

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

AMENDMENT NO. 1  
TO  
**FORM S-3**  
REGISTRATION STATEMENT  
UNDER  
THE SECURITIES ACT OF 1933

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

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

**27-4412575**  
(IRS Employer  
Identification Number)

**47 Thorndike Street  
Suite B1-1  
Cambridge, MA 02141  
Telephone: (617) 714-0360**  
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

**Douglas E. Onsi  
President and Chief Executive Officer  
Leap Therapeutics, Inc.  
47 Thorndike Street, Suite B1-1  
Cambridge, MA 02141  
(617) 714-0360**  
(Name, address, including zip code, and telephone number, including area code, of agent for service)

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

**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.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Securities Exchange Act of 1934.

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

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

**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 or until this Registration Statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to such Section 8(a), may determine.**

The information contained in this prospectus is not complete and may be changed. The selling stockholders 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 is not a solicitation of offers to buy these securities in any jurisdiction where such offer or sale is not permitted.

Subject to Completion, dated June 9, 2023

## Prospectus



# Leap Therapeutics, Inc.

## 162,677,093 Shares Common Stock

This prospectus relates to the possible resale or other disposition from time to time by the selling stockholders named in this prospectus of up to an aggregate of 162,677,093 shares of our common stock, par value \$0.001 per share, which consist of (i) 6,191,782 shares of our common stock that are outstanding and held by certain of the selling stockholders named in this prospectus and (ii) the following additional shares of our common stock issued or issuable by us to certain of the selling stockholders named in this prospectus in connection with our acquisition of Flame Bioscience, Inc. (“Flame”) on January 17, 2023 pursuant to a merger transaction that was structured as a private placement (the “Flame Acquisition Transaction”): (1) 19,729,010 outstanding shares of our common stock that were issued by us pursuant to the Flame Acquisition Transaction; (2) 65,301 shares of our common stock issuable upon exercise of outstanding warrants that were assumed by us pursuant to the Flame Acquisition Transaction (the “Common Stock Warrants”); (3) 136,248,000 shares of our common stock issuable upon conversion of 136,248 outstanding shares of our Series X Non-Voting Convertible Preferred Stock, par value \$0.001 per share, that were issued by us pursuant to the Flame Acquisition Transaction; and (4) 443,000 shares of our common stock issuable upon (i) conversion of 443 shares of our Series X Non-Voting Convertible Preferred Stock that may be issued upon exercise of outstanding warrants that were assumed by us pursuant to the Flame Acquisition Transaction and that are currently exercisable for 443 shares of our Series X Non-Voting Convertible Preferred Stock or (ii) exercise of such outstanding warrants that are currently exercisable for 443 shares of our Series X Non-Voting Convertible Preferred Stock at any time after such outstanding warrants are automatically adjusted to become exercisable for up to 443,000 shares of our common stock upon conversion of the outstanding shares of our Series X Non-Voting Convertible Preferred Stock into shares of our common stock (the “Preferred Stock Warrants” and, together with the Common Stock Warrants, the “Warrants”).

We agreed to file the registration statement of which this prospectus is a part pursuant to a registration rights agreement, dated as of January 17, 2023, that we entered into in connection with the consummation of the Flame Acquisition Transaction (the “Registration Rights Agreement”). Additional information with respect to the Registration Rights Agreement is contained in this prospectus under the heading “Selling Stockholders” and in our Current Report on Form 8-K filed with the Securities and Exchange Commission on January 23, 2023.

The selling stockholders or their permitted transferees or other successors-in-interest may, but are not required to, sell, transfer, or otherwise dispose of, any or all of the shares of our common stock offered by this prospectus at any time and from time to time in a number of different ways, including sales on any stock exchange or in negotiated transactions, and at varying prices, including fixed prices, at prevailing market prices at the time of sale or disposition, at prices related to the prevailing market price, or at negotiated prices. See “Plan of Distribution” on page 10 for a description of how the selling stockholders may dispose of the shares covered by this prospectus.

We are not selling any shares of our common stock under this prospectus and will not receive any of the proceeds from the sale of shares of our common stock by the selling stockholders. However, we will receive proceeds from any cash exercise of any of the Warrants. If all of the Warrants were cash exercised at their respective current applicable exercise prices, the gross proceeds to us from such cash exercises would be approximately \$344,971.

We have agreed to pay certain expenses related to the registration of the offer and sale by the selling stockholders of our common stock pursuant to the registration statement of which this prospectus forms a part. The selling stockholders will bear all commissions, discounts, concessions and other selling expenses, if any, in connection with the sale of the shares of our common stock covered by this prospectus.

Our Common Stock is listed on The NASDAQ Global Market under the symbol “LPTX.” On June 7, 2023, the closing price of our Common Stock was \$0.61 per share.

We may amend or supplement this prospectus from time to time by filing amendments or supplements as required. You should read the entire prospectus and any amendments or supplements carefully before you make your investment decision.

**Investing in our Common Stock involves a high degree of risk. You should carefully read the information contained under the heading “Risk Factors” on page 4 of this prospectus, and under similar headings in the documents that are 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 June , 2023.

## TABLE OF CONTENTS

	<u>Page</u>
<a href="#"><u>ABOUT THIS PROSPECTUS</u></a>	<a href="#"><u>1</u></a>
<a href="#"><u>PROSPECTUS SUMMARY</u></a>	<a href="#"><u>2</u></a>
<a href="#"><u>THE OFFERING</u></a>	<a href="#"><u>3</u></a>
<a href="#"><u>RISK FACTORS</u></a>	<a href="#"><u>4</u></a>
<a href="#"><u>CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS</u></a>	<a href="#"><u>5</u></a>
<a href="#"><u>USE OF PROCEEDS</u></a>	<a href="#"><u>6</u></a>
<a href="#"><u>SELLING STOCKHOLDERS</u></a>	<a href="#"><u>7</u></a>
<a href="#"><u>PLAN OF DISTRIBUTION</u></a>	<a href="#"><u>24</u></a>
<a href="#"><u>LEGAL MATTERS</u></a>	<a href="#"><u>25</u></a>
<a href="#"><u>EXPERTS</u></a>	<a href="#"><u>25</u></a>
<a href="#"><u>DISCLOSURE OF COMMISSION POSITION ON INDEMNIFICATION FOR SECURITIES ACT LIABILITIES</u></a>	<a href="#"><u>25</u></a>
<a href="#"><u>ADDITIONAL INFORMATION</u></a>	<a href="#"><u>25</u></a>
<a href="#"><u>INCORPORATION OF CERTAIN INFORMATION BY REFERENCE</u></a>	<a href="#"><u>26</u></a>

**ABOUT THIS PROSPECTUS**

This prospectus is part of a registration statement on Form S-3 that we filed with the U.S. Securities and Exchange Commission (the “SEC”), using a “shelf” registration process. By using this registration process, the selling stockholders named in this prospectus may offer and sell shares of our common stock from time to time in one or more transactions as described under “Plan of Distribution”.

This prospectus provides you with a general description of us and our securities. We may add, update or change in a prospectus supplement any of the information contained in this prospectus or the documents incorporated by reference. For further information about our business and our securities, you should refer to the registration statement and the reports incorporated by reference in this prospectus, as described in “Additional Information” and “Incorporation of Certain Information by Reference”. This prospectus contains summaries of certain provisions contained in some of the documents described herein, but reference is made to the actual documents for complete information. All of the summaries are qualified in their entirety by the actual documents. Copies of some of the documents referred to herein have been filed, will be filed or will be incorporated by reference as exhibits to the registration statement of which this prospectus is a part, and you may obtain copies of those documents as described below under the heading “Where You Can Find More Information.”

You must not rely upon any information or representation not contained or incorporated by reference in this prospectus. You should rely only on the information contained in this prospectus and in any prospectus supplement (including in any documents incorporated by reference herein or therein). 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 securities are sold on a later date. We and the selling stockholders named in this prospectus have not authorized anyone to provide you with any different information.

Leap Therapeutics, Inc. and its subsidiaries are collectively referred to herein as “Leap”, “the Company”, “we”, “us”, and “our”, unless otherwise specified or the context indicates otherwise.

## PROSPECTUS SUMMARY

This summary highlights selected information appearing elsewhere or incorporated by reference into this prospectus and may not contain all of the information that you need to consider in making your investment decision. You should carefully read this prospectus, any applicable prospectus supplement, any related free writing prospectus that we have authorized for use in connection with this offering, and any documents incorporated by reference, including the information contained under the heading “Risk Factors” beginning on page 4 in this prospectus and under similar headings in our recent [Annual Report on Form 10-K for the fiscal year ended December 31, 2022](#), before making an investment decision.

### **Our Company**

We are a biopharmaceutical company developing novel biomarker-targeted antibody therapies designed to treat patients with cancer by inhibiting fundamental tumor-promoting pathways, targeting cancer-specific cell surface molecules, and harnessing the immune system to attack cancer cells. Our lead clinical stage program is DKN-01, a monoclonal antibody that inhibits Dickkopf-related protein 1 (“DKK1”). We are currently studying DKN-01 in multiple ongoing clinical trials in patients with esophagogastric cancer, gynecologic cancers, or colorectal cancer. Our second clinical stage program is FL-301, a monoclonal antibody that targets cells that express Claudin18.2 on their cell surface. We also have two preclinical antibody programs, FL-302 and FL-501.

We were incorporated in the state of Delaware as Dekkun Corporation on January 3, 2011 and changed our name to HealthCare Pharmaceuticals, Inc. effective May 29, 2014, and then to Leap Therapeutics, Inc. effective November 16, 2015. During 2015, HealthCare Pharmaceuticals Pty Ltd. (“HCP Australia”) was formed and is a wholly owned subsidiary of the Company. During January 2017, the Company merged with Macrocare Ltd. (now “Leap Therapeutics Ltd.”) and its wholly-owned subsidiary Macrocare, Inc. On January 17, 2023, we entered into a merger agreement with Flame Biosciences, Inc. (“Flame”), a privately-held biotechnology company, to acquire Flame and Flame’s clinical stage program, FL-301, two preclinical programs, FL-302 and FL-501, and cash balance, whereby Flame became a wholly owned subsidiary under the name Flame Biosciences, LLC (the “Flame Acquisition Transaction”).

Our principal executive offices are located at 47 Thorndike Street, Suite B1-1, Cambridge, Massachusetts 02141, and our telephone number is (617) 714-0360. Our website address is [www.leaptx.com](http://www.leaptx.com). The information contained in, or that can be accessed through, our website is not part of this prospectus.

**THE OFFERING**

Shares of Common Stock offered for resale by the Selling Stockholders:

Up to an aggregate of 162,677,093 shares of our common stock, par value \$0.001 per share, which consist of (i) 6,191,782 shares of our common stock that are outstanding and held by certain of the selling stockholders and (ii) the following additional shares of our common stock issued or issuable by us to certain of the selling stockholders in connection with our acquisition of Flame on January 17, 2023 pursuant to the Flame Acquisition Transaction: (1) 19,729,010 outstanding shares of our common stock that were issued by us pursuant to the Flame Acquisition Transaction; (2) 65,301 shares of our common stock issuable upon exercise of outstanding warrants that were assumed by us pursuant to the Flame Acquisition Transaction (the “Common Stock Warrants”); (3) 136,248,000 shares of our common stock issuable upon conversion of 136,248 outstanding shares of our Series X Non-Voting Convertible Preferred Stock, \$0.001 per share, that were issued by us pursuant to the Flame Acquisition Transaction; and (4) 443,000 shares of our common stock issuable upon (i) conversion of 443 shares of our Series X Non-Voting Convertible Preferred Stock that may be issued upon exercise of outstanding warrants that were assumed by us pursuant to the Flame Acquisition Transaction and that are currently exercisable for 443 shares of our Series X Non-Voting Convertible Preferred Stock or (ii) exercise of such outstanding warrants that are currently exercisable for 443 shares of our Series X Non-Voting Convertible Preferred Stock at any time after such outstanding warrants are automatically adjusted to become exercisable for up to 443,000 shares of our common stock upon conversion of the outstanding shares of our Series X Non-Voting Convertible Preferred Stock into shares of our common stock (the “Preferred Stock Warrants” and, together with the Common Stock Warrants, the “Warrants”).

Use of Proceeds:

We will not receive any of the proceeds from the sale of any of the shares of our common stock that may be offered from time to time by the selling stockholders. However, we will receive proceeds from any cash exercise of any of the Warrants. If all of the Warrants were cash exercised at their respective current applicable exercise prices, the gross proceeds to us from such cash exercises would be approximately \$344,971. We intend to use the net proceeds, if any, from the cash exercise of any of the Warrants for general corporate purposes.

Risk Factors:

Investing in our common stock involves risks. Please refer to the information contained under the heading “Risk Factors” beginning on page 4 of this prospectus for a discussion of factors you should carefully consider before investing our securities.

NASDAQ Global Market Symbol:

LPTX

## RISK FACTORS

An investment in our securities involves a high degree of risk. Before making an investment decision, you should carefully consider the risks described under “Risk Factors” contained in our [proxy statement filed with the SEC on April 28, 2023](#) and our most recent Annual Report on Form 10-K, and in our updates to those Risk Factors in our Quarterly Reports on Form 10-Q or Current Reports on Form 8-K following the most recent Annual Report on Form 10-K, and in all other information appearing in this prospectus or incorporated by reference into this prospectus and any applicable prospectus supplement. The material risks and uncertainties that management believes affect us will be described in those documents. In addition to those risk factors, there may be additional risks and uncertainties of which management is not aware or focused on or that management deems immaterial. Our business, financial condition or results of operations could be materially adversely affected by any of these risks. The trading price of our securities could decline due to any of these risks, and you may lose all or part of your investment. This prospectus is qualified in its entirety by these risk factors.

**CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS**

This prospectus and each prospectus supplement, including the documents that we incorporate by reference, contains or may contain forward-looking statements as that term is defined in the federal securities laws. The events described in forward-looking statements contained in this prospectus, including the documents that we incorporate by reference, may not occur. Generally, these statements relate to our business plans or strategies, projected or anticipated benefits or other consequences of our plans or strategies, financing plans, projected or anticipated benefits from acquisitions that we may make, or projections involving anticipated revenues, earnings or other aspects of our operating results or financial position, and the outcome of any contingencies. Any such forward-looking statements are based on current expectations, estimates and projections of management. We intend for these forward-looking statements to be covered by the safe-harbor provisions for forward-looking statements. Words such as “anticipate,” “expect,” “project,” “intend,” “believe,” “may,” “will,” “should,” “plan,” “could,” “continue,” “target,” “contemplate,” “estimate,” “forecast,” “guidance,” “predict,” “possible,” “potential,” “pursue,” “likely,” and their opposites and similar expressions are intended to identify forward-looking statements. All statements, other than historical facts, including statements regarding estimations of projected cash runway; our future product development plans; the potential, safety, efficacy, and regulatory and clinical progress of the our product candidates, including the anticipated timing for initiation of clinical trials and release of clinical trial data and the expectations surrounding potential regulatory submissions, approvals and timing thereof; and any assumptions underlying any of the foregoing, are forward-looking statements.

Forward looking statements involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward looking statements. We believe that these factors include, but are not limited to, the factors that we identify in any of the documents incorporated or deemed incorporated into this prospectus and the registration statement by reference, including in our [Annual Report on Form 10-K for the year ended December 31, 2022](#) and in any of our subsequent Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and Annual Reports on Form 10-K for any year ended after December 31, 2022.

You should also consider carefully the information set forth in the section titled “Risk Factors” or elsewhere in this prospectus and the documents incorporated or deemed incorporated herein by reference, including in our most recent Annual Report on Form 10-K and in our updates to those risk factors in our Quarterly Reports on Form 10-Q and Current Reports on Form 8-K and other factors described elsewhere in this prospectus. Any one or more of these uncertainties, risks, factors and other influences could materially affect our results of operations and whether forward-looking statements made by us ultimately prove to be accurate. Our actual results, performance and achievements could differ materially from those expressed or implied in these forward-looking statements. Except as otherwise required by law, we undertake no obligation to publicly update or revise any forward-looking statements, whether from new information, future events or otherwise.



## **USE OF PROCEEDS**

We will not receive any proceeds from the sale of our common stock by the selling stockholders. However, we will receive proceeds from any cash exercise of any of the Warrants. If all of the Warrants were cash exercised at their respective current applicable exercise prices, the gross proceeds to us from such cash exercises would be approximately \$344,971. We intend to use the net proceeds, if any, from the cash exercise of the Warrants for general corporate purposes. The Warrants may also be exercised on a cashless basis. If the Warrants are exercised on a cashless basis, we would not receive any proceeds from the exercise of the Warrants.

## SELLING STOCKHOLDERS

The term “selling stockholders” includes the stockholders listed below and their transferees, pledges, donees or other successors-in-interest who may acquire shares from a selling stockholder as a gift, pledge, partnership distribution or other non-sale related transfer after the date of this prospectus. Information concerning the selling stockholders may change after the date of this prospectus and changed information will be presented in a supplement to this prospectus if and when required.

This prospectus covers the offering for resale from time to time, in one or more offerings, of up to 162,677,093 shares of our common stock, which consist of (i) 6,191,782 shares of our common stock that are outstanding and held by certain of the selling stockholders named in this prospectus and (ii) the following additional shares of our common stock issued or issuable by us to certain of the selling stockholders named in this prospectus in connection with our acquisition of Flame Bioscience, Inc. (“Flame”) on January 17, 2023 pursuant to a merger transaction that was structured as a private placement (the “Flame Acquisition Transaction”): (1) 19,729,010 outstanding shares of our common stock that were issued by us pursuant to the Flame Acquisition Transaction; (2) 65,301 shares of our common stock issuable upon exercise of outstanding warrants that were assumed by us pursuant to the Flame Acquisition Transaction (the “Common Stock Warrants”); (3) 136,248,000 shares of our common stock issuable upon conversion of 136,248 outstanding shares of our Series X Non-Voting Convertible Preferred Stock, \$0.001 per share (the “Series X Preferred Stock”), that were issued by us pursuant to the Flame Acquisition Transaction; and (4) 443,000 shares of our common stock issuable upon (a) conversion of 443 shares of our Series X Non-Voting Convertible Preferred Stock that may be issued upon exercise of outstanding warrants that were assumed by us pursuant to the Flame Acquisition Transaction and that are currently exercisable for 443 shares of our Series X Non-Voting Convertible Preferred Stock or (b) exercise of such outstanding warrants that are currently exercisable for 443 shares of our Series X Non-Voting Convertible Preferred Stock at any time after such outstanding warrants are automatically adjusted to become exercisable for up to 443,000 shares of our common stock upon conversion of the outstanding shares of our Series X Non-Voting Convertible Preferred Stock into shares of our common stock (the “Preferred Stock Warrants” and, together with the Common Stock Warrants, the “Warrants”).

On January 17, 2023, in connection with the consummation of the Flame Acquisition Transaction, we entered into a registration rights agreement with certain of the selling stockholders that were securityholders of Flame at the time (the “Registration Rights Agreement”), pursuant to which we agreed to file the registration statement of which this prospectus is a part to cover the resale of the shares of our common stock issued or issuable by us to them in connection with our acquisition of Flame, and to keep such registration statement effective with respect to each selling stockholder that is a party to the Registration Rights Agreement until January 17, 2026 or, if earlier, the date on which all of the shares of our common stock registered for resale under the registration statement pursuant to the Registration Rights Agreement have been disposed of in accordance with such registration statement, disposed of pursuant to Rule 144 under the Securities Act, or can be resold pursuant to Rule 144 without restriction or limitation (including without any limitation under Rule 144 as to volume of sales and method of sale requirements). The registration statement of which this prospectus is a part is being filed pursuant to the Registration Rights Agreement.

The table below sets forth (i) the name of each selling stockholder, (ii) the number of shares of common stock beneficially owned by each selling stockholder as of June 7, 2023 (solely for purposes of the table below and all footnotes thereto, treating all 136,248,000 shares of our common stock issuable upon conversion of the 136,248 shares of Series X Preferred Stock outstanding as of June 7, 2023 as if such shares of our common stock were beneficially owned as of June 7, 2023 by the holders of such shares of Series X Preferred Stock to the same extent as if all of such shares of Series X Preferred Stock had been converted into shares of our common stock as of June 7, 2023 and disregarding certain of the terms of the Series X Preferred Stock that would prevent or limit such conversion as further described in the next paragraph), (iii) the number of shares of common stock offered by each selling stockholder hereunder, (iv) the number of shares of common stock beneficially owned by each selling stockholder following the completion of this offering (assuming each selling stockholder sells all of the shares of our common stock that are being offered by such selling stockholder pursuant to this prospectus), and (v) the percentage of common stock beneficially owned by each selling stockholder following the completion of this offering

(assuming each selling stockholder sells all of the shares of our common stock that are being offered by such selling stockholder pursuant to this prospectus), based on 119,410,992 shares of our common stock outstanding as of June 7, 2023 and, solely for purposes of the table below and all footnotes thereto, treating all 136,248,000 shares of our common stock issuable upon conversion of the 136,248 shares of Series X Preferred Stock outstanding as of June 7, 2023 as if such shares of our common stock were beneficially owned as of June 7, 2023 by the holders of such shares of Series X Preferred Stock to the same extent as if all of such shares of Series X Preferred Stock had been converted into shares of our common stock as of June 7, 2023 and disregarding certain of the terms of the Series X Preferred Stock that would prevent or limit such conversion as further described in the next paragraph. Information with respect to beneficial ownership is based upon information obtained from the selling stockholders.

The terms of the Series X Preferred Stock provide that (i) each outstanding share of Series X Preferred Stock is convertible into 1,000 shares of our common stock, subject to and contingent upon obtaining the requisite vote from our stockholders approving such conversion in accordance with the applicable listing rules of the Nasdaq Stock Market (the “Nasdaq Preferred Conversion Limitation”), and (ii) such conversion will occur automatically, except as described in the next sentence, at 5:00 p.m. Eastern Time on the second trading day after we obtain such requisite vote from our stockholders approving such conversion. As of the date of this prospectus, we have not obtained such requisite vote from our stockholders approving such conversion and, therefore, in accordance with the terms of the Series X Preferred Stock, at this time none of the outstanding shares of Series X Preferred Stock have converted or are convertible into shares of our common stock. The terms of the Series X Preferred Stock also provide that, notwithstanding the automatic conversion of the Series X Preferred Stock into shares of our common stock upon obtaining the requisite vote from our stockholders approving such conversion, no shares of Series X Preferred Stock shall automatically convert, or at any time thereafter be convertible voluntarily by the holder thereof, into shares of our common stock if and to the extent that such conversion would result in the holder of such shares of Series X Preferred Stock being converted, together with such holder’s affiliates and certain other persons or entities that are aggregated with such holder and its affiliates, beneficially owning more than 9.9% initially of the number of shares of our common stock outstanding immediately after giving effect to such conversion (the “Beneficial Ownership Limitation”). For purposes of the Beneficial Ownership Limitation, beneficial ownership is determined in accordance with Section 13(d) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), and the rules and regulation promulgated thereunder. By written notice to us, a holder of Series X Preferred Stock may increase or decrease the Beneficial Ownership Limitation applicable to such holder to any percentage greater than 9.9% but not in excess of 19.99%. Any increase in the Beneficial Ownership Limitation would not be effective until 61 days after written notice is received by us.

Solely for purposes of the table below, the information under the headings “Shares of Common Stock Beneficially Owned Prior to the Offering” and “Shares of Common Stock Beneficially Owned After the Offering” disregards the Nasdaq Preferred Conversion Limitation and the Beneficial Ownership Limitation described above and treats all 136,248,000 shares of our common stock issuable upon conversion of the 136,248 shares of Series X Preferred Stock outstanding as of June 7, 2023 as if such shares of our common stock were beneficially owned as of June 7, 2023 by the holders of such shares of Series X Preferred Stock to the same extent as if all of such shares of Series X Preferred Stock had been converted into shares of our common stock as of June 7, 2023. Accordingly, to that extent and solely for purposes of the table below, each selling stockholder’s beneficial ownership of our common stock has not been determined in accordance with Section 13(d) of the Exchange Act and the rules and regulation promulgated thereunder. Each selling stockholder and its affiliates and other aggregation persons or entities disclaim beneficial ownership of any shares of our common stock that are reflected in the table below as beneficially owned by such selling stockholder or any of its affiliates and other aggregation person or entities solely because the Nasdaq Preferred Conversion Limitation and the Beneficial Ownership Limitation have been disregarded.

The selling stockholders are not making any representation that any shares of common stock covered by this prospectus will be offered for sale. Because each selling stockholder may dispose of all, none or some portion of the shares of common stock covered by this prospectus, no estimate can be given as to the number of shares that will be beneficially owned by a selling stockholder upon termination of this offering. In addition, the selling stockholders may have sold, transferred or otherwise disposed of their shares of common stock in transactions exempt from the registration requirements of the Securities Act after the date on which the information in the table is presented. For purposes of the table below, however, we have

assumed that after termination of this offering, none of the shares of our common stock registered for resale under this prospectus will be beneficially owned by the selling stockholders, and we have further assumed that the selling stockholders will not acquire beneficial ownership of any additional shares of our common stock during this offering.

To our knowledge, except as indicated in the footnotes to this table, each selling stockholder named in the table has sole voting and investment power with respect to all shares of our common stock shown in the table to be beneficially owned by such stockholder. Except as described below, none of the selling stockholders has had any position, office or other material relationship with us or any of our predecessors or affiliates within the past three years. In addition, based on information provided to us, none of the selling stockholders that are affiliates of broker-dealers, if any, purchased the shares of our common stock outside the ordinary course of business or, at the time of their acquisition of such shares, had any agreements, understandings or arrangements with any other persons, directly or indirectly, to dispose of the shares. Information concerning the selling stockholders may change from time to time, and any changed information will be set forth in supplements to this prospectus to the extent required.

Name and Address of Selling Stockholder <sup>(2)</sup>	Shares Beneficially Owned Prior to the Offering <sup>(1)</sup>		Maximum Number of Shares to be Sold Pursuant to this Prospectus	Shares of Common Stock Beneficially Owned After the Offering	
	Number	Percent (%)		Number	Percent (%)
<b>Terra Magnum Fund I LP<sup>(3)</sup></b> 4701 Sangamore Road, Suite 100N – 1018 Bethesda, MD 20816-2558	4,251,202	1.7%	4,251,202	0	*
<b>Terra Magnum Sigma LLC<sup>(4)</sup></b> 4701 Sangamore Road, Suite 100N – 1018 Bethesda, MD 20816-2558	708,534	*	708,534	0	*
<b>Brian Gallagher<sup>(5)</sup></b> 100 Park Terrace West Apt. 5F New York, NY 10034	45,519	*	45,519	0	*
<b>Jason Schnittger<sup>(6)</sup></b> 1811 Manor Hill Rd. Charlotte, NC 28226 2101836-6633	45,519	*	45,519	0	*
<b>Janus Henderson Horizon Fund – Biotechnology Fund<sup>(7)</sup></b> c/o Janus Henderson Investors US LLC 151 Detroit Street Denver, CO 80206	54,769	*	54,769	0	*
<b>Janus Henderson Biotech Innovation Master Fund Limited<sup>(8)</sup></b> c/o Janus Henderson Investors US LLC 151 Detroit Street Denver, CO 80206	1,833,711	*	1,833,711	0	*
<b>Janus Henderson Capital Funds Plc – Janus Henderson Global Life Sciences Fund<sup>(9)</sup></b> c/o Janus Henderson Investors US LLC 151 Detroit Street Denver, CO 80206	3,055,189	1.2%	3,055,189	0	*

Name and Address of Selling Stockholder <sup>(2)</sup>	Shares Beneficially Owned Prior to the Offering <sup>(1)</sup>		Maximum Number of Shares to be Sold Pursuant to this Prospectus	Shares of Common Stock Beneficially Owned After the Offering	
	Number	Percent (%)		Number	Percent (%)
<b>Janus Henderson Global Life Sciences Fund</b> <sup>(10)</sup> c/o Janus Henderson Investors US LLC 151 Detroit Street Denver, CO 80206	4,265,269	1.7%	4,265,269	0	*
<b>Adage Capital Partners, LP</b> <sup>(11)</sup> 200 Clarendon St. 52 <sup>nd</sup> Floor Boston, MA 02116	9,429,180	3.7%	8,629,180	800,000	*
<b>Thomas Gemellaro</b> <sup>(12)</sup> 7 Unity Court Middletown, NJ 07748	45,519	*	45,519	0	*
<b>Eli Lilly and Company</b> <sup>(13)</sup> Lilly Corporate Center Indianapolis, IN 46285	7,368,097	2.9%	6,367,471	1,000,626	*
<b>Bishop Family Properties LTD</b> <sup>(14)</sup> 302 Cap Cod Corpus Christi, TX 78412	138,558	*	138,558	0	*
<b>Ruizhi Hua</b> <sup>(15)</sup> 561 Pacific Street Apt. 604 Brooklyn, NY 11217	26,911	*	26,911	0	*
<b>Four Pines Master Fund LP</b> <sup>(16)</sup> 650 South Exeter Street Suite 1070 Baltimore, MD 21202	1,079,381	*	708,534	370,847	*
<b>Rock Springs Capital Master Fund LP</b> <sup>(17)</sup> 650 South Exeter Street Suite 1070 Baltimore, MD 21202	9,665,805	3.8%	6,376,805	3,289,000	1.3%
<b>Jonathan Rich</b> <sup>(18)</sup> 10 Fennimore Court Flanders, NJ 07836	32,096	*	32,096	0	*
<b>Bruce K. Erhardt</b> <sup>(19)</sup> 3904 S. Kenwood Ave. Tampa, FL 33611	68,779	*	68,779	0	*
<b>Richard Colonna</b> <sup>(20)</sup> 91 Trinidad Drive Tiburon, CA 94920	330,567	*	330,567	0	*
<b>Fredric J. David Trust</b> <sup>(21)</sup> 9609 Hawksbill Court Las Vegas, NV 89117	65,313	*	65,313	0	*
<b>Michael Krebs</b> <sup>(22)</sup> 87 Genesee Ave. Staten Island, NY 10308	115,298	*	115,298	0	*

Name and Address of Selling Stockholder <sup>(2)</sup>	Shares Beneficially Owned Prior to the Offering <sup>(1)</sup>		Maximum Number of Shares to be Sold Pursuant to this Prospectus	Shares of Common Stock Beneficially Owned After the Offering	
	Number	Percent (%)		Number	Percent (%)
<b>Douglas Joseph Opalka</b> <sup>(23)</sup> 1710 Forest Trail Austin, TX 78703	45,519	*	45,519	0	*
<b>Robert Edgley</b> <sup>(24)</sup> 16619 Cypress Bay Lane Ashton, MD 20861	45,519	*	45,519	0	*
<b>The David G. Franz Family Trust</b> <sup>(25)</sup> 4240 Lost Hills Road Unit 1705 Agoura Hills, CA 91301	138,558	*	138,558	0	*
<b>Sharon Crowder</b> <sup>(26)</sup> 2311 Stafford Road Thousand Oaks, CA 91361	206,011	*	206,011	0	*
<b>Gregory J. Dovolis</b> <sup>(27)</sup> 6805 Dakota Trail Edina, MN 55439	138,558	*	138,558	0	*
<b>Praful Desai, MD</b> <sup>(28)</sup> 20 Beethoven Drive Wilmington, DE 19807	45,519	*	45,519	0	*
<b>The Robert L. Bahr Revocable Trust</b> <sup>(29)</sup> PO Box 392 Mirror Lake, NH 03853	80,409	*	80,409	0	*
<b>The Bahr Family Limited Partnership</b> <sup>(30)</sup> PO Box 392 Mirror Lake, NH 03853	101,342	*	101,342	0	*
<b>KBA Holdings LLC</b> <sup>(31)</sup> 230 S. Stone Avenue LA Grange, IL 60525-2219	68,779	*	68,779	0	*
<b>Neel B. Ackerman &amp; Martha N. Ackerman</b> <sup>(32)</sup> 305 S. Jefferson Street Lexington, VA 24450	660,902	*	660,902	0	*
<b>Logos Opportunities Fund II, LP</b> <sup>(33)</sup> 1 Letterman Drive Suite C3-350 San Francisco, CA 94129	3,542,669	1.4%	3,542,669	0	*
<b>Nicole Barham</b> <sup>(34)</sup> 42 Bedford Rd. Katonah, NY 10536	5,931	*	5,931	0	*
<b>Affiliates of T. Rowe Price</b> <sup>(35)</sup> 100 East Pratt Street Baltimore, Maryland 21202	13,935,010	5.0%	13,935,010	0	*
<b>Fred Harris</b> <sup>(36)</sup> 2475 Highway 67 S Prescott, AR 71857	68,779	*	68,779	0	*

Name and Address of Selling Stockholder <sup>(2)</sup>	Shares Beneficially Owned Prior to the Offering <sup>(1)</sup>		Maximum Number of Shares to be Sold Pursuant to this Prospectus	Shares of Common Stock Beneficially Owned After the Offering	
	Number	Percent (%)		Number	Percent (%)
<b>David Swersky<sup>(37)</sup></b> 42 Bedford Rd. Katonah, NY 10536	695,792	*	695,792	0	*
<b>Steven A. Waters &amp; Jenger H Waters<sup>(38)</sup></b> 733 Patterson Avenue San Antonio, TX 78209	157,166	*	157,166	0	*
<b>George Avgerinos<sup>(39)</sup></b> 15 Hammond Circle Sudbury, MA 01776	2,784,168	1.1%	2,784,168	0	*
<b>S. Alan Lisenby Sr. and Patricia Lisenby<sup>(40)</sup></b> 4432 Whitewater Creek Road NW Atlanta, GA 30327	68,779	*	68,779	0	*
<b>Robert Benjamin Stein<sup>(41)</sup></b> 1014 Towne Lake Hills East Woodstock, GA 30189	2,319,973	*	2,319,973	0	*
<b>Paul M. Ridker<sup>(42)</sup></b> 1264 Beacon Street Unit 6 Brookline, MA 02446	231,597	*	231,597	0	*
<b>Ian Milne<sup>(43)</sup></b> 28310 Sparkling Brook Lane Fulshear, TX 77441	138,558	*	138,558	0	*
<b>Richard S. Simms<sup>(44)</sup></b> 6849 Lupine Way Arvada, CO 80007	68,779	*	68,779	0	*
<b>Decompression LLC<sup>(45)</sup></b> 1201 Jefferson Street Suite 120 Washington, MO 63090	86,224	*	86,224	0	*
<b>MSB Family Trust<sup>(46)</sup></b> 295 Shadowood Lane Northfield, IL 60093	660,902	*	660,902	0	*
<b>Leonard L. Mazur<sup>(47)</sup></b> 10 Cove Place Mountain Lakes, NJ 07046	3,977,811	1.6%	3,977,811	0	*
<b>Marlin Capital Resources LLC<sup>(48)</sup></b> 8355 Vollmer Road Colorado Springs, CO 80908	68,779	*	68,779	0	*
<b>Vernon L. Simpson Revocable Living Trust 2<sup>(49)</sup></b> PO Box 526 Southaven, MS 38671	45,519	*	45,519	0	*
<b>DZB LLC<sup>(50)</sup></b> 419 Park Ave S New York, NY 10016	927,389	*	927,389	0	*

Name and Address of Selling Stockholder <sup>(2)</sup>	Shares Beneficially Owned Prior to the Offering <sup>(1)</sup>		Maximum Number of Shares to be Sold Pursuant to this Prospectus	Shares of Common Stock Beneficially Owned After the Offering	
	Number	Percent (%)		Number	Percent (%)
<b>David J. Barrett</b> <sup>(51)</sup> 3290 Creamery Road New Hope, PA 18938	9,281,893		9,281,893	0	*
<b>B&amp;S Holdco LLC</b> <sup>(52)</sup> 1 Samantha Lane Mendham, NJ 07945	662,135	*	662,135	0	
<b>Martin J. Stallone &amp; Terri C. Stallone</b> <sup>(53)</sup> 8 Chestnut Hill Dr. Mohnton, PA 19540	92,038	*	92,038	0	*
<b>Kristen Williams</b> <sup>(54)</sup> 7 E River Rd Rumson, NJ 07760	695,792	*	695,792	0	*
<b>William David Mannheim</b> <sup>(55)</sup> 515 Florence St Raleigh, NC 27603	12,863	*	12,863	0	*
<b>Tim Opler</b> <sup>(56)</sup> 555 Madison Avenue Suite 1201, New York, NY 10022	8,834,027	3.5%	8,834,027	0	*
<b>Suk-Han Yeung</b> <sup>(57)</sup> 75 Gaynor Avenue Manhasset, NY 11030	129,161	*	129,161	0	*
<b>Featherstone VI, LLC</b> <sup>(58)</sup> 555 Madison Avenue, Suite 1201 New York, NY 10022	1,391,584	*	1,391,584	0	*
<b>William Silver</b> <sup>(59)</sup> 6 Fox Hollow Pomona, NY 10970	208,337	*	208,337	0	*
<b>VGNT Holdings LLC</b> <sup>(60)</sup> 30 Turnberry Ct Dix Hills, NY 11746	45,519	*	45,519	0	*
<b>Nicholas Cerrato</b> <sup>(61)</sup> 6 Scotchmist Ln Southampton, NY 11968	45,519	*	45,519	0	*
<b>Citadel Multi-Strategy Equities</b> <sup>(62)</sup> Southeast Financial Center 200 S. Biscayne Blvd., Suite 3300 Miami, FL 33131	6,022,038	2.4%	6,022,038	0	*
<b>Alpesh and Hina Shah</b> <sup>(63)</sup> 106 Fig Drive, Dix Hill, NY 11746	45,519	*	45,519	0	*
<b>James McCabe</b> <sup>(64)</sup> 1855 Griffin Road, STE B354 Dania Beach, FL 33004	52,497	*	52,497	0	*
<b>Vincent D'Albora</b> <sup>(65)</sup> 65 Tanglewood Drive Staten Island, NY 10308	49,234	*	49,234	0	*



Name and Address of Selling Stockholder <sup>(2)</sup>	Shares Beneficially Owned Prior to the Offering <sup>(1)</sup>		Maximum Number of Shares to be Sold Pursuant to this Prospectus	Shares of Common Stock Beneficially Owned After the Offering	
	Number	Percent (%)		Number	Percent (%)
<b>HealthCare Ventures IX<sup>(66)</sup></b> 47 Thorndike Street, Ste B-1 Cambridge, MA 02141	4,144,804	1.6%	3,573,376	571,428	*
<b>HCV VIII Liquidating Trust<sup>(67)</sup></b> 47 Thorndike Street, Ste B-1 Cambridge, MA 02141	2,618,406	1.0%	2,618,406	0	*
<b>Thomas M. Koncsics<sup>(68)</sup></b> 1835 Arch St. Apt 1601 Philadelphia, PA 19103	138,558	*	138,558	0	*
<b>Peter T. Healy<sup>(69)</sup></b> 370 Eucalyptus Avenue Hillsborough, CA 94010	138,558	*	138,558	0	*
<b>Raymond Joseph Tesi<sup>(70)</sup></b> 476 Massachusetts Ave, Apt 2 Boston, MA 02118	310,680	*	310,680	0	*
<b>Pamela Robin Demain<sup>(71)</sup></b> 43 Woodland Rd Madison, NJ 07940	2,319,973	*	2,319,973	0	*
<b>Gerald A Tomsic 1995 Trust<sup>(72)</sup></b> 135 S Jackson Street, Suite 200 Glendale, CA 91205	45,519	*	45,519	0	*
<b>Matthew and Laura Parsons<sup>(73)</sup></b> 22762 Cascade Springs Dr Katy, TX 77494-8259	45,519	*	45,519	0	*
<b>Dr. Jaye Venuti &amp; Dr. Michael Yokoyama DDS DEF Ben PP<sup>(74)</sup></b> 3439 Camino Alegre Carlsbad, CA 92009	68,779	*	68,779	0	*
<b>Cormorant Private Healthcare Fund III, LP<sup>(75)</sup></b> 200 Clarendon Street, 52 <sup>nd</sup> Floor Boston, MA 02116	5,235,456	2.0%	5,235,456	0	*
<b>CRMA SPV, LP<sup>(76)</sup></b> 200 Clarendon Street, 52 <sup>nd</sup> Floor Boston, MA 02116	81,496	*	81,496	0	*
<b>Cormorant Global Healthcare Master Fund, LP<sup>(77)</sup></b> 200 Clarendon Street, 52 <sup>nd</sup> Floor Boston, MA 02116	1,122,810	*	1,122,810	0	*
<b>Cormorant Private Healthcare Fund II, LP<sup>(78)</sup></b> 200 Clarendon Street, 52 <sup>nd</sup> Floor Boston, MA 02116	4,187,245	1.6%	4,187,245	0	*
<b>Julian and Karen Aldridge<sup>(79)</sup></b> 2554 Tarpley Rd Carrollton, TX 75006	68,779	*	68,779	0	*

Name and Address of Selling Stockholder <sup>(2)</sup>	Shares Beneficially Owned Prior to the Offering <sup>(1)</sup>		Maximum Number of Shares to be Sold Pursuant to this Prospectus	Shares of Common Stock Beneficially Owned After the Offering	
	Number	Percent (%)		Number	Percent (%)
<b>Samsara BioCapital, LP<sup>(80)</sup></b> 628 Middlefield Rd Palo Alto, CA 94301	6,022,038	2.4%	6,022,038	0	*
<b>Stephanie Leouzon<sup>(81)</sup></b> c/o Stifel 150 Cheapside London EC2V 6ET, UK	32,656	*	32,656	0	*
<b>Acuta Capital Fund, LP<sup>(82)</sup></b> 255 Shoreline Drive, Suite 515 Redwood City, CA 94065	2,880,763	1.1%	2,880,763	0	*
<b>Acuta Opportunity Fund, LP<sup>(83)</sup></b> 255 Shoreline Drive, Suite 515 Redwood City, CA 94065	660,906	*	660,906	0	*
<b>DTD 02/14/17 FBO Patrick Scannon &amp; Susan Dinsmore Scannon Trust<sup>(84)</sup></b> 176 Edgewood Ave San Francisco, CA 94117	2,319,973	*	2,319,973	0	*
<b>Leonid Gorelik<sup>(85)</sup></b> 69 Winston Road Newton, MA 02459	1,855,778	*	1,855,778	0	*
<b>Harlan Weisman<sup>(86)</sup></b> 14 Canal St New Hope, PA 18938-1230	9,414,520	3.7%	9,414,520	0	*
<b>Michael Kboundi<sup>(87)</sup></b> 1401 Lawrence AT STE 110 Denver, CO 80202-2521	45,519	*	45,519	0	*
<b>Adam Friedman<sup>(88)</sup></b> 1671 Summerfield St. Ridgewood, NY 11385	5,801	*	5,801	0	*
<b>Joon Rhee<sup>(89)</sup></b> 5 Hanover Sq, 12 <sup>th</sup> Floor New York, NY 1000	1,196	*	1,196	0	*
<b>BlackRock, Inc.<sup>(90)</sup></b> 50 Hudson Yards New York, NY 10001	224,658	*	224,658	0	*
<b>Michael A. Mullen<sup>(91)</sup></b> 15 Mitchell Place Little Silver, NJ 07739	128,298	*	128,298	0	*
<b>B. Riley Wealth Management<sup>(92)</sup></b> 40 S. Main Street Suite 1800 Memphis, TN 38103	239,339	*	239,339	0	*
<b>Chuck Fisher<sup>(93)</sup></b> 555 Madison Avenue Suite 1201 New York, NY 10022	2,319,973	*	2,319,973	0	*
<b>Shellwater &amp; Company<sup>(94)</sup></b> 1111 Franklin Street, 12th Floor Oakland CA 94607	353,767	*	353,767	0	*

---

\* Indicates beneficial ownership of less than 1%.

- (1) Includes Common Stock issuable upon the conversion of the Series X Non-Voting Convertible Preferred Stock (“Series X Preferred Stock”), even though the requisite vote from our stockholders approving the conversion of the Series X Preferred Stock into Common Stock as required by the applicable listing rules of the Nasdaq Stock Market has not been obtained, and the terms of the Series X Preferred Stock provide that the Series X Preferred Stock will not convert or be convertible into Common Stock unless such requisite vote from our stockholders is obtained. Solely for purposes of this table and all footnotes thereto, the 136,248,000 shares of Common Stock issuable upon conversion of the 136,248 shares of Series X Preferred Stock outstanding as of June 7, 2023 are treated as if such shares of Common Stock were beneficially owned as of June 7, 2023 by the holders of such shares of Series X Preferred Stock to the same extent as if all of such shares of Series X Preferred Stock had been converted into shares of Common Stock as of June 7, 2023. Accordingly, to that extent and solely for purposes of this table, each selling stockholder’s beneficial ownership of our Common Stock has not been determined in accordance with Section 13(d) of the Exchange Act and the rules and regulation promulgated thereunder. Each selling stockholder and its affiliates and other aggregation persons or entities disclaim beneficial ownership of any of such 136,248,000 shares of our Common Stock that are reflected in this table or in any of the footnotes thereto as beneficially owned by such selling stockholder or any of its affiliates and other aggregation person or entities.
- (2) This table and information in the notes below are based upon information supplied to us by the Selling Stockholders.
- (3) Consists of (i) 597,202 shares of Common Stock and (ii) 3,654,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock. Hongxia (Sha) Wang is the founding partner of Terra Magnum Fund I LP (“Terra Magnum Fund”) and accordingly may be deemed to have voting and dispositive power with respect to shares held by Terra Magnum Fund.
- (4) Consists of (i) 99,534 shares Common Stock and (ii) 609,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock. Hongxia (Sha) Wang has voting and/or investment control over the securities held by Terra Magnum Sigma LLC (“Terra Sigma”) and may be deemed to beneficially own the securities owned by Terra Sigma.
- (5) Consists of (i) 6,519 shares of Common Stock and (ii) 39,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock.
- (6) Consists of (i) 6,519 shares of Common Stock and (ii) 39,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock.
- (7) Consists of (i) 7,769 shares of Common Stock and (ii) 47,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock. Janus Henderson Investors UK Limited and Janus Henderson Investors US LLC, who act as investment advisers for Janus Henderson Horizon Fund-Biotechnology Fund (“Janus Biotechnology”), have the ability to make decisions with respect to the voting and disposition of the shares held by Janus Biotechnology subject to the oversight of the board of trustees (or similar entity) of Janus Biotechnology. Andrew Acker, Daniel Lyons and Agustin Mohedas are portfolio managers of Janus Biotechnology and accordingly may be deemed to beneficially own the securities owned by Janus Biotechnology.
- (8) Consists of (i) 257,711 shares of Common Stock and (ii) 1,576,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock. Janus Henderson Investors US LLC, who acts as investment adviser for Janus Innovation Master Fund Limited (“Janus Innovation Master Fund”), has the ability to make decisions with respect to the voting and disposition of the shares held by Janus Innovation Master Fund subject to the oversight of the board of trustees (or similar entity) of Janus Innovation Master Fund. Andrew Acker, Daniel Lyons and Agustin Mohedas are portfolio managers of Janus Innovation Master Fund and accordingly may be deemed to have voting and dispositive power with respect to shares held by Janus Innovation Master Fund.
- (9) Consists of (i) 429,189 shares of Common Stock and (ii) 2,626,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock. Janus Henderson Investors International Limited and Janus Henderson Investors US LLC, who act as investment advisers for Janus Henderson Capital Funds Plc — Janus Henderson Global Life Sciences Fund (“Janus Capital Funds”), have the ability to

make decisions with respect to the voting and disposition of the shares held by Janus Capital Funds subject to the oversight of the board of trustees (or similar entity) of Janus Capital Funds. Andrew Acker and Daniel Lyons are portfolio managers of Janus Capital Funds and accordingly may be deemed to have voting and dispositive power with respect to shares held by Janus Capital Funds.

- (10) Consists of (i) 599,269 shares of Common Stock and (ii) 3,666,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock. Janus Henderson Investors US LLC, who acts as investment adviser for Janus Henderson Global Life Sciences Fund (“Janus Global Life Sciences”), has the ability to make decisions with respect to the voting and disposition of the shares held by Janus Global Life Sciences subject to the oversight of the board of trustees (or similar entity) of Janus Global Life Sciences. Andrew Acker and Daniel Lyons are portfolio managers of Janus Global Life Sciences and accordingly may be deemed to have voting and dispositive power with respect to shares held by by Janus Global Life Sciences.
- (11) Consists of (i) 2,012,180 shares of Common Stock and (ii) 7,417,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock. Bob Atchinson and Phillip Gross are the managing members of Adage Capital Advisors, L.L.C., which is the managing member of Adage Capital Partners GP, L.L.C., which is the general partner of Adage, and each such person or entity, as the case may be, has shared voting and/or investment power over the securities held by Adage Capital Partners, LP and may be deemed the beneficial owner of such shares, and each such person or entity, as the case may be, disclaims beneficial ownership of such securities except to the extent of their respective pecuniary interest therein.
- (12) Consists of (i) 6,519 shares of Common Stock and (ii) 39,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock.
- (13) Consists of (i) 894,471 shares of Common Stock, (ii) 1,000,626 shares of Common Stock issuable upon the exercise of outstanding warrants, and (iii) 5,473,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock.
- (14) Consists of (i) 19,558 shares of Common Stock and (ii) 119,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock.
- (15) Consists of (i) 3,911 shares of Common Stock and (ii) 23,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock.
- (16) Consists of (i) 470,381 shares of Common Stock and (ii) 609,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock. Rock Springs Capital LLC (“RSC”) is the general partner of Rock Springs Capital Management LP (“RSCM”) which is the investment manager to the Four Pines Master Fund LP (“Four Pines”). RSC and RSCM may therefore be deemed to have or share beneficial ownership of the shares held directly by Four Pines.
- (17) Consists of (i) 4,184,805 shares of Common Stock and (ii) 5,481,000 shares of Common Stock issuable upon the conversion of Series X Preferred Stock. RSC is the general partner of RSCM which is the investment manager to the Rock Springs Capital Master Fund LP (“Master Fund”). RSC and RSCM may therefore be deemed to have or share beneficial ownership of the shares held directly by Master Fund.
- (18) Consists of (i) 4,096 shares of Common Stock issuable upon the exercise of outstanding warrants and (ii) 28,000 shares of Common Stock issuable upon (1) conversion of 28 shares of Series X Preferred Stock that may be issued upon exercise of outstanding warrants exercisable for shares of Series X Preferred Stock or (2) exercise of such outstanding warrants exercisable for shares of Series X Preferred Stock at any time after such outstanding warrants are automatically adjusted to become exercisable for up to 28,000 shares of Common Stock upon conversion of the outstanding shares of Series X Preferred Stock into shares of Common Stock.
- (19) Consists of (i) 9,779 shares of Common Stock and (ii) 59,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock.
- (20) Consists of (i) 46,567 shares of Common Stock and (ii) 284,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock.
- (21) Consists of (i) 9,313 shares of Common Stock and (ii) 56,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock.

- (22) Consists of (i) 16,298 shares of Common Stock and (ii) 99,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock.
- (23) Consists of (i) 6,519 shares of Common Stock and (ii) 39,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock.
- (24) Consists of (i) 6,519 shares of Common Stock and (ii) 39,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock.
- (25) Consists of (i) 19,558 shares of Common Stock and (ii) 119,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock. David G. Franz is the manager of the David G. Franz Family Trust (the “Trust”) and maintains shared voting and dispositive power over the shares held by the Trust. Mr. Franz disclaims beneficial ownership of the shares held by the Trust except to the extent of his proportionate pecuniary interest therein.
- (26) Consists of (i) 29,011 shares of Common Stock and (ii) 177,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock.
- (27) Consists of (i) 19,558 shares of Common Stock and (ii) 119,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock.
- (28) Consists of (i) 6,519 shares of Common Stock and (ii) 39,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock.
- (29) Consists of (i) 11,409 shares of Common Stock and (ii) 69,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock.
- (30) Consists of (i) 14,342 shares of Common Stock and (ii) 87,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock.
- (31) Consists of (i) 9,779 shares of Common Stock and (ii) 59,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock. Kevin B Allodi is the manager of KBA Holdings LLC (“KBA”) and accordingly may be deemed to have voting and dispositive power with respect to shares held by KBA.
- (32) Consists of (i) 92,902 shares of Common Stock and (ii) 568,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock.
- (33) Consists of (i) 497,669 shares of Common Stock and (ii) 3,045,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock. Logos Opportunities II GP, LLC is the general partner of Logos Opportunities Fund II, LP. Arsani William and Graham Walmsley are the members of Logos Opportunities II GP, LLC. Arsani William and Graham Walmsley each disclaim beneficial ownership of these shares, except to the extent of his pecuniary interest in such shares, if any.
- (34) Consists of (i) 931 shares of Common Stock and (ii) 5,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock.
- (35) Consists of (i) 787,694 shares of Common Stock and 4,819,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock held of record by T. Rowe Price New Horizons Fund, Inc., (ii) 99,322 shares of Common Stock and 607,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock held of record by T. Rowe Price New Horizons Trust, (iii) 5,377 shares of Common Stock and 32,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock held of record by T. Rowe Price U.S. Equities Trust, (iv) 3,183 shares of Common Stock and 19,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock held of record by MassMutual Select Funds — MassMutual Select T. Rowe Price Small and Mid Cap Blend Fund, (v) 224,733 shares of Common Stock and 1,375,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock held of record by T. Rowe Price Small-Cap Stock Fund, Inc., (vi) 120,610 shares of Common Stock and 737,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock held of record by T. Rowe Price Institutional Small-Cap Stock Fund, (vii) 2,004 shares of Common Stock and 12,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock held of record by T. Rowe Price Spectrum Conservative Allocation Fund, (viii) 3,156 shares of Common Stock and 19,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock held of record by T. Rowe Price Spectrum Moderate Allocation Fund, (ix) 5,317 shares of Common Stock and 32,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock held of record by T. Rowe Price Spectrum Moderate Growth Allocation Fund,

- (x) 242 shares of Common Stock and 1,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock held of record by T. Rowe Price Moderate Allocation Portfolio, (xi) 10,920 shares of Common Stock and 66,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock held of record by U.S. Small-Cap Stock Trust, (xii) 2,477 shares of Common Stock and 15,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock held of record by VALIC Company I — Small Cap Fund, (xiii) 9,429 shares of Common Stock and 57,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock held of record by TD Mutual Funds — TD U.S. Small-Cap Equity Fund, (xiv) 58,428 shares of Common Stock and 357,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock held of record by T. Rowe Price U.S. Small Cap Core Equity Trust, (xv) 2,558 shares of Common Stock and 15,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock held of record by Minnesota Life Insurance Company, (xvi) 10,770 shares of Common Stock and 65,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock held of record by Costco 401(k) Retirement Plan, (xvii) 2,797 shares of Common Stock and 17,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock held of record by MassMutual Select Funds — MassMutual Select T. Rowe Price Small and Mid Cap Blend Fund, (xviii) 547,453 shares of Common Stock and 3,349,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock held of record by T. Rowe Price Health Sciences Fund, Inc., (xix) 37,927 shares of Common Stock and 232,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock held of record by TD Mutual Funds — TD Health Sciences Fund, and (xxi) 24,613 shares of Common Stock and 150,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock held of record by T. Rowe Price Health Sciences Portfolio.
- (36) Consists of (i) 9,779 shares of Common Stock and (ii) 59,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock.
- (37) Consists of (i) 97,792 shares of Common Stock and (ii) 598,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock.
- (38) Consists of (i) 22,166 shares of Common Stock and (ii) 135,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock.
- (39) Consists of (i) 391,168 shares of Common Stock and (ii) 2,393,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock.
- (40) Consists of (i) 9,779 shares of Common Stock and (ii) 59,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock.
- (41) Consists of (i) 325,973 shares of Common Stock and (ii) 1,994,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock.
- (42) Consists of (i) 32,597 shares of Common Stock and (ii) 199,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock.
- (43) Consists of (i) 19,558 shares of Common Stock and (ii) 119,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock.
- (44) Consists of (i) 9,779 shares of Common Stock and (ii) 59,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock.
- (45) Consists of (i) 12,224 shares of Common Stock and (ii) 74,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock. Dr. Frederick Peet is the manager of Decompression LLC (“Decompression”) and accordingly may be deemed to have voting and dispositive power with respect to shares held by Decompression.
- (46) Consists of (i) 92,902 shares of Common Stock and (ii) 568,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock. Michael Blechman is the manager of the MSB Family Trust (the “Trust”) and maintains shared voting and dispositive power over the shares held by the Trust. Mr. Blechman disclaims beneficial ownership of the shares held by the Trust except to the extent of his proportionate pecuniary interest therein.
- (47) Consists of (i) 558,811 shares of Common Stock and (ii) 3,419,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock.
- (48) Consists of (i) 9,779 shares of Common Stock and (ii) 59,000 shares of Common Stock issuable upon

- conversion of Series X Preferred Stock. Daniel Monks is the manager of Marlin Capital Resources LLC (“Marlin Capital”) and accordingly may be deemed to have voting and dispositive power with respect to shares held by Marlin Capital.
- (49) Consists of (i) 6,519 shares of Common Stock and (ii) 39,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock. Venon L. Simpson is the manager of the Vernon L. Simpson Revocable Living Trust 2 (the “Trust”) and maintains shared voting and dispositive power over the shares held by the Trust. Mr. Simpson disclaims beneficial ownership of the shares held by the Trust except to the extent of his proportionate pecuniary interest therein.
- (50) Consists of (i) 130,389 shares of Common Stock and (ii) 797,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock. David I Berley is the manager of DZB LLC (“DZB”) and accordingly may be deemed to have voting and dispositive power with respect to shares held by DZB.
- (51) Consists of (i) 1,303,893 shares of Common Stock and (ii) 7,978,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock.
- (52) Consists of (i) 93,135 shares of Common Stock and (ii) 569,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock. Barer & Son Capital, LLC is the manager of B&S Holdco LLC (“B&S”) and has voting and/or investment control over the securities held by B&S and may be deemed to beneficially own the securities owned by B&S.
- (53) Consists of (i) 13,038 shares of Common Stock and (ii) 79,000 shares of Common Stock issuable upon the conversion of Series X Preferred Stock.
- (54) Consists of (i) 97,792 shares of Common Stock and (ii) 598,000 shares of Common Stock issuable upon the conversion of Series X Preferred Stock.
- (55) Consists of (i) 1,863 shares of Common Stock and (ii) 11,000 shares of Common Stock issuable upon the conversion of Series X Preferred Stock.
- (56) Consists of (i) 1,241,027 shares of Common Stock and (ii) 7,593,000 shares of Common Stock issuable upon the conversion of Series X Preferred Stock.
- (57) Consists of (i) 18,161 shares of Common Stock and (ii) 111,000 shares of Common Stock issuable upon the conversion of Series X Preferred Stock.
- (58) Consists of (i) 195,584 shares of Common Stock and (ii) 1,196,000 shares of Common Stock issuable upon the conversion of Series X Preferred Stock. Tim Opler is the manager of Featherstone VI, LLC (“Featherstone”) and accordingly may be deemed to have voting and dispositive power with respect to shares held by Featherstone.
- (59) Consists of (i) 29,337 shares of Common Stock and (ii) 179,000 shares of Common Stock issuable upon the conversion of Series X Preferred Stock.
- (60) Consists of (i) 6,519 shares of Common Stock and (ii) 39,000 shares of Common Stock issuable upon the conversion of Series X Preferred Stock. Vineet Gambhir and Neera Tewari are the managers of VGNT Holdings LLC (“VGNT”) and have voting and/or investment control over the securities held by VGNT.
- (61) Consists of (i) 6,519 shares of Common Stock and (ii) 39,000 shares of Common Stock issuable upon the conversion of Series X Preferred Stock.
- (62) Consists of (i) 846,038 shares of Common Stock and (ii) 5,176,000 shares of Common Stock issuable upon the conversion of Series X Preferred Stock. Citadel Advisors LLC (“Citadel Advisors”) is the portfolio manager of Citadel Multi-Strategy Equities Master Fund Ltd. (the “stockholder” or the “undersigned”). Citadel Advisors Holdings LP (“CAH”) is the sole member of Citadel Advisors. Citadel GP LLC (“CGP”) is the general partner of CAH. Kenneth Griffin owns a controlling interest in CGP. Mr. Griffin, as the owner of a controlling interest in CGP, may be deemed to have shared power to vote or direct the vote of, and/or shared power to dispose or to direct the disposition over, the shares held by the undersigned.
- (63) Consists of (i) 6,519 shares of Common Stock and (ii) 39,000 shares of Common Stock issuable upon the conversion of Series X Preferred Stock.
- (64) Consists of (i) 7,497 shares of Common Stock and (ii) 45,000 shares of Common Stock issuable upon the conversion of Series X Preferred Stock.

- (65) Consists of (i) 6,234 shares of Common Stock issuable upon the exercise of outstanding warrants and (ii) 43,000 shares of Common Stock issuable upon (1) conversion of 43 shares of Series X Preferred Stock that may be issued upon exercise of outstanding warrants exercisable for shares of Series X Preferred Stock or (2) exercise of such outstanding warrants exercisable for shares of Series X Preferred Stock at any time after such outstanding warrants are automatically adjusted to become exercisable for up to 43,000 shares of Common Stock upon conversion of the outstanding shares of Series X Preferred Stock into shares of Common Stock.
- (66) Consists of 4,144,804 shares of Common Stock. Christopher K. Mirabelli, Mr. Lawlor and Douglas E. Onsi (collectively, the “HCPIX Directors”) are the Managing Directors of HealthCare Partners IX, LLC (“HCPIX LLC”) which is the General Partner of HealthCare Partners IX, L.P. (“HCPIX”), which is the General Partner of HealthCare Ventures IX, L.P. Each of the HCPIX Directors, HCPIX LLC and HCPIX beneficially own and share voting and dispositive power with respect to all of the securities owned by HealthCare Ventures IX, L.P. and each disclaims beneficial ownership of these shares except to the extent of his or its proportionate pecuniary interest therein.
- (67) Consists of 2,618,406 shares of Common Stock. Augustine Lawlor is the Manager of HCV VIII Liquidating Trust, and maintains shared voting and dispositive power over the shares held by HCV VIII Trust. Mr. Lawlor disclaims beneficial ownership of the shares held by HCV VIII Liquidating Trust except to the extent of his proportionate pecuniary interest therein.
- (68) Consists of (i) 19,558 shares of Common Stock and (ii) 119,000 shares of Common Stock issuable upon the conversion of Series X Preferred Stock.
- (69) Consists of (i) 19,558 shares of Common Stock and (ii) 119,000 shares of Common Stock issuable upon the conversion of Series X Preferred Stock.
- (70) Consists of (i) 43,680 shares of Common Stock and (ii) 267,000 shares of Common Stock issuable upon the conversion of Series X Preferred Stock.
- (71) Consists of (i) 325,973 shares of Common Stock and (ii) 1,994,000 shares of Common Stock issuable upon the conversion of Series X Preferred Stock.
- (72) Consists of (i) 6,519 shares of Common Stock and (ii) 39,000 shares of Common Stock issuable upon the conversion of Series X Preferred Stock. Gerald A Tomsic is the manager of the Gerald A Tomsic 1995 Trust (the “Trust”) and maintains shared voting and dispositive power over the shares held by the Trust. Mr. Tomsic disclaims beneficial ownership of the shares held by the Trust except to the extent of his proportionate pecuniary interest therein.
- (73) Consists of (i) 6,519 shares of Common Stock and (ii) 39,000 shares of Common Stock issuable upon the conversion of Series X Preferred Stock.
- (74) Consists of (i) 9,779 shares of Common Stock and (ii) 59,000 shares of Common Stock issuable upon the conversion of Series X Preferred Stock.
- (75) Consists of (i) 735,456 shares of Common Stock and (ii) 4,500,000 shares of Common Stock issuable upon the conversion of Series X Preferred Stock held by Cormorant Private Healthcare Fund III, LP (Cormorant Fund III). Cormorant Private Healthcare GP III, LLC (Private GP III) is the general partner of Cormorant Fund III. Cormorant Asset Management, LP serves as the investment manager to Cormorant Fund III. Bihua Chen serves as the managing member of both Private GP III and Cormorant Asset Management, LP and accordingly may be deemed to have voting and dispositive power with respect to shares held by Cormorant Fund III. Each of Private GP III, Cormorant Asset Management, LP and Ms. Chen disclaims beneficial ownership of such shares except to the extent of any pecuniary interest therein.
- (76) Consists of (i) 11,496 shares of Common Stock and (ii) 70,000 shares of Common Stock issuable upon the conversion of Series X Preferred Stock held by CRMA SPV, LP (CRMA). Cormorant Asset Management, LP serves as the investment manager to CRMA. Bihua Chen serves as the managing member of Cormorant Asset Management and accordingly may be deemed to have voting and dispositive power with respect to shares held by CRMA. Each of Cormorant Asset Management, LP and Ms. Chen disclaims beneficial ownership of such shares except to the extent of any pecuniary interest therein.
- (77) Consists of (i) 157,810 shares of Common Stock and (ii) 965,000 shares of Common Stock issuable



- upon the conversion of Series X Preferred Stock held by Cormorant Global Healthcare Master Fund, LP (Cormorant Global Healthcare). Cormorant Global Healthcare GP, LLC (Global Healthcare GP) is the general partner of Cormorant Global Healthcare. Cormorant Asset Management, LP serves as the investment manager to Cormorant Global Healthcare. Bihua Chen serves as the managing member of both Global Healthcare GP and Cormorant Asset Management, LP and accordingly may be deemed to have voting and dispositive power with respect to shares held by Cormorant Global Healthcare. Each of Global Healthcare GP, Cormorant Asset Management, LP and Ms. Chen disclaims beneficial ownership of such shares except to the extent of any pecuniary interest therein.
- (78) Consists of (i) 588,245 shares of Common Stock and (ii) 3,599,000 shares of Common Stock issuable upon the conversion of Series X Preferred Stock held by Cormorant Private Healthcare Fund II, LP (Cormorant Fund II). Cormorant Private Healthcare GP II, LLC (Private GP II) is the general partner of Cormorant Fund II. Cormorant Asset Management, LP serves as the investment manager to Cormorant Fund II. Bihua Chen serves as the managing member of both Private GP II and Cormorant Asset Management, LP and accordingly may be deemed to have voting and dispositive power with respect to shares held by Cormorant Fund II. Each of Private GP II, Cormorant Asset Management, LP and Ms. Chen disclaims beneficial ownership of such shares except to the extent of any pecuniary interest therein.
- (79) Consists of (i) 9,779 shares of Common Stock and (ii) 59,000 shares of Common Stock issuable upon the conversion of Series X Preferred Stock.
- (80) Consists of (i) 846,038 shares of Common Stock and (ii) 5,176,000 shares of Common Stock issuable upon the conversion of Series X Preferred Stock. Samsara BioCapital GP, LLC (“Samsara LLC”) is the general partner of Samsara BioCapital, L.P., the direct holder of the shares (“Samsara LP”). Samsara LLC may be deemed to beneficially own the shares held by Samsara LP. Srinivas Akkaraju, M.D., Ph.D. has voting and investment power over the shares held by Samsara LP and, accordingly, may be deemed to beneficially own the shares held by Samsara LP. Each of Samsara LLC and Dr. Akkaraju disclaims beneficial ownership in these shares except to the extent of his or its respective pecuniary interest therein.
- (81) Consists of (i) 4,656 shares of Common Stock and (ii) 28,000 shares of Common Stock issuable upon the conversion of Series X Preferred Stock.
- (82) Consists of (i) 404,763 shares of Common Stock and (ii) 2,476,000 shares of Common Stock issuable upon the conversion of Series X Preferred Stock. Acuta Capital Partners, LLC is the manager of Acuta Capital Fund, LP (“Acuta Capital”) and accordingly may be deemed to have voting and dispositive power with respect to shares held by Acuta Capital.
- (83) Consists of (i) 92,906 shares of Common Stock and (ii) 568,000 shares of Common Stock issuable upon the conversion of Series X Preferred Stock. Acuta Capital Partners, LLC is the manager of Acuta Opportunity Fund, LP (“Acuta Opportunity”) and accordingly may be deemed to have voting and dispositive power with respect to shares held by Acuta Opportunity.
- (84) Consists of (i) 325,973 shares of Common Stock and (ii) 1,994,000 shares of Common Stock issuable upon the conversion of Series X Preferred Stock.
- (85) Consists of (i) 260,778 shares of Common Stock and (ii) 1,595,000 shares of Common Stock issuable upon the conversion of Series X Preferred Stock.
- (86) Consists of (i) 1,322,520 shares of Common Stock and (ii) 8,092,000 shares of Common Stock issuable upon the conversion of Series X Preferred Stock.
- (87) Consists of (i) 6,519 shares of Common Stock and (ii) 39,000 shares of Common Stock issuable upon the conversion of Series X Preferred Stock.
- (88) Consists of (i) 801 shares of Common Stock issuable upon the exercise of outstanding warrants and (ii) 5,000 shares of Common Stock issuable upon (1) conversion of 5 shares of Series X Preferred Stock that may be issued upon exercise of outstanding warrants exercisable for shares of Series X Preferred Stock or (2) exercise of such outstanding warrants exercisable for shares of Series X Preferred Stock at any time after such outstanding warrants are automatically adjusted to become exercisable for up to 5,000 shares of Common Stock upon conversion of the outstanding shares of Series X Preferred Stock into shares of Common Stock.

- (89) Consists of (i) 196 shares of Common Stock issuable upon the exercise of outstanding warrants and (ii) 1,000 shares of Common Stock issuable upon (1) conversion of 1 share of Series X Preferred Stock that may be issued upon exercise of outstanding warrants exercisable for shares of Series X Preferred Stock or (2) exercise of such outstanding warrants exercisable for shares of Series X Preferred Stock at any time after such outstanding warrants are automatically adjusted to become exercisable for up to 1,000 shares of Common Stock upon conversion of the outstanding shares of Series X Preferred Stock into shares of Common Stock.
- (90) Consists of (1) 31,658 shares of Common Stock and (2) 193,000 shares of Common Stock issuable upon conversion of Series X Preferred Stock. The registered holders of the shares are the following funds and accounts under management by subsidiaries of BlackRock, Inc.: VALIC Company I — Sciences & Technology Fund. BlackRock, Inc. is the ultimate parent holding company of such subsidiaries. On behalf of such subsidiaries, the applicable portfolio managers, as managing directors (or in other capacities) of such entities, and/or the applicable investment committee members of such funds and accounts, have voting and investment power over the shares held by the funds and accounts which are the registered holders of the referenced shares. Such portfolio managers and/or investment committee members expressly disclaim beneficial ownership of all shares held by such funds and accounts. Shares shown include only the securities being registered for resale and may not incorporate all shares deemed to be beneficially held by the registered holders or BlackRock, Inc.
- (91) Consists of (i) 16,298 shares of Common Stock issuable upon the exercise of outstanding warrants and (ii) 112,000 shares of Common Stock issuable upon (1) conversion of 112 shares of Series X Preferred Stock that may be issued upon exercise of outstanding warrants exercisable for shares of Series X Preferred Stock or (2) exercise of such outstanding warrants exercisable for shares of Series X Preferred Stock at any time after such outstanding warrants are automatically adjusted to become exercisable for up to 112,000 shares of Common Stock upon conversion of the outstanding shares of Series X Preferred Stock into shares of Common Stock.
- (92) Consists of (i) 30,339 shares of Common Stock issuable upon the exercise of outstanding warrants and (ii) 209,000 shares of Common Stock issuable upon (1) conversion of 209 shares of Series X Preferred Stock that may be issued upon exercise of outstanding warrants exercisable for shares of Series X Preferred Stock or (2) exercise of such outstanding warrants exercisable for shares of Series X Preferred Stock at any time after such outstanding warrants are automatically adjusted to become exercisable for up to 209,000 shares of Common Stock upon conversion of the outstanding shares of Series X Preferred Stock into shares of Common Stock.
- (93) Consists of (i) 325,973 shares of Common Stock and (ii) 1,994,000 shares of Common Stock issuable upon the conversion of Series X Preferred Stock.
- (94) Consists of (i) 49,767 shares of Common Stock and (ii) 304,000 shares of Common Stock issuable upon the conversion of Series X Preferred Stock.

## PLAN OF DISTRIBUTION

Each selling stockholder of the securities named herein may, from time to time, sell any or all of their securities covered hereby on any stock exchange, market or trading facility on which the securities are traded, in private transactions or otherwise. These sales may be at fixed or negotiated prices or at market prices prevailing at the time of sale. A selling stockholder may use any one or more of the following methods when selling securities:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the securities as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- 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;
- settlement of short sales;
- in transactions through broker-dealers that agree with the selling stockholders to sell a specified number of such securities at a stipulated price per security;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;
- a combination of any such methods of sale; or
- any other method permitted pursuant to applicable law.

The selling stockholders may also sell securities under Rule 144 or any other exemption from registration under the Securities Act, if available, rather than under this prospectus.

Broker-dealers engaged by the selling stockholders may arrange for other broker-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the selling stockholders (or, if any broker-dealer acts as agent for the purchaser of securities, from the purchaser) in amounts to be negotiated, but, except as set forth in a supplement to this Prospectus, in the case of an agency transaction not in excess of a customary brokerage commission in compliance with FINRA Rule 2440; and in the case of a principal transaction a markup or markdown in compliance with FINRA IM-2440.

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

The selling stockholders may pledge or grant a security interest in some or all of the shares of Common Stock owned by them and, if any of them defaults in the performance of its secured obligations, the pledgees or secured parties may offer and sell the shares of Common Stock from time to time pursuant to this prospectus or any supplement or amendment to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act, amending, if necessary, the list of selling stockholders to include the pledgee, transferee or other successors in interest as selling stockholders under this prospectus. The selling stockholders also may transfer and donate the shares of Common Stock in other circumstances in which case the transferees, donees or other successors in interest will be the selling beneficial owners for purposes of this prospectus.

The selling stockholders and any broker-dealers or agents that are involved in selling the securities 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 securities purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. We are not aware that any selling stockholder has any written or oral agreement or understanding, directly or indirectly, with any person to distribute the securities.

We are required to pay certain fees and expenses incurred by us incident to the registration of the securities. We have agreed to indemnify the selling stockholders against certain losses, claims, damages and liabilities, including liabilities under the Securities Act.

We agreed to keep this prospectus effective until the earliest of (i) January 17, 2026, (ii) the date on which the securities may be resold by the selling stockholders pursuant to Rule 144 without any volume or manner-of-sale limitations or (iii) the date on which all of the securities have been sold pursuant to this prospectus or Rule 144 under the Securities Act or any other rule of similar effect. The resale securities will be sold only through registered or licensed brokers or dealers if required under applicable state securities laws.

Under applicable rules and regulations under the Exchange Act, any person engaged in the distribution of the shares of Common Stock may not simultaneously engage in market making activities with respect to the Common Stock for the applicable restricted period, as defined in Regulation M, prior to the commencement of the distribution. In addition, the selling stockholders will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including Regulation M, which may limit the timing of purchases and sales of the Common Stock by the selling stockholders or any other person. We will make copies of this prospectus available to the selling stockholders.

### **LEGAL MATTERS**

The validity of the securities being offered hereby will be passed upon by Morgan, Lewis & Bockius LLP.

### **EXPERTS**

The consolidated balance sheets of Leap Therapeutics, Inc. and Subsidiaries as of December 31, 2022 and 2021, and the related consolidated statements of operations, comprehensive loss, stockholders' equity, and cash flows for each of the years then ended have been audited by EisnerAmper LLP, independent registered public accounting firm, as stated in their report, which is incorporated herein and in the registration statement by reference. Such financial statements have been incorporated herein and in the registration statement by reference in reliance on the report of such firm given upon their authority as experts in accounting and auditing.

### **DISCLOSURE OF COMMISSION POSITION ON INDEMNIFICATION FOR SECURITIES ACT LIABILITIES**

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to our directors, officers and controlling persons pursuant to the foregoing provisions, or otherwise, we have 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 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, we will, unless in the opinion of our counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by us is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

### **ADDITIONAL INFORMATION**

This prospectus is part of a Registration Statement on Form S-3 that we have filed with the SEC relating to the shares of our securities being offered hereby. This prospectus does not contain all of the information in the Registration Statement and its exhibits. The Registration Statement, its exhibits and the

documents incorporated by reference in this prospectus and their exhibits, all contain information that is material to the offering of the Securities hereby. Whenever a reference is made in this prospectus to any of our contracts or other documents, the reference may not be complete. You should refer to the exhibits that are a part of the Registration Statement in order to review a copy of the contract or documents. The Registration Statement and the exhibits are available at the SEC's Public Reference Room or through its Website.

We file annual, quarterly and current reports, proxy statements and other information with the SEC. You can read and copy any materials we file with the SEC at its Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549 and at its regional offices, a list of which is available on the Internet at <http://www.sec.gov/contact/addresses.htm>. You may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC maintains an Internet site at <http://www.sec.gov> that contains reports, proxy and information statements, and other information regarding issuers, such as us, that file electronically with the SEC. Additionally, you may access our filings with the SEC through our website at <http://www.leaptx.com>. The information on our website is not part of this prospectus.

We will provide you without charge, upon your oral or written request, with a copy of any or all reports, proxy statements and other documents we file with the SEC, as well as any or all of the documents incorporated by reference in this prospectus or the Registration Statement (other than exhibits to such documents unless such exhibits are specifically incorporated by reference into such documents). Requests for such copies should be directed to:

Investor Relations  
Leap Therapeutics, Inc.  
47 Thorndike Street, Suite B1-1  
Cambridge, Massachusetts 02141  
Telephone number: (617) 714-0360

You should rely only on the information in this prospectus and the additional information described above and under the heading "Incorporation of Certain Information by Reference" below. We have not, and the Selling Stockholders have not, authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely upon it. The Selling Stockholders are not making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information in this prospectus was accurate on the date of the front cover of this prospectus only, and that any information we have incorporated by reference was accurate on the date of the document incorporated by reference only. Our business, financial condition, results of operations and prospects may have changed since such date.

#### **INCORPORATION OF CERTAIN INFORMATION BY REFERENCE**

The SEC allows us to "incorporate by reference" information that we file with it into this prospectus, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is an important part of this prospectus. The information incorporated by reference is considered to be a part of this prospectus, and information that we file later with the SEC will automatically update and supersede information contained in documents filed earlier with the SEC or contained in this prospectus and any accompanying prospectus supplement.

We incorporate by reference the documents listed below that we have previously filed with the SEC:

- [our Annual Report on Form 10-K for the fiscal year ended December 31, 2022, filed with the SEC on March 24, 2023;](#)
- our [Definitive Proxy Statement on Schedule 14A, filed with the SEC on April 28, 2023](#), to the extent incorporated by reference into our [Annual Report on Form 10-K for the year ended December 31, 2022;](#)
- [our Quarterly Report on Form 10-Q for the quarter ended March 31, 2023, filed with the SEC on May 15, 2023;](#)

- our Current Reports on Form 8-K and 8-K/A filed with the SEC on [January 17, 2023](#), [January 23, 2023](#), [March 16, 2023](#), [March 24, 2023](#), [April 7, 2023](#), [April 12, 2023](#), [April 26, 2023](#), and [May 25, 2023](#) including the exhibits attached thereto and filed therewith, to the extent the information in such reports is filed and not furnished;
- the description of our common stock contained in our Registration Statement on [Form 8-A, filed on January 20, 2017](#), as updated by [Exhibit 4.6](#) to the annual report on Form 10-K for the fiscal year ended December 31, 2019 filed with the SEC on March 16, 2020.

All reports and other documents that we file with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of the Registration Statement but before the termination of the offering of the Securities hereunder will also be considered to be incorporated by reference into this prospectus from the date of the filing of these reports and documents, and will supersede the information herein; provided, however, that all reports or portions thereof that we “furnish” to the SEC will not be considered incorporated by reference into this prospectus. We undertake to provide without charge to each person (including any beneficial owner) who receives a copy of this prospectus, upon written or oral request, a copy of all of the preceding documents that are incorporated by reference (other than exhibits, unless the exhibits are specifically incorporated by reference into these documents). You may request a copy of these materials in the manner set forth under the heading “Additional Information,” above.

**162,677,093 Shares**  
**Common Stock**



**PROSPECTUS**

, 2023

---

---

---

## PART II

## INFORMATION NOT REQUIRED IN THE PROSPECTUS

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

Set forth below is an estimate (except in the case of the registration fee) of the amount of fees and expenses to be incurred in connection with the issuance and distribution of the offered securities registered hereby, other than underwriting discounts and commission, if any, incurred in connection with the sale of the offered securities. All such amounts will be borne by Leap Therapeutics, Inc.

SEC Registration Fee	\$11,831.83
Accounting Fees and Expenses	\$ 10,000
Legal Fees and Expenses	\$ 75,000
Miscellaneous Fees and Expenses	\$ —
<b>Total</b>	<b><u>\$96,831.83</u></b>

**Item 15. Indemnification of Directors and Officers.**

The Registrant is incorporated under the laws of the State of Delaware. Section 145 of the Delaware General Corporation Law provides that a Delaware corporation may indemnify any persons who are, or are threatened to be made, parties to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of such corporation), by reason of the fact that such person was an officer, director, employee or agent of such corporation, or is or was serving at the request of such person as an officer, director, employee or agent of another corporation or enterprise. The indemnity may include expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit or proceeding, provided that such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the corporation's best interests and, with respect to any criminal action or proceeding, had no reasonable cause to believe that his or her conduct was illegal. A Delaware corporation may indemnify any persons who are, or are threatened to be made, a party to any threatened, pending or completed action or suit by or in the right of the corporation by reason of the fact that such person was a director, officer, employee or agent of such corporation, or is or was serving at the request of such corporation as a director, officer, employee or agent of another corporation or enterprise. The indemnity may include expenses (including attorneys' fees) actually and reasonably incurred by such person in connection with the defense or settlement of such action or suit provided that such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the corporation's best interests except that no indemnification is permitted without judicial approval if the officer or director is adjudged to be liable to the corporation. Where an officer or director is successful on the merits or otherwise in the defense of any action referred to above, the corporation must indemnify him or her against the expenses which such officer or director has actually and reasonably incurred. Our certificate of incorporation and amended and restated bylaws provide for the indemnification of our directors and officers to the fullest extent permitted under the Delaware General Corporation Law.

Section 102(b)(7) of the Delaware General Corporation Law permits a corporation to provide in its certificate of incorporation that a director of the corporation shall not be personally liable to the corporation or its stockholders for monetary damages for breach of fiduciary duties as a director, except for liability for any:

- transaction from which the director derives an improper personal benefit;
- act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- unlawful payment of dividends or redemption of shares; or
- breach of a director's duty of loyalty to the corporation or its stockholders.



The Registrant's amended and restated certificate of incorporation includes such a provision. Expenses incurred by any officer or director in defending any such action, suit or proceeding in advance of its final disposition shall be paid by the Registrant upon delivery to us of an undertaking, by or on behalf of such director or officer, to repay all amounts so advanced if it shall ultimately be determined that such director or officer is not entitled to be indemnified by the Registrant.

As permitted by the Delaware General Corporation Law, the Registrant has entered into indemnification agreements with its directors and executive officers. These agreements, among other things, require the Registrant to indemnify each director and officer to the fullest extent permitted by law and advance expenses to each indemnitee in connection with any proceeding in which indemnification is available.

At present, there is no pending litigation or proceeding involving any of the Registrant's directors or executive officers as to which indemnification is required or permitted, and the Registrant is not aware of any threatened litigation or proceeding that may result in a claim for indemnification.

The Registrant maintains an insurance policy covering its officers and directors with respect to certain liabilities, including liabilities arising under the Securities Act of 1933, as amended, or otherwise.

**Item 16. Exhibits.**

The exhibits required by Item 601 of Regulation S-K and Item 16 of this Registration Statement are listed in the Exhibit Index immediately preceding the signature page and such list 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 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 a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement;
  - (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 (i), (ii) and (iii) do not apply if the registration statement is on Form S-3 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, 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.
- (4) That, for the purpose of determining liability under the Securities Act to any purchaser:
- (i) If the registrant is relying on Rule 430B,
    - (A) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and
    - (B) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5) or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii) or (x) for the purpose of providing the information required by Section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date; or
  - (ii) If the registrant is subject to Rule 430C, 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 Exchange Act that is incorporated by reference in this 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 Securities and Exchange Commission such indemnification is against public policy as expressed in the 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 Act and will be governed by the final adjudication of such issue.

**EXHIBIT INDEX**

5.1	<a href="#"><u>Opinion of Morgan, Lewis &amp; Bockius LLP.</u></a>
23.1	<a href="#"><u>Consent of EisnerAmper LLP.</u></a>
23.2	<a href="#"><u>Consent of Morgan, Lewis and Bockius LLP (included in Exhibit 5.1).</u></a>
24.1	<a href="#"><u>Power of Attorney (included on Signature Page).</u></a>
107	<a href="#"><u>Calculation of Filing Fee Table</u></a>

**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-3 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 June 9, 2023.

**LEAP THERAPEUTICS, INC.**

By: /s/ Douglas E. Onsi

\_\_\_\_\_  
 Douglas E. Onsi  
 Chief Executive Officer, Chief Financial Officer  
 and President

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Douglas E. Onsi and Augustine Lawlor, and each of them, as his or her true and lawful agent, proxy and attorney-in-fact, each acting alone, 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 (i) act on, sign, and file with the SEC any and all amendments (including post-effective amendments) to this Registration Statement together with all schedules and exhibits thereto, (ii) act on, sign and file such certificates, instruments, agreements and other documents as may be necessary or appropriate in connection therewith, (iii) act on and file any supplement to any prospectus included in this Registration Statement or any such amendment or any subsequent registration statement filed pursuant to Rule 462(b) under the Securities Act and (iv) take any and all actions which may be necessary or appropriate to be done, as fully for all intents and purposes as he or she might or could do in person, hereby approving, ratifying and confirming all that such agent, proxy and attorney-in-fact or any of his substitutes may lawfully do or cause to be done by virtue thereof.

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/ DOUGLAS E. ONSI</u> Douglas E. Onsi	Chief Executive Officer, President and Director (Principal Executive Officer and Principal Financial Officer)	June 9, 2023
<u>/s/ CHRISTOPHER K. MIRABELLI</u> Christopher K. Mirabelli	Chairman of the Board	June 9, 2023
<u>/s/ JAMES CAVANAUGH</u> James Cavanaugh	Director	June 9, 2023
<u>/s/ THOMAS DIETZ</u> Thomas Dietz	Director	June 9, 2023
<u>/s/ WILLIAM LI</u> William Li	Director	June 9, 2023
<u>/s/ JOSEPH LOSCALZO</u> Joseph Loscalzo	Director	June 9, 2023

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ PATRICIA MARTIN</u> Patricia Martin	Director	June 9, 2023
<u>/s/ NISSIM MASHIACH</u> Nissim Mashiach	Director	June 9, 2023
<u>/s/ CHRISTIAN RICHARD</u> Chrisian Richard	Director	June 9, 2023
<u>/s/ RICHARD L. SCHILSKY, M.D.</u> Richard L Schilsky, M.D.	Director	June 9, 2023

June 9, 2023

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

Re: *Leap Therapeutics, Inc., Registration Statement on Form S-3*

Ladies and Gentlemen:

We have acted as counsel for Leap Therapeutics, Inc., a Delaware corporation (the "*Company*"), in connection with the registration statement on Form S-3 (the "*Registration Statement*") to be filed by the Company with the Securities and Exchange Commission (the "*Commission*") under the Securities Act of 1933, as amended (the "*Act*"), on the date hereof. The Registration Statement relates to the offer and sale, from time to time by certain stockholders of the Company identified in the Registration Statement, of up to 162,677,093 shares ("*Common Shares*") of the Company's common stock, par value \$0.001 per share (the "*Common Stock*"), which includes (i) 6,191,782 shares of Common Stock that are outstanding and held by certain of the selling stockholders named in the prospectus accompanying the Registration Statement (the "*Outstanding Non-Flame Transaction Common Shares*"), (ii) 19,729,010 outstanding shares of Common Stock (the "*Outstanding Flame Transaction Common Shares*" and, collectively with the Outstanding Non-Flame Transaction Common Shares, the "*Outstanding Common Shares*") that were issued by the Company in connection with its acquisition of Flame Bioscience, Inc. (the "*Flame Acquisition Transaction*"), (iii) 65,301 shares of Common Stock (the "*Common Stock Warrants Shares*") issuable upon exercise of outstanding warrants that were assumed by the Company pursuant to the Flame Acquisition Transaction (the "*Common Stock Warrants*"), (iv) 136,248,000 shares of Common Stock (the "*Conversion Shares*") issuable upon conversion of 136,248 outstanding shares of the Company's Series X Non-Voting Convertible Preferred Stock, par value \$0.001 per share (the "*Preferred Stock*"), that were issued by the Company pursuant to the Flame Acquisition Transaction, and (v) 443,000 shares of Common Stock (the "*Preferred Stock Warrants Shares*") issuable upon (1) conversion of up to 443 shares of Preferred Stock that may be issued upon exercise of outstanding warrants that were assumed by the Company pursuant to the Flame Acquisition Transaction and that are currently exercisable for 443 shares of Preferred Stock or (2) exercise of such outstanding warrants that are currently exercisable for 443 shares of Preferred Stock at any time after such outstanding warrants are automatically adjusted to become exercisable for up to 443,000 shares of Common Stock upon conversion of the outstanding shares of Preferred Stock into shares of Common Stock (the "*Preferred Stock Warrants*" and, together with the Common Stock Warrants, the "*Warrants*"). This opinion is being furnished in accordance with the requirements of Item 601(b)(5) of Regulation S-K.

In connection with this letter, we have examined originals, or copies certified or otherwise identified to our satisfaction, of (i) the Registration Statement, (ii) the Fourth Amended and Restated Certificate of Incorporation of the Company (the "*Company Charter*"), (iii) the Certificate of Designation of Preferences, Rights and Limitations of the Series X Non-Voting Convertible Preferred Stock of the Company (the "*Certificate of Designation*"), (iv) the Warrants and (v) such other corporate documents and records as we deemed appropriate for purposes of the opinions set forth herein.

We have assumed the genuineness of all signatures, the legal capacity of natural persons, the truth, accuracy and completeness of the information, representations and warranties contained in the instruments, documents, certificates and records we have reviewed, the authenticity of the documents submitted to us as originals, the conformity to the original documents of all documents submitted to us as certified, facsimile or photostatic copies, and the authenticity of the originals of all documents submitted to us as copies.

We have also assumed that (i) the Registration Statement and any amendments thereto will have become effective and comply with all applicable laws and no stop order suspending the Registration Statement's effectiveness will have been issued and remain in effect, in each case, at the time that any of the Common Shares are offered and sold as contemplated by the Registration Statement and (ii) all of the Common Shares will be offered and sold in compliance with applicable federal and state securities laws and in the manner stated in the Registration Statement and the applicable prospectus supplement.

---

Based on the foregoing, we are of the opinion that (i) the Outstanding Common Shares have been validly issued and are fully paid and nonassessable, (ii) the Common Stock Warrants Shares, when issued upon exercise of the Common Stock Warrants in accordance with their respective terms, will be validly issued, fully paid and nonassessable, (iii) the Conversion Shares, when issued upon conversion of the 136,248 outstanding shares of Preferred Stock in accordance with the terms thereof as set forth in the Certificate of Designation and provided that a sufficient number of authorized but unissued shares of Common Stock are available at the time of such conversion, will be validly issued, fully paid and nonassessable, (iv) any of the Preferred Stock Warrants Shares, if and when issued upon the conversion, in accordance with the terms of the Preferred Stock as set forth in the Certificate of Designation, of any of up to 443 shares of Preferred Stock that, at any time prior to such conversion, may have been issued upon exercise of any of the Preferred Stock Warrants in accordance with their respective terms, and provided that a sufficient number of authorized but unissued shares of Common Stock are available at the time of such conversion, will be validly issued, fully paid and nonassessable, and (v) any of the Preferred Stock Warrants Shares, if and when issued upon exercise of any of the Preferred Stock Warrants and provided that a sufficient number of authorized but unissued shares of Common Stock are available at the time of such exercise, will be validly issued, fully paid and nonassessable.

Our opinion expressed above is subject to the following limitations, exceptions, qualifications and assumptions.

The opinion expressed herein is limited to the Delaware General Corporation Law and reported judicial decisions applicable thereto and we express no opinion as to laws of any other jurisdiction.

This letter is effective only as of the date hereof. We do not assume responsibility for updating this letter as of any date subsequent to its date, and we assume no responsibility for advising you of any changes with respect to any matters described in this letter that may occur, or facts that may come to our attention, subsequent to the date hereof.

We hereby consent to the use of this opinion as Exhibit 5.1 to the Registration Statement and to the reference to us under the caption "Legal Matters" in the prospectus included in the Registration Statement. In giving such consent, we do not hereby admit that we are acting within the category of persons whose consent is required under Section 7 of the Act or the rules or regulations of the Commission thereunder.

Very truly yours,

/s/ Morgan, Lewis & Bockius LLP

---

**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We consent to the incorporation by reference in this Amendment No. 1 to the Registration Statement of Leap Therapeutics, Inc. on Form S-3 (No. 333-271399) to be filed on or about June 9, 2023 of our report dated March 23, 2023, on our audits of the financial statements as of December 31, 2022 and 2021 and for each of the years then ended, which report was included in the Annual Report on Form 10-K filed March 24, 2023. We also consent to the reference to our firm under the caption “Experts” in this Registration Statement.

/s/ EisnerAmper LLP

EISNERAMPER LLP  
Iselin, New Jersey  
June 9, 2023

---



## Calculation of Filing Fee Table

### Form S-3 (Form Type)

### Leap Therapeutics, Inc. (Exact Name of Registrant as Specified in its Charter)

Table 1-Newly Registered Securities

	Security Type	Security Class Title (1)	Fee Calculation or Carry Forward Rule	Amount Registered (1)	Proposed Maximum Offering Price Per Unit (2)	Proposed Maximum Aggregate Offering Price (2)	Fee Rate	Amount of Registration Fee
Fees to be Paid	Equity	Common Stock, par value \$0.001 per share	Rule 457(c)	162,677,093 (3)	\$ 0.66	\$ 107,366,881.38	\$0.0001102 per \$1,000,000	\$ 11,831.83
Fees Previously Paid	Equity	Common Stock, par value \$0.001 per share	Rule 457(c)	147,073,093 (3)	\$ 0.37	\$ 54,417,044.41		\$ 5,996.76
		Total Offering Amounts				\$ 107,366,881.38		\$ 11,831.83
		Total Fees Previously Paid						\$ 5,996.76
		Total Fee Offsets						-
		Net Fee Due						\$ 5,835.07

- (1) Pursuant to Rule 416 under the Securities Act of 1933, as amended (the “Securities Act”), this Registration Statement also covers such additional securities to be offered or issued resulting from stock splits, stock dividends, and similar events.
- (2) Estimated in accordance with Rule 457(c) 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 June 7, 2023.
- (3) Consists of (i) 6,191,782 shares of the Registrant’s Common Stock, par value \$0.001 per share (“Common Stock”), that are outstanding and held by certain of the selling stockholders and (ii) the following additional shares Common Stock issued or issuable by the Registrant to certain of the selling stockholders in connection with its acquisition of Flame Bioscience, Inc. (“Flame”) on January 17, 2023 pursuant to a merger transaction that was structured as a private placement (the “Flame Acquisition Transaction”): (1) 19,729,010 outstanding shares of Common Stock that were issued by the Registrant pursuant to the Flame Acquisition Transaction; (2) 65,301 shares of Common Stock issuable upon exercise of outstanding warrants that were assumed by the Registrant pursuant to the Flame Acquisition Transaction; (3) 120,644,000 shares of Common Stock issuable upon conversion of 120,644 outstanding shares of the Registrant’s Series X Non-Voting Convertible Preferred Stock, par value \$0.001 per share (“Series X Preferred Stock”), that were issued by the Registrant pursuant to the Flame Acquisition Transaction; and (4) 443,000 shares of Common Stock issuable upon (a) conversion of 443 shares of our Series X Non-Voting Convertible Preferred Stock that may be issued upon exercise of outstanding warrants that were assumed by us pursuant to the Flame Acquisition Transaction and that are currently exercisable for 443 shares of our Series X Non-Voting Convertible Preferred Stock or (b) exercise of such outstanding warrants that are currently exercisable for 443 shares of our Series X Non-Voting Convertible Preferred Stock at any time after such outstanding warrants are automatically adjusted to become exercisable for up to 443,000 shares of our common stock upon conversion of the outstanding shares of our Series X Non-Voting Convertible Preferred Stock into shares of Common Stock.