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

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

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**Leap Therapeutics, Inc.**  
(Exact name of registrant as specified in its charter)

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

27-4412575  
(IRS Employer  
Identification No.)

47 Thorndike Street  
Suite B1-1  
Cambridge, MA 02141  
Telephone: (617) 714-0360  
(Address of principal executive offices) (Zip Code)

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**Leap Therapeutics, Inc. 2016 Equity Incentive Plan**  
(Full title of the Plan)

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**Christopher K. Mirabelli, Ph.D.**  
**Chairman, President and Chief Executive Officer**  
**Leap Therapeutics, Inc.**  
47 Thorndike Street, Suite B1-1  
Cambridge, MA 02141  
(Name and address of agent for service)  
  
(617) 714-0360  
(Telephone number, including area code, of agent for service)

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*Copy to:*

**Julio E. Vega, Esq.**  
**Morgan, Lewis & Bockius LLP**  
**One Federal Street**  
**Boston, MA 02110**  
**(617) 951-8000**

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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.

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**CALCULATION OF REGISTRATION FEE**

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Title of Securities To Be Registered	Amount To Be Registered (1)	Proposed Maximum Offering Price Per Share (2)	Proposed Maximum Aggregate Offering Price (2)	Amount of Registration Fee
Common Stock (par value \$0.001 per share) <b>2016 Equity Incentive Plan of Leap Therapeutics, Inc.</b>	967,795 (3)	\$1.30	\$1,258,133.50	\$163.31

- (1) Pursuant to Rule 416 under the Securities Act of 1933, as amended (the “Securities Act”), this Registration Statement shall also cover any additional shares of Common Stock which become issuable under the Leap Therapeutics, Inc. 2016 Equity Incentive Plan (the “2016 EIP”) by reason of any stock dividend, stock split, recapitalization or other similar transaction effected without the receipt of consideration which results in an increase in the number of the outstanding shares of the Registrant’s Common Stock.
- (2) Estimated in accordance with Rule 457(h) solely for the purpose of calculating the registration fee based on the average of the high and low prices of the Registrant’s Common Stock as reported on the NASDAQ Global Market on March 18, 2020.
- (3) Represents the aggregate number of shares of Common Stock that were automatically added to the shares authorized for issuance under the 2016 EIP on January 1, 2020 pursuant to an “evergreen” provision contained in the 2016 EIP. Pursuant to such provision, on January 1 of each calendar year, the number of shares authorized for issuance under the 2016 EIP is automatically increased by a number equal to (a) 4% of the outstanding Common Stock of the Registrant as of the end of the immediately preceding calendar year; or (b) such lesser number of shares of Common Stock as is determined by the Registrant’s compensation committee of the applicable year.

## INCORPORATION OF DOCUMENTS BY REFERENCE

This Registration Statement is being filed for the purpose of increasing the number of securities of the same class as other securities for which a Registration Statement of the Registrant on Form S-8 relating to the same employee benefit plan is effective. The Registrant previously registered shares of its Common Stock for issuance under the 2016 EIP under a Registration Statement on [Form S-8 filed with the Securities and Exchange Commission \(the "Commission"\) on January 27, 2017 \(File No. 333-215787\)](#). Pursuant to General Instruction E to Form S-8, this Registration Statement hereby incorporates by reference the contents of the Registration Statement referenced above.

### Part II

#### INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

##### Item 8. Exhibits.

Exhibit Number	Exhibit
<a href="#">5.1</a>	<a href="#">Opinion of Morgan, Lewis &amp; Bockius LLP</a>
<a href="#">23.1</a>	<a href="#">Consent of EisnerAmper LLP, Independent Registered Public Accounting Firm.</a>
<a href="#">23.2</a>	<a href="#">Consent of Morgan, Lewis &amp; Bockius LLP (included in Exhibit 5.1).</a>
<a href="#">24.1</a>	<a href="#">Powers of Attorney (included on the signature page of this Form S-8).</a>

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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 March 20, 2020.

### LEAP THERAPEUTICS, INC.

By: /s/ Christopher Mirabelli

Name: Christopher Mirabelli

Title: President, Chief Executive Officer and Chairman of the Board of Directors

## POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints Christopher Mirabelli and Douglas Onsi, and each of them, as his true and lawful attorney-in-fact and agent with full power of substitution, for him in any and all capacities, to sign any and all amendments to this registration statement (including post-effective amendments), and to file the same, with all exhibits thereto and other documents in connection therewith, with the SEC, granting unto said attorney-in-fact and agent 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 for all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or his substitute, 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.

Signature	Title	Date
<u>/s/ Christopher Mirabelli</u> Christopher Mirabelli	President, Chief Executive Officer and Director (Principal Executive Officer)	March 20, 2020
<u>/s/ Douglas Onsi</u> Douglas Onsi	Chief Financial Officer, General Counsel, Treasurer and Secretary (Principal Financial and Accounting Officer)	March 20, 2020
<u>/s/ James Cavanaugh</u> James Cavanaugh	Director	March 20, 2020
<u>/s/ Douglas Onsi</u> Douglas Onsi	Director	March 20, 2020
<u>/s/ Thomas Dietz</u> Thomas Dietz	Director	March 20, 2020
<u>/s/ William Li</u> William Li	Director	March 20, 2020
<u>/s/ Nissim Mashiach</u> Nissim Mashiach	Director	March 20, 2020
<u>/s/ Joseph Loscalzo</u> Joseph Loscalzo	Director	March 20, 2020
<u>/s/ Monica Bertagnolli</u> Monica Bertagnolli	Director	March 20, 2020

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March 20, 2020

Leap Therapeutics, Inc.  
47 Thorndike Street, Suite B1-1  
Cambridge, MA 02141

Re: Registration Statement on Form S-8; 967,795 shares of Common Stock of Leap Therapeutics, Inc., par value \$0.001 per share

Ladies and Gentlemen:

We have acted as counsel to Leap Therapeutics, Inc., a Delaware corporation (the "Company"), in connection with the registration by the Company of 967,795 shares of common stock of the Company, par value \$0.001 per share (the "Shares"), issuable under the Company's 2016 Equity Incentive Plan (the "2016 Plan").

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 March 20, 2020 (the "Registration Statement"). This opinion is being furnished in connection with the requirements of Item 601(b)(5) of Regulation S-K under the Act, and no opinion is expressed herein as to any matter pertaining to the contents of the Registration Statement or the related prospectuses, other than as expressly stated herein with respect to the issuance 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.

Subject to the foregoing and the other matters set forth herein, it is our opinion that, as of the date hereof, when the Shares have been issued and delivered by the Company against payment therefor in the circumstances contemplated by the 2016 Plan, assuming in each case that the individual issuances, grants or awards under the 2016 Plan are duly authorized by all necessary corporate action and duly issued, granted or awarded and exercised in accordance with the requirements of law and the 2016 Plan (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/ MORGAN LEWIS & BOCKIUS LLP

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**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We consent to the incorporation by reference in this Registration Statement of Leap Therapeutics, Inc. on Form S-8 to be filed on or about March 20, 2020 of our report dated March 16, 2020, on our audits of the consolidated financial statements as of December 31, 2019 and 2018 and for each of the years then ended, which report was included in the Annual Report on Form 10-K filed March 16, 2020.

/s/ EisnerAmper LLP

EISNERAMPER LLP  
Philadelphia, Pennsylvania  
March 20, 2020

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