of directors of a corporation to the corporation or its stockholders for monetary damages for a breach of fiduciary duty as a director, except where the director breached his duty of loyalty, failed to act in good faith, engaged in intentional misconduct or knowingly violated a law, authorized the payment of a dividend or approved a stock repurchase in violation of Delaware corporate law or obtained an improper personal benefit. As permitted by Section 102 of the General Corporation Law of the State of Delaware, the Registrant has adopted provisions in its amended and restated certificate of incorporation and bylaws that limit or eliminate the personal liability of the Registrant's 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 the Registrant or the Registrant's 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 the Registrant or the Registrant's 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.

Section 145 of the General Corporation Law of the State of Delaware provides that a corporation has the power to indemnify a director, officer, employee, or agent of the corporation, or a person serving at the request of the corporation for another corporation, partnership, joint venture, trust or other enterprise in related capacities against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with an action, suit or proceeding to which he was or is a party or is threatened to be made a party to any threatened, ending or completed action, suit or proceeding by reason of such position, if such person acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the corporation, and, in any criminal action or proceeding, had no reasonable cause to believe his conduct was unlawful, except that, in the case of actions brought by or in the right of the corporation, 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 the corporation unless and only to the extent that the Court of Chancery or other adjudicating court determines that, despite the adjudication of liability but in view of all of 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. As permitted by Section 145 of the General Corporation Law of the State of Delaware, the Registrant's amended and restated bylaws provide that:

- the Registrant may indemnify our directors, officers and employees, to the fullest extent permitted by the General Corporation Law of the State of Delaware, subject to limited exceptions;
- the Registrant may advance expenses to its directors, officers and employees, in connection with a legal proceeding to the fullest extent permitted by the General Corporation Law of the State of Delaware, subject to limited exceptions; and
- the rights provided in the Registrant's amended and restated bylaws are not exclusive.

The Registrant's amended and restated certificate of incorporation and its amended and restated bylaws provide for the indemnification provisions described above and elsewhere herein. The Registrant has entered into indemnification agreements with each of its directors and officers. These indemnification agreements may require the Registrant, among other things, to indemnify its 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 the Registrant's request. The Registrant maintains a general liability insurance policy that covers certain liabilities of directors and officers of the Registrant arising out of claims based on acts or omissions in their capacities as directors or officers.

Item 7. Exemption from Registration Claimed.

Not applicable.

Item 8. Exhibits.

For a list of exhibits, see the Exhibit index in this Registration Statement, which is incorporated herein by reference.

Item 9. 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 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 Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20% 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) and (a)(1)(ii) of this section do not apply if the Registration Statement is on Form S-8, and 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 Exchange Act that are incorporated by reference in 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; and

(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.

(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 Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) 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 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, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the Town of Lexington, Commonwealth of Massachusetts, on the 15th day of October, 2018.

T2 BIOSYSTEMS, INC.

By: /s/ John McDonough

John McDonough

President and Chief Executive Officer

SIGNATURES AND POWERS OF ATTORNEY

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 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, to this Registration Statement with the 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 by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ JOHN MCDONOUGH</u> John P. McDonough	President, Chief Executive Officer and Director (principal executive officer)	October 15, 2018
<u>/s/ JOHN M. SPRAGUE</u> John M. Sprague	Chief Financial Officer (principal financial and accounting officer)	October 15, 2018
<u>/s/ MICHAEL J. CIMA, PH.D.</u> Michael J. Cima, Ph.D.	Director	October 15, 2018
<u>/s/ JOHN W. CUMMING</u> John W. Cumming	Director	October 15, 2018
<u>/s/ DAVID B. ELSBREE</u> David B. Elsbree	Director	October 15, 2018
<u>/s/ STANLEY N. LAPIDUS</u> Stanley N. Lapidus	Director	October 15, 2018
<u>/s/ SEYMOUR LIEBMAN</u> Seymour Liebman	Director	October 15, 2018
<u>/s/ ADRIAN JONES</u> Adrian Jones	Director	October 15, 2018

EXHIBIT INDEX

<u>Exhibit Number</u>	<u>Description of Exhibit</u>
3.1	<u>Restated Certificate of Incorporation of the Registrant, as amended (incorporated by reference to Exhibit 3.1 of the Company's Form 8-K (File No. 001-36571) filed with the Commission on August 12, 2014).</u>
3.2	<u>Amended and Restated Bylaws of the Registrant (incorporated by reference to Exhibit 3.2 of the Company's Form 8-K (File No. 001-36571) filed with the Commission on August 12, 2014).</u>
4.1	<u>Form of Common Stock Certificate of the Registrant (incorporated by reference to Exhibit 4.1 to the Company's Registration Statement on Form S-1/A (File No. 333-197193) filed with the Commission on July 28, 2014).</u>
5.1*	<u>Opinion of Latham & Watkins LLP.</u>
23.1*	<u>Consent of Ernst & Young LLP, independent registered public accounting firm.</u>
23.2*	<u>Consent of Latham & Watkins LLP (included in Exhibit 5.1).</u>
24.1*	<u>Powers of Attorney (incorporated by reference to the signature page hereto).</u>
99.1	<u>2014 Incentive Award Plan and form of option agreements thereunder (incorporated by reference to Exhibit 10.2 to the Registrant's Registration Statement on Form S-1/A (File No. 333-197193) filed on July 28, 2014).</u>
99.2	<u>2014 Employee Stock Purchase Plan (incorporated by reference to Exhibit 10.20 to the Company's Registration Statement on Form S-1/A (File No. 333-197193) filed on July 28, 2014).</u>
99.3	<u>Inducement Award Plan and form of stock option agreement, form of restricted stock agreement and form of restricted stock unit agreement thereunder (incorporated by reference to Exhibit 10.1 of the Company's Form 8-K (File No. 001-36571) filed on March 7, 2018).</u>

* Filed herewith

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LATHAM & WATKINS^{LLP}

FIRM / AFFILIATE OFFICES
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 Los Angeles Singapore
 Madrid Tokyo
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October 15, 2018

T2 Biosystems, Inc.
 101 Hartwell Lane
 Lexington, Massachusetts 02421

Re: Registration Statement on Form S-8; 8,202,710 shares of T2 Biosystems, Inc.
 Common Stock, \$0.001 par value per share

Ladies and Gentlemen:

We have acted as special counsel to T2 Biosystems, Inc., a Delaware corporation (the “**Company**”), in connection with the proposed issuance by the Company of up to 8,202,710 shares of common stock of the Company, \$0.001 par value per share (the “**Shares**”), issuable under the under the T2 Biosystems, Inc. 2014 Incentive Award Plan (the “**2014 Plan**”), the T2 Biosystems, Inc. 2014 Employee Stock Purchase Plan (the “**ESPP**”) and the T2 Biosystems, Inc. Inducement Award Plan (the “**IAP**”) and together with the 2014 Plan and the ESPP, the “**Plans**”). The Shares are included in a registration statement on Form S-8 under the Securities Act of 1933, as amended (the “**Act**”), filed with the Securities and Exchange Commission (the “**Commission**”) on October 15, 2018 (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 related prospectus, other than as expressly stated herein with respect to the issue of the 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 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.

LATHAM & WATKINS^{LLP}

Subject to the foregoing and the other matters set forth herein, it is our opinion that, as of the date hereof, when the Shares shall have been duly registered on the books of the transfer agent and registrar therefor in the name or on behalf of the purchasers, and have been issued by the Company for legal consideration in excess of par value in the circumstances contemplated by the Plans, assuming in each case that the individual grants or awards under the Plans are duly authorized by all necessary corporate action and duly granted or awarded and exercised in accordance with the requirements of law and the Plans (and the agreements and awards duly adopted thereunder and in accordance therewith), the issue and sale of the Shares will have been duly authorized by all necessary corporate action of the Company, and the Shares will be validly issued, fully paid and nonassessable. In rendering the foregoing opinion, we have assumed that the Company will comply with all applicable notice requirements regarding uncertificated shares provided in the DGCL.

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. 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.

Very truly yours,

/s/ Latham & Watkins LLP

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the Registration Statement (Form S-8) pertaining to the 2014 Incentive Award Plan, the 2014 Employee Stock Purchase Plan, and Inducement Award Plan of T2 Biosystems, Inc. of our report dated March 19, 2018, with respect to the consolidated financial statements of T2 Biosystems, Inc. at December 31, 2017 and 2016, and for each of the three years in the period ended December 31, 2017 included in its Annual Report (Form 10-K) for the year ended December 31, 2017, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Boston, Massachusetts
October 15, 2018