

PROSPECTUS



**Up to \$2,720,581 of Shares of
Common Stock**

This prospectus relates to the issuance and sale of up to \$2,720,581 of shares of our common stock that we may sell to Lincoln Park Capital Fund, LLC, or Lincoln Park, from time to time pursuant to the purchase agreement, dated February 17, 2020, or the Purchase Agreement, that we have entered into with Lincoln Park. As of April 9, 2020, we have sold \$1.2 million of our common stock, plus 308,637 shares of our common stock as “Commitment Shares”, under the Purchase Agreement pursuant to our registration statement on Form S-3 filed with the Securities and Exchange Commission, or the SEC, on October 3, 2016, and declared effective on October 17, 2016 (File No. 333-213926), or the Prior Registration Statement. As a result of the limitations discussed below and the current public float of our common stock, and in accordance with the terms of the Purchase Agreement, we may offer and sell shares of our common stock having an aggregate offering price of up to \$2,720,581 from time to time to Lincoln Park. See “Lincoln Park Transaction” for a description of the Purchase Agreement and additional information regarding Lincoln Park. Lincoln Park is an “underwriter” within the meaning of Section 2(a)(11) of the Securities Act of 1933, as amended, or the Securities Act.

The purchase price for the Purchase Shares will be based upon formulas set forth in the Purchase Agreement depending on the type of purchase notice we submit to Lincoln Park from time to time. We will pay the expenses incurred in registering the shares of our common stock, including legal and accounting fees. See “Plan of Distribution.”

We are subject to General Instruction I.B.6 of Form S-3, which limits the amounts that we may sell under the registration statement of which this prospectus forms a part. Pursuant to General Instruction I.B.6 of Form S-3, in no event will we sell securities registered on the registration statement of which this prospectus is a part in a public primary offering with a value exceeding more than one-third of our public float in any 12-month period if our public float, measured in accordance with such instruction, remains below \$75.0 million. The aggregate market value of our common stock held by non-affiliates, or the public float, is approximately \$20.3 million, which was calculated based on 54,756,755 shares of our outstanding common stock held by non-affiliates as of April 9, 2020 at a price of \$0.3713 per share, which was the closing price of our common stock on the Nasdaq Capital Market, or the Exchange, on February 20, 2020. As of the date of this prospectus, we have sold approximately \$4.1 million of shares of our common stock pursuant to General Instruction I.B.6 of Form S-3 during the 12 calendar months prior to and including the date of this prospectus.

Our common stock is traded on the Exchange under the symbol “KMPH.” On April 9, 2020, the last reported sale price of our common stock was \$0.2306 per share.

Investing in our securities involves a high degree of risk. You should review carefully the risks and uncertainties described under the heading “[Risk Factors](#)” on page S-8 of this prospectus and under similar headings in the other documents that are incorporated by reference into this prospectus.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR DETERMINED IF THIS PROSPECTUS IS TRUTHFUL OR COMPLETE. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

The date of this prospectus is April 10, 2020.

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ABOUT THIS PROSPECTUS

This prospectus relates to the offering of our common stock. Before buying any of the common stock that we are offering, we urge you to carefully read this prospectus, together with the information incorporated by reference as described under the headings “Where You Can Find More Information” and “Incorporation of Certain Information by Reference” in this prospectus. These documents contain important information that you should consider when making your investment decision.

This prospectus describes the terms of this offering of our common stock and also adds to and updates information contained in the documents incorporated by reference into this prospectus. To the extent there is a conflict between the information contained in this prospectus, on the one hand, and the information contained in any document incorporated by reference into this prospectus that was filed with the Securities and Exchange Commission, or SEC, before the date of this prospectus, on the other hand, you should rely on the information in this prospectus. If any statement in one of these documents is inconsistent with a statement in another document having a later date (for example, a document incorporated by reference into this prospectus) the statement in the document having the later date modifies or supersedes the earlier statement.

You should rely only on the information contained in or incorporated by reference in this prospectus and in any free writing prospectus that we have authorized for use in connection with this offering. We have not, and the sales agent has not, authorized anyone to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. We are not, and the sales agent is not, making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus, the documents incorporated by reference in this prospectus, and in any free writing prospectus that we have authorized for use in connection with this offering, is accurate only as of the date of those respective documents. Our business, financial condition, results of operations and prospects may have changed since those dates. You should read this prospectus, the documents incorporated by reference in this prospectus, and any free writing prospectus that we have authorized for use in connection with this offering, in their entirety before making an investment decision.

Unless otherwise mentioned or unless the context requires otherwise, all references in this prospectus to “KemPharm,” “company,” “we,” “us” and “our” or similar references refer to KemPharm, Inc.

PROSPECTUS SUMMARY

This summary highlights certain information about us, this offering and selected information contained elsewhere in or incorporated by reference into this prospectus. This summary is not complete and does not contain all of the information that you should consider before deciding whether to invest in our common stock. For a more complete understanding of our company and this offering, we encourage you to read and consider carefully the more detailed information in this prospectus, including the information incorporated by reference in this prospectus, and the information included in any free writing prospectus that we have authorized for use in connection with this offering, including the information under the heading “Risk Factors” in this prospectus on page S-8 and in the documents incorporated by reference into this prospectus.

Company Overview

We are a specialty pharmaceutical company focused on the discovery and development of proprietary prodrugs to treat serious medical conditions through our proprietary Ligand Activated Therapy, or LAT™, technology. We utilize our proprietary LAT technology to generate improved prodrug versions of drugs approved by the U.S. Food and Drug Administration, or FDA, as well as to generate prodrug versions of existing compounds that may have applications for new disease indications. Our product candidate pipeline is focused on the high need areas of attention deficit hyperactivity disorder, or ADHD, and stimulant use disorder, or SUD. Our co-lead clinical development candidates, KP415 and KP484, are both based on a prodrug of d-methylphenidate, or d-MPH, but with differing extended-release, or ER, effect profiles, and are intended for the treatment of ADHD. Our preclinical product candidate for the treatment of SUD is KP879, based on a prodrug of d-MPH. In addition, we have announced our commercial partnership with KVK Tech, Inc., or KVK, of APADAZ®, an FDA approved immediate-release, or IR, combination product of benzhydrocodone, our prodrug of hydrocodone, and acetaminophen, or APAP, for the short-term (no more than 14 days) management of acute pain severe enough to require an opioid analgesic and for which alternative treatments are inadequate. We have entered into a collaboration and license agreement with Commave Therapeutics SA (formerly known as Boston Pharmaceuticals S.A.), an affiliate of Gurnet Point Capital, or Commave, for the development, manufacture and commercialization of our product candidates containing serdexmethylphenidate, or SDX, and d-MPH.

We have two commercial partnerships relating to our ADHD program, and APADAZ, our FDA approved IR combination product of benzhydrocodone, our prodrug of hydrocodone, and APAP for the short-term (no more than 14 days) management of acute pain severe enough to require an opioid analgesic and for which alternative treatments are inadequate.

In October 2018, we entered into our collaboration and license agreement, or the APADAZ License Agreement, with KVK. Under the APADAZ License Agreement, we granted an exclusive license to KVK to conduct regulatory activities for, manufacture and commercialize APADAZ in the United States. In collaboration with KVK, APADAZ was available for sale nationally beginning in November 2019.

In September 2019, we entered into our collaboration and license agreement, or the KP415 License Agreement, with Commave, for the development, manufacture and commercialization of our product candidates containing SDX and d-MPH, including KP415, KP484, and, at the option of Commave, KP879, KP922 or any other product candidate developed by us containing SDX and developed to treat ADHD or any other central nervous system disorder.

We employ our proprietary LAT technology to discover and develop prodrugs that are new molecules that can improve one or more of the attributes of approved drugs, such as enhanced bioavailability, extended duration of action, increased safety and reduced susceptibility to abuse. A prodrug is a precursor chemical compound of a drug that is inactive or less than fully active, which is then converted in the body to the active form of the drug through a normal metabolic process. Where possible, we seek, to develop prodrugs that will be eligible for

approval under Section 505(b)(2) of the Federal Food, Drug and Cosmetic Act, or the FFDCFA, otherwise known as a 505(b)(2) NDA, which allows us to rely on the FDA's previous findings of safety and effectiveness for one or more approved products, if we demonstrate such reliance is scientifically appropriate.

Risks Associated with our Business

Our business is subject to numerous risks and uncertainties, including those highlighted in the section titled "Risk Factors" immediately following this prospectus supplement summary and those described under similar headings in the documents incorporated by reference into this prospectus. These risks include:

- Our research and development activities are focused on discovering and developing proprietary prodrugs, and we are taking an innovative approach to discovering and developing prodrugs, which may never lead to marketable prodrug products.
- If we are not able to obtain required regulatory approvals for our product candidates, we will not be able to commercialize them and our ability to generate revenue or profits or to raise future capital could be limited.
- We are early in our development efforts and have only one product which has completed development and obtained regulatory approval by the FDA, APADAZ. All our other active product candidates are in clinical or preclinical development. If commercialization of APADAZ or our product candidates is not successful, or we experience significant delays in commercialization, our business will be harmed.
- Clinical drug development involves a lengthy and expensive process, with an uncertain outcome. We may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of our product candidates.
- We will need substantial additional funding to pursue our business objectives. If we are unable to raise capital when needed, we could be forced to delay, reduce or altogether cease our prodrug development programs or commercialization efforts or cease operations altogether.
- The auditor's opinion on our audited financial statements for the fiscal year ended December 31, 2019, included in our annual report on Form 10-K, contains an explanatory paragraph relating to our ability to continue as a going concern.
- In connection with preparation of our annual financial statements for the fiscal year ended December 31, 2019, we identified a material weakness in our internal control over financial reporting. Any failure to maintain effective internal control over financial reporting could harm us.
- We have incurred significant operating losses since our inception. We expect to incur operating losses over the next several years and may never achieve or maintain profitability.
- If we are unable to obtain and maintain trade secret protection or patent protection for our technology, APADAZ, KP415, KP484 and our other product candidates, or if the scope of the patent protection obtained is not sufficiently broad, our competitors could develop and commercialize technology and drugs similar or identical to ours, and our ability to successfully commercialize our technology, APADAZ, KP415, KP484 and our other product candidates, if approved, may be impaired.
- If we, subject to the approval of Commave, or Commave themselves attempt to rely on Section 505(b)(2) of the Federal Food, Drug and Cosmetic Act and the FDA does not conclude that our product candidates are sufficiently bioequivalent, or have comparable bioavailability, to approved drugs, or if the FDA does not allow us or Commave to pursue the 505(b)(2) NDA pathway as anticipated, the approval pathway for our product candidates will likely take significantly longer, cost significantly more and entail significantly greater complications and risks than anticipated, and the FDA may not ultimately approve our product candidates.

- The FDA may determine that any NDA we may submit under the 505(b)(2) regulatory pathway for any of our product candidates in the future is not sufficiently complete to permit a substantive review.
- We have entered into collaborations with KVK, for the commercialization of APADAZ in the United States, and Commave, to develop, manufacture and commercialize KP415 and KP484 worldwide. In addition, we may seek collaborations with third parties for the development or commercialization of our other product candidates, or in other territories. If those collaborations are not successful, we may not be able to capitalize on the market potential of APADAZ or KP415, KP484 or other product candidates, if approved.
- The trading price of the shares of our common stock is likely to be volatile, and purchasers of our common stock could incur substantial losses
- If we fail to maintain compliance with the listing requirements of The Nasdaq Stock Market, we may be delisted and the price of our common stock and our ability to access the capital markets could be negatively impacted.

Corporate Information

We were incorporated under the laws of the State of Iowa in October 2006 and were reincorporated under the laws of the State of Delaware in May 2014. Our principal executive offices are located at 1180 Celebration Boulevard, Suite 103, Celebration, FL 34747 and our telephone number is (321) 939-3416. Our website address is www.kempharm.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.

“KemPharm”, the KemPharm logo, “APADAZ,” “LAT” and other trademarks or service marks of KemPharm, Inc. appearing in this prospectus are the property of KemPharm, Inc. This prospectus and the information incorporated herein by reference contains additional trade names, trademarks and service marks of others, which are the property of their respective owners.

Implications of Being an Emerging Growth Company

We qualify as an “emerging growth company” as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. An emerging growth company may take advantage of relief from certain reporting requirements and other burdens that are otherwise applicable generally to public companies. These provisions include:

- presentation of only two years of audited financial statements, in addition to any required unaudited interim financial statements, with correspondingly reduced “Management’s Discussion and Analysis of Financial Condition and Results of Operations” disclosure;
- exemption from the auditor attestation requirement on the effectiveness of our internal controls over financial reporting;
- reduced disclosure about our executive compensation arrangements; and
- no requirements for non-binding advisory votes on executive compensation or golden parachute arrangements.

We may take advantage of these provisions until December 31, 2020 or such earlier time that we no longer qualify as an emerging growth company. We would cease to be an emerging growth company if we have more than \$1.07 billion in annual gross revenue, have more than \$700 million in market value of our capital stock held by non-affiliates or issue more than \$1.00 billion of non-convertible debt over a three-year period. We may choose to take advantage of some but not all of these reduced burdens. For example, we have taken advantage of

the reduced reporting requirements with respect to disclosure regarding our executive compensation arrangements, have presented only two years of audited financial statements, have presented reduced “Management’s Discussion and Analysis of Financial Condition and Results of Operations” disclosure and have taken advantage of the exemption from auditor attestation on the effectiveness of our internal controls over financial reporting. To the extent that we take advantage of these reduced burdens, the information that we provide stockholders may be different than you might obtain from other public companies in which you hold equity interests.

In addition, under the JOBS Act, emerging growth companies can delay adopting new or revised accounting standards until such time as those standards apply to private companies. We have irrevocably elected not to avail ourselves of this exemption from new or revised accounting standards and, therefore, we will be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies.

THE OFFERING

Common Stock Offered By Us	Up to \$2,720,581 of shares of our common stock we may sell to Lincoln Park from time to time over approximately the next 10 months, at our sole discretion, in accordance with the Purchase Agreement.
Common Stock Outstanding Before the Offering	57,360,111 shares
Common Stock to be Outstanding After the Offering	69,157,947 shares, assuming sale of 11,797,836 shares at a price of \$0.2306 per share, which was the closing price of our common stock on the Exchange on April 9, 2020. The actual number of shares issued will vary depending on the sales prices under this offering, but will not be greater than 9,268,182 (inclusive of the 4,908,637 shares of our common stock shares sold pursuant to the Purchase Agreement under the Prior Registration Statement) representing 19.99% of the shares of our common stock outstanding on the date of the Purchase Agreement, unless such sales are made in accordance with Nasdaq Market rules.
Use of Proceeds	We currently intend to use any proceeds that we receive from sales to Lincoln Park under the Purchase Agreement for general corporate purposes. See “Use of Proceeds” on page S-12 of this prospectus.
Risk Factors	Investing in our common stock involves significant risks. See “Risk Factors” on page S-8 of this prospectus, and under similar headings in other documents incorporated by reference into this prospectus.
Nasdaq Capital Market Symbol	“KMPH”

The number of shares of our common stock to be outstanding as shown above is based on 57,360,111 shares outstanding as of April 9, 2020, and excludes:

- 6,320,489 shares of our common stock issuable upon the exercise of stock options outstanding as of April 9, 2020, at a weighted average exercise price of \$5.19 per share;
- 2,423,077 shares of our common stock issuable upon exercise of warrants outstanding as of April 9, 2020, at a weighted average exercise price of \$5.12 per share and any additional shares of our common stock issuable as a result of any anti-dilution adjustments under these warrants;
- 1,236,021 shares of our common stock issuable upon conversion of principal and accrued interest underlying the senior secured convertible promissory note in the principal amount of approximately \$7.2 million and that bears interest at 6.75% per annum, or the Deerfield Note, previously issued to Deerfield Private Design Fund III, L.P., or Deerfield, outstanding as of April 9, 2020, assuming a conversion date of April 9, 2020, and any additional shares of our common stock issuable as a result of any anti-dilution adjustments under the Deerfield Note;
- 346,125 shares of our common stock reserved for future issuance under our 2014 equity incentive plan as well as any automatic increases in the number of shares of our common stock reserved for future issuance under this plan;

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- 10,055,201 shares of our common stock issuable upon conversion of principal and accrued interest underlying the approximately \$65.0 million aggregate principal amount of our senior secured convertible notes issued in December 2019 and January 2020, or the Senior Secured Notes, assuming a conversion date of April 9, 2020;

The discussion above does not include up to 10,439,015 shares of our common stock that we may issue from time to time under our September 2019 Exchange Agreement and Amendment to Facility Agreement, dated as of September 3, 2019, as amended, with Deerfield Private Design Fund III, L.P., or Deerfield, and Deerfield Special Situations Fund, L.P., or the Deerfield Exchange Agreement. As of the date of this prospectus, 18,000,000 shares of common stock have been issued under the Deerfield Exchange Agreement.

Except as otherwise indicated, all information in this prospectus supplement assumes:

- no exercise of our outstanding options to purchase our common stock since April 9, 2020;
- no exercise of our outstanding warrants to purchase our common stock since April 9, 2020; and
- no conversion of our outstanding convertible promissory notes since April 9, 2020;

RISK FACTORS

Investing in our securities involves a high degree of risk. You should carefully review the risks and uncertainties described below and under the section titled “Risk Factors” in our Annual Report on Form 10-K for the fiscal 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. 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 below titled “Special Note Regarding Forward-Looking Statements.”

RISKS RELATED TO THIS OFFERING

The sale or issuance of our common stock to Lincoln Park may cause dilution and the sale of the shares of our common stock acquired by Lincoln Park, or the perception that such sales may occur, could cause the price of our common stock to fall.

On February 17, 2020, we entered into the Purchase Agreement with Lincoln Park, pursuant to which Lincoln Park has committed to purchase up to \$4,020,521 of our common stock. Upon the execution of the Purchase Agreement, we issued 308,637 Commitment Shares to Lincoln Park as a fee for its commitment to purchase shares of our common stock under the Purchase Agreement, and we have subsequently sold an aggregate of 4,600,000 shares of our common stock for gross proceeds of \$1.2 million to Lincoln Park under the Purchase Agreement. The remaining shares of our common stock that may be issued under the Purchase Agreement may be sold by us to Lincoln Park at our discretion from time to time over a 10-month period commencing after the satisfaction of certain conditions set forth in the Purchase Agreement. The purchase price for the shares that we may sell to Lincoln Park under the Purchase Agreement will fluctuate based on the price of our common stock. Depending on market liquidity at the time, sales of such shares may cause the trading price of our common stock to fall.

We generally have the right to control the timing and amount of any future sales of our shares to Lincoln Park. Additional sales of our common stock, if any, to Lincoln Park will depend upon market conditions and other factors to be determined by us. We may ultimately decide to sell to Lincoln Park all, some or none of the additional shares of our common stock that may be available for us to sell pursuant to the Purchase Agreement. If and when we do sell shares to Lincoln Park, after Lincoln Park has acquired the shares, Lincoln Park may resell all, some or none of those shares at any time or from time to time in its discretion. Therefore, sales to Lincoln Park by us could result in substantial dilution to the interests of other holders of our common stock. Additionally, the sale of a substantial number of shares of our common stock to Lincoln Park, or the anticipation of such sales, could make it more difficult for us to sell equity or equity-related securities in the future at a time and at a price that we might otherwise wish to effect sales.

Our management might apply the net proceeds from this offering in ways with which you do not agree and in ways that may impair the value of your investment.

We currently intend to use the net proceeds from this offering for general corporate purposes. Our management has broad discretion as to the use of these proceeds and you will be relying on the judgment of our management regarding the application of these proceeds. We might apply these proceeds in ways with which you do not agree, or in ways that do not yield a favorable return. If our management applies these proceeds in a manner that does not yield a significant return, if any, on our investment of these net proceeds, it could compromise our ability to pursue our growth strategy and adversely affect the market price of our common stock.

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As a result of this offering we are further limited in the securities we may issue under our shelf registration statement, which may have an adverse effect on our liquidity.

We have filed a shelf registration statement on Form S-3 with the SEC of which this prospectus is a part. In order to issue securities under this registration statement, we must rely on Instruction I.B.6 of Form S-3, which imposes a limitation on the maximum amount of securities that we may sell pursuant to the registration statement during any twelve-month period. At the time we sell securities pursuant to the registration statement, the amount of securities to be sold plus the amount of any securities we have sold during the prior twelve months in reliance on Instruction I.B.6 may not exceed one-third of the aggregate market value of our outstanding common stock held by non-affiliates as of a day during the 60 days immediately preceding such sale, as computed in accordance with Instruction I.B.6. Based on this calculation, we expect that we will be substantially limited in our ability to effect any other offering pursuant to our effective registration statement on Form S-3 for a period of twelve months, unless and until the market value of our outstanding common stock held by non-affiliates increases significantly. Additionally, the Purchase Agreement includes restrictions on our ability to sell our common stock to Lincoln Park, including, subject to specified limitations, (x) if a sale would cause us to issue, in the aggregate, a number of shares greater than 19.99% of our outstanding common stock as of the date of the Purchase Agreement, or (y) if a sale would cause Lincoln Park and its affiliates to beneficially own more than 9.99% of our issued and outstanding common stock, or the Beneficial Ownership Cap. Accordingly, we cannot guarantee that we will be able to sell all \$2,720,581 of shares of common stock in this offering. If we cannot sell securities under our shelf registration statement, we may be required to utilize more costly and time-consuming means of accessing the capital markets, which could materially adversely affect our liquidity and cash position.

If we fail to maintain compliance with the listing requirements of The Nasdaq Stock Market, we may be delisted and the price of our common stock and our ability to access the capital markets could be negatively impacted.

Our common stock is currently listed on The Nasdaq Capital Market. To maintain the listing of our common stock on The Nasdaq Capital Market, we are required to meet certain listing requirements.

If we fail to satisfy the continued listing requirements of The Nasdaq Capital Market, The Nasdaq Capital Market may take steps to delist our common stock, which could have a materially adverse effect on our ability to raise additional funds as well as the price and liquidity of our common stock. Such a delisting would likely have a negative effect on the price of our common stock and would impair our stockholders' ability to sell or purchase our common stock when they wish to do so. In the event of a delisting, we can provide no assurance that any action taken by us to restore compliance with listing requirements would allow our common stock to become listed again, stabilize the market price or improve the liquidity of our common stock, prevent our common stock from dropping below the Nasdaq minimum bid price requirement, or prevent future non-compliance with The Nasdaq Capital Market's listing requirements.

On January 15, 2020, we announced that the Nasdaq Listing Qualifications Panel, or Nasdaq Listings Panel, of the Nasdaq Stock Market, LLC, or Nasdaq, granted us an extension, until May 13, 2020, to regain compliance with the Market Value of Listed Securities, or MVLS, continued listing requirement of The Nasdaq Capital Market, conditioned upon achievement of certain milestones included in a plan of compliance which we previously submitted to the Nasdaq Listings Panel. Previously, on May 17, 2019, we received notice from the Listing Qualification Department of Nasdaq that we were not in compliance with the continued listing requirement of The Nasdaq Global Market to maintain a minimum MVLS of \$50.0 million. By transferring the listing of our common stock to The Nasdaq Capital Market, we will regain compliance with the MVLS continued listing requirement of The Nasdaq Capital Market by reaching a minimum MVLS of \$35.0 million for ten consecutive trading days on or before May 13, 2020. Should we fail to demonstrate compliance with the MVLS continued listing requirement by that date, Nasdaq will issue a final delisting determination and we will be suspended from trading on the Nasdaq Stock Market. In order to maintain the listing of our common stock on The Nasdaq Capital Market, we must also regain compliance for all other continued listing standards within the applicable compliance period.

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For instance, on September 27, 2019, we received notice from Nasdaq that we were not in compliance with the continued listing requirement to maintain a minimum bid price of \$1.00. The initial compliance period for this continued listing requirement ended on March 25, 2020. On March 27, 2020, we received a letter from the Nasdaq Listing Panel notifying us that our continued non-compliance with the minimum bid price requirement for continued listing may serve as an additional basis for delisting our securities from Nasdaq.

Additionally, on December 19, 2019, we received notice that we were not in compliance with the continued listing requirement of The Nasdaq Global Market to maintain a minimum Market Value of Publicly Held Shares, or MVPHS, of \$15.0 million. However, upon transferring to The Nasdaq Capital Market, the Company became subject to its MVPHS continued listing requirement, which is \$1.0 million. Based on the lower requirement, the Company has maintained a MVPHS greater than \$1.0 million since transferring to The Nasdaq Capital Market.

If we do not regain compliance within the allotted compliance period(s), including any extensions that may be granted by Nasdaq, Nasdaq will provide notice that our shares of common stock will be subject to delisting. At such time, we may appeal the delisting determination to a hearings panel pursuant to the procedures set forth in the applicable Nasdaq Listing Rules.

There can be no assurance that we will be successful in maintaining the listing of our common stock on The Nasdaq Capital Market. This could impair the liquidity and market price of our common stock. In addition, the delisting of our common stock from a national exchange could have a material adverse effect on our access to capital markets, and any limitation on market liquidity or reduction in the price of our common stock as a result of that delisting could adversely affect our ability to raise capital on terms acceptable to us, or at all.

We do not currently intend to pay dividends on our common stock, and any return to investors is expected to come, if at all, only from potential increases in the price of our common stock.

At the present time, we intend to use available funds to finance our operations. Accordingly, while payment of dividends rests within the discretion of our board of directors, we have no intention of paying any such dividends in the foreseeable future. Any return to investors is expected to come, if at all, only from potential increases in the price of our common stock.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference contain forward-looking statements. These are based on our management's current beliefs, expectations and assumptions about future events, conditions and results and on information currently available to us. Discussions containing these forward-looking statements may be found, among other places, in the Sections entitled "Business," "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" incorporated by reference from our most recent Annual Report on Form 10-K and Quarterly Report on Form 10-Q, as well as any amendments thereto, filed with the SEC.

Any statements in this prospectus, or incorporated herein, about our expectations, beliefs, plans, objectives, assumptions or future events or performance are not historical facts and are forward-looking statements. Within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act, these forward-looking statements include statements regarding:

- the progress of, timing of and expected amount of expenses associated with our research, development and commercialization activities;
- the expected timing of our clinical trials for our product candidates and the availability of data and result of those trials;
- our expectations regarding federal, state and foreign regulatory requirements;
- the potential therapeutic benefits and effectiveness of our product and product candidates;
- the size and characteristics of the markets that may be addressed by our product and product candidates;
- our intention to seek to establish strategic collaborations or partnerships for the development or sale of our product and product candidates;
- our expectations as to future financial performance, expense levels and liquidity sources; and
- the timing of commercializing our product and product candidates.

In some cases, you can identify forward-looking statements by the words "may," "might," "can," "will," "to be," "could," "would," "should," "expect," "intend," "plan," "objective," "anticipate," "believe," "estimate," "predict," "project," "potential," "likely," "continue" and "ongoing," or the negative of these terms, or other comparable terminology intended to identify statements about the future, although not all forward-looking statements contain these words. These statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from the information expressed or implied by these forward-looking statements.

You should refer to the "Risk Factors" section contained in this prospectus and any related free writing prospectus, and under similar headings in the other documents that are incorporated by reference into this prospectus, for a discussion of important factors that may cause our actual results to differ materially from those expressed or implied by our forward-looking statements. Given these risks, uncertainties and other factors, many of which are beyond our control, we cannot assure you that the forward-looking statements in this prospectus will prove to be accurate, and you should not place undue reliance on these forward-looking statements. Furthermore, if our forward-looking statements prove to be inaccurate, the inaccuracy may be material. In light of the significant uncertainties in these forward-looking statements, you should not regard these statements as a representation or warranty by us or any other person that we will achieve our objectives and plans in any specified time frame, or at all.

Except as required by law, we assume no obligation to update these forward-looking statements publicly, or to revise any forward-looking statements to reflect events or developments occurring after the date of this prospectus, even if new information becomes available in the future.

USE OF PROCEEDS

We may receive up to \$2,720,581 in aggregate gross proceeds under the Purchase Agreement from any sales we make to Lincoln Park pursuant to the Purchase Agreement after the date of this prospectus. We estimate that the net proceeds to us from the sale of our common stock to Lincoln Park pursuant to the Purchase Agreement will be up to \$3.9 million over an approximately 12-month period, assuming that we sell the full amount of our common stock that we have the right, but not the obligation, to sell to Lincoln Park under the Purchase Agreement, and after other estimated fees and expenses. We may sell fewer than all of the shares offered by this prospectus, in which case our net offering proceeds will be less. Because we are not obligated to sell any additional shares of our common stock under the Purchase Agreement, the actual total offering amount and proceeds to us, if any, are not determinable at this time. There can be no assurance that we will receive any proceeds under or fully utilize the Purchase Agreement. See “Plan of Distribution” elsewhere in this prospectus for more information.

We intend to use the net proceeds of this offering for general corporate purposes. We may also use a portion of the net proceeds to invest in or acquire businesses or technologies that we believe 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. Pending these uses, we expect to invest the net proceeds in short-term, interest-bearing obligations, certificates of deposit or direct or guaranteed obligations of the United States.

DILUTION

The sale of our common stock to Lincoln Park pursuant to the Purchase Agreement will have a dilutive impact on our stockholders. In addition, the lower our stock price is at the time we exercise our right to sell shares to Lincoln Park, the more shares of our common stock we will have to issue to Lincoln Park pursuant to the Purchase Agreement and our existing stockholders would experience greater dilution.

Our net tangible book deficit as of December 31, 2019 was approximately \$74.5 million, or \$2.05 per share. Net tangible book value per share is determined by dividing our total tangible assets, less total liabilities, by the number of shares of our common stock outstanding as of December 31, 2019. Dilution with respect to net tangible book value per share represents the difference between the amount per share paid by Lincoln Park in this offering and the net tangible book value per share of our common stock immediately after this offering.

After giving effect to the sale of 11,797,836 shares of our common stock in this offering to Lincoln Park pursuant to the Purchase Agreement, without giving effect to the Exchange Cap (as defined below), at an assumed average sale price of \$0.2306 per share of our common stock, the last reported sale price of our common stock on the Exchange on April 9, 2020, and after deducting estimated offering expenses payable by us, our as-adjusted net tangible book deficit as of December 31, 2019 would have been approximately \$71.8 million, or \$1.49 per share. This represents an immediate increase in net tangible book value of \$0.56 per share to existing stockholders.

The number of shares of our common stock to be outstanding as shown above is based on 36,350,785 shares outstanding as of December 31, 2019, and excludes as of that date:

- 5,192,222 shares of our common stock issuable upon the exercise of stock options outstanding as of December 31, 2019, at a weighted average exercise price of \$6.31 per share;
- 2,423,077 shares of our common stock issuable upon exercise of warrants outstanding as of December 31, 2019, at a weighted average exercise price of \$5.12 per share and any additional shares of our common stock issuable as a result of any anti-dilution adjustments under these warrants;
- 1,213,606 shares of our common stock issuable upon conversion of principal and accrued interest underlying the convertible promissory note in the principal amount of \$7.0 million and that bears interest at 6.75% per annum, or the Deerfield Note, previously issued to Deerfield Private Design Fund III, L.P., or Deerfield, outstanding as of December 31, 2019, assuming a conversion date of December 31, 2019, and any additional shares of our common stock issuable as a result of any anti-dilution adjustments under the Deerfield Note;
- 84,616 shares of our common stock reserved for future issuance under our 2014 equity incentive plan as well as any automatic increases in the number of shares of our common stock reserved for future issuance under this plan; and
- 4,279,252 shares of our common stock issuable upon conversion of principal and accrued interest underlying the \$73.2 million aggregate principal amount of our senior secured convertible notes issued in December 2019 and January 2020, or the Senior Secured Notes, assuming a conversion date of December 31, 2019.

The discussion above does not include (i) an aggregate of 4,908,637 shares of our common stock we previously issued under the Purchase Agreement to Lincoln Park for gross proceeds of \$1.2 million or (ii) up to 28,439,015 shares of our common stock that we may issue from time to time under the Deerfield Exchange Agreement. As of the date of this prospectus, 18,000,000 shares of common stock have been issued under the Deerfield Exchange Agreement.

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To the extent that options, warrants or shares of our preferred stock outstanding as of December 31, 2019 have been or may be exercised or converted or other shares are issued, investors purchasing our common stock in this offering may experience further dilution. In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our stockholders.

LINCOLN PARK TRANSACTION

General

On February 17, 2020, we entered into the Purchase Agreement with Lincoln Park. In connection with the Purchase Agreement, on February 17, 2020, we also entered into a registration rights agreement, or the Registration Rights Agreement, with Lincoln Park, pursuant to which we agreed to take specified actions to maintain the registration of the shares of our common stock subject to the offering described in this prospectus. Pursuant to the terms of the Purchase Agreement, Lincoln Park has agreed to purchase from us up to \$4,020,521 of our common stock (subject to certain limitations) from time to time during the term of the Purchase Agreement. Pursuant to the terms of the Purchase Agreement and Registration Rights Agreement, we have filed with the SEC this prospectus to register for sale under the Securities Act the shares issuable to Lincoln Park under the Purchase Agreement. Pursuant to the terms of the Purchase Agreement, we previously issued 308,637 Commitment Shares to Lincoln Park as consideration for its commitment to purchase shares of our common stock under the Purchase Agreement. Under the Purchase Agreement, we have sold to Lincoln Park an aggregate of 4,908,637 shares of our common stock for an aggregate gross proceeds of approximately \$1.2 million.

We may, from time to time and at our sole discretion, direct Lincoln Park to purchase shares of our common stock upon the satisfaction of certain conditions set forth in the Purchase Agreement at a purchase price per share based on the market price of our common stock at the time of sale as computed under the Purchase Agreement. Lincoln Park may not assign or transfer its rights and obligations under the Purchase Agreement.

Under applicable rules of the Exchange, in no event may we issue or sell to Lincoln Park under the Purchase Agreement shares of our common stock in excess of 9,268,182 shares (including the Commitment Shares), which represents 19.99% of the shares of our common stock outstanding immediately prior to the execution of the Purchase Agreement, or the Exchange Cap, unless (i) we obtain stockholder approval to issue shares of our common stock in excess of the Exchange Cap or (ii) the average price of all applicable sales of our common stock to Lincoln Park under the Purchase Agreement equals or exceeds \$0.3508 per share (which represents (a) the closing price of our common stock on the Exchange immediately preceding the signing of the Purchase Agreement plus (b) \$0.0023), such that the transactions contemplated by the Purchase Agreement are exempt from the Exchange Cap limitation under applicable Nasdaq rules. In any event, the Purchase Agreement specifically provides that we may not issue or sell any shares of our common stock under the Purchase Agreement if such issuance or sale would breach any applicable rules or regulations of the Exchange.

The Purchase Agreement also prohibits us from directing Lincoln Park to purchase any shares of our common stock if those shares, when aggregated with all other shares of our common stock then beneficially owned by Lincoln Park, would result in Lincoln Park and its affiliates exceeding the Beneficial Ownership Cap.

Purchase of Shares under the Purchase Agreement

Initial Purchase

Under the Purchase Agreement, during the two business day-period following the Commencement Date (as defined in the Purchase Agreement), we directed Lincoln Park to purchase up to 1,000,000 shares of our common stock on such business day (or the initial purchase date), which we refer to as the Initial Purchase, at a price per share equal to \$0.342, which represented the lesser of:

- the lowest sale price for our common stock on the Exchange on the initial purchase date; and
- the average of the three lowest closing sale prices for our common stock on the Exchange during the 10 consecutive business days prior to the initial purchase date.

Regular Purchases

Under the Purchase Agreement, on any business day selected by us, we may direct Lincoln Park to purchase up to 200,000 shares of our common stock on such business day (or the purchase date), which we refer to as a

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Regular Purchase, provided, however, that (i) a Regular Purchase may be increased to up to 250,000 shares if the closing sale price of our common stock on the Exchange is not below \$0.50 on the applicable purchase date and (ii) a Regular Purchase may be increased to up to 300,000 shares if the closing sale price of our common stock on the Exchange is not below \$0.75 on the applicable purchase date. In each case, the maximum amount of any single Regular Purchase may not exceed \$3,000,000 per purchase. We may direct Lincoln Park to purchase shares in a Regular Purchase as often as every business day that has passed since the most recent Regular Purchase notice, as applicable, was delivered to Lincoln Park.

The purchase price per share for each such Regular Purchase will be equal to the lesser of:

- the lowest sale price for our common stock on the Exchange on the purchase date of such shares; and
- the average of the three lowest closing sale prices for our common stock on the Exchange during the 10 consecutive business days prior to the purchase date of such shares.

Accelerated Purchases

We may also direct Lincoln Park, on any business day on which we have properly submitted a Regular Purchase notice and the closing sale price of our common stock is not below \$0.50, to purchase an additional amount of our common stock, which we refer to as an Accelerated Purchase, of up to the lesser of:

- three times the number of shares purchased pursuant to such Regular Purchase; and
- 30% of the aggregate shares of our common stock traded on the Exchange during all or, if certain trading volume or market price thresholds specified in the Purchase Agreement are crossed on the applicable Accelerated Purchase date, the portion of the normal trading hours on the applicable Accelerated Purchase date prior to such time that any one of such thresholds is crossed, which period of time on the applicable Accelerated Purchase date we refer to as the “Accelerated Purchase Measurement Period”.

The purchase price per share for each such Accelerated Purchase will be equal to the lesser of:

- 97% of the volume-weighted average price of our common stock on the Exchange during the applicable Accelerated Purchase Measurement Period on the applicable Accelerated Purchase date; and
- the closing sale price of our common stock on the applicable Accelerated Purchase date.

Additional Accelerated Purchases

We may also direct Lincoln Park on any business day on which an Accelerated Purchase has been completed and all of the shares to be purchased thereunder have been properly delivered to Lincoln Park in accordance with the Purchase Agreement, provided that the closing price of our common stock on the business day immediately preceding such business day is not below \$0.50, to purchase an additional amount of our common stock, which we refer to as an Additional Accelerated Purchase, of up to the lesser of:

- three times the number of shares purchased pursuant to the Regular Purchase made on such date; and
- 30% of the aggregate shares of our common stock traded on the Exchange during a certain portion of the normal trading hours on the applicable Additional Accelerated Purchase date as determined in accordance with the Purchase Agreement, which period of time on the applicable Additional Accelerated Purchase date we refer to as the Additional Accelerated Purchase Measurement Period.

We may, in our sole discretion, submit multiple Additional Accelerated Purchase notices to Lincoln Park on a single Accelerated Purchase date, provided that all prior Accelerated Purchases and Additional Accelerated Purchases (including those that have occurred earlier on the same day) have been completed and all of the shares to be purchased thereunder have been properly delivered to Lincoln Park in accordance with the Purchase Agreement.

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The purchase price per share for each such Additional Accelerated Purchase will be equal to the lower of:

- 97% of the volume-weighted average price of our common stock on the Exchange during the applicable Additional Accelerated Purchase Measurement Period on the applicable Additional Accelerated Purchase date; and
- the closing sale price of our common stock on the Exchange on the applicable Additional Accelerated Purchase date.

In the case of the Initial Purchase, Regular Purchases, Accelerated Purchases and Additional Accelerated Purchases, the purchase price per share will be equitably adjusted for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction occurring during the business days used to compute the purchase price.

Other than as described above, there are no trading volume requirements or restrictions under the Purchase Agreement, and we will control the timing and amount of any sales of our common stock to Lincoln Park.

Events of Default

Events of default under the Purchase Agreement include the following:

- the effectiveness of the registration statement of which this prospectus forms a part lapses for any reason (including, without limitation, the issuance of a stop order), or any required prospectus is unavailable for the resale by Lincoln Park of our common stock offered hereby, and such lapse or unavailability continues for a period of 10 consecutive business days or for more than an aggregate of 30 business days in any 365-day period, but excluding a lapse or unavailability where (i) we terminate a registration statement after Lincoln Park has confirmed in writing that all of the shares of our common stock covered thereby have been resold or (ii) we supersede one registration statement with another registration statement, including (without limitation) by terminating a prior registration statement when it is effectively replaced with a new registration statement covering the shares of our common stock covered by the Purchase Agreement (provided in the case of this clause (ii) that all of the shares of our common stock covered by the superseded (or terminated) registration statement that have not theretofore been resold are included in the superseding (or new) registration statement);
- suspension by the principal market of our common stock from trading for a period of one business day;
- the de-listing of our common stock from the Nasdaq Capital Market, our principal market, provided our common stock is not immediately thereafter trading on the Nasdaq Global Select Market, the New York Stock Exchange, the Nasdaq Global Market, the NYSE Arca, the OTC Bulletin Board or the OTC Markets (or any other comparable market);
- the failure for any reason by our transfer agent to issue Purchase Shares to Lincoln Park within three business days after any purchase date, Accelerated Purchase date or Additional Accelerated Purchase date, as applicable, on which Lincoln Park is entitled to receive such Purchase Shares;
- any breach of the representations, warranties, covenants or other terms or conditions contained in the Purchase Agreement or Registration Rights Agreement that has or could have a Material Adverse Effect (as defined in the Purchase Agreement) and, in the case of a breach of a covenant that is reasonably curable, that is not cured within a period of at least five business days;
- our common stock ceases to be DTC authorized and ceases to participate in the DWAC/FAST systems;
- if at any time the Exchange Cap is reached and our stockholders have not approved the transactions contemplated by the Purchase Agreement in accordance with the applicable rules and regulations of the Nasdaq Stock Market, to the extent applicable; or
- any voluntary or involuntary participation or threatened participation in insolvency or bankruptcy proceedings by or against us.

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Lincoln Park does not have the right to terminate the Purchase Agreement upon any of the events of default set forth above, however, the Purchase Agreement will automatically terminate upon initiation of insolvency or bankruptcy proceedings by or against us. During an event of default, all of which are outside of Lincoln Park's control, we may not direct Lincoln Park to purchase any shares of our common stock under the Purchase Agreement.

Our Termination Rights

We have the unconditional right, at any time, for any reason and without any payment or liability to us, to give notice to Lincoln Park to terminate the Purchase Agreement.

No Short-Selling or Hedging by Lincoln Park

Lincoln Park has agreed that neither it nor any of its affiliates shall engage in any direct or indirect short-selling or hedging of our common stock during any time prior to the termination of the Purchase Agreement.

Prohibitions on Variable Rate Transactions

Subject to specified exceptions included in the Purchase Agreement, we are limited in our ability to enter into specified variable rate transactions during the term of the Purchase Agreement. Such transactions include, among others, the issuance of convertible securities with a conversion or exercise price that is based upon or varies with the trading price of our common stock after the date of issuance, the issuance of securities with embedded anti-dilution provisions, the issuance of securities with an embedded put or call right or at a price subject to being reset after the initial issuance contingent on our business or market performance or entry into any new "equity line of credit" or "at the market offering."

Effect of Performance of the Purchase Agreement on our Stockholders

All shares registered in this offering that have been or may be issued or sold by us to Lincoln Park under the Purchase Agreement are expected to be freely tradable. Shares registered in this offering may be sold over a period of up to approximately 10 months commencing on the date of this prospectus. The sale by Lincoln Park of a significant amount of shares registered in this offering at any given time could cause the market price of our common stock to decline and to be highly volatile. Sales of our common stock to Lincoln Park, if any, will depend upon market conditions and other factors to be determined by us. We may ultimately decide to sell to Lincoln Park all, some or none of the additional shares of our common stock that may be available for us to sell pursuant to the Purchase Agreement. If and when we do sell shares to Lincoln Park, after Lincoln Park has acquired the shares, Lincoln Park may resell all, some or none of those shares at any time or from time to time in its discretion. Therefore, sales to Lincoln Park by us under the Purchase Agreement may result in substantial dilution to the interests of other holders of our common stock. In addition, if we sell a substantial number of shares to Lincoln Park under the Purchase Agreement, or if investors expect that we will do so, the actual sales of shares or the mere existence of our arrangement with Lincoln Park may make it more difficult for us to sell equity or equity-related securities in the future at a time and at a price that we might otherwise wish to effect such sales. However, we have the right to control the timing and amount of any additional sales of our shares to Lincoln Park and the Purchase Agreement may be terminated by us at any time at our discretion without any cost to us.

Pursuant to the terms of the Purchase Agreement, we have the right, but not the obligation, to direct Lincoln Park to purchase up to \$4,020,521 of our common stock, exclusive of the 308,637 Commitment Shares issued to Lincoln Park on the date of the Purchase Agreement. The Purchase Agreement prohibits us from issuing or selling to Lincoln Park under the Purchase Agreement (i) shares of our common stock in excess of the Exchange Cap, unless we obtain stockholder approval to issue shares in excess of the Exchange Cap or the average price of all applicable sales of our common stock to Lincoln Park under the Purchase Agreement equals or exceeds

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\$0.3508 per share, such that the transactions contemplated by the Purchase Agreement are exempt from the Exchange Cap limitation under applicable Nasdaq rules and (ii) any shares of our common stock if those shares, when aggregated with all other shares of our common stock then beneficially owned by Lincoln Park, would exceed the Beneficial Ownership Cap.

As of the date of this prospectus we have sold an aggregate of 4,908,637 shares of our common stock under the Purchase Agreement for gross proceeds of \$1.2 million, and we may sell to Lincoln Park an additional \$2,720,581 shares of our common stock in this offering. The following table sets forth the amount of gross proceeds we would receive from Lincoln Park from our future sale of shares to Lincoln Park under the Purchase Agreement at varying purchase prices:

<u>Assumed Average Purchase Price Per Share</u>	<u>Number of Registered Shares to be Issued if Full Purchase(1)</u>	<u>Percentage of Outstanding Shares After Giving Effect to the Issuance to Lincoln Park(2)</u>	<u>Gross Proceeds from the Sale of Shares to Lincoln Park Under the Purchase Agreement</u>
\$0.15	9,268,182	15.0%	\$1,884,632
\$0.2306 (3)	9,268,182	15.0%	\$2,236,011
\$0.25	9,268,182	15.0%	\$2,320,586
\$0.50	9,268,182	15.0%	\$3,410,473
\$1.00	7,629,218	12.7%	\$3,951,281
\$2.00	6,268,927	10.7%	\$3,951,280

- (1) Includes (i) the 4,908,637 of Purchase Shares and Commitment Shares sold to Lincoln Park under the Purchase Agreement prior to the date of this prospectus and (ii) total number of Purchase Shares that we would have sold under the Purchase Agreement at the corresponding assumed average purchase price set forth in the first column, up to the aggregate purchase price of \$2,720,581, if available, while giving effect to the Exchange Cap and without regard for the Beneficial Ownership Cap.
- (2) The denominator is based on 57,360,111 shares outstanding as of April 9, 2020, adjusted to include the total number of Purchase Shares that we would have sold under the Purchase Agreement at the corresponding assumed average purchase price set forth in the first column, up to the aggregate purchase price of \$2,720,581, if available, while giving effect to the Exchange Cap and without regard for the Beneficial Ownership Cap. The numerator is based on the 4,908,637 Purchase Shares and Commitment Shares previously issued under the Purchase Agreement and the number of shares issuable under the Purchase Agreement (that are the subject of this offering) at the corresponding assumed average purchase price set forth in the first column.
- (3) The closing sale price of our common stock on the Exchange on April 9, 2020.

DESCRIPTION OF CAPITAL STOCK

The following description of our capital stock and provisions of our amended and restated certificate of incorporation, certificates of designation and amended and restated bylaws are summaries. You should also refer to the amended and restated certificate of incorporation and the amended and restated bylaws, which are filed as exhibits to the registration statement of which this prospectus is a part.

General

Under our amended and restated certificate of incorporation we are authorized to issue up to 250,000,000 shares of common stock, \$0.0001 par value per share, and 10,000,000 shares of preferred stock, \$0.0001 par value per share, of which 9,578 are designated Series A preferred stock, or the Series A Preferred Stock, 1,576 are designated Series B-1 preferred stock, or the Series B-1 Preferred Stock, and 27,000 are designated Series B-2 Preferred Stock, or the Series B-2 Preferred Stock, with the Series B-1 Preferred Stock and Series B-2 Preferred Stock referred to herein, collectively, as the Series B Preferred Stock. Our board of directors may establish the rights and preferences of the preferred stock from time to time. As of April 9, 2020, we had outstanding (i) 57,360,111 shares of common stock, and (ii) no shares of preferred stock.

Common Stock

Voting Rights

Each holder of our common stock is entitled to one vote for each share on all matters submitted to a vote of the stockholders, including the election of directors. Under our amended and restated certificate of incorporation and amended and restated bylaws, our stockholders do not have cumulative voting rights. Because of this, the holders of a majority of the shares of our common stock entitled to vote in any election of directors can elect all of the directors standing for election, if they should so choose.

Dividends

Subject to preferences that may be applicable to any then-outstanding preferred stock, holders of our common stock are entitled to receive ratably those dividends, if any, as may be declared from time to time by our board of directors out of legally available funds.

Liquidation

In the event of our liquidation, dissolution or winding up, holders of our common stock will be entitled to share ratably in the net assets legally available for distribution to stockholders after the payment of all of our debts and other liabilities and the satisfaction of any liquidation preference granted to the holders of any then-outstanding shares of our preferred stock.

Rights and Preferences

Holders of our common stock have no preemptive, conversion or subscription rights and there are no redemption or sinking fund provisions applicable to our common stock. The rights, preferences and privileges of the holders of our common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of our preferred stock that we may designate in the future.

Preferred Stock

Pursuant to our amended and restated certificate of incorporation, our board of directors has the authority, without further action by the stockholders (unless such stockholder action is required by applicable law or stock

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exchange listing rules), to designate and issue up to 10,000,000 shares of preferred stock in one or more series, to establish from time to time the number of shares to be included in each such series, to fix the designations, powers, preferences, privileges and relative participating, optional or special rights and the qualifications, limitations or restrictions thereof, including dividend rights, conversion rights, voting rights, terms of redemption and liquidation preferences, any or all of which may be greater than the rights of our common stock, and to increase or decrease the number of shares of any such series, but not below the number of shares of such series then outstanding.

Our board of directors, without stockholder approval, can issue preferred stock with voting, conversion or other rights that could adversely affect the voting power and other rights of the holders of our common stock. Preferred stock could be issued quickly with terms designed to delay or prevent a change in control of our company or make removal of management more difficult. Additionally, the issuance of preferred stock may have the effect of decreasing the market price of our common stock and may adversely affect the voting power of holders of our common stock and reduce the likelihood that our common stockholders will receive dividend payments and payments upon liquidation.

Our board of directors will fix the designations, voting powers, preferences and rights, as well as the qualifications, limitations or restrictions, of the preferred stock of each series that we offer under this prospectus and applicable prospectus supplements in the certificate of designation relating to that series. We will file as an exhibit 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 any certificate of designation that describes the terms of the series of preferred stock we are offering before the issuance of that series of preferred stock. This description will include:

- the title and stated value;
- the number of shares we are offering;
- the liquidation preference per share;
- the purchase price per share;
- the dividend rate per share, dividend period and payment dates and method of calculation for dividends;
- whether dividends will be cumulative or non-cumulative and, if cumulative, the date from which dividends will accumulate;
- our right, if any, to defer payment of dividends and the maximum length of any such deferral period;
- the procedures for any auction and remarketing, if any;
- the provisions for a sinking fund, if any;
- the provisions for redemption or repurchase, if applicable, and any restrictions on our ability to exercise those redemption or repurchase rights;
- any listing of the preferred stock on any securities exchange or market;
- whether the preferred stock will be convertible into our common stock or other securities of ours, including depositary shares and warrants, and, if applicable, the conversion period, the conversion price, or how it will be calculated, and under what circumstances it may be adjusted;
- whether the preferred stock will be exchangeable into debt securities, and, if applicable, the exchange period, the exchange price, or how it will be calculated, and under what circumstances it may be adjusted;
- voting rights, if any, of the preferred stock;

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- preemption rights, if any;
- restrictions on transfer, sale or other assignment, if any;
- whether interests in the preferred stock will be represented by depositary shares;
- a discussion of any material or special United States federal income tax considerations applicable to the preferred stock;
- the relative ranking and preferences of the preferred stock as to dividend rights and rights if we liquidate, dissolve or wind up our affairs;
- any limitations on issuances of any class or series of preferred stock ranking senior to or on a parity with the series of preferred stock being issued as to dividend rights and rights if we liquidate, dissolve or wind up our affairs; and
- any other specific terms, rights, preferences, privileges, qualifications or restrictions of the preferred stock.

The Delaware General Corporation Law, the law governing corporations in the state of our incorporation, provides that the holders of preferred stock will have the right to vote separately as a class (or, in some cases, as a series) on an amendment to our certificate of incorporation if the amendment would change the par value or, unless the certificate of incorporation provided otherwise, the number of authorized shares of the class or change the powers, preferences or special rights of the class or series so as to adversely affect the class or series, as the case may be. This right is in addition to any voting rights that may be provided for in the applicable certificate of designation.

As of April 9, 2020, we have designated an aggregate of 38,154 shares of preferred stock, of which 9,578 are designated Series A Preferred Stock, 1,576 are designated Series B-1 Preferred Stock and 27,000 are designated Series B-2 Preferred Stock.

Series A Preferred Stock

In October 2018, we filed a Certificate of Designation of Preferences, Rights and Limitations of Series A Convertible Preferred Stock, or the Series A Certificate of Designation, with the Secretary of State of the State Delaware, setting forth the preferences, rights and limitations of the Series A Preferred Stock. Our board of directors designated 9,578 shares of preferred stock Series A Preferred Stock, of which none were outstanding as of April 9, 2020.

Each share of Series A Preferred Stock has an aggregate stated value of \$1,000 and is convertible into shares of our common stock at a per share price equal to \$3.00 (subject to adjustment to reflect stock splits and similar events). The Series A Preferred Stock is convertible at any time at the option of the holders thereof, provided that the holders of Series A Preferred Stock are prohibited from converting shares of Series A Preferred Stock into shares of our common stock if, as a result of such conversion, such holders (together with certain affiliates and “group” members) would beneficially own more than 4.985% of the total number of shares of our common stock then issued and outstanding. The Series A Preferred Stock is not redeemable. In the event of our liquidation, dissolution or winding up, the holders of our Series A Preferred Stock will receive an amount equal to \$0.0001 per share, plus any declared but unpaid dividends, and thereafter will share ratably in any distribution of our assets with the holders of our common stock and the holders of Series B Preferred Stock, on an as-converted basis. With respect to rights upon liquidation, the Series A Preferred Stock ranks senior to our common stock, is pari passu with the Series B Preferred Stock and junior to existing and future indebtedness. Except as otherwise required by law (or with respect to approval of certain actions involving our organizational documents that materially and adversely affect the holders of Series A Preferred Stock), the Series A Preferred Stock does not have voting rights. The Series A Preferred Stock is not subject to any price-based anti-dilution protections and does not provide for any accruing dividends, but provides that holders of Series A Preferred Stock will

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participate in any dividends on our common stock on an as-converted basis (without giving effect to the limitation on conversion described above). The Series A Certificate of Designation also provides for partial liquidated damages in the event that we fail to timely convert shares of Series A Preferred Stock into shares of our common stock in accordance with the Series A Certificate of Designation.

Series B Preferred Stock

In September 2019, we filed a Certificate of Designation of Preferences, Rights and Limitations of Series B-1 Convertible Preferred Stock, or the Series B-1 Certificate of Designation, and a Certificate of Designation of Preferences, Rights and Limitations of Series B-2 Convertible Preferred Stock, or the Series B-2 Certificate of Designation, with the Secretary of State of the State Delaware, setting forth the preferences, rights and limitations of the Series B-1 Preferred Stock and the Series B-2 Preferred Stock, respectively. Our board of directors designated 1,576 shares of Series B-1 Preferred Stock and 27,000 shares of Series B-2 Preferred Stock, of which no shares of Series B-1 Preferred Stock or Series B-2 Preferred Stock were outstanding as of April 9, 2020.

Each share of Series B-1 Preferred Stock has an aggregate stated value of \$1,000 and is convertible into shares of our common stock at a per share price equal to \$0.9494 (subject to adjustment to reflect stock splits and similar events). Each share of Series B-2 Preferred Stock has an aggregate stated value of \$1,000 and is convertible into shares of our common stock at a per share price equal to the greater of (i) \$0.60 (subject to adjustment to reflect stock splits and similar events), or (ii) the average of the volume-weighted average prices of our common stock on the Nasdaq Capital Market on each of the 15 trading days immediately preceding such exchange.

The Series B Preferred Stock is convertible at any time at the option of the holders thereof, provided that the holders of Series B Preferred Stock are prohibited from converting shares of Series B Preferred Stock into shares of our common stock if, as a result of such conversion, such holders (together with certain affiliates and “group” members) would beneficially own more than 4.985% of the total number of shares of our common stock then issued and outstanding. The Series B Preferred Stock is not redeemable. In the event of our liquidation, dissolution or winding up, the holders of our Series B Preferred Stock will receive an amount equal to \$0.0001 per share, plus any declared but unpaid dividends, and thereafter will share ratably in any distribution of our assets with the holders of our common stock and the holders of Series A Preferred Stock, on an as-converted basis. With respect to rights upon liquidation, the Series B Preferred Stock ranks senior to our common stock, is *pari passu* with the Series A Preferred Stock and junior to existing and future indebtedness. Except as otherwise required by law (or with respect to approval of certain actions involving our organizational documents that materially and adversely affect the holders of Series B Preferred Stock), the Series B Preferred Stock does not have voting rights. The Series B Preferred Stock is not subject to any price-based anti-dilution protections and does not provide for any accruing dividends, but provides that holders of Series B Preferred Stock will participate in any dividends on our common stock on an as-converted basis (without giving effect to the limitation on conversion described above). The Series B-1 Certificate of Designation and Series B-2 Certificate of Designation also provide for partial liquidated damages in the event that we fail to timely convert shares of Series B Preferred Stock into shares of our common stock in accordance with the applicable certificate of designation.

Convertible Notes

In June 2014, we issued to Deerfield the Deerfield Note in the principal amount of \$10.0 million. As of December 31, 2019, the outstanding principal amount of the Deerfield Note was approximately \$7.0 million. In December 2019 and January 2020, we issued Senior Secured Notes to Deerfield, Deerfield Special Situations Fund, L.P., Delaware Street Capital Master Fund, L.P. and M. Kingdon Offshore Master Fund, LP in the aggregate principal amount of \$74.5 million. We refer to the Deerfield Note and the Senior Secured Notes together as the Convertible Notes. The Convertible Notes bear interest at 6.75% per annum. The Convertible Notes are convertible into shares of our common stock at an initial conversion price of \$5.85 per share, subject to adjustment in accordance with the terms of the Convertible Notes. The conversion price of the Convertible Notes

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will be adjusted downward if we issue or sell any shares of our common stock, convertible securities, warrants or options at a sale or exercise price per share less than the greater of the conversion price of the Convertible Notes or the closing sale price of our common stock as reported on the Nasdaq Capital Market on the last trading date immediately prior to such issuance, or, in the case of a firm commitment underwritten offering, on the date of execution of the underwriting agreement between us and the underwriters for such offering. If we effect an “at the market offering” as defined in Rule 415 of the Securities Act of our common stock, the conversion price of the Convertible Notes will be adjusted downward pursuant to this anti-dilution adjustment only if such sales are made at a price less than \$5.85 per share, provided that this anti-dilution adjustment will not apply to any sales made pursuant to (x) the Purchase Agreement, (y) that certain Common Stock Sales Agreement, dated as of September 4, 2018, by and between the Company and RBC Capital Markets, LLC, or (z) the Deerfield Exchange Agreement. Notwithstanding anything to the contrary in the Convertible Notes, the anti-dilution adjustment of the Convertible Notes shall not result in the conversion price of the Convertible Notes being less than \$0.583 per share. The Convertible Notes are convertible at any time at the option of the holders thereof, provided that each holder is prohibited from converting the Convertible Notes into shares of our common stock if, as a result of such conversion, such holder (together with certain affiliates and “group” members of such holder) would beneficially own more than 4.985% of the total number of shares of our common stock then issued and outstanding. However, the Convertible Note issued to Delaware Street Capital Master Fund, L.P., due to the fact Delaware Street Capital Master Fund, L.P. was a beneficial owner of more than 4.985% of the total number of shares of our common stock then issued and outstanding, has a beneficial ownership cap equal to 19.985% of the total number of shares of our common stock then issued and outstanding. Pursuant to the Convertible Notes, the holders thereof have the option to demand repayment of all outstanding principal, and any unpaid interest accrued thereon, in connection with a Major Transaction (as defined in the Convertible Notes), which shall include, among others, any acquisition or other change of control of us; a liquidation, bankruptcy or other dissolution of us; or if at any time after March 31, 2021, shares of our common stock are not listed on an Eligible Market (as defined in the Convertible Notes). The Convertible Notes are subject to specified events of default, the occurrence of which would entitle the holders thereof to immediately demand repayment of all outstanding principal and accrued interest on the Convertible Notes. Such events of default include, among others, failure to make any payment under the Convertible Notes when due, failure to observe or perform any covenant under the Facility Agreement (as defined in the Convertible Notes) or the other transaction documents related thereto (subject to a standard cure period), our failure to be able to pay debts as they come due, the commencement of bankruptcy or insolvency proceedings against us, a material judgement levied against us and a material default by us under the Warrant or the Notes (each as defined in the Facility Agreement).

The foregoing information is qualified entirely by reference to the applicable provisions of the terms of the Facility Agreement and the Convertible Notes, which are each incorporated by reference and included as exhibits to our Annual Report on Form 10-K for the fiscal year ended December 31, 2019, as filed with the SEC on February 28, 2020.

Warrants

As of April 9, 2020, we had outstanding warrants to purchase up to 2,423,077 shares of our common stock at a weighted average exercise price of \$5.12 per share and which expire between October 24, 2023 and June 2, 2024. The warrants include a net exercise provision and contain provisions for the adjustment of the exercise price and the number of shares issuable upon the exercise of each warrant in the event of certain stock dividends, stock splits, reorganizations, reclassifications and consolidations. We have also granted registration rights to Deerfield, as more fully described below under “— Registration Rights.”

In June 2014, in connection with our entering into the Facility Agreement, we issued to Deerfield a warrant, or the Deerfield Warrant, to purchase 14,423,076 shares of Series D redeemable convertible preferred stock at an exercise price of \$0.78 per share, which is exercisable until June 2, 2024. Upon completion of our initial public offering, the Deerfield Warrant automatically converted into a warrant to purchase 1,923,077 shares of our common stock at an exercise price of \$5.85 per share. According to the terms of the Deerfield Warrant, in no

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event may Deerfield exercise this warrant if such exercise would result in Deerfield beneficially owning more than 4.985% of the then issued and outstanding shares of our common stock. This exercise limitation may not be waived and any purported exercise that is inconsistent with this exercise limitation is null and void. This exercise limitation will not apply to any exercise made immediately prior to a change of control transaction. If Deerfield is only able to exercise the Deerfield Warrant for a limited number of shares due to this exercise limitation, the Deerfield Warrant could subsequently become exercisable to purchase the remainder of the shares as a result of a variety of events. This could occur, for example, if we issue more shares or Deerfield sells some of its existing shares. The Deerfield Warrant includes a net exercise provision and contains provisions for the adjustment of the exercise price and the number of shares issuable upon the exercise of the warrant in the event of certain stock dividends, stock splits, recapitalizations, reclassifications and consolidations. Under the Deerfield Warrant, Deerfield also has the right to demand upon the occurrence of specified events, including a merger, asset sale or other change of control transaction, that we redeem the Deerfield Warrant for a cash amount equal to the Black-Scholes value of the portion of the Deerfield Warrant to be redeemed. If Deerfield chooses not to redeem the Deerfield Warrant upon the occurrence of such an event, we may not enter into any such transaction unless our successor entity assumes in writing all our obligations under both the Deerfield Warrant and the Deerfield facility and provides Deerfield with certain registration rights.

The Deerfield Warrant includes certain exercise price protection provisions pursuant to which the exercise price of the Deerfield Warrant will be adjusted downward on a broad-based weighted average basis if we issue or sell any shares of common stock, convertible securities, warrants or options, including in this offering, at a sale or exercise price per share less than the greater of the Deerfield Warrant's exercise price or the closing sale price of our common stock as reported on the Nasdaq Capital Market on the last trading date immediately prior to such issuance or, in the case of a firm commitment underwritten offering, on the date of execution of the underwriting agreement between us and the underwriters for such offering. The sale price for purposes of this adjustment is measured after giving effect to any underwriting discounts and commissions. This exercise price adjustment does not apply to any offering deemed by the SEC to constitute an "at the market offering" as defined in Rule 415 of the Securities Act of our common stock, the conversion price of the Deerfield Warrant will be adjusted downward pursuant to this anti-dilution adjustment only if such sales are made at a price less than \$5.85 per share, provided that this anti-dilution adjustment will not apply to any sales made pursuant to (x) the Purchase Agreement, (y) that certain Common Stock Sales Agreement, dated as of September 4, 2018, by and between the Company and RBC Capital Markets, LLC, or (z) the Deerfield Exchange Agreement.

The foregoing information is qualified entirely by reference to the applicable provisions of the terms of the warrants, which are each by reference and included as exhibits to our Annual Report on Form 10-K for the fiscal year ended December 31, 2019, as filed with the SEC on February 28, 2020.

Registration Rights

We and the holders of shares of our common stock issued upon the conversion or reclassification of our redeemable convertible preferred stock have entered into an investors' rights agreement. The registration rights provisions of this agreement expired as to all holders of our capital stock, other than Deerfield, on the second anniversary of our initial public offering. The registration rights provisions of our investors' rights agreement currently provide Deerfield with the registration rights described in more detail below. The following information is qualified entirely by reference to the applicable provisions of the investors' rights agreement, which is incorporated by reference as an exhibit into the registration statement of which this prospectus is a part.

Demand Registration Rights

Deerfield has the right to demand that we file a Form S-1 registration statement, as long as the anticipated aggregate offering price, net of underwriting discounts and commissions, would exceed \$15.0 million. These registration rights are subject to specified conditions and limitations, including the right of the underwriters, if any, to limit the number of shares included in any such registration under specified circumstances. Upon such a request, we are required to effect the registration as soon as reasonably possible.

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Piggyback Registration Rights

If we propose to register any of our securities under the Securities Act either for our own account or for the account of other stockholders, Deerfield will be entitled to include its shares of our common stock in the registration statement. These piggyback registration rights are subject to specified conditions and limitations, including the right of the underwriters to limit the number of shares included in any such registration under specified circumstances. Deerfield has waived these rights as they may apply to the filing of the registration statement of which this prospectus is a part.

Registration on Form S-3

Deerfield is entitled, upon its written request, to have such shares registered by us on a Form S-3 registration statement at our expense, subject to other specified conditions and limitations.

Expenses of Registration

We will pay all expenses relating to any demand, piggyback or Form S-3 registration, other than underwriting discounts and commissions, subject to specified conditions and limitations.

Termination of Registration Rights

The registration rights granted under the investors' rights agreement terminated as to all the holders of our capital stock, other than Deerfield, on the two-year anniversary of our initial public offering. These registration rights will terminate as to Deerfield upon the earliest to occur of (i) written consent of Deerfield, (ii) such time that the Deerfield Warrant and Deerfield Note have been exercised or converted, as applicable, in full and Rule 144 or another similar exemption under the Securities Act is available for the sale of all shares of our capital stock held by Deerfield without limitation during a three-month period without registration or (iii) six-months following the later to occur of (x) the expiration of the Deerfield Warrant and (y) payment in full or termination of the Deerfield Note.

Anti-Takeover Provisions

Section 203 of the Delaware General Corporation Law

We are subject to Section 203 of the Delaware General Corporation Law, which prohibits a Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years after the date that such stockholder became an interested stockholder, with the following exceptions:

- before such date, the board of directors of the corporation approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder;
- upon completion 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 began, excluding for purposes of determining the voting stock outstanding, but not the outstanding voting stock owned by the interested stockholder, those shares owned (i) by persons who are directors and also officers and (ii) employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- on or after such date, the business combination is approved by the board of directors and authorized at an annual or special meeting of the stockholders, and not by written consent, by the affirmative vote of at least 66 2/3% of the outstanding voting stock that is not owned by the interested stockholder.

In general, Section 203 defines a "business combination" to include the following:

- any merger or consolidation involving the corporation and the interested stockholder;

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- any sale, transfer, pledge or other disposition of 10% or more of the assets of the corporation involving the interested stockholder;
- subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;
- any transaction involving the corporation that has the effect of increasing the proportionate share of the stock or 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 by or through the corporation.

In general, Section 203 defines an “interested stockholder” as an entity or person who, together with the person’s affiliates and associates, beneficially owns, or within three years prior to the time of determination of interested stockholder status did own, 15% or more of the outstanding voting stock of the corporation.

Certificate of Incorporation and Bylaws

Our amended and restated certificate of incorporation provides for our board of directors to be divided into three classes with staggered three-year terms. Only one class of directors will be elected at each annual meeting of our stockholders, with the other classes continuing for the remainder of their respective three-year terms. Because our stockholders do not have cumulative voting rights, stockholders holding a majority of the shares of our common stock outstanding will be able to elect all of our directors. Our amended and restated certificate of incorporation and our amended and restated bylaws also provide that directors may be removed by the stockholders only for cause upon the vote of 66 2/3% or more of our outstanding common stock. Furthermore, the authorized number of directors may be changed only by resolution of the board of directors, and vacancies and newly created directorships on the board of directors may, except as otherwise required by law or determined by the board of directors, only be filled by a majority vote of the directors then serving on the board of directors, even though less than a quorum.

Our amended and restated certificate of incorporation and amended and restated bylaws also provide that all stockholder actions must be effected at a duly called meeting of stockholders and eliminates the right of stockholders to act by written consent without a meeting. Our amended and restated bylaws also provide that only our chairman of the board, chief executive officer or the board of directors pursuant to a resolution adopted by a majority of the total number of authorized directors may call a special meeting of stockholders.

Our amended and restated bylaws also provide that stockholders seeking to present proposals before a meeting of stockholders or to nominate candidates for election as directors at a meeting of stockholders must provide timely advance notice in writing, and specify requirements as to the form and content of a stockholder’s notice.

Our amended and restated certificate of incorporation and amended and restated bylaws provide that the stockholders cannot amend many of the provisions described above except by a vote of 66 2/3% or more of our outstanding common stock.

The combination of these provisions make it more difficult for our existing stockholders to replace our board of directors as well as for another party to obtain control of us by replacing our board of directors. Since our board of directors has the power to retain and discharge our officers, these provisions also make it more difficult for existing stockholders or another party to effect a change in management. In addition, the authorization of undesignated preferred stock makes it possible for our board of directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to change our control.

These provisions are intended to enhance the likelihood of continued stability in the composition of our board of directors and its policies and to discourage coercive takeover practices and inadequate takeover bids. These

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provisions are also designed to reduce our vulnerability to hostile takeovers and to discourage certain tactics that may be used in proxy fights. However, such provisions could have the effect of discouraging others from making tender offers for our shares and may have the effect of delaying changes in our control or management. As a consequence, these provisions may also inhibit fluctuations in the market price of our stock that could result from actual or rumored takeover attempts. We believe that the benefits of these provisions, including increased protection of our potential ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure our company, outweigh the disadvantages of discouraging takeover proposals, because negotiation of takeover proposals could result in an improvement of their terms.

Choice of Forum

Our amended and restated certificate of incorporation provides that the Court of Chancery of the State of Delaware will be the exclusive forum for:

- any derivative action or proceeding brought on our behalf;
- any action asserting a breach of fiduciary duty;
- any action asserting a claim against us arising pursuant to the Delaware General Corporation Law, our amended and restated certificate of incorporation or our amended and restated bylaws; or
- any action asserting a claim against us that is governed by the internal affairs doctrine;

except that these choice of forum provisions do not apply to suits brought to enforce a duty or liability created by the Securities Act, the Exchange Act or any other claim for which the federal courts have exclusive jurisdiction.

The enforceability of similar choice of forum provisions in other companies' certificates of incorporation has been challenged in legal proceedings, and it is possible that, in connection with any action, a court could find the choice of forum provisions contained in our amended and restated certificate of incorporation to be inapplicable or unenforceable in such action.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Computershare Trust Company, N.A. The transfer agent's address is 144 Fernwood Avenue, Edison, NJ 08837.

Listing on the Nasdaq Capital Market

Our common stock is listed on the Nasdaq Capital Market under the symbol "KMPH."

PLAN OF DISTRIBUTION

Pursuant to this prospectus, we are offering up to \$2,720,581 in shares of our common stock that are issuable to Lincoln Park pursuant to the Purchase Agreement.

We may, from time to time and at our sole discretion, direct Lincoln Park to purchase an initial amount of 1,000,000 shares of our common stock upon the Commencement, as well as shares of our common stock in amounts up to 200,000 shares on any single business day from and after the Commencement, which amounts may be increased to up to 300,000 shares of our common stock depending on the market price of our common stock at the time of sale, subject to a maximum of \$3,000,000 per purchase. In addition, upon notice to Lincoln Park, we may, from time to time and at our sole discretion, direct Lincoln Park to purchase additional shares of our common stock in “accelerated purchases,” and/or “additional accelerated purchases” as set forth in the Purchase Agreement. The purchase price per share is based on the market price of our common stock at the time of sale as computed under the Purchase Agreement. Lincoln Park may not assign or transfer its rights and obligations under the Purchase Agreement. See “Lincoln Park Transaction-Purchases of Shares under the Purchase Agreement.”

We had previously registered \$4,020,521 of shares of our common stock and 308,637 shares of our common stock issuable as Commitment Shares under the Purchase Agreement pursuant to the Prior Registration Statement. In accordance with the terms of the Purchase Agreement, we may offer and sell shares of our common stock having an aggregate offering price of up to \$2,720,581 from time to time to Lincoln Park pursuant to the Purchase Agreement under this prospectus.

Pursuant to General Instruction I.B.6 of Form S-3, in no event will we sell securities registered on the registration statement of which this prospectus is a part in a public primary offering with a value exceeding more than one-third of our public float in any 12-month period if our public float, measured in accordance with such instruction, remains below \$75.0 million. The aggregate market value of our common stock held by non-affiliates, or the public float, is approximately \$20.3 million, which was calculated based on 54,756,755 shares of our outstanding common stock held by non-affiliates as of April 9, 2020 at a price of \$0.3713 per share, which was the closing price of our common stock on the Exchange on February 20, 2020. As of the date of this prospectus, we have sold approximately \$4.1 million of shares of our common stock pursuant to General Instruction I.B.6 of Form S-3 during the 12 calendar months prior to and including the date of this prospectus and have approximately \$2.7 million of shares available (all of which we have registered for sale in this offering).

Lincoln Park is an “underwriter” within the meaning of Section 2(a)(11) of the Securities Act.

We will pay the expenses incident to the registration under the Securities Act of the offer and sale of the shares covered by this prospectus to Lincoln Park. We have agreed to indemnify Lincoln Park and certain other persons against certain liabilities in connection with the offering of shares of our common stock offered hereby, including liabilities arising under the Securities Act or, if such indemnity is unavailable, to contribute amounts required to be paid in respect of such liabilities. Lincoln Park has agreed to indemnify us against liabilities under the Securities Act that may arise from certain written information furnished to us by Lincoln Park specifically for use in this prospectus or, if such indemnity is unavailable, to contribute amounts required to be paid in respect of such liabilities.

Lincoln Park has represented to us that at no time prior to the Purchase Agreement has Lincoln Park or its agents, representatives or affiliates engaged in or effected, in any manner whatsoever, directly or indirectly, any short sale (as such term is defined in Rule 200 of Regulation SHO of the Exchange Act) of our common stock or any hedging transaction, which establishes a net short position with respect to our common stock. Lincoln Park agreed that during the term of the Purchase Agreement, it, its agents, representatives or affiliates will not enter into or effect, directly or indirectly, any of the foregoing transactions.

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We have advised Lincoln Park that it is required to comply with Regulation M promulgated under the Exchange Act. With certain exceptions, Regulation M precludes Lincoln Park, any affiliated purchasers, and any broker-dealer or other person who participates in the distribution from bidding for or purchasing, or attempting to induce any person to bid for or purchase any security which is the subject of the distribution until the entire distribution is complete. Regulation M also prohibits any bids or purchases made in order to stabilize the price of a security in connection with the distribution of that security. All of the foregoing may affect the marketability of the securities offered by this prospectus.

This offering will terminate on the date that all shares offered by this prospectus have been sold to Lincoln Park.

Our common stock is listed on the Exchange and trades under the symbol "KMPH." The transfer agent of our common stock is Computershare Trust Company, N.A.

LEGAL MATTERS

The validity of the common stock offered by this prospectus will be passed upon by Cooley LLP, Broomfield, Colorado. K&L Gates, LLP, Miami, Florida is counsel for Lincoln Park in connection with this offering.

EXPERTS

The financial statements of KemPharm, Inc. as of December 31, 2019 and 2018 and for each of the years in the two year period ended December 31, 2019, incorporated in this prospectus by reference from KemPharm, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2019, have been audited by RSM US LLP, an independent registered public accounting firm, as stated in their report thereon, which expresses an unqualified opinion and includes an explanatory paragraph regarding the uncertainty of KemPharm, Inc.'s ability to continue as a going concern, incorporated herein by reference, and have been incorporated in this prospectus and registration statement in reliance upon such report and upon the authority of such firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

This prospectus is part of a registration statement we filed with the SEC. This prospectus does not contain all of the information set forth in the registration statement and the exhibits to the registration statement. For further information with respect to us and the securities we are offering under this prospectus, we refer you to the registration statement and the exhibits and schedules filed as a part of the registration statement. You should rely only on the information contained in this prospectus or incorporated by reference. We have not authorized anyone else to provide you with different information. We are not making an offer of these securities in any state where the offer is not permitted. You should not assume that the information in this prospectus is accurate as of any date other than the date on the front page of this prospectus, regardless of the time of delivery of this prospectus or any sale of the securities offered by this prospectus.

We file annual, quarterly and current reports, proxy statements and other information with the SEC. The SEC maintains a website that contains reports, proxy statements and other information regarding issuers that file electronically with the SEC, including KemPharm. The address of the SEC website is www.sec.gov.

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

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to “incorporate by reference” information into this prospectus, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The SEC file number for the documents incorporated by reference in this prospectus is 001-36913. The documents incorporated by reference into this prospectus contain important information that you should read about us.

The following documents are incorporated by reference into this document:

- our Annual Report on [Form 10-K](#) for the fiscal year ended December 31, 2019 filed with the SEC on February 28, 2020, and as amended by our Amendment No. 1 on Form 10-K/A filed with the SEC on April 8, 2020;
- our Current Reports on Form 8-K (other than information furnished rather than filed) filed with the SEC on [January 10, 2020](#), [January 13, 2020](#), [January 16, 2020](#), [February 10, 2020](#), [February 18, 2020](#) and [April 2, 2020](#); and
- the description of our common stock contained in our registration statement on [Form 8-A](#), filed with the SEC on April 10, 2015, including any amendments or reports filed for the purpose of updating such description.

We also incorporate by reference into this prospectus all documents (other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items) that are filed by us with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act (i) after the date of the initial filing of the registration statement of which this prospectus forms a part and prior to the effectiveness of the registration statement, or (ii) after the date of this prospectus but prior to the termination of the offering. These documents include periodic reports, such as Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, as well as proxy statements.

We will provide to each person, including any beneficial owner, to whom a prospectus is delivered, without charge upon written or oral request, a copy of any or all of the documents that are incorporated by reference into this prospectus but not delivered with the prospectus, including exhibits that are specifically incorporated by reference into such documents. You should direct any requests for documents by writing us at 1180 Celebration Boulevard, Suite 103, Celebration, FL 34747 Attn: Corporate Secretary or telephoning us at (321) 939-3416.

Any statement contained herein or in a document incorporated or deemed to be incorporated by reference into this document will be deemed to be modified or superseded for purposes of the document to the extent that a statement contained in this document or any other subsequently filed document that is deemed to be incorporated by reference into this document modifies or supersedes the statement.



**Up to \$2,720,581 of Shares of
Common Stock**

Prospectus

April 10, 2020
