

As filed with the Securities and Exchange Commission on September 14, 2020.

Registration No. 333-

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

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**
(I.R.S. Employer
Identification Number)**47 Thorndike Street
Suite B1-1
Cambridge, MA 02141
(617) 714-0360**

(Address, Including Zip Code, and Telephone Number, Including Area Code, of Registrant's Principal Executive Offices)

**Douglas E. Onsi
Chief Executive Officer and President
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)

Copies to:**Julio E. Vega
Morgan, Lewis & Bockius LLP
One Federal Street
Boston, MA 02110
(617) 951-8000****Approximate date of commencement of proposed sale to the public:
From time to time after this registration statement becomes effective.**

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, 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 Exchange Act.

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 the Securities Act.

CALCULATION OF REGISTRATION FEE

Title of each Class of Securities to be Registered	Amount to be Registered(1)	Proposed Maximum Offering Price Per unit(1)(2)	Proposed Maximum Aggregate Offering Price(1)(3)	Amount of Registration Fee(1)
Common Stock, \$0.001 par value per share(4)(10)	—	—	—	—
Preferred Stock, \$0.001 par value per share(5)(10)	—	—	—	—
Warrants(6)(10)	—	—	—	—
Debt Securities(7)(10)	—	—	—	—
Rights to purchase common stock, preferred stock, debt securities or units(8)(10)	—	—	—	—
Units(9)(10)	—	—	—	—
TOTAL	\$150,000,000	100%	\$150,000,000(11)	\$19,470

- (1) Not specified as to each class of securities to be registered pursuant to General Instruction II.D. to Form S-3.
- (2) The proposed maximum offering price per unit will be determined from time to time by the registrant in connection with the issuance by the registrant of the securities registered hereunder.
- (3) Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(o).
- (4) Subject to note (11) below, there is being registered an indeterminate number of shares of common stock.
- (5) Subject to note (11) below, there is being registered an indeterminate number of shares of preferred stock.
- (6) Subject to note (11) below, there is being registered hereunder an indeterminate amount and number of warrants. The warrants may represent the right to purchase shares of common stock, shares of preferred stock or debt securities.
- (7) Subject to note (11) below, there is being registered an indeterminate principal amount of debt securities, excluding accrued interest and accrued amortization of discount, if any, to the date of delivery.
- (8) Subject to note (11) below, there is being registered an indeterminate number of rights that may represent a right to purchase common shares, preferred shares, debt securities or units.
- (9) Subject to note (11) below, there is being registered an indeterminate number of units. Each unit will be issued under a unit agreement and will represent an interest in a combination of one or more of the securities registered hereunder.
- (10) Subject to note (11) below, this registration statement also covers an indeterminate amount of securities as may be issued in exchange for, or upon conversion or exercise of, as the case may be, the shares of preferred stock or warrants registered hereunder. Any securities registered hereunder may be sold separately or as units with other securities registered hereunder. No separate consideration will be received for any securities registered hereunder that are issued in exchange for, or upon conversion of, as the case may be, the shares of preferred stock or warrants.
- (11) In no event will the aggregate initial offering price of all securities issued from time to time pursuant to the prospectus contained in this registration statement exceed \$150,000,000 or the equivalent thereof in one or more foreign currencies or foreign currency units. Such amount represents the offering price of any shares of common stock or shares of preferred stock, the principal amount of any debt securities issued at their stated principal amount, the issue price rather than the principal amount of any debt securities issued at an original issue discount, the issue price of any warrants, the exercise price of any securities issuable upon the exercise of warrants, and the issue price of any securities issuable upon the exercise of rights. If any debt securities are issued at an original issue discount, then the offering price of such debt securities shall be equal to any such greater principal amount due at maturity, such aggregate principal amount not to exceed \$150,000,000 less the value of securities previously issued hereunder. Any offering of securities denominated other than in United States dollars will be treated as the equivalent of United States dollars based on the exchange rate applicable to the purchase of such securities at the time of initial offering. The securities registered hereunder may be sold separately or as units with other securities registered hereunder.

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until this registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to such Section 8(a), may determine.

Subject to Completion, Dated September 14, 2020

PROSPECTUS



\$150,000,000

LEAP THERAPEUTICS, INC.

**Common Stock
Preferred Stock
Warrants
Debt Securities
Rights to Purchase Common Stock, Preferred Stock,
Debt Securities or Units
Units**

We may offer and sell from time to time our shares of common stock, shares of preferred stock, warrants, debt securities and rights to purchase common stock, preferred stock, debt securities or units, as well as units that include any of these securities. We may sell any combination of these securities in one or more offerings with an aggregate offering price of up to \$150,000,000.

This prospectus provides you with a general description of the securities we may offer. Each time we offer securities pursuant to this prospectus, we will provide a prospectus supplement containing specific terms of the particular offering together with this prospectus. You should read this prospectus and the applicable prospectus supplement carefully before you invest in any securities. The prospectus supplement also may add, update or change information contained in this prospectus. **This prospectus may not be used to offer and sell securities unless accompanied by the applicable prospectus supplement.**

Our common stock is listed on the Nasdaq Global Market under the symbol "LPTX." On September 11, 2020, the closing price of our common stock was \$1.85.

Investing in our securities involves significant risks. We strongly recommend that you read carefully the risks we describe in this prospectus and in any accompanying prospectus supplement, as well as the risk factors that are incorporated by reference into this prospectus from our filings made with the Securities and Exchange Commission. See "Risk Factors" on page 6 of this prospectus.

We may sell the securities directly or to or through underwriters or dealers, and also to other purchasers or through agents. The names of any underwriters or agents that are included in a sale of securities to you, and any applicable commissions or discounts, will be stated in an accompanying prospectus supplement. In addition, the underwriters, if any, may over-allot a portion of the securities.

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 _____, 2020

The information in this prospectus is not complete and may be changed. We 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 soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission (the “SEC”), using a “shelf” registration process. Under this shelf registration process, we may offer and sell from time to time any combination of the securities described in this prospectus in one or more offerings in amounts, at prices and on terms that we determine at the time of the offering, with an aggregate offering price of up to \$150,000,000. This prospectus provides you with a general description of the securities we may offer. Each time we offer securities under this registration statement we will provide a prospectus supplement that describes the terms of the relevant offering. The prospectus supplement also may add, update or change information contained in this prospectus. Before making an investment decision, you should read carefully both this prospectus and any prospectus supplement together with the documents incorporated by reference into this prospectus as described below under the heading “Information Incorporated by Reference.”

The registration statement that contains this prospectus, including the exhibits to the registration statement and the information incorporated by reference, provides additional information about us and our securities. That registration statement can be read at the SEC website (www.sec.gov), as discussed below under the heading “Where You Can Find More Information.”

You should rely only on the information provided in the registration statement, this prospectus and in any prospectus supplement, including the information incorporated by reference. We have not authorized anyone to provide you with different information. You should not assume that the information in this prospectus or any supplement to this prospectus is accurate at any date other than the date indicated on the cover page of these documents or the filing date of any document incorporated by reference, regardless of its time of delivery. We are not making an offer to sell the securities in any jurisdiction where the offer or sale is not permitted.

We may sell our securities to or through underwriters, initial purchasers, dealers or agents, directly to purchasers or through a combination of any of these methods of sale, as designated from time to time. We and our agents reserve the sole right to accept or reject in whole or in part any proposed purchase of our securities. An applicable prospectus supplement, which we will provide each time we offer the securities, will set forth the names of any underwriters, initial purchasers, dealers or agents involved in the sale of our securities, and any related fee, commission or discount arrangements. See “Plan of Distribution.”

We own or have rights to trademarks or trade names that we use in conjunction with the operation of our business. KEYTRUDA[®] is a registered trademark of Merck Sharp & Dohme Corp., a subsidiary of Merck & Co., Inc. Each trademark, trade name or service mark of any other company appearing in the registration statement, this prospectus or any document incorporated herein or therein belongs to its holder. Use or display by us of other parties’ trademarks, trade names or service marks is not intended to and does not imply a relationship with, or endorsement or sponsorship by us of, the trademark, trade name or service mark owner.

The terms “Leap,” the “Company,” “our,” “us,” and “we,” as used in this prospectus, refer to Leap Therapeutics, Inc., unless we state otherwise or the context indicates otherwise.

LEAP THERAPEUTICS, INC.**Overview**

We are a biopharmaceutical company focused on developing novel therapies designed to treat patients with cancer by inhibiting fundamental tumor-promoting pathways and by harnessing the immune system to attack cancer cells. Our strategy is to identify, acquire, and develop molecules that will rapidly translate into high impact therapeutics that generate durable clinical benefit and enhanced patient outcomes.

Our lead product candidate is DKN-01, a clinical-stage monoclonal antibody that inhibits Dickkopf-related protein 1, or DKK1. DKK1 is a protein that regulates the Wnt signaling pathways and enables tumor cells to proliferate and spread, as well as suppresses the immune system from attacking the tumor. When DKN-01 binds to DKK1, an anti-tumor effect can be generated. DKN-01-based therapies have generated responses and clinical benefit in several patient populations. We are currently studying DKN-01 in multiple ongoing clinical trials in patients with esophagogastric cancer, hepatobiliary cancer, gynecologic cancers, or prostate cancer.

In January 2020, we presented updated data from our Phase 1/2 trial of DKN-01 in patients with advanced or recurrent esophagogastric cancer at the ASCO 2020 Gastrointestinal Cancers Symposium. The data demonstrated improved clinical outcomes in advanced gastric/gastroesophageal junction cancer patients with DKK1-high tumors when treated with DKN-01 and anti PD-1 therapy (pembrolizumab, or KEYTRUDA[®]). As previously reported, there was a strong correlation between response and survival in patients whose tumors expressed high levels of DKK1. These correlations continued to be seen with longer follow-up and improvements in overall response rates; progression free survival and overall survival were observed independent of PD-L1 expression. DKK1-high gastric/gastroesophageal junction cancer patients who had not previously been treated with PD-1/PD-L1 therapy experienced median progression-free survival, or PFS, of 22.1 weeks and median overall survival, or OS, of 31.6 weeks, with overall response rate, or ORR, of 50% and disease control rate, or DCR, of 80% in ten evaluable patients. DKK1-low patients experienced median PFS of 5.9 weeks and median OS of 17.4 weeks, with DCR of 20% in fifteen evaluable patients.

In April 2020, we announced updated clinical data from our ongoing Phase 2 clinical trial of DKN-01 as both a monotherapy and in combination with paclitaxel in patients with advanced gynecological malignancies. Twenty-nine endometrial cancer patients were enrolled in the DKN-01 monotherapy arm, over 75% of whom had experienced three or more prior lines of therapy. Of those patients, 26 were evaluable for response. In the 20 patients with a Wnt signaling alteration, one patient (5%) has an ongoing complete response, one patient (5%) had a partial response, eight patients (40%) had a best response of stable disease, and 10 patients (50%) had progressive disease, representing an overall response rate (ORR) of 10% and a disease control rate (DCR) of 50%. In the group of six patients without any Wnt signaling alterations, one patient (16.6%) had a best response of stable disease and five patients (83.3%) had progressive disease. The data also demonstrated enhanced survival outcomes in patients with Wnt activating mutations and DKK1-high tumors. In a pooled analysis of all DKN-01 monotherapy patients, those with Wnt activating mutations experienced median PFS of 168 days as compared to 56 days for patients without Wnt activating mutations. As of the data cut-off date of December 30, 2019, median OS had not been reached in the Wnt activating mutation group, as compared to median OS of 328 days in the non-Wnt activating mutation group. Patients whose tumors were DKK1-high experienced median PFS of 168 days as compared to 56 days for patients with DKK1-low tumors. Median OS was 450 days in the DKK1-high group as compared 276 days in the DKK1-low group.

In January 2020, we entered into an Option and License Agreement with BeiGene, Ltd., or BeiGene, which granted BeiGene the right to develop and commercialize DKN-01 in Asia (excluding Japan), Australia, and New Zealand. We retain exclusive rights for the development, manufacturing, and commercialization of DKN-01 in the rest of the world. Under the terms of the agreement, we received an upfront cash payment of \$3 million from BeiGene and we are eligible to receive up to \$132 million in milestones and tiered royalty payments. BeiGene also made a contemporaneous equity investment of \$5 million in Leap. During the option period, we have agreed to study the combination of DKN-01 and BeiGene's tislelizumab. We intend to evaluate DKN-01 with tislelizumab as second-line treatment for gastric cancer/gastroesophageal junction cancer in patients whose tumors express high levels of DKK1. In addition, we plan to evaluate the

combination of DKN-01 with tislelizumab and chemotherapy as a first-line treatment for gastric/gastroesophageal junction cancer. We expect to initiate this clinical trial in the third quarter of 2020.

We intend to apply our extensive experience identifying and developing transformational products to aggressively develop a pipeline of programs that have the potential to change the practice of cancer medicine.

We commenced business operations in 2011. Our operations to date have been limited to organizing and staffing our company, business planning, raising capital, undertaking preclinical studies and clinical trials of DKN-01 and TRX518, protecting our intellectual property and providing general and administrative support for these operations. To date, we have not generated any product revenue and have primarily financed our operations through private placements and public offerings of our equity securities, business development activities, convertible note financings, and our merger with Macrocare Ltd. (“Macrocare”), which was completed in January 2017. Through June 30, 2020, we have incurred significant losses from operations. We expect to continue to incur operating losses for the foreseeable future as we develop our product candidates.

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 our wholly owned subsidiary.

On December 10, 2015, we entered into a merger agreement with GITR Inc. (“GITR”), an entity under common control, whereby a wholly owned subsidiary was merged with GITR and the surviving name of the wholly owned subsidiary was GITR Inc.

On August 29, 2016, we entered into a definitive merger agreement with Macrocare Ltd (“Macrocare”), a publicly held, clinical-stage biotechnology company based in Petach Tikva, Israel, and M-Co Merger Sub Ltd. (“Merger Sub”), a wholly owned subsidiary of the Company which provided for the merger of Macrocare with and into Merger Sub, with Macrocare continuing after the merger as a wholly owned subsidiary of the Company. On February 1, 2017, Macrocare’s name was changed to Leap Therapeutics Ltd.

Status as an Emerging Growth Company

We are an “emerging growth company,” or EGC, as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. The JOBS Act permits an “emerging growth company” such as us to take advantage of an extended transition period to comply with new or revised accounting standards applicable to public companies until those standards would otherwise apply to private companies. We have elected to use the extended transition period for complying with new or revised accounting standards under Section 102(b)(1) of the JOBS Act. This election allows us to delay the adoption of new or revised accounting standards that have different effective dates for public and private companies until those standards apply to private companies. As a result of this election, our financial statements may not be comparable to companies that comply with public company effective dates.

We may take advantage of these reporting exemptions until we are no longer an emerging growth company, which in certain circumstances could be for up to five years. We will remain an “emerging growth company” until the earliest of (a) the last day of the first fiscal year in which our annual gross revenues exceed \$1.07 billion, (b) the date that we become a “large accelerated filer” as defined in Rule 12b-2 under the Securities Exchange Act of 1934, as amended, which would occur if the market value of our shares that are held by non-affiliates exceeds \$700 million as of the last business day of our most recently completed second fiscal quarter, (c) the date on which we have issued more than \$1.0 billion in nonconvertible debt during the preceding three-year period, and (d) the last day of our 2022 fiscal year containing the fifth anniversary of the date on which shares of our common stock became publicly traded in the United States. As of June 30, 2020, we remain an EGC.

Corporate Information

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. The information contained on our website is not incorporated by reference into this prospectus, and you should not consider any information contained on, or that can be accessed through, our website as part of this prospectus or in deciding whether to purchase our common stock.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, each prospectus supplement and the information incorporated by reference in this prospectus and each prospectus supplement contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, which we refer to as the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, which we refer to as the Exchange Act, that involve a number of risks and uncertainties. Although our forward-looking statements reflect the good faith judgment of our management, these statements can only be based on facts and factors currently known by us. Consequently, these forward-looking statements are inherently subject to known and unknown risks, uncertainties and other factors that may cause actual results and outcomes to differ materially from results and outcomes discussed in the forward-looking statements.

Forward-looking statements can generally be identified by the use of forward-looking terms such as “believe,” “hope,” “expect,” “may,” “will,” “should,” “could,” “would,” “seek,” “intend,” “plan,” “estimate,” “anticipate” and “continue,” or other comparable terms (including their use in the negative), or by discussions of future matters. These statements include but are not limited to statements under the captions “Business,” “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and in other sections included in any applicable prospectus supplement or incorporated by reference from our Annual Report on Form 10-K and Quarterly Reports on Form 10-Q, as applicable, as well as our other filings with the SEC. You should be aware that the occurrence of any of the events discussed under the heading “Risk Factors” in this prospectus, any applicable prospectus supplement and any documents incorporated by reference herein or therein could substantially harm our business, operating results and financial condition and that if any of these events occurs, it could adversely affect the value of an investment in our securities.

The cautionary statements made in this prospectus are intended to be applicable to all related forward-looking statements wherever they may appear in this prospectus or in any prospectus supplement or any documents incorporated by reference herein or therein. We urge you not to place undue reliance on these forward-looking statements, which speak only as of the date they are made. Except as required by law, we assume no obligation to update our forward-looking statements, even if new information becomes available in the future.

RISK FACTORS

Investing in our securities involves a high degree of risk. You should carefully review the risks and uncertainties described under the heading “Risk Factors” contained in any applicable prospectus supplement and any related free writing prospectus, and under similar headings in our [Annual Report on Form 10-K for the year ended December 31, 2019](#), as updated by our annual, quarterly and other reports and documents that are incorporated by reference into this prospectus, before deciding whether to purchase any of the securities being registered pursuant to the registration statement of which this prospectus is a part. Each of the risk factors could adversely affect our business, operating results and financial condition, as well as adversely affect the value of an investment in our securities, and the occurrence of any of these risks might cause you to lose all or part of your investment.

The prospectus supplement applicable to each type or series of securities we offer may contain a discussion of risks applicable to the particular types of securities that we are offering under that prospectus supplement. Prior to making a decision about investing in our securities, you should carefully consider the specific factors discussed under the caption “Risk Factors” in the applicable prospectus supplement, together with all of the other information contained in the prospectus supplement or appearing or incorporated by reference in this prospectus. These risks could materially affect our business, results of operations or financial condition and cause the value of our securities to decline. You could lose all or part of your investment. Additional risks not presently known to us or that we currently believe are immaterial may also significantly impair our business operations. Please also read carefully the section above titled “Special Note Regarding Forward-Looking Statements.”

USE OF PROCEEDS

We will retain broad discretion over the use of the net proceeds from the sale of the securities offered hereby. Except as described in any prospectus supplement or any related free writing prospectus that we may authorize to be provided to you, we currently intend to use the estimated net proceeds from the sale of the securities offered hereby for general corporate purposes, which may include capital expenditures, working capital and general and administrative expenses. We may also use a portion of the net proceeds to acquire or invest in businesses that are complementary to our own, although we have no current plans, commitments or agreements with respect to any acquisitions as of the date of this prospectus. We have not yet determined the amount of net proceeds to be used specifically for any of the foregoing purposes. We will set forth in the applicable prospectus supplement or free writing prospectus our intended use for the net proceeds received from the sale of any securities sold pursuant to the prospectus supplement or free writing prospectus.

DESCRIPTION OF CAPITAL STOCK

The description below of our capital stock and provisions of our fourth amended and restated certificate of incorporation and amended and restated bylaws are summaries and are qualified by reference to the fourth amended and restated certificate of incorporation, the amended and restated bylaws, and the applicable provisions of Delaware law.

General

Our fourth amended and restated certificate of incorporation, authorizes us to issue up to 240,000,000 shares of common stock, \$0.001 par value per share, and 10,000,000 shares of preferred stock, \$0.001 par value per share, of which one share is currently designated Special Voting Stock (the "Special Voting Stock").

As of September 11, 2020, there were 59,657,742 shares of common stock outstanding, one share of Special Voting Stock outstanding and warrants for the purchase of up to 52,704,735 shares of our common stock outstanding.

Common Stock

Holders of shares of our common stock are entitled to one vote on all matters on which stockholders of the Company generally are entitled to vote. However, holders of our common stock are not entitled to vote on any amendment to the Company's fourth amended and restated certificate of incorporation that relates solely to the terms of one or more outstanding classes or series of preferred stock if the holders of such affected classes or series are entitled, either separately or together with the holders of one or more other such class or series, to vote thereon pursuant to the Company's fourth amended and restated certificate of incorporation, or the Delaware General Corporation Law.

Generally, the Company's amended and restated bylaws provide that, subject to applicable law or the Company's fourth amended and restated certificate of incorporation, and/or the amended and restated bylaws, all corporate actions to be taken by vote of the stockholders are authorized by a majority of the votes cast by the stockholders entitled to vote thereon who are present in person or represented by proxy, and where a separate vote by class or series is required, a majority of the votes cast by the stockholders of such class or series who are present in person or represented by proxy will be the act of such class or series. Directors are elected by a majority of the votes cast at a meeting of the Company's stockholders for the election of directors at which a quorum is present, except that directors are elected by a plurality of votes cast at a meeting at which a quorum is present if as of the expiration of the period of time during which stockholders are entitled to nominate persons for election as a director, the number of nominees for director exceeds the number of directors to be elected.

Subject to the rights of holders of any then outstanding class or series of preferred stock, holders of Leap common stock are entitled to receive dividends and other distributions in cash, stock or property of Leap as the board of directors may declare thereon from time to time and share equally on a per share basis in all such dividends and other distributions. In the event of the Company's dissolution, whether voluntary or involuntary, after the payment in full of the amounts required to be paid to the holders of any outstanding class or series of preferred stock, the remaining assets and funds of the Company available for distribution will be distributed pro rata to the holders of Leap common stock in proportion to the number of shares held by them and to the holders of any class or series of preferred stock entitled to a distribution. Holders of Leap common stock do not have preemptive rights to purchase shares of Leap common stock. The shares of Leap common stock are not subject to any conversion or redemption provisions or entitled to the benefit of a sinking fund. All outstanding shares of Leap common stock will be fully paid and nonassessable. The rights, preferences and privileges of holders of Leap common stock are subject to those of the holders of any outstanding class or series of Leap preferred stock that Leap may issue in the future.

Special Voting Stock

The rights, preferences and privileges of the Special Voting Stock are set forth in the Special Voting Stock Certificate of Designation. At any time when the holder of the Special Voting Stock, together with all of its affiliates and associates, holds at least 5% of the then outstanding shares of common stock, the

holder of the Special Voting Stock shall be entitled to designate one (1) individual as a director on the board of directors. Upon any liquidation, dissolution or winding up of the Company, the holder of the Special Voting Stock shall be entitled to receive, prior and in preference to any distribution to the holders of common stock, an amount equal to \$1.00. As of the date of this prospectus, there is one share of Special Voting Stock outstanding.

The foregoing description of the Special Voting Stock does not purport to be complete and is qualified in its entirety by reference to the full text of the Special Voting Stock Certificate of Designation, which is filed as [Exhibit 3.3 to the Company's Current Report on Form 8-K as filed with the SEC on January 7, 2020](#), and incorporated herein by reference.

Blank Check Preferred Stock

Leap's board of directors may, from time to time, authorize the issuance of one or more classes or series of preferred stock without stockholder approval. Our fourth amended and restated certificate of incorporation permits Leap to issue up to 10,000,000 shares of preferred stock. Subject to the provisions of the fourth amended and restated certificate of incorporation, and limitations prescribed by law, Leap's board of directors is expressly authorized, by resolution or resolutions, to provide, out of the unissued shares of preferred stock, for classes and series of preferred stock. The board of directors may fix the number of shares constituting such class or series and the designation of such class or series and the powers (including voting, if any), preferences and relative, participating, optional or other special rights, if any, and any qualifications, limitations or restrictions thereof, of the shares of such class or series. Each class or series will be appropriately designated by a distinguishing designation prior to the issuance of any shares thereof. The powers (including voting, if any), preferences and relative, participating, optional and other special rights of each series of preferred stock, and the qualifications, limitations or restrictions thereof, if any, may differ from those of any and all other classes and series of preferred stock at any time outstanding.

The issuance of preferred stock may adversely affect the rights of the Company's common stockholders by, among other things:

- restricting dividends on the common stock;
- diluting the voting power of the common stock;
- impairing the liquidation rights of the common stock; or
- delaying or preventing a change in control without further action by the stockholders.

As a result of these or other factors, the issuance of preferred stock could have an adverse impact on the market price of the common stock of Leap.

Registration Rights

Certain holders of shares of our common stock are entitled to certain rights with respect to the registration of shares under the Securities Act.

In connection with the transactions contemplated by our merger agreement with Macrocore, we entered into a registration rights agreement with each of our holders of common stock outstanding immediately prior to the effective time of the merger. In addition to the former holders of our common stock, certain larger holders of our common stock following the merger (who were among the largest holders of Macrocore ordinary shares prior to the merger) became parties to the registration rights agreement. Under the agreement, certain holders of registrable shares can demand that Leap file a registration statement or request that their shares be included on a registration statement that Leap is otherwise filing, in either case, registering the resale of their shares of Leap common stock. These registration rights are subject to conditions and limitations, including the right, in certain circumstances, of the underwriters of an offering to limit the number of shares included in such registration and our right, in certain circumstances, not to effect a requested registration on Form S-3 if such registration is in connection with any underwritten offering or proposed underwritten public offering.

Concurrently with the execution of a securities purchase agreement on January 3, 2020, with institutional investors named therein (collectively, the "Purchasers," and each, a "Purchaser"), providing for a private

placement transaction exempt from the registration requirements of the Securities Act, we entered into two registration rights agreements with the Purchasers, pursuant to which we agreed, following demand by any Purchaser, to file with the SEC a registration statement on Form S-3 covering the resale of the shares of common stock issuable upon conversion of the Series A Preferred Stock, Series B Preferred Stock or exercise of the Pre-Funded Warrants, Series A Coverage Warrants and Series B Coverage Warrants (as applicable) by the Purchasers as promptly as reasonably practicable following such demand, and in any event within 60 days after such demand.

Anti-takeover Effects of Certain Provisions of Our Fourth Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws

General

Our fourth amended and restated certificate of incorporation and amended and restated bylaws contain provisions that are intended to enhance the likelihood of continuity and stability in the composition of the Company's board of directors and that could make it more difficult to acquire control of the Company by means of a tender offer, open market purchases, a proxy contest or otherwise. A description of these provisions is set forth below.

Delaware Anti-Takeover Law

The Company is subject to Section 203 of the Delaware General Corporation Law. Section 203 generally prohibits a public Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a period of three years after the date of the transaction in which the person became an interested stockholder, unless:

- prior to the date of the transaction, the board of directors of the corporation approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- upon consummation of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding specified shares; or
- at or subsequent to the date of the transaction, the business combination is approved by the board of directors and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least 66 ²/₃% of the outstanding voting stock which is not owned by the interested stockholder.

Section 203 defines a "business combination" to include:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, lease, exchange, mortgage, pledge, transfer or other disposition of 10% or more of the assets of the corporation to or with the interested stockholder;
- subject to exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;
- subject to exceptions, any transaction involving the corporation that has the effect of increasing the proportionate share of the stock of any class or series of the corporation beneficially owned by the interested stockholder; or
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation.

In general, Section 203 defines an "interested stockholder" as any person that is:

- the owner of 15% or more of the outstanding voting stock of the corporation;
- an affiliate or associate of the corporation who was the owner of 15% or more of the outstanding voting stock of the corporation at any time within three years immediately prior to the relevant date; or

- the affiliates and associates of the above.

Under specific circumstances, Section 203 makes it more difficult for an “interested stockholder” to effect various business combinations with a corporation for a three-year period, although the stockholders may, by adopting an amendment to the corporation’s certificate of incorporation or bylaws, elect not to be governed by this section, effective 12 months after adoption.

Our fourth amended and restated certificate of incorporation and amended and restated bylaws do not exclude us from the restrictions of Section 203. We anticipate that the provisions of Section 203 might encourage companies interested in acquiring us to negotiate in advance with our board of directors since the stockholder approval requirement would be avoided if a majority of the directors then in office approve either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder.

No Cumulative Voting

Under Delaware law, the right to vote cumulatively does not exist unless the certificate of incorporation specifically authorizes cumulative voting. Our fourth amended and restated certificate of incorporation does not grant stockholders the right to vote cumulatively.

Blank Check Preferred Stock

Leap believes that the availability of the preferred stock under the fourth amended and restated certificate of incorporation provides the Company with flexibility in addressing corporate issues that may arise. Having these authorized shares available for issuance will allow the Company to issue shares of preferred stock without the expense and delay of a special stockholders’ meeting. The authorized shares of preferred stock, as well as shares of common stock, will be available for issuance without further action by the Company’s stockholders, with the exception of any actions required by applicable law or the rules of any stock exchange on which Leap’s securities may be listed. The board of directors will have the power, subject to applicable law, to issue classes or series of preferred stock that could, depending on the terms of the class or series, impede the completion of a merger, tender offer or other takeover attempt.

Advance Notice Procedure

Our amended and restated bylaws provide an advance notice procedure for stockholders to nominate director candidates for election or to bring business before an annual meeting of stockholders, including proposed nominations of persons for election to the board of directors.

Our amended and restated bylaws provide that as to the notice of stockholder proposals of business to be brought at the annual meeting of stockholders, notice must be delivered to our secretary (i) not less than 90 days nor more than 120 days prior to the first anniversary of the preceding year’s annual meeting or (ii) if the date of the annual meeting is advanced by more than 30 days or delayed by more than 60 days from the first anniversary of the preceding year’s annual meeting, not more than 120 days nor less than 90 days prior to the date of such annual meeting or, if less than 90 days’ notice is given of such annual meeting, the 10th day following the day on which public announcement of the date of such meeting is first made by Leap. In addition, any proposed business other than the nomination of persons for election to the Company’s board of directors must constitute a proper matter for stockholder action.

In the case of nominations for election at an annual meeting, notice must be delivered to our secretary (i) not less than 90 days nor more than 120 days prior to the first anniversary of the preceding year’s annual meeting or (ii) if the date of the annual meeting is advanced by more than 30 days or delayed by more than 60 days from the first anniversary of the preceding year’s annual meeting, not more than 120 days nor less than 90 days prior to the date of such annual meeting or, if less than 90 days’ notice is given of such annual meeting, the 10th day following the day on which public announcement of the date of such meeting is first made by Leap. In the case of nominations for election at a special meeting of stockholders called for the election of directors, a stockholder may nominate candidates by delivering notice to Leap’s secretary not less than 90 days nor more than 120 days prior to such special meeting or, if less than 90 days’ notice is given of such special meeting, the 10th day following the day on which public announcement of the date of such

meeting is first made by Leap. In addition, each such stockholder's notice must include certain information regarding the stockholder and the director nominee as set forth in our amended and restated bylaws.

Staggered Board

Our fourth amended and restated certificate of incorporation provides that our board of directors is divided into three classes of directors, with the classes as nearly equal in number as possible. At each annual meeting of the stockholders, a class of directors is elected for a three-year term to succeed the directors of the same class whose terms are then expiring. As a result, approximately one-third of our directors is elected each year.

Our fourth amended and restated certificate of incorporation, and amended and restated bylaws provide that the number of our directors shall be fixed from time to time by a resolution of the majority of our board of directors. Any additional directorships resulting from an increase in the number of directors will be distributed among the three classes so that, as nearly as possible, each class shall consist of one third of the board of directors.

The division of our board of directors into three classes with staggered three-year terms may delay or prevent stockholder efforts to effect a change of our management or a change in control.

Action by Written Consent; Special Meetings of Stockholders.

Our fourth amended and restated certificate of incorporation provides that stockholder action can be taken only at an annual or special meeting of stockholders and cannot be taken by written consent in lieu of a meeting. Our fourth amended and restated certificate of incorporation and amended and restated bylaws also provide that, except as otherwise required by law, special meetings of the stockholders can be called only by or at the direction of the board of directors pursuant to a resolution adopted by a majority of the total number of directors, by the chairperson of the board of directors, chief executive officer or president (in the absence of a chief executive officer). Except as provided above, stockholders are not permitted to call a special meeting or to require the board of directors to call a special meeting.

Removal of Directors.

Our fourth amended and restated certificate of incorporation provides that our directors may be removed only for cause by the affirmative vote of at least two-thirds of the voting power of our outstanding shares of capital stock, voting together as a single class and entitled to vote in the election of directors. This requirement of a supermajority vote to remove directors could enable a minority of our stockholders to prevent a change in the composition of our board.

Transfer Agent And Registrar

The transfer agent and registrar for our common stock is Continental Stock Transfer & Trust Company whose address is One State Street, 30th Floor, New York, NY 10004-1561.

Nasdaq Global Market Listing

Our common stock is listed on The Nasdaq Global Market under the symbol "LPTX."

DESCRIPTION OF WARRANTS

The following description, together with the additional information we may include in any applicable prospectus supplements and free writing prospectuses, summarizes the material terms and provisions of the warrants that we may offer under this prospectus, which may consist of warrants to purchase common stock, preferred stock or debt securities and may be issued in one or more series. Warrants may be issued independently or together with common stock, preferred stock or debt securities offered by any prospectus supplement, and may be attached to or separate from those securities. While the terms we have summarized below will apply generally to any warrants that we may offer under this prospectus, we will describe the particular terms of any series of warrants that we may offer in more detail in the applicable prospectus supplement and any applicable free writing prospectus. The terms of any warrants offered under a prospectus

supplement may differ from the terms described below. However, no prospectus supplement will fundamentally change the terms that are set forth in this prospectus or offer a security that is not registered and described in this prospectus at the time of its effectiveness.

We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of warrant agreement, if any, including a form of warrant certificate, that describes the terms of the particular series of warrants we are offering. The following summaries of material provisions of the warrants and the warrant agreements are subject to, and qualified in their entirety by reference to, all the provisions of the warrant agreement and warrant certificate applicable to the particular series of warrants that we may offer under this prospectus. We urge you to read the applicable prospectus supplements related to the particular series of warrants that we may offer under this prospectus, as well as any related free writing prospectuses, and the complete warrant agreements and warrant certificates that contain the terms of the warrants.

General

We will describe in the applicable prospectus supplement the terms relating to a series of warrants being offered, including:

- the title of such securities;
- the offering price or prices and aggregate number of warrants offered;
- the currency or currencies for which the warrants may be purchased;
- if applicable, the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each such security or each principal amount of such security;
- if applicable, the date on and after which the warrants and the related securities will be separately transferable;
- if applicable, the minimum or maximum amount of such warrants which may be exercised at any one time;
- in the case of warrants to purchase debt securities, the principal amount of debt securities purchasable upon exercise of one warrant and the price at which, and currency in which, this principal amount of debt securities may be purchased upon such exercise;
- in the case of warrants to purchase common stock or preferred stock, the number of shares of common stock or preferred stock, as the case may be, purchasable upon the exercise of one warrant and the price at which, and the currency in which, these shares may be purchased upon such exercise;
- the effect of any merger, consolidation, sale or other disposition of our business on the warrant agreements and the warrants;
- the terms of any rights to redeem or call the warrants;
- the terms of any rights to force the exercise of the warrants;
- any provisions for changes to or adjustments in the exercise price or number of securities issuable upon exercise of the warrants;
- the dates on which the right to exercise the warrants will commence and expire;
- the manner in which the warrant agreements and warrants may be modified;
- a discussion of any material or special United States federal income tax consequences of holding or exercising the warrants;
- the terms of the securities issuable upon exercise of the warrants; and
- any other specific terms, preferences, rights or limitations of or restrictions on the warrants.

Before exercising their warrants, holders of warrants will not have any of the rights of holders of the securities purchasable upon such exercise, including:

- in the case of warrants to purchase debt securities, the right to receive payments of principal of, or premium, if any, or interest on, the debt securities purchasable upon exercise or to enforce covenants in the applicable indenture; or
- in the case of warrants to purchase common stock or preferred stock, the right to receive dividends, if any, or, payments upon our liquidation, dissolution or winding up or to exercise voting rights, if any.

Exercise Of Warrants

Each warrant will entitle the holder to purchase the securities that we specify in the applicable prospectus supplement at the exercise price that we describe in the applicable prospectus supplement. Unless we otherwise specify in the applicable prospectus supplement, holders of the warrants may exercise the warrants at any time up to the specified time on the expiration date that we set forth in the applicable prospectus supplement. After the close of business on the expiration date, unexercised warrants will become void.

Unless we otherwise specify in the applicable prospectus supplement, holders of the warrants may exercise the warrants by delivering the warrant certificate representing the warrants to be exercised together with specified information, and paying the required amount to the warrant agent in immediately available funds, as provided in the applicable prospectus supplement. We will set forth on the reverse side of the warrant certificate and in the applicable prospectus supplement the information that the holder of the warrant will be required to deliver to the warrant agent in connection with the exercise of the warrant.

Upon receipt of the required payment and the warrant certificate properly completed and duly executed at the corporate trust office of the warrant agent or any other office indicated in the applicable prospectus supplement, we will issue and deliver the securities purchasable upon such exercise. If fewer than all of the warrants represented by the warrant certificate are exercised, then we will issue a new warrant certificate for the remaining amount of warrants. If we so indicate in the applicable prospectus supplement, holders of the warrants may surrender securities as all or part of the exercise price for warrants.

Enforceability Of Rights By Holders Of Warrants

Each warrant agent will act solely as our agent under the applicable warrant agreement and will not assume any obligation or relationship of agency or trust with any holder of any warrant. A single bank or trust company may act as warrant agent for more than one issue of warrants. A warrant agent will have no duty or responsibility in case of any default by us under the applicable warrant agreement or warrant, including any duty or responsibility to initiate any proceedings at law or otherwise, or to make any demand upon us. Any holder of a warrant may, without the consent of the related warrant agent or the holder of any other warrant, enforce by appropriate legal action its right to exercise, and receive the securities purchasable upon exercise of, its warrants.

DESCRIPTION OF DEBT SECURITIES

We may issue debt securities from time to time, in one or more series, as either senior or subordinated debt or as senior or subordinated convertible debt. While the terms we have summarized below will apply generally to any debt securities that we may offer under this prospectus, we will describe the particular terms of any debt securities that we may offer in more detail in the applicable prospectus supplement. The terms of any debt securities offered under a prospectus supplement may differ from the terms described below. Unless the context requires otherwise, whenever we refer to the indenture, we also are referring to any supplemental indentures that specify the terms of a particular series of debt securities.

We will issue the debt securities under an indenture to be entered into between us and a trustee to be identified in the applicable prospectus supplement. The indenture will be qualified under the Trust Indenture Act of 1939, as amended, or the Trust Indenture Act. We will file the form of indenture as an exhibit to the registration statement of which this prospectus is a part, and supplemental indentures and forms of debt securities containing the terms of the debt securities being offered will be filed as exhibits to the registration statement of which this prospectus is a part or will be incorporated by reference from reports that we file with the SEC.

The following summary of material provisions of the debt securities and the indenture is subject to, and qualified in its entirety by reference to, all of the provisions of the indenture applicable to a particular series of debt securities. We urge you to read the applicable prospectus supplements and any related free writing prospectuses related to the debt securities that we may offer under this prospectus, as well as the complete indenture that contains the terms of the debt securities.

General

The indenture will not limit the amount of debt securities that we may issue. It provides that we may issue debt securities up to the principal amount that we may authorize and may be in any currency or currency unit that we may designate. Except for the limitations on consolidation, merger and sale of all or substantially all of our assets contained in the indenture, the terms of the indenture do not contain any covenants or other provisions designed to give holders of any debt securities protection against changes in our operations, financial condition or transactions involving us.

We may issue the debt securities issued under the indenture as “discount securities,” which means they may be sold at a discount below their stated principal amount. These debt securities, as well as other debt securities that are not issued at a discount, may be issued with “original issue discount,” or OID, for U.S. federal income tax purposes because of interest payment and other characteristics or terms of the debt securities. Material U.S. federal income tax considerations applicable to debt securities issued with OID will be described in more detail in any applicable prospectus supplement.

We will describe in the applicable prospectus supplement the terms of the series of debt securities being offered, including:

- the title of the series of debt securities;
- any limit upon the aggregate principal amount that may be issued;
- the maturity date or dates;
- the form of the debt securities of the series;
- whether or not the debt securities will be secured or unsecured, and the terms of any secured debt;
- whether the debt securities rank as senior debt, senior subordinated debt, subordinated debt or any combination thereof, and the terms of any subordination;
- if the price (expressed as a percentage of the aggregate principal amount thereof) at which such debt securities will be issued is a price other than the principal amount thereof, the portion of the principal amount thereof payable upon declaration of acceleration of the maturity thereof, or if applicable, the portion of the principal amount of such debt securities that is convertible into another security or the method by which any such portion shall be determined;
- the interest rate or rates, which may be fixed or variable, or the method for determining the rate and the date interest will begin to accrue, the dates interest will be payable and the regular record dates for interest payment dates or the method for determining such dates;
- our right, if any, to defer payment of interest and the maximum length of any such deferral period;
- if applicable, the date or dates after which, or the period or periods during which, and the price or prices at which, we may, at our option, redeem the series of debt securities pursuant to any optional or provisional redemption provisions and the terms of those redemption provisions;
- the date or dates, if any, on which, and the price or prices at which we are obligated, pursuant to any mandatory sinking fund or analogous fund provisions or otherwise, to redeem, or at the holder’s option to purchase, the series of debt securities and the currency or currency unit in which the debt securities are payable;
- the denominations in which we will issue the series of debt securities, if other than denominations of \$1,000 and any integral multiple thereof;

- any and all terms, if applicable, relating to any auction or remarketing of the debt securities of that series and any security for our obligations with respect to such debt securities and any other terms which may be advisable in connection with the marketing of debt securities of that series;
- whether the debt securities of the series shall be issued in whole or in part in the form of a global security or securities; the terms and conditions, if any, upon which such global security or securities may be exchanged in whole or in part for other individual securities; and the depository for such global security or securities;
- if applicable, the provisions relating to conversion or exchange of any debt securities of the series and the terms and conditions upon which such debt securities will be so convertible or exchangeable, including the conversion or exchange price, as applicable, or how it will be calculated and may be adjusted, any mandatory or optional (at our option or the holders' option) conversion or exchange features, the applicable conversion or exchange period and the manner of settlement for any conversion or exchange;
- additions to or changes in the covenants applicable to the particular debt securities being issued, including, among others, the consolidation, merger or sale covenant;
- additions to or changes in the events of default with respect to the securities and any change in the right of the trustee or the holders to declare the principal, premium, if any, and interest, if any, with respect to such securities to be due and payable;
- additions to or changes in or deletions of the provisions relating to covenant defeasance and legal defeasance;
- additions to or changes in the provisions relating to satisfaction and discharge of the indenture;
- additions to or changes in the provisions relating to the modification of the indenture both with and without the consent of holders of debt securities issued under the indenture;
- the currency of payment of debt securities if other than U.S. dollars and the manner of determining the equivalent amount in U.S. dollars;
- whether interest will be payable in cash or additional debt securities at our or the holders' option and the terms and conditions upon which the election may be made;
- the terms and conditions, if any, upon which we will pay amounts in addition to the stated interest, premium, if any, and principal amounts of the debt securities of the series to any holder that is not a "United States person" for federal tax purposes;
- any restrictions on transfer, sale or assignment of the debt securities of the series; and
- any other specific terms, preferences, rights or limitations of, or restrictions on, the debt securities, any other additions or changes in the provisions of the indenture, and any terms that may be required by us or advisable under applicable laws or regulations.

Conversion Or Exchange Rights

We will set forth in the applicable prospectus supplement the terms on which a series of debt securities may be convertible into or exchangeable for our common stock or our other securities. We will include provisions as to settlement upon conversion or exchange and whether conversion or exchange is mandatory, at the option of the holder or at our option. We may include provisions pursuant to which the number of shares of our common stock or our other securities that the holders of the series of debt securities receive would be subject to adjustment.

Consolidation, Merger Or Sale

Unless we provide otherwise in the prospectus supplement applicable to a particular series of debt securities, the indenture will not contain any covenant that restricts our ability to merge or consolidate, or sell, convey, transfer or otherwise dispose of our assets as an entirety or substantially as an entirety. However, any successor to or acquirer of such assets (other than a subsidiary of ours) must assume all of our obligations under the indenture or the debt securities, as appropriate.

Events Of Default Under The Indenture

Unless we provide otherwise in the prospectus supplement applicable to a particular series of debt securities, the following are events of default under the indenture with respect to any series of debt securities that we may issue:

- if we fail to pay any installment of interest on any series of debt securities, as and when the same shall become due and payable, and such default continues for a period of 90 days; provided, however, that a valid extension of an interest payment period by us in accordance with the terms of any indenture supplemental thereto shall not constitute a default in the payment of interest for this purpose;
- if we fail to pay the principal of, or premium, if any, on any series of debt securities as and when the same shall become due and payable whether at maturity, upon redemption, by declaration or otherwise, or in any payment required by any sinking or analogous fund established with respect to such series; provided, however, that a valid extension of the maturity of such debt securities in accordance with the terms of any indenture supplemental thereto shall not constitute a default in the payment of principal or premium, if any;
- if we fail to observe or perform any other covenant or agreement contained in the debt securities or the indenture, other than a covenant specifically relating to another series of debt securities, and our failure continues for 90 days after we receive written notice of such failure, requiring the same to be remedied and stating that such is a notice of default thereunder, from the trustee or holders of at least 25% in aggregate principal amount of the outstanding debt securities of the applicable series; and
- if specified events of bankruptcy, insolvency or reorganization occur.

If an event of default with respect to debt securities of any series occurs and is continuing, other than an event of default specified in the last bullet point above, the trustee or the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series, by notice to us in writing, and to the trustee if notice is given by such holders, may declare the unpaid principal of, premium, if any, and accrued interest, if any, of such series of debt securities due and payable immediately. If an event of default specified in the last bullet point above occurs with respect to us, the principal amount of and accrued interest, if any, of each issue of debt securities then outstanding shall be due and payable without any notice or other action on the part of the trustee or any holder.

The holders of a majority in principal amount of the outstanding debt securities of an affected series may waive any default or event of default with respect to the series and its consequences, except defaults or events of default regarding payment of principal, premium, if any, or interest, unless we have cured the default or event of default in accordance with the indenture. Any waiver shall cure the default or event of default.

Subject to the terms of the indenture, if an event of default under an indenture shall occur and be continuing, the trustee will be under no obligation to exercise any of its rights or powers under such indenture at the request or direction of any of the holders of the applicable series of debt securities, unless such holders have offered the trustee reasonable indemnity. The holders of a majority in principal amount of the outstanding debt securities of any series will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the trustee, or exercising any trust or power conferred on the trustee, with respect to the debt securities of that series, provided that:

- the direction so given by the holder is not in conflict with any law or the applicable indenture; and
- subject to its duties under the Trust Indenture Act, the trustee need not take any action that might involve it in personal liability or might be unduly prejudicial to the holders not involved in the proceeding.

A holder of the debt securities of any series will have the right to institute a proceeding under the indenture or to appoint a receiver or trustee, or to seek other remedies only if:

- the holder has given written notice to the trustee of a continuing event of default with respect to that series;

- the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series have made written request;
- such holders have offered to the trustee indemnity satisfactory to it against the costs, expenses and liabilities to be incurred by the trustee in compliance with the request; and
- the trustee does not institute the proceeding, and does not receive from the holders of a majority in aggregate principal amount of the outstanding debt securities of that series other conflicting directions within 90 days after the notice, request and offer.

These limitations do not apply to a suit instituted by a holder of debt securities if we default in the payment of the principal, premium, if any, or interest on, the debt securities.

We will periodically file statements with the trustee regarding our compliance with specified covenants in the indenture.

Modification Of Indenture; Waiver

Unless we provide otherwise in the prospectus supplement applicable to a particular series of debt securities, we and the trustee may change an indenture without the consent of any holders with respect to specific matters:

- to cure any ambiguity, defect or inconsistency in the indenture or in the debt securities of any series;
- to comply with the provisions described above under “Description of Debt Securities—Consolidation, Merger or Sale”;
- to provide for uncertificated debt securities in addition to or in place of certificated debt securities;
- to add to our covenants, restrictions, conditions or provisions such new covenants, restrictions, conditions or provisions for the benefit of the holders of all or any series of debt securities, to make the occurrence, or the occurrence and the continuance, of a default in any such additional covenants, restrictions, conditions or provisions an event of default or to surrender any right or power conferred upon us in the indenture;
- to add to, delete from or revise the conditions, limitations, and restrictions on the authorized amount, terms, or purposes of issue, authentication and delivery of debt securities, as set forth in the indenture;
- to make any change that does not adversely affect the interests of any holder of debt securities of any series in any material respect;
- to provide for the issuance of and establish the form and terms and conditions of the debt securities of any series as provided above under “Description of Debt Securities—General” to establish the form of any certifications required to be furnished pursuant to the terms of the indenture or any series of debt securities, or to add to the rights of the holders of any series of debt securities;
- to evidence and provide for the acceptance of appointment under any indenture by a successor trustee; or
- to comply with any requirements of the SEC in connection with the qualification of any indenture under the Trust Indenture Act.

In addition, under the indenture, the rights of holders of a series of debt securities may be changed by us and the trustee with the written consent of the holders of at least a majority in aggregate principal amount of the outstanding debt securities of each series that is affected. However, unless we provide otherwise in the prospectus supplement applicable to a particular series of debt securities, we and the trustee may make the following changes only with the consent of each holder of any outstanding debt securities affected:

- extending the fixed maturity of any debt securities of any series;
- reducing the principal amount, reducing the rate of or extending the time of payment of interest, or reducing any premium payable upon the redemption of any series of any debt securities; or

- reducing the percentage of debt securities, the holders of which are required to consent to any amendment, supplement, modification or waiver.

Discharge

The indenture will provide that we can elect to be discharged from our obligations with respect to one or more series of debt securities, except for specified obligations, including obligations to:

- provide for payment;
- register the transfer or exchange of debt securities of the series;
- replace stolen, lost or mutilated debt securities of the series;
- pay principal of and premium and interest on any debt securities of the series;
- maintain paying agencies;
- hold monies for payment in trust;
- recover excess money held by the trustee;
- compensate and indemnify the trustee; and
- appoint any successor trustee.

In order to exercise our rights to be discharged, we must deposit with the trustee money or government obligations sufficient to pay all the principal of, any premium, if any, and interest on, the debt securities of the series on the dates payments are due.

Form, Exchange And Transfer

We will issue the debt securities of each series only in fully registered form without coupons and, unless we provide otherwise in the applicable prospectus supplement, in denominations of \$1,000 and any integral multiple thereof. The indenture will provide that we may issue debt securities of a series in temporary or permanent global form and as book-entry securities that will be deposited with, or on behalf of, The Depository Trust Company, or DTC, or another depository named by us and identified in the applicable prospectus supplement with respect to that series. To the extent the debt securities of a series are issued in global form and as book-entry, a description of terms relating to any book-entry securities will be set forth in the applicable prospectus supplement.

At the option of the holder, subject to the terms of the indenture and the limitations applicable to global securities described in the applicable prospectus supplement, the holder of the debt securities of any series can exchange the debt securities for other debt securities of the same series, in any authorized denomination and of like tenor and aggregate principal amount.

Subject to the terms of the indenture and the limitations applicable to global securities set forth in the applicable prospectus supplement, holders of the debt securities may present the debt securities for exchange or for registration of transfer, duly endorsed or with the form of transfer endorsed thereon duly executed if so required by us or the security registrar, at the office of the security registrar or at the office of any transfer agent designated by us for this purpose. Unless otherwise provided in the debt securities that the holder presents for transfer or exchange, we will impose no service charge for any registration of transfer or exchange, but we may require payment of any taxes or other governmental charges.

We will name in the applicable prospectus supplement the security registrar, and any transfer agent in addition to the security registrar, that we initially designate for any debt securities. We may at any time designate additional transfer agents or rescind the designation of any transfer agent or approve a change in the office through which any transfer agent acts, except that we will be required to maintain a transfer agent in each place of payment for the debt securities of each series.

If we elect to redeem the debt securities of any series, we will not be required to:

- issue, register the transfer of, or exchange any debt securities of that series during a period beginning at the opening of business 15 days before the day of mailing of a notice of redemption of any debt securities that may be selected for redemption and ending at the close of business on the day of the mailing; or
- register the transfer of or exchange any debt securities so selected for redemption, in whole or in part, except the unredeemed portion of any debt securities we are redeeming in part.

Information Concerning The Trustee

The trustee, other than during the occurrence and continuance of an event of default under an indenture, undertakes to perform only those duties as are specifically set forth in the applicable indenture. Upon an event of default under an indenture, the trustee must use the same degree of care as a prudent person would exercise or use in the conduct of his or her own affairs. Subject to this provision, the trustee is under no obligation to exercise any of the powers given it by the indenture at the request of any holder of debt securities unless it is offered reasonable security and indemnity against the costs, expenses and liabilities that it might incur.

Payment And Paying Agents

Unless we otherwise indicate in the applicable prospectus supplement, we will make payment of the interest on any debt securities on any interest payment date to the person in whose name the debt securities, or one or more predecessor securities, are registered at the close of business on the regular record date for the interest.

We will pay principal of and any premium and interest on the debt securities of a particular series at the office of the paying agents designated by us, except that unless we otherwise indicate in the applicable prospectus supplement, we will make interest payments by check that we will mail to the holder or by wire transfer to certain holders. Unless we otherwise indicate in the applicable prospectus supplement, we will designate the corporate trust office of the trustee as our sole paying agent for payments with respect to debt securities of each series. We will name in the applicable prospectus supplement any other paying agents that we initially designate for the debt securities of a particular series. We will maintain a paying agent in each place of payment for the debt securities of a particular series.

All money we pay to a paying agent or the trustee for the payment of the principal of or any premium or interest on any debt securities that remains unclaimed at the end of two years after such principal, premium or interest has become due and payable will be repaid to us, and the holder of the debt security thereafter may look only to us for payment thereof.

DESCRIPTION OF RIGHTS

The following is a general description of the terms of the rights we may issue from time to time unless we provide otherwise in the applicable prospectus supplement. Particular terms of any rights we offer will be described in the prospectus supplement relating to such rights.

General

We may issue rights to purchase common stock, preferred stock, debt securities or units. Rights may be issued independently or together with other securities and may or may not be transferable by the person purchasing or receiving the rights. In connection with any rights offering to our stockholders, we may enter into a standby underwriting, backstop or other arrangement with one or more underwriters or other persons pursuant to which such underwriters or other persons would purchase any offered securities remaining unsubscribed for after such rights offering. In connection with a rights offering to our stockholders, we would distribute certificates evidencing the rights and a prospectus supplement to our stockholders on or about the record date that we set for receiving rights in such rights offering.

The applicable prospectus supplement will describe the following terms of any rights we may issue, including some or all of the following:

- the title and aggregate number of the rights;
- the subscription price or a formula for the determination of the subscription price for the rights and the currency or currencies in which the subscription price may be payable;
- if applicable, the designation and terms of the securities with which the rights are issued and the number of rights issued with each such security or each principal amount of such security;
- the number or a formula for the determination of the number of the rights issued to each stockholder;
- the extent to which the rights are transferable;
- in the case of rights to purchase debt securities, the principal amount of debt securities purchasable upon exercise of one right;
- in the case of rights to purchase common stock or preferred stock, the type of stock and number of shares of stock purchasable upon exercise of one right;
- the date on which the right to exercise the rights will commence, and the date on which the rights will expire (subject to any extension);
- if applicable, the minimum or maximum amount of the rights that may be exercised at any one time;
- the extent to which such rights include an over-subscription privilege with respect to unsubscribed securities;
- if applicable, the procedures for adjusting the subscription price and number of shares of common stock or preferred stock purchasable upon the exercise of each right upon the occurrence of certain events, including stock splits, reverse stock splits, combinations, subdivisions or reclassifications of common stock or preferred stock;
- the effect on the rights of any merger, consolidation, sale or other disposition of our business;
- the terms of any rights to redeem or call the rights;
- information with respect to book-entry procedures, if any;
- the terms of the securities issuable upon exercise of the rights;
- if applicable, the material terms of any standby underwriting, backstop or other purchase arrangement that we may enter into in connection with the rights offering;
- if applicable, a discussion of certain U.S. federal income tax considerations; and
- any other terms of the rights, including terms, procedures and limitations relating to the exchange and exercise of the rights.

Exercise of Rights

Each right will entitle the holder to purchase for cash or other consideration such shares of stock or principal amount of securities at the subscription price as shall in each case be set forth in, or be determinable as set forth in, the prospectus supplement relating to the rights offered thereby. Rights may be exercised as set forth in the applicable prospectus supplement beginning on the date specified therein and continuing until the close of business on the expiration date set forth in the prospectus supplement relating to the rights offered thereby. After the close of business on the expiration date, unexercised rights will become void.

Upon receipt of payment and a subscription certificate properly completed and duly executed at the corporate trust office of the subscription agent or any other office indicated in the prospectus supplement, we will, as soon as practicable, forward the securities purchasable upon such exercise. If less than all of the rights represented by such subscription certificate are exercised, a new subscription certificate will be issued for the remaining rights. If we so indicate in the applicable prospectus supplement, holders of the rights may surrender securities as all or part of the exercise price for rights.

We may determine to offer any unsubscribed offered securities directly to stockholders, persons other than stockholders, to or through agents, underwriters or dealers or through a combination of such methods,

including pursuant to standby underwriting, backstop or other arrangements, as set forth in the applicable prospectus supplement.

Prior to exercising their rights, holders of rights will not have any of the rights of holders of the securities purchasable upon subscription, including, in the case of rights to purchase common stock or preferred stock, the right to receive dividends, if any, or payments upon our liquidation, dissolution or winding up or to exercise any voting rights or, in the case of rights to purchase debt securities, the right to receive principal, premium, if any, or interest payments, on the debt securities purchasable upon exercise or to enforce covenants in the applicable indenture.

DESCRIPTION OF UNITS

We may issue units comprising one or more securities described in this prospectus in any combination. The following description sets forth certain general terms and provisions of the units that we may offer pursuant to this prospectus. The particular terms of the units and the extent, if any, to which the general terms and provisions may apply to the units so offered will be described in the applicable prospectus supplement.

Each unit will be issued so that the holder of the unit also is the holder of each security included in the unit. Thus, the unit will have the rights and obligations of a holder of each included security. Units will be issued pursuant to the terms of a unit agreement, which may provide that the securities included in the unit may not be held or transferred separately at any time or at any time before a specified date. A copy of the forms of the unit agreement and the unit certificate relating to any particular issue of units will be filed with the SEC each time we issue units, and you should read those documents for provisions that may be important to you. For more information on how you can obtain copies of the forms of the unit agreement and the related unit certificate, see “Where You Can Find More Information.”

The prospectus supplement relating to any particular issuance of units will describe the terms of those units, including, to the extent applicable, the following:

- the designation and terms of the units and the securities comprising the units, including whether and under what circumstances those securities may be held or transferred separately;
- any provision for the issuance, payment, settlement, transfer or exchange of the units or of the securities comprising the units; and
- whether the units will be issued in fully registered or global form.

PLAN OF DISTRIBUTION

We may sell the securities covered hereby from time to time pursuant to underwritten public offerings, direct sales to the public, negotiated transactions, block trades or a combination of these methods. A distribution of the securities offered by this prospectus may also be effected through the issuance of derivative securities, including without limitation, warrants and subscriptions. We may sell the securities to or through underwriters or dealers, through agents, or directly to one or more purchasers. We may distribute securities from time to time in one or more transactions:

- at a fixed price or prices, which may be changed;
- at market prices prevailing at the time of sale;
- at prices related to such prevailing market prices;
- at varying prices determined at the time of sale; or
- at negotiated prices.

We may also sell equity securities covered by this registration statement in an “at the market offering” as defined in Rule 415 under the Securities Act. Such offering may be made into an existing trading market for such securities in transactions at other than a fixed price, either:

- on or through the facilities of The Nasdaq Global Market or any other securities exchange or quotation or trading service on which such securities may be listed, quoted or traded at the time of sale; and/or

- to or through a market maker otherwise than on The Nasdaq Global Market or such other securities exchanges or quotation or trading services.

Such at-the-market offerings, if any, may be conducted by financial institutions acting as principal or agent.

A prospectus supplement or supplements (and any related free writing prospectus that we may authorize to be provided to you) will describe the terms of the offering of the securities, including, to the extent applicable:

- the name or names of any underwriters, dealers or agents participating in the offering, if any;
- the purchase price of the securities sold by us to any underwriter or dealer and the net proceeds we expect to receive from the offering;
- any option, under which underwriters may purchase additional securities from us;
- any agency fees or underwriting discounts or commissions and other items constituting agents' or underwriters' compensation;
- any public offering price;
- any discounts or concessions allowed or reallocated or paid to dealers; and
- any securities exchange or market on which the securities may be listed.

Only underwriters named in the prospectus supplement are underwriters of the securities offered by the prospectus supplement.

If underwriters are used in the sale, they will acquire the securities for their own account and may resell the securities from time to time in one or more transactions at a fixed public offering price or at varying prices determined at the time of sale. The obligations of the underwriters to purchase the securities will be subject to the conditions set forth in the applicable underwriting agreement. We may offer the securities to the public through underwriting syndicates represented by managing underwriters or by underwriters without a syndicate. Subject to certain conditions, the underwriters will be obligated to purchase all of the securities offered by the prospectus supplement, other than securities covered by any option to purchase additional securities. Any public offering price and any discounts, commissions or concessions allowed or reallocated or paid to dealers may change from time to time. We may use underwriters with whom we have a material relationship. We will describe in the prospectus supplement, naming the underwriter, the nature of any such relationship.

We may sell securities directly or through agents we designate from time to time. We will name any agent involved in the offering and sale of securities, and we will describe any commissions and other compensation we will pay the agent in the prospectus supplement. Unless the prospectus supplement states otherwise, our agent will act on a best-efforts basis for the period of its appointment.

We may authorize agents or underwriters to solicit offers by certain types of institutional investors to purchase securities from us at the public offering price set forth in the prospectus supplement pursuant to delayed delivery contracts providing for payment and delivery on a specified date in the future. We will describe the conditions to these contracts and the commissions we must pay for solicitation of these contracts in the prospectus supplement.

We may provide agents and underwriters with indemnification against civil liabilities related to this offering, including liabilities under the Securities Act, or contribution with respect to payments that the agents or underwriters may make with respect to these liabilities. Agents and underwriters may engage in transactions with, or perform services for, us in the ordinary course of business.

All securities we may offer, other than common stock, will be new issues of securities with no established trading market. Any agents or underwriters may make a market in these securities, but will not be obligated to do so and may discontinue any market making at any time without notice. Accordingly, we cannot guarantee the liquidity of the trading markets for any securities.

Any underwriter may engage in over-allotment, stabilizing transactions, short covering transactions and penalty bids in accordance with Regulation M under the Exchange Act. Over-allotment involves sales in excess of the offering size, which create a short position. Stabilizing transactions permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum. Short covering transactions involve purchases of the securities in the open market after the distribution is completed to cover short positions. Penalty bids permit the underwriters to reclaim a selling concession from a dealer when the securities originally sold by the dealer are purchased in a stabilizing or covering transaction to cover short positions. Those activities may cause the price of the securities to be higher than it would otherwise be. If commenced, the underwriters may discontinue any of the activities at any time. These transactions may be effected on any exchange or over-the-counter market or otherwise.

Any agents and underwriters who are qualified market makers on The Nasdaq Global Market may engage in passive market making transactions in the securities on The Nasdaq Global Market in accordance with Rule 103 of Regulation M, during the business day prior to the pricing of the offering, before the commencement of offers or sales of the securities. Passive market makers must comply with applicable volume and price limitations and must be identified as passive market makers. In general, a passive market maker must display its bid at a price not in excess of the highest independent bid for such security; if all independent bids are lowered below the passive market maker's bid, however, the passive market maker's bid must then be lowered when certain purchase limits are exceeded. Passive market making may stabilize the market price of the securities at a level above that which might otherwise prevail in the open market and, if commenced, may be discontinued at any time.

LEGAL MATTERS

Unless otherwise indicated in the applicable prospectus supplement, certain legal matters in connection with the offering and the validity of the securities offered by this prospectus, and any supplement thereto, will be passed upon for us by Morgan, Lewis & Bockius LLP. Additional legal matters may be passed upon for us or any underwriters, dealers or agents, by counsel that we will name in the applicable prospectus supplement.

EXPERTS

The consolidated balance sheets of Leap Therapeutics, Inc. and Subsidiaries as of December 31, 2019 and 2018, and the related consolidated statements of operations, comprehensive loss, stockholders' equity (deficiency), 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 by reference, which report includes an explanatory paragraph as to the adoption of new accounting standards for leases and warrants. Such financial statements have been incorporated herein by reference in reliance on the report of such firm given upon their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC's website at <http://www.sec.gov>.

We maintain a website at www.leaptx.com. Information contained in or accessible through our website does not constitute a part of this prospectus.

INFORMATION INCORPORATED BY REFERENCE

The SEC allows us to "incorporate by reference" into this prospectus the information contained in documents that we file with them, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus. Information in this prospectus supersedes information incorporated by reference that we filed with the SEC before the date of this prospectus, while information that we file later with the SEC will automatically update and supersede prior information. Any information so updated and superseded shall not be deemed, except as so updated and superseded, to constitute a part of this prospectus. We incorporate by reference the documents listed below and any future filings we will make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, prior to the termination of the offering. Notwithstanding the foregoing, unless specifically stated to the contrary, none of the information that is not deemed "filed" with the SEC, including information furnished under Items 2.02 or 7.01 of any Current Report on Form 8-K, will be incorporated by reference into, or otherwise included in, this prospectus:

1. [our annual report on Form 10-K for the fiscal year ended December 31, 2019 filed with the SEC on March 16, 2020 \(the "Form 10-K"\)](#);
2. [the information contained in our definitive proxy statement on Schedule 14A for our 2020 annual meeting of stockholders filed with the SEC on April 28, 2020, to the extent incorporated by reference in Part III of the Form 10-K](#);
3. [our quarterly report on Form 10-Q for the quarter ended March 31, 2020 filed with the SEC on May 14, 2020](#);
4. [our quarterly report on Form 10-Q for the quarter ended June 30, 2020 filed with the SEC on August 13, 2020](#);
5. our current reports on Form 8-K and Form 8-K/A filed with the SEC on [January 3, 2020](#), [January 7, 2020](#), [March 9, 2020](#), [March 18, 2020](#), [April 15, 2020](#), [April 23, 2020](#), [June 11, 2020](#), [June 17, 2020](#), [June 18, 2020](#), [June 19, 2020](#), [June 22, 2020](#), [June 25, 2020](#) and [September 10, 2020](#); and

6. [our description of our common stock contained in the registration statement on Form 8-A, filed on January 20, 2017, as updated by Exhibit 4.6 to the Form 10-K, and including any amendments or reports filed for the purpose of updating such description.](#)

We will provide, upon written or oral request, without charge to you, including any beneficial owner to whom this prospectus is delivered, a copy of any or all of the documents incorporated herein by reference other than the exhibits to those documents, unless the exhibits are specifically incorporated by reference into the information that this prospectus incorporates. You should direct a request for copies to us at Attention: Secretary, 47 Thorndike Street, Suite B1-1, Cambridge, Massachusetts 02141 or you may call us at (617) 714-0360.

**DISCLOSURE OF COMMISSION'S POSITION ON INDEMNIFICATION
FOR SECURITIES ACT LIABILITY**

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers or persons controlling the Company pursuant to the foregoing provisions, we have been informed 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.

\$150,000,000



**Common Stock
Preferred Stock
Warrants
Debt Securities
Rights to Purchase Common Stock, Preferred Stock,
Debt Securities or Units
Units**

PROSPECTUS

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution

The following table sets forth the estimated expenses in connection with the issuance and distribution of an amount of up to \$150,000,000 of shares of our common stock registered under this registration statement, other than any underwriting discounts and commissions. All amounts, except the SEC registration fee, are estimates.

SEC registration fee	\$19,470
Legal fees and expenses	(1)
Accounting fees and expenses	(1)
Transfer agent and registrar fees and expenses	(1)
Stock exchange listing fees	(1)
Trustee fees and expenses	(1)
Printing, FINRA filing fee (if applicable) and miscellaneous expenses	(1)
Total	(1)

- (1) These fees will be dependent on the number and amount of securities offerings under this registration statement and, therefore, cannot be estimated at this time. In accordance with Rule 430B, additional information regarding estimated fees and expenses will be provided at the time information as to an offering is included in a prospectus supplement.

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 fourth amended and restated certificate of incorporation and our 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 fourth 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.

The registrant has entered into indemnification agreements with certain of its directors and executive officers that require the registrant to indemnify such persons against expenses, judgments, fines, settlements and other amounts incurred (including expenses of a derivative action) in connection with any proceeding, whether actual or threatened, to which any such person may be made a party by reason of the fact that such person is or was one of the registrant's directors or executive officers, provided, among other things, that such person's conduct was not knowingly fraudulent or deliberately dishonest or constituted willful misconduct. The indemnification agreements also set forth certain procedures that will apply in the event of a claim for indemnification thereunder.

At present, there is no pending litigation or proceeding involving any of the registrant's directors or executive officers as to which indemnification is being sought nor is the registrant aware of any threatened litigation that may result in claims for indemnification by any executive officer or director.

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

The underwriting agreement, if any, entered into with respect to an offering of securities registered hereunder will provide for indemnification by any underwriters of any offering, our directors and officers who sign the registration statement and our controlling persons for some liabilities, including liabilities arising under the Securities Act.

Item 16. Exhibits

The following documents are filed as exhibits to this registration statement, including those exhibits incorporated herein by reference to one of our prior filings under the Securities Act or the Exchange Act as indicated in parentheses:

Exhibit Number	Document
1.1*	Form of Underwriting Agreement.
<u>4.1</u>	<u>Fourth Amended and Restated Certificate of Incorporation of Leap Therapeutics, Inc. (incorporated by reference to Exhibit 3.3 to the Company's Current Report on Form 8-K as filed on September 10, 2020).</u>
<u>4.2</u>	<u>Certificate of Designation of Series A Mandatorily Convertible Cumulative Non-Voting Perpetual Preferred Stock of the Company (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K as filed on January 7, 2020).</u>
<u>4.3</u>	<u>Certificate of Designation of Series B Mandatorily Convertible Cumulative Non-Voting Perpetual Preferred Stock of the Company (incorporated by reference to Exhibit 3.2 to the Company's Current Report on Form 8-K as filed on January 7, 2020).</u>
<u>4.4</u>	<u>Certificate of Elimination of the Series A Mandatorily Convertible Cumulative Non-Voting Perpetual Preferred Stock of the Company (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K as filed on September 10, 2020).</u>
<u>4.5</u>	<u>Certificate of Elimination of the Series B Mandatorily Convertible Cumulative Non-Voting Perpetual Preferred Stock of the Company (incorporated by reference to Exhibit 3.2 to the Company's Current Report on Form 8-K as filed on September 10, 2020).</u>
<u>4.6</u>	<u>Certificate of Designation of Special Voting Stock of Leap Therapeutics, Inc. (incorporated by reference to Exhibit 3.3 to the Company's Current Report on Form 8-K as filed on January 7, 2020).</u>
<u>4.7</u>	<u>Amended and Restated By-laws of Leap Therapeutics, Inc. (incorporated by reference to Exhibit 3.4 to the Company's registration statement on Form S-4 as filed on September 26, 2016 and attached as Annex D to the prospectus which forms part of such registration statement).</u>
<u>4.8</u>	<u>Form of Warrant, dated as of November 14, 2017 by and among Leap Therapeutics, Inc. and the Holders identified on the schedule thereto (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K as filed on November 17, 2017).</u>
<u>4.9</u>	<u>Form of Warrant, dated as of February 5, 2019 by and between Leap Therapeutics, Inc. and each of the purchasers in the registrant's 2019 Public Offering (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K as filed on February 1, 2019).</u>
<u>4.10</u>	<u>Form of Pre-Funded Warrant (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K as filed on January 7, 2020).</u>
<u>4.11</u>	<u>Form of Series A Coverage Warrant (incorporated by reference to Exhibit 4.2 to the Company's Current Report on Form 8-K as filed on January 7, 2020).</u>
<u>4.12</u>	<u>Form of Series B Coverage Warrant (incorporated by reference to Exhibit 4.3 to the Company's Current Report on Form 8-K as filed on January 7, 2020).</u>
<u>4.13</u>	<u>Form of Pre-Funded Warrant to Purchase Common Stock (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K as filed on June 18, 2020).</u>
<u>4.14</u>	<u>Registration Rights Agreement dated as of January 23, 2017, by and among Leap and certain stockholders (incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K as filed on January 26, 2017).</u>
<u>4.15</u>	<u>Registration Rights Agreement dated as of January 3, 2020, by and between the Company and the persons listed on the attached Schedule A thereto (incorporated by reference to Exhibit 10.4 to the Company's Current Report on Form 8-K as filed on January 7, 2020).</u>

Exhibit Number	Document
4.16	Registration Rights Agreement dated as of January 3, 2020, by and between the Company and the persons listed on the attached Schedule A thereto (incorporated by reference to Exhibit 10.5 to the Company's Current Report on Form 8-K as filed on January 7, 2020).
4.17	Form of Common Stock Certificate of the Registrant (incorporated by reference to Exhibit 4.1 to Amendment No. 2 to the Company's registration statement on Form S-4 as filed on November 16, 2016).
4.18*	Form of Preferred Stock Certificate.
4.19*	Form of Certificate of Designation of Preferred Stock.
4.20	Form of Indenture, between the Company and one or more trustees to be named (filed herewith).
4.21*	Form of Warrant Agreement.
4.22*	Form of Warrant Certificate.
4.23*	Form of Debt Security.
4.24*	Form of Rights Certificate.
4.25*	Form of Unit Agreement.
4.26*	Form of Unit Certificate.
5.1	Opinion of Morgan, Lewis & Bockius LLP (filed herewith).
23.1	Consent of EisnerAmper LLP, Independent Registered Public Accounting Firm (filed herewith).
23.2	Consent of Morgan, Lewis & Bockius LLP (included in its Opinion filed as Exhibit 5.1 hereto).
24.1	Powers of Attorney (included on signature page).
25.1**	Statement of Eligibility of Trustee on Form T-1 under Trust Indenture Act of 1939.

* To be filed by amendment or as an exhibit to a document filed under the Securities Exchange Act of 1934, as amended, and incorporated by reference herein.

** To be filed separately pursuant to Section 305(b)(2) of the Trust Indenture Act of 1939, as amended, and the appropriate rules and regulations thereunder.

Item 17. Undertakings

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 this 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 and of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and

(iii) To include any material information with respect to the plan of distribution not previously disclosed in this registration statement or any material change to such information in this registration statement;

provided, however, that paragraphs (1)(i), (1)(ii) and (1)(iii) above do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or

furnished to the 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 of 1933, 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 of 1933 to any purchaser:

(i) 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

(ii) 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 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 date of the first 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 the 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 this registration statement or made in a document incorporated or deemed incorporated by reference into this registration statement or prospectus that is a part of this registration statement will, as to a purchaser with a time of contract sale prior to such effective date, supersede or modify any statement that was made in this registration statement or prospectus that was a part of this registration statement or made in any such document immediately prior to such effective date.

(5) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities, in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

(i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;

(ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;

(iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and

(iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

(6) That, for purposes of determining any liability under the Securities Act, each filing of the registrant's annual report pursuant to Section 13(a) or 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in the registration statement shall be deemed to be a new

registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(7) If and when applicable, to file an application for the purpose of determining the eligibility of the trustee to act under subsection (a) of Section 310 of the Trust Indenture Act in accordance with the rules and regulations prescribed by the Commission under Section 305(b)(2) of the Act.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted against the registrant 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 of whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Cambridge, Commonwealth of Massachusetts on September 14, 2020.

LEAP THERAPEUTICS, INC.

By: /s/ DOUGLAS E. ONSI

Douglas E. Onsi
Chief Executive Officer and President

POWER OF ATTORNEY

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 true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this registration statement and sign any registration statement for the same offering covered by the registration statement that is to be effective upon filing pursuant to Rule 462 promulgated under the Securities Act of 1933, as amended, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith and about the premises, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them, or their or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, 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>
/s/ DOUGLAS E. ONSI _____ Douglas E. Onsi	Chief Executive Officer, President, Chief Financial Officer and Director (Principal Executive Officer and Principal Financial and Accounting Officer)	September 14, 2020
/s/ MONICA BERTAGNOLLI _____ Monica Bertagnolli, M.D.	Director	September 14, 2020
/s/ JAMES CAVANAUGH _____ James Cavanaugh, Ph.D.	Director	September 14, 2020
/s/ THOMAS DIETZ _____ Thomas Dietz, Ph.D.	Director	September 14, 2020
/s/ WILLIAM LI _____ William Li, M.D.	Director	September 14, 2020
/s/ JOSEPH LOSCALZO _____ Joseph Loscalzo, M.D., Ph.D.	Director	September 14, 2020
/s/ NISSIM MASHIACH _____ Nissim Mashiach	Director	September 14, 2020
/s/ CHRISTOPHER K. MIRABELLI _____ Christopher K. Mirabelli, Ph.D.	Director	September 14, 2020

September 14, 2020

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 to Leap Therapeutics, Inc., a Delaware corporation (the “Company”), in connection with the filing of a registration statement on Form S-3 (the “Registration Statement”), filed with the Securities and Exchange Commission on the date hereof, under the Securities Act of 1933, as amended (the “Securities Act”). The Registration Statement includes a prospectus (the “Prospectus”) that provides that it may be supplemented in the future by one or more supplements to the Prospectus (each, a “Prospectus Supplement”). The Prospectus, as it may be supplemented by one or more Prospectus Supplements, relates to the proposed offering and sale from time to time, pursuant to Rule 415 under the Securities Act, of up to \$150,000,000 in the aggregate of the following securities (the “Securities”): (i) shares of the Company’s common stock, par value \$0.001 per share (the “Common Stock”), (ii) shares of the Company’s preferred stock, \$0.001 par value per share (the “Preferred Stock”), (iii) debt securities of the Company (the “Debt Securities”), (iv) warrants to purchase shares of Common Stock, shares of Preferred Stock or Debt Securities (the “Warrants”), (v) units (the “Units”) consisting of Common Stock, Preferred Stock, Debt Securities, Warrants or any combination of the foregoing, and (vi) rights (the “Rights”) to purchase shares of Common Stock, shares of Preferred Stock, Debt Securities or Units.

In connection with this opinion letter, we have examined the Registration Statement and originals, or copies certified or otherwise identified to our satisfaction, of (i) the Third Amended and Restated Certificate of Incorporation of the Company, as amended (the “Certificate”), (ii) the Amended and Restated Bylaws of the Company (the “Bylaws”), (iii) certain resolutions of the Company’s Board of Directors relating to the Registration Statement, and (iv) such other documents, records and other instruments as we have deemed appropriate for purposes of the opinions set forth herein.

We have assumed the genuineness of all signatures, the legal capacity of all natural persons, the authenticity of the documents submitted to us as originals, the conformity with the originals 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. With respect to matters of fact relevant to our opinions as set forth below, we have relied upon certificates of officers of the Company, representations made by the Company in documents examined by us and representations of officers of the Company. We have also obtained and relied upon such certificates and assurances from public officials as we have deemed necessary for the purposes of our opinions set forth below.

For the purpose of the opinions set forth below, we have also assumed, without independent investigation or verification, that:

A. the issuance, sale, number or amount, as the case may be, and terms of Securities to be offered from time to time will be duly authorized and established, in accordance with the Certificate, the Bylaws and applicable Delaware law (each, a “Corporate Action”), and will not conflict with or constitute a breach of the terms of any agreement or instrument to which the Company is subject;

B. at the time of issuance and sale of shares of Common Stock, a sufficient number of shares of Common Stock will be authorized and available for issuance and that the consideration for the issuance and sale of the Common Stock (or Preferred Stock convertible into Common Stock, Warrants exercisable for Common Stock or Rights to purchase Common Stock) will be in an amount that is not less than the par value of the Common Stock;

C. prior to the issuance of shares of one or more series of Preferred Stock, an appropriate certificate of designation relating to each such series of Preferred Stock will have been duly authorized by Corporate Action and filed with the Secretary of State of the State of Delaware and at the time of issuance and sale, a sufficient number of shares of Preferred Stock will be authorized, designated and available for issuance and that the consideration for the issuance and sale of the Preferred Stock (or Warrants exercisable for Preferred Stock or Rights to purchase Preferred Stock) will be in an amount that is not less than the par value of the Preferred Stock;

D. each series of Debt Securities will be issued under a form of indenture and any necessary amendment or supplement thereto (collectively, the "Indenture") between the Company and the Trustee, and the execution, delivery and performance of the Indenture will be duly authorized by Corporate Action, and will not conflict with or constitute a breach of the terms of any agreement or instrument to which the Company is subject;

E. to the extent that the obligations of the Company under the Indenture may depend upon such matters, the Trustee will be duly organized, validly existing and in good standing under the laws of its jurisdiction of organization; that the Trustee will be duly qualified to engage in the activities contemplated by the Indenture; that the Indenture will be duly authorized, executed and delivered by the Trustee and will constitute the legal, valid and binding obligation of such Trustee, enforceable against the Trustee in accordance with its terms; that the Trustee will be in compliance, generally and with respect to acting as a trustee under the Indenture, with all applicable laws and regulations, and that the Trustee will have the requisite organizational and legal power and authority to perform its obligations under such Indenture;

F. any Warrants will be issued under one or more warrant agreements (each, a "Warrant Agreement") between the Company and the financial institution identified in the Warrant Agreement as a warrant agent (each, a "Warrant Agent") and the execution, delivery and performance of the applicable Warrant Agreement will be duly authorized by Corporate Action, and will not conflict with or constitute a breach of the terms of any agreement or instrument to which the Company is subject;

G. any Warrants offered under the Registration Statement and the related Warrant Agreement, as applicable, will be executed in the forms filed as exhibits to the Registration Statement or incorporated by reference therein;

H. to the extent that the obligations of the Company under any Warrant Agreement may depend upon such matters, each of the parties thereto, other than the Company, will be duly organized, validly existing and in good standing under the laws of its jurisdiction of organization and will be duly qualified to engage in the activities contemplated by such Warrant Agreement; that such Warrant Agreement has been duly authorized, executed and delivered by such party and constitutes the legal, valid and binding obligation of such party, enforceable against such party in accordance with its terms; that such party is in compliance, generally and with respect to acting as a party with respect to its obligations under such Warrant Agreement, with all applicable laws and regulations, and that such party has the requisite organizational and legal power and authority to perform its obligations under such Warrant Agreement;

I. any Units will be issued pursuant to purchase or similar agreements to be entered into by the Company and the parties thereto (each, a "Unit Agreement") and the execution, delivery and performance of the applicable Unit Agreement will be duly authorized by Corporate Action, and will not conflict with or constitute a breach of the terms of any agreement or instrument to which the Company is subject;

J. to the extent that the obligations of the Company under any Unit Agreement may depend upon such matters, each of the parties thereto, other than the Company, will be duly organized, validly existing and in good standing under the laws of its jurisdiction of organization and will be duly qualified to engage in the activities contemplated by such Unit Agreement; that such Unit Agreement has been duly authorized, executed and delivered by such party and constitutes the legal, valid and binding obligation of such party, enforceable against such party in accordance with its terms; that such party is in compliance, generally and with respect to acting as a party with respect to its obligations under such Unit Agreement, with all applicable laws and regulations, and that such party has the requisite organizational and legal power and authority to perform its obligations under such Unit Agreement;

K. any Units offered under the Registration Statement and the related purchase or similar agreement, as applicable, will be executed in the forms filed as exhibits to the Registration Statement or incorporated by reference therein;

L. any Rights will be issued pursuant to rights agreements (each such rights agreement, a "Rights Agreement") to be entered into by the Company and a rights agent (each, a "Rights Agent") and the execution, delivery and performance of the applicable Warrant Agreement will be duly authorized by Corporate Action, and will not conflict with or constitute a breach of the terms of any agreement or instrument to which the Company is subject;

M. to the extent that the obligations of the Company under any Rights Agreement may depend upon such matters, each of the parties thereto, other than the Company, will be duly organized, validly existing and in good standing under the laws of its jurisdiction of organization and will be duly qualified to engage in the activities contemplated by such Rights Agreement; that such Rights Agreement has been duly authorized, executed and delivered by such party and constitutes the legal, valid and binding obligation of such party, enforceable against such party in accordance with its terms; that such party is in compliance, generally and with respect to acting as a party with respect to its obligations under such Rights Agreement, with all applicable laws and regulations, and that such party has the requisite organizational and legal power and authority to perform its obligations under such Rights Agreement;

N. any Rights offered under the Registration Statement and the related Rights Agreement, as applicable, will be executed in the forms filed as exhibits to the Registration Statement or incorporated by reference therein;

O. the Registration Statement and any amendments thereto (including post-effective amendments) will have become effective and such effectiveness shall not have been terminated or rescinded and will comply with all applicable federal and state laws at the time the Securities are offered and issued as contemplated by the Registration Statement;

P. a Prospectus Supplement will have been prepared, delivered (including through compliance with Rule 172 of the General Rules and Regulations promulgated under the Act) and filed with the Commission describing the Securities offered thereby and will comply with all applicable laws at the time the Securities are offered and issued as contemplated by the Registration Statement;

Q. all Securities will be issued and sold in compliance with applicable federal and state securities laws; and

R. a definitive purchase, underwriting or similar agreement (each, a "Definitive Agreement") with respect to any Securities offered or issued will have been duly authorized and validly executed and delivered by the Company and the other parties thereto.

Subject to the foregoing and the other matters set forth herein, it is our opinion that, as of the date hereof:

1. Upon due authorization by Corporate Action of the issuance and sale of shares of Common Stock and upon issuance and delivery of such shares of Common Stock against payment for such shares (in an amount at least equal to the aggregate par value of such shares of Common Stock) in accordance with the terms and provisions of the applicable Definitive Agreements, the terms of the Corporate Action and as contemplated by the Registration Statement and the applicable Prospectus Supplement, and, if applicable, upon the conversion, exchange or exercise of any other Securities in accordance with their respective terms, the terms of the Corporate Action and as contemplated by the Registration Statement and the applicable Prospectus Supplement (which shall, in each case, provide for payment of consideration that shall be at least equal to the aggregate par value of such shares of Common Stock), such shares of Common Stock will be validly issued, fully paid and nonassessable.

2. Upon due authorization by Corporate Action of the issuance and sale of shares of a series of Preferred Stock and upon issuance and delivery of such shares of Preferred Stock against payment for such shares (in an amount at least equal to the aggregate par value of such shares of Preferred Stock) in accordance with the terms and provisions of applicable Definitive Agreements, the terms of the Corporate Action and as contemplated by the Registration Statement and the applicable Prospectus Supplement, and, if applicable, upon the conversion, exchange or exercise of any other Securities in accordance with their respective terms, the terms of the Corporate Action and as contemplated by the Registration Statement and the applicable Prospectus Supplement (which shall, in either case, provide for payment of consideration at least equal to the aggregate par value of such shares of Preferred Stock), such shares of such series of Preferred Stock will be validly issued, fully paid and nonassessable.

3. When the Indenture has been qualified under the Trust Indenture Act of 1939, as amended, the particular series of Debt Securities has been duly established in accordance with the terms of the applicable Indenture, the specific terms of a particular issuance of Debt Securities have been duly authorized by Corporate Action and are in accordance with the terms of the Indenture, the Indenture is duly executed and delivered by the Company, and such Debt Securities have been duly executed, authenticated, completed, issued and delivered, against payment for such Debt Securities, in accordance with the terms and provisions of the applicable Definitive Agreements, the terms of the Corporate Action and as contemplated by the Registration Statement and the applicable Prospectus Supplement, and, if applicable, upon the conversion, exchange or exercise of any other Securities in accordance with their respective terms, the terms of the Corporate Action and as contemplated by the Registration Statement and the applicable Prospectus Supplement, such Debt Securities will be validly issued and will constitute valid and binding obligations of the Company, and the Indenture will constitute a valid and binding obligation of the Company, except, with respect to each of the Debt Securities and the Indenture, as enforcement may be limited by applicable bankruptcy, insolvency, reorganization, arrangement, moratorium or other similar laws affecting creditors' rights, and subject to general equity principles and to limitations on the availability of equitable relief, including specific performance.

4. When a Warrant Agreement providing for the specific terms of a particular issuance of Warrants has been duly authorized by Corporate Action and has been duly executed and delivered by the Company and the Warrant Agent named in such Warrant Agreement and such Warrants, conforming to the requirements of such Warrant Agreement, have been duly countersigned or authenticated, as required, by such Warrant Agent and duly executed and delivered by the Company against payment for such Warrants in accordance with the terms and provisions of such Warrant Agreement and applicable Definitive Agreements, the terms of the Corporate Action and as contemplated by the Registration Statement and the applicable Prospectus Supplement, such Warrants will be valid and binding obligations of the Company, except as enforcement may be limited by applicable bankruptcy, insolvency, reorganization, arrangement, moratorium or other similar laws affecting creditors' rights, and subject to general equity principles and to limitations on the availability of equitable relief, including specific performance.

5. When a Unit Agreement providing for the specific terms of a particular issuance of Unit has been duly authorized by Corporate Action and has been duly executed and delivered by the Company and the other parties named in such Unit Agreement and such Units, conforming to the requirements of such Unit Agreement, have been duly executed and delivered by the Company against payment for such Units in accordance with the terms and provisions of such Unit Agreement and applicable Definitive Agreements, the terms of the Corporate Action and as contemplated by the Registration Statement and the applicable Prospectus Supplement, such Units will be valid and binding obligations of the Company, except as enforcement may be limited by applicable bankruptcy, insolvency, reorganization, arrangement, moratorium or other similar laws affecting creditors' rights, and subject to general equity principles and to limitations on the availability of equitable relief, including specific performance.

6. When a Rights Agreement providing for the specific terms of a particular issuance of Rights has been duly authorized by Corporate Action and has been duly executed and delivered by the Company and the Rights Agent named in such Rights Agreement and such Rights, conforming to the requirements of such Rights Agreement, have been duly countersigned or authenticated, as required, by such Rights Agent and duly executed and delivered by the Company against payment for such Rights in accordance with the terms and provisions of such Rights Agreement and applicable Definitive Agreements, the terms of the Corporate Action and as contemplated by the Registration Statement and the applicable Prospectus Supplement, such Rights will be valid and binding obligations of the Company, except as enforcement may be limited by applicable bankruptcy, insolvency, reorganization, arrangement, moratorium or other similar laws affecting creditors' rights, and subject to general equity principles and to limitations on the availability of equitable relief, including specific performance.

The foregoing opinions are limited to the General Corporation Law of the State of Delaware and, with respect to our opinion in paragraph 3 above, the State of New York, and we express no opinion with respect to the laws of any other state or jurisdiction. Although the Securities may be issued from time to time on a delayed or continuous basis, the opinions expressed herein are limited to the laws, including rules and regulations, as in effect on the date hereof.

This opinion letter is limited to the matters stated herein and no opinions may be implied or inferred beyond the matters expressly stated herein. The opinions expressed herein are as of the date hereof and we assume no obligation to update or supplement such opinions to reflect any facts or circumstances that may hereafter come to our attention or any changes in the law that may hereafter occur.

We consent to your filing this opinion as an exhibit to the Registration Statement and to the reference to our firm under the caption "Legal Matters" in the Prospectus. 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 Securities Act or the rules or regulations of the Securities and Exchange 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 Registration Statement of Leap Therapeutics, Inc. on Form S-3 to be filed on or about September 14, 2020 of our report dated March 16, 2020, on our audits of the consolidated financial statements as of December 31, 2019 and 2018 and for each of the years then ended, which report was included in the Annual Report on Form 10-K filed March 16, 2020. Our report includes an explanatory paragraph that refers to a change in the method of accounting for leases and warrants. We also consent to the reference to our firm under the caption “Experts” in this Registration Statement.

/s/ EisnerAmper LLP

EISNERAMPER LLP
Philadelphia, Pennsylvania
September 14, 2020
