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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, DC 20549**

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**FORM S-8  
REGISTRATION STATEMENT  
UNDER  
THE SECURITIES ACT OF 1933**

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**LOGICBIO THERAPEUTICS, INC.**  
(Exact name of registrant as specified in its charter)

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

**99 Erie St., Cambridge, MA**  
(Address of Principal Executive Offices)

**47-1514975**  
(I.R.S. Employer  
Identification No.)

**02139**  
(Zip Code)

**2014 Equity Incentive Plan  
2018 Equity Incentive Plan  
2018 Employee Stock Purchase Plan**  
(Full titles of the plans)

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**Frederic Chereau**  
**President and Chief Executive Officer**  
**LogicBio Therapeutics, Inc.**  
**99 Erie St.**  
**Cambridge, MA 02139**  
(Name and address of agent for service)

**(617) 245-0399**  
(Telephone number, including area code, of agent for service)

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*Please send copies of all communications to:*

**Marc A. Rubenstein**  
**Ropes & Gray LLP**  
**Prudential Tower**  
**800 Boylston Street**  
**Boston, MA 02199-3600**  
**617-951-7000**

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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

Non-accelerated filer

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.

**CALCULATION OF REGISTRATION FEE**

<b>Title of Securities to be Registered</b>	<b>Amount to be Registered (1)</b>	<b>Proposed Maximum Offering Price Per Share</b>	<b>Proposed Maximum Aggregate Offering Price</b>	<b>Amount of Registration Fee</b>
LogicBio Therapeutics, Inc. 2014 Equity Incentive Plan – Common Stock, \$0.0001 par value per share	1,997,457 shares(2)	\$0.73(3)	\$ 1,458,143.61	\$ 176.73
LogicBio Therapeutics, Inc. 2018 Equity Incentive Plan – Common Stock, \$0.0001 par value per share	2,070,749 shares(4)	9.82(5)	20,334,755.20	2,464.57
LogicBio Therapeutics, Inc. 2018 Employee Stock Purchase Plan – Common Stock, \$0.0001 par value per share	421,883 shares(6)	9.82(7)	4,142,891.06	502.12
<b>TOTAL</b>	<b>4,490,089 shares</b>		<b>\$25,935,789.90</b>	<b>\$3,143.42</b>

- (1) Pursuant to Rule 416(a) under the Securities Act of 1933, this Registration Statement also covers such additional shares of Common Stock as may issued to prevent dilution from stock splits, stock dividends and similar transactions.
- (2) Represents shares of Common Stock issuable upon exercise of options previously granted under the LogicBio Therapeutics, Inc. 2014 Equity Incentive Plan, as amended, that are outstanding as of the date of this Registration Statement.
- (3) Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457 of the Securities Act of 1933. For the shares of Common Stock reserved for issuance upon the exercise of outstanding awards granted under the LogicBio Therapeutics, Inc. 2014 Equity Incentive Plan, as amended, the Proposed Maximum Offering Price Per Share is \$0.73, which is the weighted average exercise price (rounded to the nearest cent) of the outstanding awards under the LogicBio Therapeutics, Inc. 2014 Equity Incentive Plan, as amended.
- (4) Represents shares of Common Stock reserved for issuance upon exercise of options or in respect of other awards as of the date of this Registration Statement under the LogicBio Therapeutics, Inc. 2018 Equity Incentive Plan (the “2018 Incentive Plan”) and includes 887,535 shares of Common Stock that were automatically added to the shares authorized under the 2018 Incentive Plan on January 1, 2019 pursuant to an “evergreen” provision contained in the 2018 Incentive Plan. The “evergreen” provision provides that on each January 1<sup>st</sup> from January 1, 2019 through January 1, 2028, the number of shares of Common Stock available for issuance under the 2018 Incentive Plan will automatically increase annually in an amount equal to the lesser of 4% of outstanding shares of the registrant’s Common Stock as of the close of business on the immediately preceding December 31<sup>st</sup> or the number of shares determined by the registrant’s board of directors.
- (5) Estimated solely for the purpose of calculating the registration fee in accordance with Rule 457(h) based on the average of the high and low prices of the registrant’s Common Stock as reported on the Nasdaq Global Market on April 1, 2019 to be \$9.90 and \$9.73, respectively.
- (6) Represents shares of Common Stock issuable upon exercise of options that have not yet been granted as of the date of this Registration Statement under the LogicBio Therapeutics, Inc. 2018 Employee Stock Purchase Plan (the “2018 ESPP”) and includes 221,883 shares of Common Stock that were automatically added to the shares authorized under the 2018 ESPP on January 1, 2019 pursuant to an “evergreen” provision contained in the 2018 ESPP. The “evergreen” provision provides that on each January 1<sup>st</sup> from January 1, 2019 through January 1, 2028, the number of shares of Common Stock available for issuance under the 2018 ESPP will automatically increase annually in an amount equal to the lesser of 1% of outstanding shares of the registrant’s Common Stock as of the close of business on the immediately preceding December 31<sup>st</sup> or the number of shares determined by the registrant’s board of directors.
- (7) Estimated solely for the purpose of calculating the registration fee in accordance with Rule 457(h) based on the average of the high and low prices of the registrant’s Common Stock as reported on the Nasdaq Global Market on April 1, 2019 to be \$9.90 and \$9.73, respectively.

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**PART I**  
**INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS**

As permitted by Rule 428 under the Securities Act of 1933, as amended (the “Securities Act”), this Registration Statement omits the information specified in Part I of Form S-8. The documents containing the information specified in Part I will be delivered to the participants of the LogicBio Therapeutics, Inc. 2014 Equity Incentive Plan, as amended, LogicBio Therapeutics, Inc. 2018 Equity Incentive Plan and LogicBio Therapeutics, Inc. 2018 Employee Stock Purchase Plan, as required by Rule 428(b). Such documents are not being filed with the Securities and Exchange Commission (the “SEC”) as part of this Registration Statement or as prospectuses or prospectus supplements pursuant to Rule 424 under the Securities Act.

**PART II**  
**INFORMATION REQUIRED IN THE REGISTRATION STATEMENT**

**Item 3. Incorporation of Documents by Reference.**

We incorporate by reference herein the following documents filed by LogicBio Therapeutics, Inc. (the “Registrant”) with the SEC:

- (a) the Registrant’s Annual Report on Form 10-K for the period ended December 31, 2018;
- (b) the Registrant’s Current Report on Form 8-K filed with the SEC on February 28, 2019; and
- (c) the description of the Registrant’s Common Stock, \$0.0001 par value per share, which is contained in the Registrant’s registration statement on Form 8-A filed by the Registrant with the SEC under Section 12 of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), on October 17, 2018, including any amendments or reports 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, prior to the filing of a post-effective amendment to this Registration Statement that indicates that all securities offered have been sold or which deregisters all securities then remaining unsold, shall be deemed to be incorporated herein by reference from the date of filing of such documents. Any statement contained herein 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 document which also is incorporated or is deemed to be incorporated by reference herein modifies or supersedes such earlier statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute part of this Registration Statement.

**Item 4. Description of Securities.**

Not applicable.

**Item 5. Interests of Named Experts and Counsel.**

Not applicable.

**Item 6. Indemnification of Directors and Officers.**

The Registrant’s amended and restated certificate of incorporation contains a provision that eliminates, to the maximum extent permitted by the General Corporation Law of the State of Delaware, the personal liability of directors for monetary damages for breach of their fiduciary duties as a director. The Registrant’s amended and restated bylaws provide that the Registrant shall indemnify its directors and executive officers to the fullest extent permitted by the General Corporation Law of the State of Delaware.

Sections 145 and 102(b)(7) of the General Corporation Law of the State of Delaware provide that a corporation may indemnify any person made a party to an action by reason of the fact that he or she was a director, executive officer, employee or agent of the corporation or is or was serving at the request of the corporation against expenses (including attorneys’ fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by him or her in connection with such action if he or she acted in good faith and in a manner he or she 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 his or her conduct was unlawful, except that, in the case of an action by or in right of the corporation, no indemnification may generally be made in respect of any claim as to which such person is adjudged to be liable to the corporation.

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The Registrant has entered into indemnification agreements with each of its directors and executive officers, in addition to the indemnification provided for the Registrant's amended and restated bylaws, and intends to enter into indemnification agreements with any new directors and executive officers in the future.

The Registrant maintains insurance on behalf of any person who is or was a director or officer of the Registrant against any loss arising from any claim asserted against him or her and incurred by him or her in any such capacity, subject to certain exclusions.

#### **Item 7. Exemption from Registration Claimed.**

Not applicable.

#### **Item 8. Exhibits.**

##### Exhibit

- 4.1 [Fourth Amended and Restated Certificate of Incorporation \(previously filed as Exhibit 3.1 to the current report Form 8-K filed on October 29, 2018 \(File No. 001-38707\) and incorporated herein by reference\).](#)
- 4.2 [Amended and Restated Bylaws \(previously filed as Exhibit 3.2 to the current report Form 8-K filed on October 29, 2018 \(File No. 38707\) and incorporated herein by reference\).](#)
- 4.3 [LogicBio Therapeutics, Inc. 2014 Equity Incentive Plan, as amended \(previously filed as Exhibit 10.4 to the registration statement on Form S-1 \(File No. 333-227523\) and incorporated herein by reference\).](#)
- 4.4 [LogicBio Therapeutics, Inc. 2018 Equity Incentive Plan \(previously filed as Exhibit 10.9 to the registration statement on Form S-1 \(File No. 333-227523\) and incorporated herein by reference\).](#)
- 4.5 [LogicBio Therapeutics, Inc. 2018 Employee Stock Purchase Plan \(previously filed as Exhibit 10.11 to the registration statement on Form S-1 \(File No. 333-227523\) and incorporated herein by reference\).](#)
- 5.1 [Opinion of Ropes & Gray LLP.](#)
- 23.1 [Consent of Deloitte & Touche LLP.](#)
- 23.2 [Consent of Ropes & Gray LLP \(included in the opinion filed as Exhibit 5.1\).](#)
- 24.1 [Powers of Attorney \(included on the signature page in Part II\).](#)

#### **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 a prospectus filed with the SEC pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective Registration Statement;

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(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) above shall 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 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.
- (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 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.

(c) 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 SEC 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 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, 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 City of Cambridge, Commonwealth of Massachusetts, on this 2nd day of April, 2019.

### LOGICBIO THERAPEUTICS, INC.

By: /s/ Frederic Chereau

Name: Frederic Chereau

Title: President and Chief Executive Officer

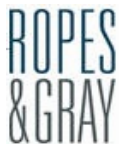
## POWER OF ATTORNEY

Each person whose signature appears below constitutes and appoints Frederic Chereau and Matthias Jaffé, and each of them acting individually, his or her true and lawful attorney-in-fact and agent 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 sign any and all amendments (including post-effective amendments) to this Registration Statement on Form S-8 to be filed by LogicBio Therapeutics, Inc., and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents full power and authority to be done in and about the premises, 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 substitutes, may lawfully do or cause to be done by virtue hereof.

\* \* \* \*

Pursuant to the requirements of the Securities Act of 1933, 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/ Frederic Chereau</u> Frederic Chereau	President, Chief Executive Officer and Director <i>(Principal Executive Officer)</i>	April 2, 2019
<u>/s/ Matthias Jaffé</u> Matthias Jaffé	Chief Financial Officer <i>(Principal Financial and Accounting Officer)</i>	April 2, 2019
<u>/s/ Leon Chen</u> Leon Chen, Ph.D.	Director	April 2, 2019
<u>/s/ Erez Chimovits</u> Erez Chimovits	Director	April 2, 2019
<u>/s/ Sofia Ioannidou</u> Sofia Ioannidou, Ph.D.	Director	April 2, 2019
<u>/s/ Tomer Kariv</u> Tomer Kariv	Director	April 2, 2019
<u>/s/ Marky Kay</u> Mark Kay, M.D., Ph.D.	Director	April 2, 2019
<u>/s/ Richard Moscicki</u> Richard Moscicki, M.D.	Director	April 2, 2019
<u>/s/ Daniel O'Connell</u> Daniel O'Connell, M.D., Ph.D.	Director	April 2, 2019
<u>/s/ Michael Wyzga</u> Michael Wyzga	Director	April 2, 2019



ROPE & GRAY LLP  
PRUDENTIAL TOWER  
800 BOYLSTON STREET  
BOSTON, MA 02199-3600  
WWW.ROPEGRAY.COM

April 2, 2019

LogicBio Therapeutics, Inc.  
99 Erie St.  
Cambridge, MA 02139

Ladies and Gentlemen:

This opinion letter is furnished to you in connection with the registration statement on Form S-8 (the "Registration Statement"), filed by LogicBio Therapeutics, Inc., a Delaware corporation (the "Company"), on the date hereof, with the Securities and Exchange Commission under the Securities Act of 1933, as amended (the "Securities Act"), for the registration of 4,490,089 shares of common stock, \$0.0001 par value, of the Company (the "Shares"). The Shares are issuable under the LogicBio Therapeutics, Inc. 2014 Equity Incentive Plan, as amended, the LogicBio Therapeutics, Inc. 2018 Equity Incentive Plan and the LogicBio Therapeutics, Inc. 2018 Employee Stock Purchase Plan (each, a "Plan," and collectively, the "Plans").

We are familiar with the actions taken by the Company in connection with the adoption of the Plans. We have examined such certificates, documents and records and have made such investigation of fact and such examination of law as we have deemed appropriate in order to enable us to render the opinions set forth herein. In conducting such investigation, we have relied, without independent verification, upon certificates of officers of the Company, public officials and other appropriate persons.

The opinions expressed below are limited to the Delaware General Corporation Law.

Based upon and subject to the foregoing, we are of the opinion that the Shares have been duly authorized and, when the Shares have been issued and sold in accordance with the terms of the applicable Plan, the Shares will be validly issued, fully paid and nonassessable.

We hereby consent to the filing of this opinion letter 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 Securities Act or the rules and regulations thereunder.

Very truly yours,

/s/ Ropes & Gray LLP

Ropes & Gray LLP



**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We consent to the incorporation by reference in this Registration Statement on Form S-8 of our report dated April 1, 2019, relating to the consolidated financial statements of LogicBio Therapeutics, Inc. and subsidiaries appearing in the Annual Report on Form 10-K of LogicBio Therapeutics, Inc. for the year ended December 31, 2018.

/s/ Deloitte & Touche LLP

Boston, Massachusetts  
April 2, 2019