

Supplement No. 1 dated February 2, 2022  
To Prospectus Supplement dated December 10, 2021  
(To Prospectus Dated December 3, 2021)



## JAGUAR HEALTH, INC.

### Up to \$75,000,000 Shares of Common Stock

This supplement (this “Supplement”) amends and supplements the prospectus supplement, dated December 10, 2021 (as amended, the “Prospectus Supplement”), filed as part of our registration statement on Form S-3 (File No. 333-261283) (the “Registration Statement”). This Supplement should be read in conjunction with the Prospectus Supplement, and is qualified by reference thereto, except to the extent that the information herein amends or supersedes the information contained in the Prospectus Supplement. This Supplement is not complete without, and may only be delivered or utilized in connection with the Prospectus Supplement and any future amendments or supplements thereto.

Under the Prospectus Supplement, Jaguar Health, Inc. (“we”, “us” or the “Company”) initially registered shares of our voting common stock, par value \$0.0001 per share (the “Common Stock”), having an aggregate offering price of up to \$15,000,000, for offer and sale from time to time through Ladenburg Thalmann & Co. Inc. (“Ladenburg”), acting as the Company’s sales agent, pursuant to an At The Market Offering Agreement, dated December 10, 2021, between us and Ladenburg, as amended on February 2, 2022 (the “ATM Agreement”). Sales of our Common Stock under the Prospectus Supplement, as supplemented by this Supplement, may be made in sales deemed to be an “at-the-market offering” as defined in Rule 415(a)(4) promulgated under the Securities Act of 1933, as amended (“Securities Act”).

From December 10, 2021 through the date of this Supplement, we have sold under the Prospectus Supplement an aggregate of 2,680,472 shares of our Common Stock, pursuant to the ATM Agreement, for gross proceeds of \$3,948,311.42. Pursuant to the terms of the ATM Agreement, as of the date of this Supplement, the amount of Common Stock that we may offer has increased to an aggregate offering price of \$75,000,000, including the shares of Common Stock sold to date pursuant to the ATM Agreement, leaving a remaining aggregate offering amount of \$71,051,688 available for sale under the ATM Agreement.

Accordingly, each reference to the maximum aggregate offering price of Common Stock that we may sell in this offering is hereby amended in the Prospectus Supplement from \$15,000,000 to \$75,000,000.

Our Common Stock is listed on the Nasdaq Capital Market under the symbol “JAGX.” On February 1, 2022, the last reported sale price of our common stock on the Nasdaq Capital Market was \$0.84 per share.

**Investing in our Common Stock involves a high degree of risk. Before deciding whether to invest in our securities, you should consider carefully the risks that we have described on page S-7 of this Supplement under the caption “Risk Factors” and in the documents incorporated by reference into the Prospectus Supplement and the accompanying prospectus.**

**Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this Supplement, the Prospectus Supplement and accompanying prospectus are truthful or complete. Any representation to the contrary is a criminal offense.**

## LADENBURG THALMANN

The date of this prospectus supplement is February 2, 2022

---

TABLE OF CONTENTS

<b>PROSPECTUS SUPPLEMENT</b>	
<a href="#">PROSPECTUS SUPPLEMENT SUMMARY</a>	<a href="#">S-3</a>
<a href="#">THE OFFERING</a>	<a href="#">S-6</a>
<a href="#">RISK FACTORS</a>	<a href="#">S-7</a>
<a href="#">DILUTION</a>	<a href="#">S-15</a>
<a href="#">LEGAL MATTERS</a>	<a href="#">S-16</a>

## PROSPECTUS SUPPLEMENT SUMMARY

*The following is a summary of what we believe to be the most important aspects of our business and the offering of our securities under this prospectus supplement and in the accompanying prospectus. We urge you to read this entire prospectus supplement, the accompanying prospectus and any free writing prospectus that we have authorized for use in connection with this offering, including the section entitled "Risk Factors" and the more detailed financial statements, notes to the financial statements and other information incorporated by reference from our other filings with the SEC.*

### Overview

Jaguar is a commercial stage pharmaceuticals company focused on developing novel, plant-based, non opioid and sustainably derived prescription medicines for people and animals with gastrointestinal distress, specifically chronic, debilitating diarrhea. Our wholly-owned subsidiary, Napo Pharmaceuticals, Inc. ("Napo"), focuses on developing and commercializing proprietary human gastrointestinal pharmaceuticals for the global marketplace from plants used traditionally in rainforest areas. Our Mytesi ("crofelemer") product is approved by the U.S. Food and Drug Administration ("FDA") for the symptomatic relief of noninfectious diarrhea in adults with HIV/AIDS on antiretroviral therapy. Our Canalevia-CA1 product is conditionally approved by the FDA to treat chemotherapy-induced diarrhea (CID) in dogs. Napo's substantially owned Italian subsidiary, Napo Therapeutics S.p.A., focuses on expanding crofelemer access in Europe (excluding Russia) under an exclusive license from Napo Pharmaceuticals.

Jaguar was founded in San Francisco, California as a Delaware corporation on June 6, 2013. Our primary focus is the commercialization of Mytesi and development of follow-on indications for crofelemer and a second-generation anti-secretory product, lechlemer. In the field of animal health, we are focused on the launch of our first prescription product, Canalevia-CA1 (crofelemer) for chemotherapy-induced diarrhea in dogs. We have limited activities which are focused on developing and commercializing first-in-class gastrointestinal products for dairy calves, foals, and equine athletes.

We believe Jaguar is poised to realize a number of synergistic, value adding benefits - an expanded pipeline of potential blockbuster human follow-on indications, a second-generation anti-secretory agent, as well as important animal indications for crofelemer - upon which to build global partnerships. As previously announced, Jaguar, through Napo, holds extensive global rights for Mytesi, and crofelemer manufacturing is being conducted at a multimillion-dollar, FDA-compliant commercial manufacturing facility. Additionally, several of the drug product candidates in Jaguar's crofelemer pipeline are backed by what we believe are strong Phase 2 and proof of concept evidence from completed human clinical trials.

Crofelemer is a novel, first-in-class anti-secretory agent which has a basic normalizing effect locally on the gut, and this mechanism of action has the potential to benefit multiple disorders. Crofelemer is in development for multiple possible follow-on indications, including cancer therapy-related diarrhea ("CTD"); orphan-drug indications for in infants and children with congenital diarrheal disorders ("CDD") and for adult and pediatric patients for short bowel syndrome with intestinal failure with "SBS-IF"; supportive care for diarrhea relief in inflammatory bowel diseases ("IBD"); diarrhea-predominant irritable bowel syndrome ("IBS-D"); and for idiopathic/functional diarrhea. In addition, a second-generation anti-secretory agent, lechlemer, is in development for cholera. Crofelemer has received orphan-drug designation for SBS in the U.S. and the Europe Union.

Our management team has significant experience in gastrointestinal product development for both humans and animals. Napo was founded over 30 years ago to perform drug discovery and development by leveraging the knowledge of traditional healers working in rainforest areas. Ten members of the Jaguar and Napo team have been together for more than 15 years. Dr. Steven King, our chief sustainable supply, ethnobotanical research and intellectual property officer, and Lisa Conte, our founder, president and CEO, have worked together for more than 30 years. Together, these dedicated personnel successfully transformed crofelemer, which is extracted from trees growing in the rainforest, to Mytesi, which is a natural, sustainably harvested, FDA-approved drug; and Canalevia-CA1, an FDA conditionally approved drug for chemotherapy-induced diarrhea in dogs.

## Recent Developments

### *Canalevia-CA1 Conditional Approval*

In December 2021, we received conditional approval from the FDA to market Canalevia-CA1 (crofelemer delayed-release tablets), our oral plant-based prescription drug for the treatment of chemotherapy-induced diarrhea (CID) in dogs. We expect Canalevia-CA1 to be available to multiple leading veterinary distributors in the U.S. in the second quarter of 2022 after we complete a post-approval update to the chemistry, manufacturing and controls (CMC) related to crofelemer. This update will align with the CMC requirements related to crofelemer used as the active ingredient in Mytesi.

## Risks Related to Our Business

Our business, and our ability to execute our business strategy, is subject to a number of risks as more fully described in the section titled “Risk Factors.” These risks include, among others, the following:

- We have a limited operating history, have not yet generated any material revenues, expect to continue to incur significant research and development and other expenses, and may never become profitable. If the Company is unable to obtain an adequate level of financing needed for the long-term development and commercialization of our products, the Company will need to curtail planned activities and reduce costs. Doing so will likely have an adverse effect on our ability to execute our business plan; accordingly, there is substantial doubt about the ability of the Company to continue in existence as a going concern.
- We have never generated any material revenue from operations and may need to raise additional capital to achieve our goals.
- Our failure to meet the continued listing requirements of The Nasdaq Capital Market could result in a delisting of our Common Stock.
- We are substantially dependent on the success of our current lead human prescription drug product, Mytesi and Canalevia-CA1, our conditionally approved prescription drug product for dogs with chemotherapy-induced diarrhea (CID) and candidate for exercise-induced diarrhea (EID). We cannot be certain that necessary approvals will be received for planned Mytesi follow-on indications or Canalevia-CA1 or that these product candidates will be successfully commercialized, either by us or any of our partners.
- The results of earlier studies may not be predictive of the results of our pivotal trials or other future studies, and we may be unable to obtain any necessary regulatory approvals for our existing or future prescription drug product candidates under applicable regulatory requirements.
- Development of prescription drug products, and, to a lesser extent, non-prescription products, for the human health and animal health market is inherently expensive, time-consuming and uncertain, and any delay or discontinuance of our current or future pivotal trials, or dosage or formulation studies, would harm our business and prospects.
- Even if we obtain any required regulatory approvals for our current or future prescription drug product candidates, they may never achieve market acceptance or commercial success.
- We are dependent upon imported active pharmaceutical ingredients and contract manufacturers for supplies of our current prescription drug product candidates and non-prescription products and intend to rely on contract manufacturers for commercial quantities of any of our commercialized products.
- If we are not successful in identifying, developing and commercializing additional prescription drug product candidates and non-prescription products, our ability to expand our business and achieve our strategic objectives may be impaired.
- We have material weaknesses in our internal control over financial reporting in our accounting department. If we fail to remediate the material weaknesses, or experience any additional material weaknesses in the future or otherwise fail to maintain an effective system of internal controls in the future, we may not be able to accurately report our financial condition or results of operations which may adversely affect investor confidence in us and, as a result, the value of our Common Stock.

**Corporate Information**

We were incorporated in the State of Delaware on June 6, 2013. Our principal executive offices are located at 200 Pine Street, Suite 400, San Francisco, CA 94014 and our telephone number is (415) 371-8300. Our website address is <https://jaguar.health>. The information contained on, or that can be accessed through, our website is not part of this prospectus supplement. Our Common Stock is listed on the Nasdaq Capital Market and trades under the symbol “JAGX.”

On June 3, 2019, we filed an amendment to our Third Amended and Restated Certificate of Incorporation (as amended, restated, or modified, the “Certificate of Incorporation”), to effect on June 7, 2019, a 1-for-70 reverse split of our voting common stock (the “2019 Reverse Split”). On September 3, 2021, we filed the fifth amendment to the Certificate of Incorporation to effect on September 8, 2021, a 1-for-3 reverse stock split of our voting common stock (the “2021 Reverse Split” and, together with the 2019 Reverse Split, the “Reverse Splits”). Accordingly, all of the stock figures and related market, conversion and exercise prices in this prospectus supplement have been adjusted to reflect the Reverse Splits.

## THE OFFERING

Common stock offered by us	Shares of our Common Stock having an aggregate offering price of up to \$75,000,000.
Current status	As of January 28, 2022, shares of our common stock with an aggregate offering price of up to approximately \$71.1 million remain available for sale in accordance with the terms of the ATM Agreement.
Manner of offering	“At the market offering” that may be made from time to time through or to Ladenburg, as sales agent or principal. See “Plan of Distribution” on page S-16 of the Prospectus Supplement.
Common stock outstanding prior to this offering	48,772,076 shares
Common stock to be outstanding after this offering	147,454,976 shares, assuming sale of 98,682,900 shares at a price of \$0.72 per share, which was the closing price of our Common Stock on The Nasdaq Capital Market on January 28, 2022. The actual number of shares issued will vary depending on the sales prices under this offering.
Use of proceeds	We intend to use the net proceeds from this offering for working capital and general corporate purposes. We reserve the right, at the sole discretion of our management, to reallocate the proceeds of this offering in response to developments in our business and other factors. See “Use of Proceeds” on page S-15.
Risk factors	You should read the “Risk Factors” section of this Supplement and in the documents incorporated by reference in this Supplement for a discussion of factors to consider before deciding to invest in our Common Stock.
Nasdaq Capital Market symbol	“JAGX”.

We have two classes of common stock: (i) voting common stock, par value \$0.0001 per share, and (ii) non-voting common stock, par value \$0.0001 per share. The shares offered by us in this offering are voting common stock.

The number of shares of our common stock to be outstanding after this offering is based on 48,771,403 shares of our voting common stock and 673 shares of our non-voting common stock outstanding as of January 28, 2022, and excludes the following:

- 563,108 shares of common stock issuable upon exercise of warrants outstanding with a weighted-average exercise price of \$7.17;
- 2,327,903 shares of common stock issuable upon exercise of outstanding options with a weighted-average exercise price of \$9.83;
- 3,078,996 shares of common stock remain available for grant under the 2014 Stock Incentive Plan and 28,167 shares of common stock remain available under the 2020 Employee Inducement Plan;
- 132,376 shares of common stock issuable upon exercise of outstanding options under the 2020 Employee Inducement Plan with a weighted-average exercise price of \$4.27; and
- 467,792 and 6,123 shares of common stock issuable upon vesting of outstanding restricted stock unit awards (“RSUs”) under the 2014 Stock Incentive Plan and 2020 Employee Inducement Plan, respectively .

## RISK FACTORS

Investing in our Common Stock involves a high degree of risk. You should carefully consider the risks factor described below. You should also consider the risks, uncertainties and assumptions discussed under the heading “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” included in our most recent Annual Report on Form 10-K, as revised or supplemented by our most recent Quarterly Report on Form 10-Q, each of which are on file with the SEC and are incorporated herein by reference, and which may be amended, supplemented or superseded from time to time by other reports we file with the SEC in the future. There may be other unknown or unpredictable economic, business, competitive, regulatory or other factors that could have material adverse effects on our future results. If any of these risks actually occurs, our business, business prospects, financial condition or results of operations could be seriously harmed. In such an event, the market price of our Common Stock could decline, and you may lose all or part of your investment. Additional risks and uncertainties not presently known to us or that we currently deem immaterial also may harm our business, financial condition, results of operations and prospects.

### **Risks Related to this Offering**

***Our management team and board of directors will have immediate and broad discretion over the use of the net proceeds from this offering and we may use the net proceeds in ways with which you disagree.***

The net proceeds from this offering will be immediately available to our management to use at their discretion. We currently intend to use the net proceeds as discussed under “Use of Proceeds” in the Prospectus Supplement. The precise amount and timing of the application of these proceeds will depend upon a number of factors, such as the timing and progress of our product development and commercialization efforts, our funding requirements and the availability and costs of other funds. As of the date of this Supplement, we cannot specify with certainty all of the particular uses for the net proceeds to us from this offering. Depending on the outcome of our efforts and other unforeseen events, our plans and priorities may change and we may apply the net proceeds of this offering in different manners than we currently anticipate. Accordingly, our management and board of directors will have significant discretion and flexibility in applying the net proceeds of this offering. You will be relying on the judgment of our management and board of directors with regard to the use of these net proceeds, and you will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used appropriately. It is possible that the net proceeds will be invested in a way that does not result in a favorable, or any, return for us or our stockholders. The failure of our management to use such funds effectively could have a material adverse effect on our business, prospects, financial condition, and results of operations.

***You may experience immediate and substantial dilution.***

The offering price per share in this offering may exceed the net tangible book value per share of our common stock outstanding prior to this offering. Assuming that an aggregate of 98,682,900 shares of our Common Stock are sold during the term of the ATM Agreement with Ladenburg at a price of \$0.72 per share, the closing price of our Common Stock on the Nasdaq Capital Market on January 28, 2022, for aggregate gross proceeds of approximately \$71.1 million (reflecting the maximum number of shares remaining for sale under this offering), after deducting commissions and estimated aggregate offering expenses payable by us, you will experience immediate dilution of \$0.24 per share, representing the difference between our pro forma as adjusted net tangible book value per share as of September 30, 2021 after giving effect to this offering and the assumed offering price. The exercise of outstanding stock options and warrants may result in further dilution of your investment. See the section entitled “Dilution” below for a more detailed illustration of the dilution you would incur if you participate in this offering.

***The actual number of shares we will issue under the ATM Agreement with Ladenburg, at any one time or in total, is uncertain.***

Subject to certain limitations in the ATM Agreement with Ladenburg and compliance with applicable law, we have the discretion to deliver placement notices to Ladenburg at any time throughout the term of the ATM Agreement. The number of shares that are sold by Ladenburg after delivering a placement notice will fluctuate based on the market price of the Common Stock during the sales period and limits we set with Ladenburg.

***There is a limited trading market for our Common Stock, which could make it difficult to liquidate an investment in our Common Stock, in a timely manner.***

Our Common Stock is currently traded on The Nasdaq Capital Market. Because there is a limited public market for our Common Stock, investors may not be able to liquidate their investment whenever desired. We cannot assure that there will be an active trading market for our common stock and the lack of an active public trading market could mean that investors may be exposed to increased risk. In addition, if we failed to meet the criteria set forth in SEC regulations, various requirements would be imposed by law on broker-dealers who sell our securities to persons other than established customers and accredited investors. Consequently, such regulations may deter broker-dealers from recommending or selling our Common Stock, which may further affect its liquidity.

***You may experience future dilution as a result of future equity offerings.***

In order to raise additional capital, we may in the future offer additional shares of our common stock or other securities convertible into or exchangeable for our Common Stock at prices that may not be the same as the price per share in this offering. We may sell shares or other securities in any other offering at a price per share that is less than the price per share paid by investors in this offering, and investors purchasing shares or other securities in the future could have rights superior to existing stockholders. The price per share at which we sell additional shares of our Common Stock, or securities convertible or exchangeable into Common Stock, in future transactions may be higher or lower than the price per share paid by investors in this offering.

#### **Risks Related to Our Business**

***Even if we receive any of the required regulatory approvals for our current or future prescription drug product candidates and non-prescription products, we will be subject to ongoing obligations and continued regulatory review, which may result in significant additional expense.***

If the FDA or any other regulatory body approves any of our current or future prescription drug product candidates, or if necessary, our non-prescription products, the manufacturing processes, clinical development, labeling, packaging, distribution, adverse event reporting, storage, advertising, promotion and recordkeeping for the product may be subject to extensive and ongoing regulatory requirements. These requirements could include, but are not limited to, submissions of efficacy and safety and other post-marketing information and reports, establishment registration, and product listing, compliance with new rules promulgated under the FSMA, as well as continued compliance with cGMPs, GLPs and GCPs for any studies that we conduct post-approval. Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or with our contract manufacturers or manufacturing processes, or failure to comply with regulatory requirements, are reportable events to the FDA and may result in, among other things:

- restrictions on the marketing or manufacturing of the product, withdrawal of the product from the market, revised labeling, or voluntary or involuntary product recalls;
- additional clinical studies, fines, warning letters or holds on target animal studies;
- refusal by the FDA, or other regulators to approve pending applications or supplements to approved applications filed by us or our strategic collaborators related to the unknown problems, or suspension or revocation of the problematic product's license approvals;
- product seizure or detention, or refusal to permit the import or export of products; and
- injunctions and/or the imposition of civil or criminal penalties.

The FDA or other regulatory agency's policies may change and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of our product candidates or require certain changes to the labeling or additional clinical work concerning safety and efficacy of the product candidates. We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative action, either in the United States or abroad. If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing approval that we may have obtained and we may not achieve or sustain profitability, which would harm our business. In addition, failure to comply with these regulatory requirements could result in significant penalties.

In addition, from time to time, we may enter into consulting and other financial arrangements with veterinarians, who prescribe or recommend our products, once approved. As a result, we may be subject to state, federal and foreign healthcare and/or veterinary medicine laws. If our financial relationships with veterinarians are found to be in violation of such laws that apply to us, we may be subject to penalties.

Further, our commercial supply is regulated by the FDA, which requires regular filings, annual reports, and may include modifications by the Company to our approvals. Failure to gain agreement from the FDA on a timely basis could adversely affect our commercial supply of product.



Lastly, if we obtain conditional approval for our current or future drug product candidates, this conditional approval is renewable annually for five years and may be withdrawn or terminated under certain circumstances either during or at the end of the five-year period. For example, even though we have obtained conditional approval for Canalevia-CA1, if we do not undertake substantial efforts to do additional clinical research each year for the next five years, the FDA could terminate such conditional approval by refusing to renew the conditional approval.

## **Risks Related to Our Common Stock**

### ***Our failure to meet the continued listing requirements of The Nasdaq Capital Market could result in a delisting of our common stock.***

If we fail to satisfy the continued listing requirements of The Nasdaq Capital Market, such as the minimum closing bid price requirement, Nasdaq may take steps to delist our common stock.

The delisting of our common stock from Nasdaq may make it more difficult for us to raise capital on favorable terms in the future. Such a delisting would likely have a negative effect on the price of our common stock and would impair your ability to sell or purchase our common stock when you wish to do so. Further, if we were to be delisted from The Nasdaq Capital Market, our common stock would cease to be recognized as covered securities and we would be subject to regulation in each state in which we offer our securities.

***We have material weaknesses in our internal control over financial reporting related to staff turnover in our accounting department. If we fail to remediate the material weaknesses, or experience any additional material weaknesses in the future or otherwise fail to maintain an effective system of internal controls in the future, we may not be able to accurately report our financial condition or results of operations which may adversely affect investor confidence in us and, as a result, the value of our Common Stock.***

Our management is responsible for establishing and maintaining adequate internal control over our financial reporting, as defined in Rule 13a-15(f) under the Securities Exchange Act of 1934, as amended (the “Exchange Act”).

In connection with the preparation of our annual financial statements for the year ended December 31, 2020, we identified material weaknesses in our internal control over financial reporting related to our financial statement close process and policies. We did not have adequate policies and procedures in place to ensure the timely, effective review of assumptions used in measuring the fair value of certain financial instruments. We did not have sufficient resources with appropriate knowledge, experience and/or training commensurate with our financial reporting requirements to assist us in our timely and efficient preparation and review over our financial reporting. This material weakness has not been remediated as of September 30, 2021.

In connection with preparation of our interim financial statements for the three months ended September 30, 2021, we identified a material weakness in our internal control over financial reporting related to our financial statement preparation and review process. The primary factors contributing to the material weaknesses were as follows:

- We did not have adequate policies and procedures in place to ensure the timely and effective preparation and review of the financial statements.
- We did not have sufficient resources with appropriate knowledge, experience and/or training commensurate with our financial reporting requirements to assist us in our timely and efficient preparation and review over our financial reporting.

To remediate the material weaknesses described above, management will add controls to further enhance and revise the design of the existing controls including:

- Establishing policies and procedures to ensure timely review, by qualified personnel, of assumptions used in measuring fair value of certain financial instruments.
- Reassessing the design and operation of internal controls over financial reporting and review procedures over the preparation of our financial statements.

- Hiring permanent accounting personnel and used consultants to provide support during our quarterly and annual preparation, review, and reporting of our financial statements.
- Maintaining adequate internal qualified personnel to properly supervise and review the information provided by the outside consulting technical experts to ensure certain significant complex transactions and technical matters were properly accounted for.

We cannot assure you that the planned measures in response to these material weaknesses will be sufficient to remediate such material weaknesses or to avoid potential future material weaknesses.

If we are unable to remediate these material weaknesses, or if we identify one or more other material weaknesses in our internal control over financial reporting, we will continue to be unable to conclude that our internal controls are effective. If we are unable to confirm that our internal control over financial reporting is effective we could lose investor confidence in the accuracy and completeness of our financial reports, which could cause the price of our Common Stock to decline.

***If we issue all the shares available for issuance pursuant to the ATM Agreement, we will no shares of common stock available for new securities issuances, which will restrict us from accessing additional capital through the sale of new securities.***

Our Third Amended and Restated Certificate of Incorporation, as amended, authorizes us to issue up to 150,000,000 shares of voting common stock, 48,771,403 of which are issued and outstanding and 6,604,375 of which are reserved for issuance upon exercise of options and warrants and vesting of RSUs as of January 28, 2022. Accordingly, assuming the sale by us in this offering of shares pursuant to the ATM Agreement at a price of \$0.72 per share, which was the closing price of our Common Stock on The Nasdaq Capital Market on January 28, 2022, the maximum amount of shares that we could issue in this offering pursuant to the ATM Agreement without exceeding our total authorized but unissued shares is approximately \$68.1 million. If we were to issue the maximum amount of shares in this offering pursuant to the ATM Agreement, we will have no shares of voting common stock available for additional issuances. Our failure to increase our authorized shares may restrict our ability to access additional capital through the sale of new securities, which may harm our financial position and business prospects.

***If our shares become subject to the penny stock rules, it would become more difficult to trade our shares.***

The SEC has adopted rules that regulate broker-dealer practices in connection with transactions in penny stocks. Penny stocks are generally equity securities with a price of less than \$5.00, other than securities registered on certain national securities exchanges or authorized for quotation on certain automated quotation systems, provided that current price and volume information with respect to transactions in such securities is provided by the exchange or system. If we do not retain a listing on The Nasdaq Capital Market and if the price of our Common Stock is less than \$5.00, our Common Stock will be deemed a penny stock. The penny stock rules require a broker-dealer, before a transaction in a penny stock not otherwise exempt from those rules, to deliver a standardized risk disclosure document containing specified information. In addition, the penny stock rules require that before effecting any transaction in a penny stock not otherwise exempt from those rules, a broker-dealer must make a special written determination that the penny stock is a suitable investment for the purchaser and receive (i) the purchaser's written acknowledgment of the receipt of a risk disclosure statement; (ii) a written agreement to transactions involving penny stocks and (iii) a signed and dated copy of a written suitability statement. These disclosure requirements may have the effect of reducing the trading activity in the secondary market for our Common Stock, and therefore stockholders may have difficulty selling their shares.

***The price of our Common Stock could be subject to volatility related or unrelated to our operations, and purchasers of our Common Stock could incur substantial losses.***

We have experienced and may continue to experience significant volatility in the price of our Common Stock. From January 29, 2021 through January 28, 2022, the share price of our Common Stock ranged from a high of \$10.74 to a low of \$0.70. The reason for the volatility in our stock is not well understood and may continue. Factors that may have contributed to such volatility include, but are not limited to, those discussed previously in this "Risk Factors" section of this Supplement and incorporated by reference into this Supplement from our Annual Report on Form 10-K, as updated by subsequent reports, and others, such as:

- delays in the commercialization of Mytesi, Neonorm, Canalevia-CA1, Equilevia or our other current or future prescription drug product candidates and non-prescription products;

- any delays in, or suspension or failure of, our current and future studies;
- announcements of regulatory approval or disapproval of any of our current or future product candidates or of regulatory actions affecting our company or our industry;
- manufacturing and supply issues that affect product candidate or product supply for our studies or commercialization efforts;
- quarterly variations in our results of operations or those of our competitors;
- changes in our earnings estimates or recommendations by securities analysts;
- the payment of licensing fees or royalties in shares of our Common Stock;
- announcements by us or our competitors of new prescription drug products or product candidates or non-prescription products, significant contracts, commercial relationships, acquisitions or capital commitments;
- announcements relating to future development or license agreements including termination of such agreements;
- adverse developments with respect to our intellectual property rights or those of our principal collaborators;
- commencement of litigation involving us or our competitors;
- any major changes in our board of directors or management;
- new legislation in the United States relating to the prescription, sale, distribution or pricing of gastrointestinal health products;
- product liability claims, other litigation or public concern about the safety of our prescription drug product or product candidates and non-prescription products or any such future products;
- market conditions in the human or animal health industry, in general, or in the gastrointestinal health sector, in particular, including performance of our competitors;
- future issuances of shares of Common Stock or other securities;
- uncertainties related to COVID-19;
- general economic conditions in the United States and abroad; and
- market speculation regarding any of the foregoing

In addition, the stock market, in general, or the market for stocks in our industry, in particular, may experience broad market fluctuations, which may adversely affect the market price or liquidity of our common stock. Any sudden decline in the market price of our common stock could trigger securities class-action lawsuits against us. If any of our stockholders were to bring such a lawsuit against us, we could incur substantial costs defending the lawsuit and the time and attention of our management would be diverted from our business and operations. We also could be subject to damages claims if we were found to be at fault in connection with a decline in our stock price.

***A possible “short squeeze” due to a sudden increase in demand of our Common Stock that largely exceeds supply may lead to further price volatility in our Common Stock.***

Investors may purchase shares of our Common Stock to hedge existing exposure in our Common Stock or to speculate on the price of our Common Stock. Speculation on the price of our Common Stock may involve long and short exposures. To the extent aggregate short exposure exceeds the number of shares of our Common Stock available for purchase in the open market, investors with short exposure may have to pay a premium to repurchase our Common Stock for delivery to lenders of our Common Stock. Those repurchases may in turn, dramatically increase the price of our Common Stock until investors with short exposure are able to purchase additional shares of Common Stock to cover their short position. This is often referred to as a “short squeeze.” A short squeeze could lead to volatile price movements in shares of our Common Stock that are not directly correlated to the performance or prospects of our company and once investors purchase the shares necessary to cover their short position the price of our Common Stock may decline.

***You may not be able to resell our Common Stock when you wish to sell them or at a price that you consider attractive or satisfactory.***

The listing of our Common Stock on The Nasdaq Capital Market does not assure that a meaningful, consistent and liquid trading market exists. Although our Common Stock is listed on The Nasdaq Capital Market, until recently, trading volume in our Common Stock has been limited and an active trading market for our shares may not be sustained. If an active market for our Common Stock is not sustained, you may be unable to sell your shares when you wish to sell them or at a price that you consider attractive or satisfactory. The lack of an active market may also adversely affect our ability to raise capital by selling securities in the future, or impair our ability to license or acquire other product candidates, businesses or technologies using our shares as consideration.

***If securities or industry analysts do not publish research or reports about our company, or if they issue adverse or misleading opinions regarding us or our stock, our stock price and trading volume could decline.***

The trading market for our Common Stock depends in part on the research and reports that industry or financial analysts publish about us or our business. We do not influence or control the reporting of these analysts. If one or more of the analysts who do cover us downgrade or provide a negative outlook on our company or our industry, or the stock of any of our competitors, the price of our Common Stock could decline. If one or more of these analysts ceases coverage of our company, we could lose visibility in the market, which in turn could cause the price of our Common Stock to decline.

***You may be diluted by conversions of outstanding shares of non-voting common stock and exercises of outstanding options and warrants.***

As of January 28, 2022, we had (i) outstanding options to purchase an aggregate of 2,327,903 shares of our Common Stock at a weighted average exercise price of \$9.83 per share, (ii) outstanding options to purchase an aggregate of 132,376 shares of our Common Stock issuable upon exercise of outstanding inducement options, with a weighted-average exercise price of \$4.27 per share, (iii) 563,108 shares of Common Stock issuable upon exercise of warrants outstanding, with a weighted-average exercise price of \$7.17, and (v) 473,915 shares of Common Stock issuable upon vesting of outstanding RSUs.

The exercise of such options and warrants and conversion of the non-voting common stock will result in further dilution of your investment. In addition, you may experience further dilution if we issue Common Stock in the future. As a result of this dilution, you may receive significantly less in net tangible book value than the full purchase price you paid for the shares in the event of liquidation.

***Provisions in our charter documents and under Delaware law could discourage a takeover that stockholders may consider favorable and may lead to entrenchment of management.***

Our third amended and restated certificate of incorporation and amended and restated bylaws contain provisions that could delay or prevent changes in control or changes in our management without the consent of our board of directors. These provisions include the following:

- a classified board of directors with three-year staggered terms, which may delay the ability of stockholders to change the membership of a majority of our board of directors;
- no cumulative voting in the election of directors, which limits the ability of minority stockholders to elect director candidates;
- the exclusive right of our board of directors to elect a director to fill a vacancy created by the expansion of the board of directors or the resignation, death or removal of a director, which prevents stockholders from being able to fill vacancies on our board of directors;

- the ability of our board of directors to authorize the issuance of shares of preferred stock and to determine the terms of those shares, including preferences and voting rights, without stockholder approval, which could adversely affect the rights of our common stockholders or be used to deter a possible acquisition of our company;
- the ability of our board of directors to alter our bylaws without obtaining stockholder approval;
- the required approval of the holders of at least 75% of the shares entitled to vote at an election of directors to adopt, amend or repeal our bylaws or repeal the provisions of our third amended and restated certificate of incorporation regarding the election and removal of directors;
- a prohibition on stockholder action by written consent, which forces stockholder action to be taken at an annual or special meeting of our stockholders;
- the requirement that a special meeting of stockholders may be called only by the chairman of the board of directors, the chief executive officer, the president or the board of directors, which may delay the ability of our stockholders to force consideration of a proposal or to take action, including the removal of directors; and
- advance notice procedures that stockholders must comply with in order to nominate candidates to our board of directors or to propose matters to be acted upon at a stockholders' meeting, which may discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer's own slate of directors or otherwise attempting to obtain control of us.

These provisions could inhibit or prevent possible transactions that some stockholders may consider attractive.

We are also subject to the anti-takeover provisions contained in Section 203 of the Delaware General Corporation Law. Under Section 203, a corporation generally may not engage in a business combination with any holder of 15% or more of its capital stock unless the holder has held the stock for three years or, among other exceptions, the board of directors has approved the transaction.

***Our amended and restated bylaws designate the Court of Chancery of the State of Delaware as the sole and exclusive forum for certain actions and proceedings that may be initiated by our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or other employees.***

Our amended and restated bylaws provide that, unless we consent in writing to an alternative forum, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for (i) any derivative action or proceeding brought on our behalf, (ii) any action asserting a claim of breach of a fiduciary duty owed by any director, officer or other employees to us or our stockholders, (iii) any action asserting a claim arising pursuant to any provision of the Delaware General Corporation Law, (iv) any action asserting a claim that is governed by the internal affairs doctrine or (v) any action to interpret, apply, enforce or determine the validity of our certificate of incorporation or bylaws. Any person purchasing or otherwise acquiring any interest in any shares of our capital stock shall be deemed to have notice of and to have consented to this provision of our amended and restated bylaws. This choice-of-forum provision may limit our stockholders' ability to bring a claim in a judicial forum that they find favorable for disputes with us or our directors, officers or other employees, which may discourage such lawsuits. Alternatively, if a court were to find this provision of our amended and restated bylaws inapplicable or unenforceable with respect to one or more of the specified types of actions or proceedings, we may incur additional costs associated with resolving such matters in other jurisdictions, which could harm our business and financial condition.

***We do not intend to pay dividends on our Common Stock, and your ability to achieve a return on your investment will depend on appreciation in the market price of our Common Stock.***

We currently intend to invest our future earnings, if any, to fund our growth and not to pay any cash dividends on our Common Stock. Because we do not intend to pay dividends, your ability to receive a return on your investment will depend on any future appreciation in the market price of our Common Stock. We cannot be certain that our Common Stock will appreciate in price.

***The requirements of being a public company, including compliance with the reporting requirements of the Exchange Act and the requirements of the Sarbanes-Oxley Act, may strain our resources, increase our costs and distract management, and we may be unable to comply with these requirements in a timely or cost-effective manner.***

Our initial public offering had a significant, transformative effect on us. Prior to our initial public offering, our business operated as a privately-held company, and we were not required to comply with public reporting, corporate governance and financial accounting practices and policies required of a publicly-traded company. As a publicly-traded company, we incur significant additional legal, accounting and other expenses compared to historical levels. In addition, new and changing laws, regulations and standards relating to corporate governance and public disclosure, including the Dodd-Frank Wall Street Reform and Consumer Protection Act and the rules and regulations thereunder, as well as under the Sarbanes-Oxley Act, the JOBS Act and the rules and regulations of the SEC and The Nasdaq Capital Market, may result in an increase in our costs and the time that our board of directors and management must devote to our compliance with these rules and regulations. These rules and regulations have substantially increased our legal and financial compliance costs and diverted management time and attention from our product development and other business activities.

The Sarbanes-Oxley Act requires, among other things, that we assess the effectiveness of our internal control over financial reporting annually and the effectiveness of our disclosure controls and procedures quarterly. In particular, Section 404 of the Sarbanes-Oxley Act, or Section 404, requires us to perform system and process evaluation and testing of our internal control over financial reporting to allow management to report on, and our independent registered public accounting firm potentially to attest to, the effectiveness of our internal control over financial reporting. We have needed to expend time and resources on documenting our internal control over financial reporting so that we are in a position to perform such evaluation when required. As a smaller reporting company (“SRC”), we expect to avail ourselves of the exemption from the requirement that our independent registered public accounting firm attest to the effectiveness of our internal control over financial reporting under Section 404. However, we may no longer avail ourselves of this exemption when we cease to be an SRC. When our independent registered public accounting firm is required to undertake an assessment of our internal control over financial reporting, the cost of our compliance with Section 404 will correspondingly increase. Our compliance with applicable provisions of Section 404 requires that we incur substantial accounting expense and expend significant management time on compliance-related issues as we implement additional corporate governance practices and comply with reporting requirements. Moreover, if we are not able to comply with the requirements of Section 404 applicable to us in a timely manner, or if we or our independent registered public accounting firm identifies deficiencies in our internal control over financial reporting that are deemed to be material weaknesses, the market price of our stock could decline and we could be subject to sanctions or investigations by the SEC or other regulatory authorities, which would require additional financial and management resources.

***Issuances of shares of Common Stock or securities convertible into or exercisable for shares of Common Stock following this offering, as well as the exercise of options and warrants outstanding, will dilute your ownership interests and may adversely affect the future market price of our Common Stock.***

The issuance of additional shares of our Common Stock or securities convertible into or exchangeable for our Common Stock could be dilutive to stockholders if they do not invest in future offerings. We intend to use the net proceeds from this offering to continue to fund the development of our business and for general corporate purposes, which may include capital expenditures and funding our working capital needs. We may seek additional capital through a combination of private and public equity offerings, debt financings, strategic partnerships and alliances and licensing arrangements, which may cause your ownership interest to be diluted.

In addition, we have a significant number of options and warrants to purchase shares of our Common Stock outstanding. If these securities are exercised or converted, you may incur further dilution. Moreover, to the extent that we issue additional options or warrants to purchase, or securities convertible into or exchangeable for, shares of our Common Stock in the future and those options, warrants or other securities are exercised, converted or exchanged, stockholders may experience further dilution.

## DILUTION

If you purchase shares in this offering, your interest will be diluted to the extent of the difference between the public offering price per share of Common Stock and the as adjusted net tangible book value per share of our Common Stock after this offering.

Our net tangible book value as of September 30, 2021 was \$(1.5) million, or (\$0.03) per share of common stock (based upon 46,090,931 outstanding shares of voting common stock and 673 shares of common stock issuable upon conversion of outstanding shares of non-voting common stock). “Net tangible book value” is total assets minus the sum of liabilities and intangible assets. “Net tangible book value per share” is net tangible book value divided by the total number of shares of Common Stock outstanding.

Our pro forma net tangible book value as of September 30, 2021 would have been approximately \$2.3 million, or \$0.05 per share of common stock (based upon 48,771,403 outstanding shares of voting common stock and 673 shares of common stock issuable upon conversion of outstanding shares of non-voting common stock), after giving effect to the issuance of 2,680,472 shares of Common Stock through Ladenburg pursuant to the ATM Agreement from December 10, 2021 through the date of this Supplement.

After giving effect to (i) the pro forma adjustments described above and (ii) the sale by us of the remaining 98,682,900 shares of Common Stock available in this offering pursuant to the ATM Agreement at an assumed offering price of \$0.72 per share, the closing price of our Common Stock on The Nasdaq Capital Market on January 28, 2022, and after deducting estimated offering expenses of approximately \$2,246,551 payable by us, our pro forma as adjusted net tangible book value as of September 30, 2021 would have been \$71.1 million, or \$0.48 per share of Common Stock. This represents an immediate increase in pro forma as adjusted net tangible book value of \$0.43 per share to our existing shareholders and an immediate dilution in pro forma as adjusted net tangible book value of approximately \$0.24 per share to investors participating in this offering.

Dilution per share to new investors is determined by subtracting pro forma as adjusted net tangible book value per share after this offering from the public offering price per share paid by new investors. The following table illustrates this dilution:

Public offering price per share		\$	0.72
Historical net tangible book value per share as of September 30, 2021	\$	(0.03)	
Pro forma increase in net tangible book value per share attributable to the pro forma transactions described above	\$	0.08	
Pro forma net tangible book value per share as of September 30, 2021	\$	0.05	
Increase in net tangible book value per share attributable to this offering	\$	0.43	
Pro forma as adjusted net tangible book value per share after this offering	\$		0.48
Dilution per share to new investors in this offering	\$		0.24

The table above assumes for illustrative purposes that an aggregate of 98,682,900 shares of our Common Stock are sold during the term of the ATM Agreement with Ladenburg at a price of \$0.72 per share, the closing price of our Common Stock on The Nasdaq Capital Market on January 28, 2022, for aggregate gross proceeds of approximately \$71,051,688 (reflecting the maximum number of shares remaining for sale under this offering).

The shares pursuant to the ATM Agreement are being sold from time to time at various prices. An increase of \$0.20 per share in the price at which the shares are sold from the assumed offering price of \$0.72 per share shown in the table above, assuming all of our remaining Common Stock in the aggregate amount of \$71,051,688 available for sale under the ATM Agreement is sold at that price, would change our pro forma as adjusted net tangible book value per share after the offering of \$0.51 per share and would increase the dilution in net tangible book value per share to new investors in this offering to \$0.36 per share, after deducting commissions and estimated aggregate offering expenses payable by us. A decrease of \$0.20 per share in the price at which the shares are sold from the assumed offering price of \$0.36 per share shown in the table above, assuming all of our remaining Common Stock in the aggregate amount of \$71,051,688 available for sale under the ATM Agreement is sold at that price, would decrease our pro forma as adjusted net tangible book value per share after the offering to \$0.33 per share and would decrease the dilution in net tangible book value per share to new investors in this offering to \$0.14 per share, after deducting commissions and estimated aggregate offering expenses payable by us. This information is supplied for illustrative purposes only.

The number of shares of our common stock to be outstanding after this offering is based on 48,772,076 shares of our voting common stock and shares of our non-voting common stock outstanding, as of September 30, 2021, on a pro forma basis, and excludes shares of Common Stock issuable upon exercise of options, warrants and other rights outstanding on September 30, 2021 on a pro forma basis.

## LEGAL MATTERS

The validity of the securities offered hereby will be passed upon by our counsel, Reed Smith LLP, Palo Alto, California. Shook, Hardy & Bacon L.L.P., Kansas City, Missouri, is acting as our U.S. regulatory counsel in connection with this offering. Sheppard, Mullin, Richter & Hampton LLP, New York, New York, is acting as counsel for Ladenburg in connection with this offering.