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**Filed pursuant to Rule 424(b)(5)**
**Registration Statement No. 333-229686**

**The information in this preliminary prospectus supplement and the accompanying base prospectus is not complete and may be changed. A registration statement relating to these securities has been declared effective under the Securities Act of 1933, as amended. This preliminary prospectus supplement and the accompanying base prospectus are not an offer to sell these securities and are not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.**

**Subject to completion, dated February 11, 2020**

**Preliminary Prospectus Supplement**
**(To Prospectus dated March 27, 2019)**

**Class A Units each consisting of one Share of Common Stock and one Series C Warrant and**
**Class B Units each consisting of one Pre-Funded Series D Warrant and one Series C Warrant**
**(or some combination of Class A Units and Class B Units)**
**(and Shares of Common Stock Issuable Upon Exercise of the Series C Warrants and Pre-Funded Series D Warrants)**

# Zosano Pharma Corporation

We are offering Class A Units, with each Class A Unit consisting of one share of common stock, par value $0.0001 per share, and one Series C Warrant ("Series C Warrant") to purchase one share of common stock (together with the share of common stock underlying each Series C Warrant, the "Class A Units") at a public offering price of $ per Class A Unit. Each Series C Warrant included in the Class A Units entitles its holder to purchase one share of common stock at an exercise price per share of $ .

We are also offering to certain purchasers whose purchase of Class A Units in this offering would result in the purchaser, together with its affiliates and certain related parties, beneficially owning more than 4.99% (or, at the election of the purchaser, 9.99%) of our outstanding common stock following the consummation of this offering, the opportunity to purchase, in lieu of Class A Units that would result in ownership in excess of 4.99% (or, at the election of the purchaser, 9.99%), Class B Units, with each Class B Unit consisting of one pre-funded Series D Warrant ("Series D Warrants," together with the Series C Warrants, the "Warrants") to purchase one share of common stock and one Series C Warrant (together with the share of common stock underlying each Series D Warrant and each Series C Warrant, the "Class B Units" and, together with the Class A Units, the "units") at a public offering price of $ per Class B Unit, which is the public offering price per Class A Unit minus $0.0001 (the offering of the units to the public, the "Offering"). Each Series D Warrant included in the Class B Units entitles its holder to purchase one share of common stock at an exercise price per share of $0.0001. Each Series C Warrant included in the Class B Units entitles its holder to purchase one share of common stock at an exercise price per share of $ .

The Class A Units and Class B Units have no stand-alone rights and will not be certificated or issued as stand-alone securities. The shares of common stock and the Warrants comprising such units are immediately separable and will be issued separately, but will be purchased together in this Offering. The Series C Warrants offered hereby may be exercised from time to time beginning on the issuance date and expire on the five-year anniversary of the issuance date. The Series D Warrants offered hereby may be exercised from time to time beginning on the issuance date and until all of the Series D Warrants are exercised in full.

Our common stock is listed on the Nasdaq Capital Market under the symbol "ZSAN." The last reported sale price of our common stock on February 10, 2020 was $0.8734 per share. There is no established public trading market for the Series C Warrants or Series D Warrants. We do not intend to apply for listing of the Series C Warrants or Series D Warrants on any securities exchange or recognized trading system.

**This investment involves a high degree of risk. Before making an investment decision, please read the information under the heading "Risk Factors" beginning on page S-11 of this prospectus supplement and in the documents incorporated by reference into this prospectus supplement.**

**Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus supplement or the prospectus to which it relates. Any representation to the contrary is a criminal offense.**

| | PER CLASS A UNIT | PER CLASS B UNIT | TOTAL |
|---|---|---|---|
| Public offering price | $ | | $ |
| Underwriting discounts and commissions(1) | $ | | $ |
| Proceeds, before expenses, to us(2) | $ | | $ |

(1) We have agreed to reimburse the underwriters for certain expenses. See "Underwriting."
(2) The amount of the offering proceeds to us presented in this table does not give effect to any exercise of the Warrants being issued in this Offering.

We have granted the underwriters an option to purchase up to additional shares of common stock and/or additional Series C Warrants to purchase up to shares of common stock (equal to 15% of the shares of common stock (including shares underlying the Series D Warrants) and 15% of the Series C Warrants in the Offering), in any combination thereof, at the applicable price to the public per share or per Series C Warrant, less the underwriting discounts and commissions. This option is exercisable for 30 days from the date of this prospectus supplement.

The underwriters expect to deliver the securities on or about , 2020.

***Sole Book-Running Manager***

## H.C. Wainwright & Co.

**The date of this prospectus supplement is , 2020.**

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### Prospectus Supplement



### Prospectus

## ABOUT THIS PROSPECTUS SUPPLEMENT

We provide information to you about this Offering in two separate documents that are bound together: (1) this prospectus supplement, which describes the specific details regarding this Offering; and (2) the accompanying base prospectus, which provides general information, some of which may not apply to this Offering. Generally, when we refer to this "prospectus," we are referring to both documents combined. If information in this prospectus supplement is inconsistent with the accompanying base prospectus, you should rely on this prospectus supplement. However, 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 in this prospectus supplement—the statement in the document having the later date modifies or supersedes the earlier statement as our business, financial condition, results of operations and prospects may have changed since the earlier dates.

We have not authorized anyone to provide you with any information or to make any representation, other than those contained or incorporated by reference in this prospectus supplement or in any free writing prospectus we have prepared. We take no responsibility for, and provide no assurance as to the reliability of, any other information that others may give you. Neither we nor the underwriters are making an offer to sell or soliciting an offer to buy our securities in any jurisdiction where an offer or solicitation is not authorized or in which the person making that offer or solicitation is not qualified to do so or to anyone to whom it is unlawful to make an offer or solicitation. You should assume that the information appearing in this prospectus supplement, the accompanying base prospectus, the documents incorporated by reference into this prospectus, and in any free writing prospectus that we may authorize 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 supplement, the accompanying base prospectus, the documents incorporated by reference into this prospectus, and any free writing prospectus that we may authorize for use in connection with this Offering, in their entirety before making an investment decision. You should also read and consider the information in the documents to which we have referred you in the section of this prospectus supplement entitled "Where You Can Find More Information; Incorporation by Reference."

We are offering to sell, and seeking offers to buy, securities only in jurisdictions where offers and sales are permitted. The distribution of this prospectus supplement and the accompanying base prospectus and the offering of the securities in certain jurisdictions may be restricted by law. Persons outside the United States who come into possession of this prospectus supplement and the accompanying base prospectus must inform themselves about, and observe any restrictions relating to, the offering of the securities and the distribution of this prospectus supplement and the accompanying base prospectus outside the United States. This prospectus supplement and the accompanying base prospectus do not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, any securities offered by this prospectus supplement and accompanying base prospectus by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

When we refer to "we," "our," "us" and the "Company" in this prospectus, we mean Zosano Pharma Corporation, unless otherwise specified. When we refer to "you," we mean the prospective investors in the Company.

This prospectus contains references to our trademarks and to trademarks belonging to other entities, which are protected under applicable intellectual property laws. Solely for convenience, our trademarks and tradenames referred to in this prospectus supplement appear without the ® and ™ symbol, but those references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights, or the right of the applicable licensor to these trademarks and tradenames.

## FORWARD-LOOKING STATEMENTS

This prospectus supplement, the accompanying base prospectus, the documents incorporated by reference and any free writing prospectus that we have authorized for use in connection with this Offering contain forward-looking statements concerning our business, operations and financial performance and condition, as well as our plans, objectives and expectations for our business, operations and financial performance and condition. Any statements contained herein that are not statements of historical facts may be deemed to be forward-looking statements. In some cases, you can identify forward-looking statements by terminology such as "aim," "anticipate," "assume," "believe," "contemplate," "continue," "could," "due," "estimate," "expect," "goal," "intend," "may," "objective," "plan," "predict," "potential," "positioned," "seek," "should," "target," "will," "would" and other similar expressions that are predictions or indicate future events and future trends, or the negative of these terms or other comparable terminology. These forward-looking statements include, but are not limited to, statements about:

- our expected upcoming milestones;
- our expectations regarding our expenses and revenue, the sufficiency of our cash resources and needs for additional financing;
- our expectations regarding the clinical effectiveness and safety of our product candidate;
- the ability to obtain and maintain regulatory approval of our product candidate, and the labeling for any approved product;
- our manufacturing capabilities and strategy, and our ability to establish and maintain relationships with contract manufacturing organization(s) to expand our manufacturing capacity;
- the anticipated timing, costs and conduct of our planned clinical trials and preclinical studies;
- our intellectual property position and our ability to obtain and maintain intellectual property protection for our product candidate;
- our expectations regarding competition;
- the anticipated trends and challenges in our business and the markets in which we operate;
- the scope, progress, expansion and costs of developing and commercializing our product candidate;
- the size and growth of the potential markets for our product candidate and the ability to serve those markets;
- the rate and degree of market acceptance of our product candidate;
- our ability to establish and maintain development partnerships;
- our ability to attract or retain key personnel;
- our expectations regarding federal, state and foreign regulatory requirements;
- certain preliminary financial information;
- the intended use of proceeds from this Offering; and
- regulatory developments in the United States and foreign countries.

These forward-looking statements are based on management's current expectations, estimates, forecasts and projections about our business and the industry in which we operate and involve known and unknown risks, uncertainties and other factors that are in some cases beyond our control. As a result, any or all of our forward-looking statements in this prospectus may turn out to be inaccurate. Factors that may cause actual results to differ

materially from current expectations include, among other things, those listed under “Risk Factors” and elsewhere in this prospectus. Potential investors are urged to consider these factors carefully in evaluating the forward-looking statements. These forward-looking statements speak only as of the date hereof and as of the dates indicated in these statements. Except as required by law, we assume no obligation to update or revise these forward-looking statements for any reason, even if new information becomes available in the future. Given these risks and uncertainties, you are cautioned not to rely on such forward-looking statements as predictions of future events. You should, however, review the factors and risks we describe in the reports we will file from time to time with the SEC after the date of this prospectus. See “Where You Can Find More Information; Incorporation by Reference.”

## PROSPECTUS SUPPLEMENT SUMMARY

*This summary provides a general overview of selected information and does not contain all of the information you should consider before buying our securities. Therefore, you should read the entire prospectus supplement, accompanying base prospectus and any free writing prospectus that we have authorized for use in connection with this Offering carefully, including the information incorporated by reference, before deciding to invest in our securities. Investors should carefully consider the information set forth under "Risk Factors" beginning on page S-11 and incorporated by reference to our Quarterly Report on Form 10-Q for the quarter ended September 30, 2019.*

### Overview

We are a clinical stage biopharmaceutical company focused on providing rapid systemic administration of therapeutics to patients using our proprietary intracutaneous microneedle system technology. In February 2017, we announced positive results from our ZOTRIP pivotal efficacy trial that evaluated Qtrypta™ (M207), which is our proprietary formulation of zolmitriptan delivered via our intracutaneous microneedle system technology, as an acute treatment for migraine. In February 2019, we announced the completion of the final milestone in our long-term safety study for Qtrypta™ (M207), and in September 2019, we announced the presentation of data from the long-term safety study. We submitted a New Drug Application for Qtrypta™ (M207) in December 2019. We are focused on developing products where rapid administration of established molecules with known safety and efficacy profiles provides an increased benefit to patients, in markets where patients remain underserved by existing therapies.

### Certain Preliminary Financial Information

As of January 31, 2020, we had approximately $4.9 million in cash and cash equivalents, and had 24,839,168 shares of common stock outstanding. As of December 31, 2019, we had approximately $6.3 million in cash and cash equivalents, and had 23,503,214 shares of common stock outstanding. During the three month period ended December 31, 2019, we drew down the remaining available balance of $1.6 million under our line of credit with Trinity Capital Fund III, L.P. ("Trinity"). For the three month period ended December 31, 2019, we issued approximately 3,091,377 shares and received approximately $4.6 million in gross proceeds under our at-the-market offering program with BTIG LLC ("BTIG") and issued 2,181,034 shares of common stock and received approximately $3.2 million, before expenses, in proceeds from our registered direct offering. During the period from January 1, 2020 through the date of this prospectus, we issued approximately 2,151,346 shares and received approximately $2.8 million in gross proceeds under our at-the-market offering program. As of the date of this prospectus supplement, we have approximately $6.6 million remaining available for sale under our at-the-market offering program.

The above information is preliminary and subject to completion, including the completion of customary financial statement closing and review procedures for the year ended December 31, 2019 and the quarter ended March 31, 2020. As a result, the preliminary results set forth above reflect our preliminary estimates with respect to such information, based on information currently available to management, and may vary from our actual financial results as of and for the year ended December 31, 2019 and the month ended January 31, 2020. Further, these preliminary estimates are not a comprehensive statement or estimate of our financial results or financial condition as of and for the year ended December 31, 2019 and the month ended January 31, 2020. The preliminary financial information included herein has been prepared by, and is the responsibility of, management. Deloitte & Touche LLP has not audited, reviewed, compiled or performed any procedures with respect to the preliminary financial information. Accordingly, Deloitte & Touche LLP does not express an opinion or any other form of assurance with respect thereto. These estimates should not be viewed as a substitute for financial statements prepared in accordance with accounting principles generally accepted in the United

States and they are not necessarily indicative of the results to be achieved in any future period. Accordingly, you should not draw any conclusions based on the foregoing estimates and should not place undue reliance on these preliminary estimates. We assume no duty to update these preliminary estimates except as required by law.

**Available Information**

Our website address is www.zosanopharma.com. The information contained in, or accessible through, our website does not constitute part of this prospectus. We make available free of charge on our website our annual, quarterly and current reports, including amendments to such reports, as soon as reasonably practicable after we electronically file such material with, or furnish such material to, the Securities and Exchange Commission, or the SEC. Information contained on our website is not incorporated by reference into this prospectus, and you should not consider information contained on our website as part of this prospectus.

**Risks Associated with our Business**

Our business is subject to a number of risks of which you should be aware before making an investment decision. These risks are discussed more fully in the "Risk Factors" section of this prospectus immediately following this prospectus summary and in Part II, Item 1A "Risk Factors" of our Quarterly Report on Form 10-Q for the quarter ended September 30, 2019 filed with the SEC on November 14, 2019, which is incorporated by reference in this prospectus. These risks include, but are not limited to, the following:

- We will need substantial additional funding to fund our operations, and we may not be able to continue as a going concern if we are unable to do so. We could also be forced to delay, reduce or terminate our product development, other operations or commercialization efforts.
- We have a history of operating losses. We expect to continue to incur losses over the next several years and may never become profitable.
- We have generated only limited revenues and will need additional capital to develop and commercialize our product candidate, which may cause further dilution to our existing stockholders, restrict our operations or require us to relinquish rights to our technologies or lead product candidate.
- Our build-to-suit arrangement with Trinity imposes restrictions on our business, and if we default on our obligations, Trinity would have a right to request payment in full of the build-to-suit obligation.
- We have limited operating history and capabilities.
- The development and commercialization of our product candidate is subject to many risks. If we do not successfully develop, receive approval for, and commercialize our product candidate, our business will be adversely affected.
- The long-term safety study for Qtrypta™ (M207) is an important step in the development of Qtrypta™ (M207). If the results from the study do not satisfy FDA requirements, the regulatory approval process could be delayed or failed, and our business could be adversely affected.
- If the FDA does not conclude that our product candidate satisfies the requirements for the 505(b)(2) regulatory approval pathway, or if the requirements for approval of our product candidate under Section 505(b)(2) are not as we expect, the approval pathway for our product candidate will likely take significantly longer, cost significantly more and encounter significantly greater complications and risks than anticipated, and in any case may not be successful.
- Clinical trials are very expensive, time-consuming and difficult to design and implement.
- The results of our clinical trials may not support the intended use of Qtrypta™ (M207) or any other product candidates we may develop.

- The trading price of our common stock has been volatile with substantial price fluctuations on heavy volume, which could result in substantial losses for purchasers of our common stock and existing stockholders.
- If we are unable to maintain listing of our securities on the Nasdaq Capital Market or another reputable stock exchange, it may be more difficult for our stockholders to sell their securities.
- We use customized equipment to coat and package our intracutaneous microneedle system; any production or equipment performance failures could negatively impact the clinical trials of our product candidates that we may develop or sales of our product candidate(s), if approved.
- We have no experience selling, marketing or distributing approved product candidates and have no internal capabilities to do so.
- We rely on third parties to conduct our clinical trials and those third parties may not perform satisfactorily, including failing to comply with applicable regulatory requirements or to meet deadlines for the completion of such trials.
- If we fail to comply with our obligations to our licensor in our intellectual property license, we could lose license rights that are important to our business.
- Our failure to obtain and maintain patent protection for our technology and our product candidates could permit our competitors to develop and commercialize technology and products similar or identical to ours, and our ability to successfully commercialize our technology and product candidate may be adversely affected.

**Corporate Information**

We were incorporated under the laws of the State of Delaware as ZP Holdings, Inc. in January 2012, and changed our name to Zosano Pharma Corporation in June 2014. Our business was spun out of ALZA Corporation, a subsidiary of Johnson & Johnson, in October 2006. We were originally incorporated under the name The Macroflux Corporation, and changed our name to Zosano Pharma, Inc. in 2007 following the spin-off from Johnson & Johnson. In April 2012, in a transaction to recapitalize the business, a wholly-owned subsidiary of ZP Holdings was merged with and into Zosano Pharma, Inc., whereby Zosano Pharma, Inc. was the surviving entity and became a wholly-owned subsidiary of ZP Holdings. In June 2014, Zosano Pharma, Inc. changed its name to ZP Opco, Inc. ZP Group LLC, a former subsidiary that was originally formed as a joint venture with Asahi Kasei Pharmaceuticals USA (Asahi), ceased operations in December 2013 and was dissolved on December 30, 2016. On November 1, 2017, ZP Opco, Inc. merged with and into Zosano Pharma Corporation, with Zosano Pharma Corporation as the surviving corporation of the merger.

Our principal executive offices are located at 34790 Ardentech Court, Fremont, California 94555. Our telephone numberis (510) 745-1200. Our website address is www.zosanopharma.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 securities.

**Implications of Being an Emerging Growth Company**

As a company with less than $1.07 billion in revenue during our last fiscal year, we qualify as an "emerging growth company" as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. As an emerging growth company, we may take advantage of specified reduced disclosure and other requirements that are otherwise applicable generally to public companies. These provisions include:

- being permitted to provide 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;
- not being required to comply with the auditor attestation requirements in the assessment of our internal control over financial reporting;
- not being required to comply with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the financial statements;
- reduced disclosure obligations regarding executive compensation; and
- not being required to hold a non-binding advisory vote on executive compensation or obtain stockholder approval of any golden parachute payments not previously approved.

We may take advantage of these exemptions until December 31, 2020 or such earlier time that we are no longer an emerging growth company. We will cease to be an emerging growth company if we have more than $1.07 billion in annual revenue, we have more than $700 million in market value of our stock held by non-affiliates or we issue more than $1 billion of non-convertible debt over a three-year period. We may choose to take advantage of some, but not all, of the available exemptions. We have taken advantage of certain reduced reporting burdens in this prospectus. Accordingly, the information contained herein may be different than the information you receive from other public companies in which you hold stock.

In addition, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. This allows an emerging growth company to delay the adoption of certain accounting standards until those standards would otherwise 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**

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|---|---|
| **Class A Units offered by us** | We are offering Class A Units. Each Class A Unit consists of one share of common stock and one Series C Warrant to purchase one share of common stock (together with the share of common stock underlying such Series C Warrant). This prospectus also relates to the offering of shares of our common stock issuable upon the exercise of the Series C Warrants included in the Class A Units. |
| **Offering price per Class A Unit** | $ . |
| **Class B Units offered by us** | We are also offering to certain purchasers whose purchase of Class A Units in this Offering would result in the purchaser, together with its affiliates and certain related parties, beneficially owning more than 4.99% (or, at the election of the purchaser, 9.99%) of our outstanding common stock following the consummation of this Offering, the opportunity to purchase, in lieu of Class A Units that would result in ownership in excess of 4.99% (or, at the election of the purchaser, 9.99%) of our outstanding common stock, Class B Units. Each Class B Unit consists of one pre-funded Series D Warrant to purchase one share of common stock and one Series C Warrant to purchase one share of common stock (together with the shares of our common stock underlying such warrants). This prospectus also relates to the offering of shares of our common stock issuable upon exercise of the Series D Warrants and Series C Warrants included in the Class B Units. |
| **Offering price per Class B Unit** | $ . |
| **Option to purchase additional securities** | The underwriters have the option to purchase up to additional shares of common stock and/or additional Series C Warrants to purchase up to shares of common stock (equal to 15% of the shares of common stock (including shares underlying the Series D Warrants) and 15% of the Series C Warrants in the Offering), in any combination thereof, at the applicable price to the public per share or per Series C Warrant set forth on the cover page of this prospectus, less the underwriting discounts and commissions. |
| **Description of Series C Warrants** | The Series C Warrants will be exercisable beginning on the date of issuance and expire on the five-year anniversary of the date of issuance at an initial exercise price per share equal to $ , subject to appropriate adjustment in the event of recapitalization events, stock dividends, stock splits, stock combinations, reclassifications, reorganizations or similar events affecting our common stock. Notwithstanding the foregoing, we shall not effect any exercise of Series C Warrants to the extent that, after giving effect to an exercise, the holder of Series C Warrants (together with such holder's affiliates, and any persons acting as a group together with such holder or any of such holder's affiliates) would beneficially |

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| | own a number of shares of our common stock in excess of 4.99% (or, at the election of the purchaser prior to the date of issuance, 9.99%) of the shares of our common stock then outstanding after giving effect to such exercise. |
| **Description of Pre-Funded Series D Warrants** | The pre-funded Series D Warrants will be exercisable beginning on the date of issuance, until all of the Series D Warrants are exercised in full, at an exercise price per share equal to $0.0001, subject to appropriate adjustment in the event of recapitalization events, stock dividends, stock splits, stock combinations, reclassifications, reorganizations or similar events affecting our common stock. Notwithstanding the foregoing, we shall not effect any exercise of Series D Warrants to the extent that, after giving effect to an exercise, the holder of Series D Warrants (together with such holder's affiliates, and any persons acting as a group together with such holder or any of such holder's affiliates) would beneficially own a number of shares of our common stock in excess of 4.99% (or, at the election of the purchaser prior to the date of issuance, 9.99%) of the shares of our common stock then outstanding after giving effect to such exercise. |
| **Common stock to be outstanding after the offering** | shares (assuming the exercise of all Series D Warrants, no exercise of the Series C Warrants and no exercise of the underwriters' option to purchase additional securities). |
| **Use of proceeds** | We estimate that the net proceeds to us from this Offering will be approximately $ million, after deducting the underwriting discounts and commissions and estimated offering expenses payable by us, and assuming no exercise of any of the Series C Warrants and no exercise of the underwriters' option to purchase additional securities. We intend to use net proceeds from this Offering for pre-commercialization activities and for general working capital and corporate purposes. See "Use of Proceeds" for additional information. |
| **Risk factors** | Investing in our securities involves a high degree of risk. See "Risk Factors" and other information included or incorporated by reference in this prospectus supplement and the accompanying base prospectus for a discussion of factors that you should consider carefully before deciding to invest in our securities. |
| **Nasdaq Capital Market Symbol** | ZSAN. |
| **No listing of Warrants** | There is no established public trading market for the Series C Warrants or Series D Warrants, and we do not intend to apply for listing of the Series C Warrants or Series D Warrants on any securities exchange or trading system. Without an active trading market, the liquidity of the Series C Warrants and Series D Warrants will be limited. |

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|---|---|
| **Issuance of Warrants** | The Series C Warrants and the Series D Warrants that are purchased in the Offering as part of the units will be issued as separate warrant certificates. |

The number of shares of our common stock to be outstanding immediately after this Offering as shown above is based on 18,230,803 shares of common stock outstanding as of September 30, 2019, and excludes the following, in each case as of such date:

- 274,524 shares of common stock issuable upon the exercise of warrants to purchase common stock outstanding as of September 30, 2019, at a weighted average exercise price of $25.22 per share;
- 1,865,978 shares of common stock issuable upon the exercise of stock options outstanding under our 2012 Stock Incentive Plan, or 2012 Plan, our Amended and Restated 2014 Equity and Incentive Plan, or 2014 Plan, and in connection with inducement awards granted outside of the plans as of September 30, 2019, at a weighted average exercise price of $4.97 per share;
- 450,000 shares of common stock issuable upon the exercise of stock options outstanding under our 2014 Plan and in connection with inducement awards outside of our 2014 Plan granted after September 30, 2019, at a weighted average exercise price of $1.94 per share; and
- 17,121 shares of common stock reserved for future issuance under our 2014 Plan as of September 30, 2019, as well as any automatic increases in the number of shares of our common stock reserved for future issuance under this plan.

In addition, the number of shares of our common stock to be outstanding immediately after this Offering as shown above excludes the issuance and sale of 2,181,034 shares of common stock in our registered direct offering, which closed in December 2019, and the issuance and sale of 5,242,723 shares of common stock after September 30, 2019 and through the date of this prospectus supplement under our at-the-market offering program with BTIG, which we established on August 19, 2019. As of the date of this prospectus supplement, under the at-the-market offering program, we may issue and sell shares of our common stock having an aggregate offering price of up to approximately $6.6 million from time to time, in such amounts as we may determine, subject to certain limitations contained therein and under applicable securities laws.

The number of shares of common stock outstanding after this Offering also excludes shares issuable upon the exercise of the Series C Warrants.

Unless otherwise indicated, all information in this prospectus supplement assumes no exercise of the underwriters' option to purchase additional securities and no exercise of the outstanding options and warrants described above.

## RISK FACTORS

*Investing in our securities involves a high degree of risk. You should consider carefully the risks described below and discussed under the section captioned "Risk Factors" contained in our Annual Report for the year ended December 31, 2018, as updated by our subsequent filings under the Securities Exchange Act of 1934, as amended, or the Exchange Act, each of which is incorporated by reference in this prospectus in their entirety, together with other information in this prospectus, and the information and documents incorporated by reference in this prospectus, and any free writing prospectus that we have authorized for use in connection with this Offering before you make a decision to invest in our securities. If any of the following events actually occur, our business, operating results, prospects or financial condition could be materially and adversely affected. This could cause the trading price of our securities to decline and you may lose all or part of your investment. The risks described below are not the only ones that we face. Additional risks not presently known to us or that we currently deem immaterial may also affect our business operations.*

### Risks Relating to this Offering

***Management will have broad discretion as to the use of proceeds from this Offering and may invest or spend the proceeds in ways with which you do not agree and in ways that may not increase the value of your investment.***

Our management will have broad discretion over the use of proceeds from this Offering, including for any of the purposes described in the section of this prospectus entitled "Use of Proceeds." You may not agree with our decisions, and our use of the proceeds may not yield any return on your investment. Our failure to apply the net proceeds from this Offering effectively could compromise our ability to pursue our business strategy and we might not be able to yield a significant return, if any, on our investment of these net proceeds. In addition, the net proceeds from this Offering may not be sufficient for our anticipated uses, and we may need additional resources to progress our product candidates to the stage we expect. You will not have the opportunity to influence our decisions on how to use our net proceeds from this Offering.

***If you purchase securities in this Offering, you will experience immediate and substantial dilution in the net tangible book value of your investment. You may experience further dilution upon exercise of the Warrants.***

Because the effective price per share of common stock included in the Class A Units (or issuable upon the exercise of the Series D Warrants included in the Class B Units) being offered is substantially higher than the net tangible book value per share of our common stock, you will experience substantial dilution to the extent of the difference between the effective public offering price per share of common stock you pay 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 Class A Units at a public offering price of $ per Class A Unit and Class B Units at a public offering price of $ per Class B Unit, and assuming the exercise of all Series D Warrants included in the Class B Units, no exercise of any of the Series C Warrants and no exercise of the underwriters' option to purchase additional securities, and after deducting the underwriting discounts and commissions and estimated offering expenses payable by us, new investors will incur immediate dilution of $ per share, representing the difference between the effective public offering price per share and our net tangible book value per share as of September 30, 2019. In addition, if the underwriters exercise their option to purchase additional securities, or if outstanding options and warrants to purchase our common stock or the Series C Warrants offered hereby are exercised, you will experience further dilution. For a further description of the dilution that you will experience immediately after this Offering, see the section entitled "Dilution."

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

In order to raise additional capital, we may in the future offer additional shares of our common stock or other securities convertible into or exchangeable for our common stock. We cannot assure you that we will be able to sell shares or other securities in any other offering at a price per share that is equal to or greater than the price paid by investors in this Offering, and investors purchasing shares or other securities in the future could have

rights superior to existing stockholders. 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, including under our at-the-market offering program with BTIG, the issuance of these securities could result in further dilution to our stockholders or result in downward pressure on the price of our common stock. A significant portion of our total outstanding shares are eligible to be sold into the market, which could cause the market price of our common stock to drop significantly, even if our business is doing well.

***Sales of a substantial number of shares of our common stock in the public market could occur at any time. These sales, or the perception in the market that the holders of a large number of shares of our common stock stockholders intend to sell shares, could cause the market price of our common stock or warrants to decline significantly.***

Upon completion of this Offering, based on 18,230,803 shares of our common stock outstanding as of September 30, 2019 and the issuance and the sale of 2,181,034 shares of common stock in our registered direct offering, which closed in December 2019, and the issuance and sale of 5,242,723 shares of common stock after September 30, 2019 and through the date of this prospectus supplement under our at-the-market offering program with BTIG, we will have outstanding a total of approximately shares of common stock (assuming no exercise of the underwriters' option to purchase additional securities and no exercise of the Series C Warrants to purchase shares of common stock offered hereby). Other than any shares held by our directors, officers and certain existing investors, all of these are currently freely tradable, and the shares to be sold in this Offering, or issuable upon exercise of the Warrants, plus any shares sold upon exercise of the underwriters' option to purchase additional securities, or issuable upon the exercise of the Warrants sold upon the exercise of the underwriters' option to purchase additional securities, will be freely tradable, without restriction, in the public market immediately following this Offering. H.C. Wainwright & Co., LLC, however, may, in its sole discretion, permit our officers, directors and certain existing investors, who are subject to lock-up agreements to sell shares prior to the expiration of thelock-up agreements. Exceptions to the lock-up restrictions are described in more detail in this prospectus supplement under the caption "Underwriting."

As of September 30, 2019, we had an aggregate of approximately 2,157,623 shares of common stock (i) issuable upon exercise of stock options outstanding, (ii) issuable upon the exercise of warrants and (iii) reserved for issuance under our 2014 Plan, all of which would result in additional dilution. In addition, subsequent to September 30, 2019 and through the date of this prospectus supplement, we granted stock options to purchase an aggregate of approximately 450,000 shares of common stock under our 2014 Plan and in connection with inducement awards granted outside of our 2014 Plan. Our 2014 Plan also provides for annual automatic increases in the number of shares of our common stock reserved for future issuance under the plan.

***The trading price of our common stock has been volatile with substantial price fluctuations on heavy volume, which could result in substantial losses for purchasers of our common stock and existing stockholders.***

Our stock price has been and, in the future, may be subject to substantial volatility. During the period from January 2, 2018 through February 10, 2020, for example, our stock has traded in a range with a low of $0.82 and a high of $25.70. The stock market in general and the market for biopharmaceutical companies in particular have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. We do not, for example, have any explanation for the volatility in our stock price or the heavy volume of trading (on some days exceeding six times the number of shares currently outstanding) that occurred in our common stock in February and March of 2019. As a result of this volatility, investors may not be able to sell their common stock at or above the price paid for the shares. The market price for our common stock may be influenced by many factors, including:

- announcements relating to development, regulatory approvals or commercialization of our product candidates or those of competitors;

- results of clinical trials of our product candidates or those of our competitors;
- announcements by us or our competitors of significant strategic partnerships or collaborations or terminations of such arrangements;
- actual or anticipated variations in our operating results;
- changes in financial estimates by us or by any securities analysts who might cover our stock;
- conditions or trends in our industry;
- changes in laws or other regulatory actions affecting us or our industry;
- stock market price and volume fluctuations of comparable companies and, in particular, those that operate in the biopharmaceutical industry;
- announcements of investigations or regulatory scrutiny of our operations or lawsuits filed against us;
- capital commitments;
- investors' general perception of our company and our business;
- disputes concerning our intellectual property or other proprietary rights;
- recruitment or departure of key personnel; and
- sales of our common stock, including sales by our directors and officers or specific stockholders.

In the past, stockholders have initiated class action lawsuits against pharmaceutical and biotechnology companies following periods of volatility in the market prices of these companies' stock. Such litigation, if instituted against us, could cause us to incur substantial costs and divert management's attention and resources from our business.

***If our stock price trades below $1.00 for 30 consecutive trading days, our common stock may be subject to delisting from the Nasdaq Capital Market.***

If at any time the bid price of our common stock closes at below $1.00 per share for more than 30 consecutive trading days, we may be subject to delisting from the Nasdaq Capital Market. If we receive a delisting notice, we would have 180 calendar days to regain compliance (subject to any additional 180-day compliance period which may be available to us), which would mean having a bid price above the minimum of $1.00 for at least 10 consecutive days in the 180-day period. During this 180-day period, we would anticipate reviewing our options to regain compliance with the minimum bid requirements, including conducting a reverse stock split. To the extent that we are unable to resolve any listing deficiency, there is a risk that our common stock may be delisted from Nasdaq, which would adversely impact liquidity of our common stock and potentially result in even lower bid prices for our common stock. On February 10, 2020, the closing price of our common stock was $0.8734 per share.

***There is no public market for the Warrants offered in this Offering.***

There is no established public trading market for the Warrants being offered in this Offering, and we do not expect a market to develop. In addition, we do not intend to apply for listing of the Warrants on any securities exchange or recognized trading system. Without an active market, the liquidity of the Warrants will be limited.

***Holders of the Warrants will have no rights as a common stockholder until such holders exercise their Warrants and acquire our common stock.***

Until holders of the Warrants acquire shares of our common stock upon exercise of the Warrants, holders of the Warrants will have no rights with respect to the shares of our common stock underlying such Warrants. Upon exercise of the Warrants, the holders thereof will be entitled to exercise the rights of a common stockholder only as to matters for which the record date occurs after the exercise date.

***Our ability to utilize our net operating loss carryforwards and certain other tax attributes may be limited.***

Under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended, if a corporation undergoes an "ownership change" (generally defined as a greater than 50 percentage point change (by value) in the ownership of its equity by certain significant stockholders over a rolling three-year period), the corporation's ability to use its pre-change net operating loss carryforwards and certain other pre-change tax attributes to offset its post-change income or tax liability may be limited. We have experienced such ownership changes in the past (and derecognized certain deferred tax assets as of December 31, 2018 in connection with ownership changes we determined had occurred prior to such date), and we may experience ownership changes in the future as a result of this Offering, future offerings and/or subsequent shifts in our stock ownership, some of which may be outside our control. Because our ability to use our net operating loss carryforwards and other tax attributes is limited by ownership changes, we may be unable to utilize a material portion of our net operating losses and other tax attributes.

## USE OF PROCEEDS

We estimate that the net proceeds from this Offering will be approximately $ million (or $ million if the underwriters exercise their option to purchase additional securities in full), after deducting the underwriting discounts and commissions and estimated offering expenses payable by us. We will only receive additional proceeds from the exercise of the Series C Warrants issuable in connection with this Offering if the Series C Warrants are exercised and the holders of such Series C Warrants pay the exercise price in cash upon such exercise and do not utilize the cashless exercise provision of the Series C Warrants.

We currently expect to use the net proceeds from this Offering to fundpre-commercialization activities and for general working capital and corporate purposes.

The amounts and timing of our actual expenditures may vary significantly depending on numerous factors, including the amount of cash used in our operations. We therefore cannot estimate with certainty the amount of net proceeds to be used for the purposes described above. We may find it necessary or advisable to use the net proceeds from this Offering for other purposes, and we will have broad discretion in the application of the net proceeds.

Pending the use of the net proceeds from this Offering as described above, we may invest the net proceeds in a variety of capital preservation investments, including short- and intermediate-term, interest-bearing obligations, investment-grade instruments or U.S. government securities.

## DILUTION

If you purchase units in this Offering, you will experience dilution to the extent of the difference between the effective public offering price per share of common stock included in the Class A Units (or issuable upon the exercise of the Series D Warrants included in the Class B Units) and the net tangible book value per share of our common stock immediately after this Offering. Our net tangible book value as of September 30, 2019 was approximately $10.4 million, or $0.57 per share. Our net tangible book value represents our total assets, excluding intangible assets, less our total liabilities, divided by the number of shares of common stock outstanding on September 30, 2019.

After giving effect to the sale of Class A Units at a public offering of $ per Class A Unit and Class B Units at a public offering of $ per Class B Unit, and assuming the exercise of all Series D Warrants included in the Class B Units, no exercise of any of the Series C Warrants and no exercise of the underwriters' option to purchase additional securities, and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us, our as adjusted net tangible book value as of September 30, 2019 would have been approximately $ million, or $ per share. This represents an immediate increase in net tangible book value of $ per share to existing stockholders and immediate dilution of $ per share to investors purchasing units in this Offering at the public offering price. The following table illustrates this per share dilution.

| | | |
|---|---|---|
| Public offering price per Class A Unit (or Class B Unit, assuming the exercise of all Series D Warrants) | | $ |
| Net tangible book value per share as of September 30, 2019 | $ 0.57 | |
| Increase in as adjusted net tangible book value per share attributable to investors purchasing units in this Offering | $ | |
| As adjusted net tangible book value per share immediately after this Offering | | |
| Dilution per share to investors purchasing units in this Offering | | $ |

If the underwriters exercise their option to purchase additional securities in full to purchase common stock (excluding the purchase of any Series C Warrants), our as adjusted net tangible book value per share after this Offering would be $ per share, the increase in net tangible book value to existing stockholders would be $ per share and the dilution to investors purchasing units in this Offering at the public offering price would be $ per share.

The above discussion and table are based on 18,230,803 shares of common stock outstanding as of September 30, 2019 and excludes the following, in each case as of such date:

- 274,524 shares of common stock issuable upon the exercise of warrants to purchase common stock outstanding as of September 30, 2019, at a weighted average exercise price of $25.22 per share;
- 1,865,978 shares of common stock issuable upon the exercise of stock options outstanding under our 2012 Plan, our 2014 Plan, and in connection with inducement awards granted outside of the plans as of September 30, 2019, at a weighted average exercise price of $4.97 per share;
- 450,000 shares of common stock issuable upon the exercise of stock options outstanding under our 2014 Plan and in connection with inducement awards outside of our 2014 Plan granted after September 30, 2019, at a weighted average exercise price of $1.94 per share; and
- 17,121 shares of common stock reserved for future issuance under our 2014 Plan as of September 30, 2019, as well as any automatic increases in the number of shares of our common stock reserved for future issuance under this plan.

In addition, the above discussion and table exclude the issuance and sale of 2,181,034 shares of common stock in our registered direct offering, which closed in December 2019, and the issuance and sale of 5,242,723 shares of

common stock after September 30, 2019 under our at-the-market offering program with BTIG. As of the date of this prospectus supplement, under the at-the-market offering program, we may issue and sell shares of our common stock having an aggregate offering price of up to approximately $6.6 million from time to time, in such amounts as we may determine, subject to certain limitations contained therein and under applicable securities laws.

The number of shares of common stock outstanding after this Offering also excludes shares issuable upon the exercise of the Series C Warrants.

To the extent that outstanding options or warrants have been or are exercised, or other shares are issued, including pursuant to ourat-the-market offering program with BTIG, existing stockholders could experience further dilution. In addition, we plan to raise capital in addition to the remaining amounts available to be sold under our at-the-market offering program. We may also choose to raise capital due to market conditions or strategic considerations, even if we believe we have sufficient funds for our operating plans in the future. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the issuance of these securities would result in further dilution to our stockholders.

## DIVIDEND POLICY

We have never declared or paid any cash dividends on our capital stock. We currently expect to retain all available funds and future earnings, if any, to finance the growth and development of our business. We do not expect to pay any cash dividends on our common stock in the foreseeable future. Payment of future dividends, if any, will be at the discretion of our board of directors and will depend on our financial condition, results of operations, capital requirements, restrictions contained in any future financing instruments, provisions of applicable law and other factors the board of directors deems relevant.

## DESCRIPTION OF SECURITIES WE ARE OFFERING

In this Offering, we are offering for sale Class A Units and Class B Units. Each Class A Unit consists of one share of common stock and one Series C Warrant to purchase one share of common stock. Each Class B Unit consists of one Series D Warrant to purchase one share of common stock and one Series C Warrant to purchase one share of common stock. The shares of common stock and Warrants comprising the units are immediately separable and will be issued separately, but will be purchased together in this Offering. We are also registering the shares of common stock issuable upon exercise of the Warrants. These securities are being issued pursuant to an underwriting agreement between us and the representative of the underwriters. You should review the underwriting agreement and the forms of Series C Warrant and Series D Warrant, each which will be filed as exhibits to a Current Report on Form 8-K on or around the date of this prospectus and incorporated by reference into this prospectus, for a complete description of the terms and conditions applicable to the Warrants. The following brief summary of the material terms and provisions of the Warrants is subject to, and qualified in its entirety by, the applicable form of Warrant.

### Units

We are offering Class A Units, with each Class A Unit consisting of one share of common stock and one Series C Warrant to purchase one share of common stock at an exercise price per share of $ , together with the share of common stock underlying each Series C Warrant, at a public offering price of $ per Class A Unit. The Class A Units will not be certificated and the shares of common stock and Series C Warrants comprising such units are immediately separable and will be issued separately, but will be purchased together in this Offering.

We are also offering to certain purchasers whose purchase of Class A Units in this Offering would result in the purchaser, together with its affiliates and certain related parties, beneficially owning more than 4.99% (or, at the election of the purchaser, 9.99%) of our outstanding common stock following the consummation of this Offering, the opportunity to purchase, in lieu of Class A Units that would result in ownership in excess of 4.99% (or, at the election of the purchaser, 9.99%), Class B Units. Each Class B Unit consists of one Series D Warrant to purchase one share of common stock at an exercise price per share of $0.0001 and one Series C Warrant to purchase one share of common stock at an exercise price per share of $ , together with the share of common stock underlying each Warrant, at a public offering price of $ per Class B Unit, which is the public offering price per Class A Unit minus $0.0001. The Class B Units will not be certificated and the Series D Warrants and Series C Warrants comprising such units are immediately separable and will be issued separately, but will be purchased together in this Offering.

### Common Stock

The material terms and provisions of our common stock and other outstanding securities convertible into or exercisable for shares of our common stock are described under the headings “Description of Capital Stock” in the accompanying prospectus.

### Warrants

***Description of Series C Warrants Included in the Units***

The material terms and provisions of the Series C Warrants being offered pursuant to this prospectus are summarized below. This summary of some provisions of the Series C Warrants is not complete. For the complete terms of the Series C Warrants, you should refer to the form of Series C Warrant which will be filed as an exhibit to a Current Report on Form 8-K on or around the date of this prospectus and incorporated by reference into this prospectus. The Series C Warrants that are purchased in the Offering as part of the units will be issued as separate warrant certificates.

Each Class A Unit and Class B Unit includes one Series C Warrant to purchase one share of common stock at an exercise price equal to $ per share at any time for five years after the date of the closing of this Offering. The Series C Warrants issued in this Offering will be governed by the terms of such Series C Warrant and will be issued in certificated form. The holder of a Series C Warrant will not be deemed a holder of our underlying common stock until the Series C Warrant is exercised, except as set forth in the Series C Warrant.

Subject to certain limitations as described below, the Series C Warrants are immediately exercisable upon issuance on the closing date and expire on the five-year anniversary of the closing date. Pursuant to the terms of the Series C Warrants, a holder of Series C Warrants will not have the right to exercise any portion of its Series C Warrants if the holder (together with such holder's affiliates, and any persons acting as a group together with such holder or any of such holder's affiliates) would beneficially own a number of shares of common stock in excess of 4.99% (or, at the election of the purchaser prior to the date of issuance, 9.99%) (the "Beneficial Ownership Limitations") of the shares of our common stock then outstanding after giving effect to such exercise; provided, however, that upon notice to us, the holder may increase or decrease the Beneficial Ownership Limitation, provided that in no event shall the Beneficial Ownership Limitation exceed 9.99% and any increase in the Beneficial Ownership Limitation will not be effective until 61 days following notice of such increase from the holder to us.

The exercise price and the number of shares issuable upon exercise of the Series C Warrants is subject to appropriate adjustment in the event of recapitalization events, stock dividends, stock splits, stock combinations, reclassifications, reorganizations or similar events affecting our common stock. The Series C Warrant holders must pay the exercise price in cash upon exercise of the Series C Warrants, unless such Series C Warrant holders are utilizing the cashless exercise provision of the Series C Warrants.

In addition, in the event we consummate a merger or consolidation with or into another person or other reorganization event in which our common shares are converted or exchanged for securities, cash or other property, or we sell, lease, license, assign, transfer, convey or otherwise dispose of all or substantially all of our assets or we or another person acquire 50% or more of our outstanding shares of common stock, then following such event, the holders of the Series C Warrants will be entitled to receive upon exercise of such Series C Warrants the same kind and amount of securities, cash or property which the holders would have received had they exercised their Series C Warrants immediately prior to such fundamental transaction. Any successor to us or surviving entity shall assume the obligations under the Series C Warrants. In addition, in the event of a fundamental transaction, the holders of the Series C Warrants have the right to require us or a successor entity to redeem the Series C Warrants for cash in the amount of the Black-Scholes value of the unexercised portion of the Series C Warrants within 30 days of the date of the consummation of the fundamental transaction as described in the Series C Warrants; provided, however, that, if the fundamental transaction is not within our control, including not approved by our board of directors, the holders of the Series C Warrants shall only be entitled to receive the same type or form of consideration (and in the same proportion), at the Black-Scholes value of the unexercised portion of the Series C Warrants, that is being offered and paid to the holders of common stock in connection with the fundamental transaction.

Upon the holder's exercise of a Series C Warrant, we will issue the shares of common stock issuable upon exercise of the Series C Warrant within two trading days following our receipt of a notice of exercise, provided that payment of the exercise price has been made (unless exercised via the "cashless" exercise provision). Prior to the exercise of any Series C Warrants to purchase common stock, holders of the Series C Warrants will not have any of the rights of holders of the common stock purchasable upon exercise, including the right to vote, except as set forth therein.

Holders of Series C Warrants may exercise the Series C Warrants only if the issuance of the shares of our common stock upon exercise of the warrants is covered by an effective registration statement, or an exemption from registration is available under the Securities Act of 1933, as amended (the "Securities Act"), and the securities laws of the state in which the holder resides. We intend to use commercially reasonable efforts to have

the registration statement of which this prospectus forms a part effective when the Series C Warrants are exercised; however, we expect that such registration statement will not be available to cover the shares of common stock issuable upon exercise of the Series C Warrants at such time as our Annual Report on Form 10-K for the year ended December 31, 2019 is filed, due to the limitations on the use of FormS-3 that apply when the aggregate market value of common equity held by non-affiliates is less than $75 million. Pursuant to the terms of the underwriting agreement, if at any time a registration statement registering the sale or resale of the shares of common stock issuable upon exercise of the Series C Warrants is not effective or is not otherwise available, we will use commercially reasonable efforts to file within six months a registration statement registering the sale or resale of such shares. The holders of Series C Warrants must pay the exercise price in cash upon exercise of the Series C Warrants unless there is not an effective registration statement or, if required, there is not an effective state law registration or exemption covering the issuance of the shares of our common stock underlying the Series C Warrants (in which case, the Series C Warrants may only be exercised via a "cashless" exercise provision).

We do not intend to apply for listing of the Series C Warrants on any securities exchange or recognized trading system.

***Description of Series D Warrants Included in the Class B Units***

The material terms and provisions of the Series D Warrants being offered pursuant to this prospectus are summarized below. This summary of some provisions of the Series D Warrants is not complete. For the complete terms of the Series D Warrants, you should refer to the form of Series D Warrant which will be filed as an exhibit to a Current Report on Form 8-K on or around the date of this prospectus and incorporated by reference into this prospectus. The Series D Warrants that are purchased in the Offering as part of the units will be issued as separate warrant certificates.

Each Class B Unit includes one Series D Warrant to purchase one share of common stock at an exercise price equal to $0.0001 per share at any time until the Series D Warrants are exercised in full. The Series D Warrants issued in this Offering will be governed by the terms of such Series D Warrant and will be issued in certificated form. The holder of a Series D Warrant will not be deemed a holder of our underlying common stock until the Series D Warrant is exercised, except as set forth in the Series D Warrant.

Subject to certain limitations as described below, the Series D Warrants are immediately exercisable upon issuance on the closing date and may be exercised at any time until the Series D Warrants are exercised in full. Pursuant to the terms of the Series D Warrants, a holder of Series D Warrants will not have the right to exercise any portion of its Series D Warrants if the holder (together with such holder's affiliates, and any persons acting as a group together with such holder or any of such holder's affiliates) would beneficially own a number of shares of common stock in excess of 4.99% (or, at the election of the purchaser prior to the date of issuance, 9.99%) of the shares of our common stock then outstanding after giving effect to such exercise; provided, however, that upon notice to us, the holder may increase or decrease the Beneficial Ownership Limitation; provided that in no event shall the Beneficial Ownership Limitation exceed 9.99% and any increase in the Beneficial Ownership Limitation will not be effective until 61 days following notice of such increase from the holder to us.

The exercise price and the number of shares issuable upon exercise of the Series D Warrants is subject to appropriate adjustment in the event of recapitalization events, stock dividends, stock splits, stock combinations, reclassifications, reorganizations or similar events affecting our common stock. The Series D Warrant holders must pay the exercise price in cash upon exercise of the Series D Warrants, unless such Series D Warrant holders are utilizing the cashless exercise provision of the Series D Warrants.

In addition, in the event we consummate a merger or consolidation with or into another person or other reorganization event in which our common shares are converted or exchanged for securities, cash or other

property, or we sell, lease, license, assign, transfer, convey or otherwise dispose of all or substantially all of our assets or we or another person acquire 50% or more of our outstanding shares of common stock, then following such event, the holders of the Series D Warrants will be entitled to receive upon exercise of such Series D Warrants the same kind and amount of securities, cash or property which the holders would have received had they exercised their Series D Warrants immediately prior to such fundamental transaction. Any successor to us or surviving entity shall assume the obligations under the Series D Warrants.

Upon the holder's exercise of a Series D Warrant, we will issue the shares of common stock issuable upon exercise of the Series D Warrant within two trading days following our receipt of a notice of exercise, provided that payment of the exercise price has been made (unless exercised via the "cashless" exercise provision). Prior to the exercise of any Series D Warrants to purchase common stock, holders of the Series D Warrants will not have any of the rights of holders of the common stock purchasable upon exercise, including the right to vote, except as set forth therein.

Holders of Series D Warrants may exercise the Series D Warrants only if the issuance of the shares of our common stock upon exercise of the warrants is covered by an effective registration statement, or an exemption from registration is available under the Securities Act and the securities laws of the state in which the holder resides. We intend to use commercially reasonable efforts to have the registration statement of which this prospectus forms a part effective when the Series D Warrants are exercised; however, we expect that such registration statement will not be available to cover the shares of common stock issuable upon exercise of the Series D Warrants at such time as our Annual Report on Form 10-K for the year ended December 31, 2019 is filed, due to the limitations on the use of Form S-3 that apply when the aggregate market value of common equity held bynon-affiliates is less than $75 million. Pursuant to the terms of the underwriting agreement, if at any time a registration statement registering the sale or resale of the shares of common stock issuable upon exercise of the Series D Warrants is not effective or is not otherwise available, we will use commercially reasonable efforts to file within six months a registration statement registering the sale or resale of such shares. . The holders of Series D Warrants must pay the exercise price in cash upon exercise of the Series D Warrants unless there is not an effective registration statement or, if required, there is not an effective state law registration or exemption covering the issuance of the shares of our common stock underlying the Series D Warrants (in which case, the Series D Warrants may only be exercised via a "cashless" exercise provision).

We do not intend to apply for listing of the Series D Warrants on any securities exchange or recognized trading system.

## CERTAIN MATERIAL U.S. FEDERAL INCOME TAX CONSIDERATIONS

The following discussion is a summary of certain material U.S. federal income tax considerations of the purchase, ownership and disposition of the Class A Units or components thereof and the Class B Units or components thereof, which we refer to collectively as the Units, issued pursuant to this Offering and shares of our common stock received upon the exercise of the Warrants, but does not purport to be a complete analysis of all potential tax effects. The effects of other U.S. federal tax laws, such as estate and gift tax laws, and any applicable state, local or non-U.S. tax laws are not discussed. This discussion is based on the U.S. Internal Revenue Code of 1986, as amended, or the Code, Treasury Regulations promulgated thereunder, judicial decisions, and published rulings and administrative pronouncements of the U.S. Internal Revenue Service, or the IRS, in each case in effect as of the date hereof. These authorities may change or be subject to differing interpretations. Any such change or differing interpretation may be applied retroactively in a manner that could adversely affect a holder of Warrants or shares of our common stock. We have not sought and will not seek any rulings from the IRS regarding the matters discussed below. There can be no assurance the IRS or a court will not take a contrary position to that discussed below regarding the tax consequences of the acquisition, ownership and disposition of the Units and shares of our common stock received upon the exercise of the Warrants.

This discussion is limited to holders that hold Units, Warrants or shares of our common stock as a "capital asset" within the meaning of Section 1221 of the Code (generally, property held for investment). This discussion does not address all U.S. federal income tax consequences relevant to a holder's particular circumstances, including the impact of the alternative minimum tax or the Medicare contribution tax on net investment income. In addition, it does not address consequences relevant to holders subject to particular rules, including, without limitation:

- U.S. expatriates and former citizens or long-term residents of the United States;
- persons holding Warrants or shares of our common stock as part of a hedge, straddle or other risk reduction strategy or as part of a conversion transaction or other integrated investment;
- banks, insurance companies, and other financial institutions;
- brokers, dealers or traders in securities;
- "controlled foreign corporations," "passive foreign investment companies," and corporations that accumulate earnings to avoid U.S. federal income tax;
- partnerships or other entities or arrangements treated as partnerships for U.S. federal income tax purposes (and investors therein);
- tax-exempt organizations or governmental organizations;
- persons deemed to sell Warrants or shares of our common stock under the constructive sale provisions of the Code;
- persons subject to special tax accounting rules as a result of any item of gross income with respect to Warrants or shares of our common stock being taken into account in an "applicable financial statement" (as defined in the Code);
- persons for whom our common stock constitutes "qualified small business stock" within the meaning of Section 1202 of the Code;
- persons who hold or receive Warrants or shares of our common stock pursuant to the exercise of any employee stock option or otherwise as compensation;
- tax-qualified retirement plans; and
- "qualified foreign pension funds" as defined in Section 897(l)(2) of the Code and entities all of the interests of which are held by qualified foreign pension funds.

If an entity or arrangement treated as a partnership for U.S. federal income tax purposes holds Warrants or shares of our common stock, the tax treatment of a partner in the partnership will depend on the status of the partner, the activities of the partnership and certain determinations made at the partner level. Accordingly, partnerships holding Warrants or shares of our common stock and the partners in such partnerships should consult their tax advisors regarding the U.S. federal income tax consequences to them.

**THIS DISCUSSION IS FOR INFORMATION PURPOSES ONLY AND IS NOT TAX ADVICE. INVESTORS SHOULD CONSULT THEIR TAX ADVISORS WITH RESPECT TO THE APPLICATION OF THE U.S. FEDERAL INCOME TAX LAWS TO THEIR PARTICULAR SITUATIONS AS WELL AS ANY TAX CONSEQUENCES OF THE ACQUISITION, OWNERSHIP AND DISPOSITION OF UNITS AND SHARES OF OUR COMMON STOCK RECEIVED UPON THE EXERCISE OF THE WARRANTS ARISING UNDER THE U.S. FEDERAL ESTATE OR GIFT TAX LAWS OR UNDER THE LAWS OF ANY STATE, LOCAL OR NON-U.S. TAXING JURISDICTION OR UNDER ANY APPLICABLE INCOME TAX TREATY.**

### Characterization of Units

Each Class A Unit will be treated for U.S. federal income tax purposes as an investment unit consisting of one share of our common stock and one Series C Warrant to purchase one share of common stock. Each Class B Unit will be treated for U.S. federal income tax purposes as an investment unit consisting of one Series D Warrant and one Series C Warrant to purchase one share of our common stock. In determining their tax basis for the common stock and the Series C Warrant composing the Class A Unit or their tax basis for the Series D Warrant and the Series C Warrant composing the Class B Unit, purchasers of Units should allocate their purchase price for the applicable Unit between the components on the basis of their relative fair market values at the time of issuance. We do not intend to advise purchasers of the Units with respect to this determination, and purchasers of the Units are advised to consult their tax and financial advisors with respect to the relative fair market values of the common stock and the Warrants for U.S. federal income tax purposes.

### Treatment of Series D Warrants

Although not free from doubt, a Series D Warrant should be treated as a share of our common stock for U.S. federal income tax purposes, and a holder of Series D Warrants should generally be taxed in the same manner as a holder of common stock, as described below. Accordingly, no gain or loss should be recognized (other than with respect to cash paid in lieu of a fractional share) upon the exercise of a Series D Warrant and, upon exercise, the holding period of a Series D Warrant should carry over to the share of common stock received. Similarly, the tax basis of the Series D Warrants should carry over to the share of common stock received upon exercise, increased by the exercise price of $0.0001. The discussion below assumes the characterization described above is respected for U.S. federal income tax purposes. Holders should consult their tax advisors regarding the risks associated with the acquisition of Series D Warrants pursuant to this Offering (including alternative characterizations).

## Tax Considerations Applicable to U.S. Holders

### Definition of a U.S. Holder

For purposes of this discussion, a “U.S. holder” is any beneficial owner of Warrants or shares of our common stock that, for U.S. federal income tax purposes, is:

- an individual who is a citizen or resident of the United States;
- a corporation (or other entity treated as a corporation for U.S. federal income tax purposes) created or organized under the laws of the United States, any state thereof, or the District of Columbia;
- an estate, the income of which is subject to U.S. federal income tax regardless of its source; or

- a trust that (1) is subject to the primary supervision of a U.S. court and one or more United States persons (within the meaning of Section 7701(a)(30) of the Code) have the authority to control substantial decisions of the trust, or (2) has made a valid election under applicable Treasury Regulations to continue to be treated as a United States person for U.S. federal income tax purposes.

**Sale or Other Disposition, Exercise or Expiration of Series C Warrants**

Upon the sale, redemption or other disposition of a Series C Warrant (other than by exercise), a U.S. holder will generally recognize capital gain or loss equal to the difference between the amount realized on the sale or other disposition and the U.S. holder's tax basis in the Series C Warrant. This capital gain or loss will be long-term capital gain or loss if the U.S. holder's holding period in such Warrant is more than one year at the time of the sale or other disposition. The deductibility of capital losses is subject to certain limitations.

In general, a U.S. holder will not be required to recognize income, gain or loss upon exercise of a Series C Warrant for its exercise price. A U.S. holder's tax basis in a share of our common stock received upon exercise of the Series C Warrants will be equal to the sum of (1) the U.S. holder's tax basis in the Series C Warrants exchanged therefor and (2) the exercise price of such Series C Warrants. A U.S. holder's holding period in the shares of our common stock received upon exercise will commence on the day after such U.S. holder exercises the Series C Warrants. Although there is no direct legal authority as to the U.S. federal income tax treatment of an exercise of a Warrant on a cashless basis, we intend to take the position that such exercise will not be taxable, either because the exercise is not a gain realization event or because it qualifies as a tax-free recapitalization. In the former case, the holding period of the shares of our common stock received upon exercise of Series C Warrants should commence on the day after the Series C Warrants are exercised. In the latter case, the holding period of the shares of our common stock received upon exercise of Series C Warrants would include the holding period of the exercised Series C Warrants. However, our position is not binding on the IRS, and the IRS may treat a cashless exercise of a Series C Warrant as a taxable exchange. U.S. holders are urged to consult their tax advisors as to the consequences of an exercise of a Series C Warrant on a cashless basis, including with respect to their holding period and tax basis in the common stock received.

If a Series C Warrant expires without being exercised, a U.S. holder will recognize a capital loss in an amount equal to such holder's tax basis in the Series C Warrant. Such loss will be long-term capital loss if, at the time of the expiration, the U.S. holder's holding period in such Series C Warrant is more than one year. The deductibility of capital losses is subject to limitations.

**Constructive Dividends on Warrants**

As described in the section entitled "Dividend Policy," we do not expect to pay any cash dividends on our common stock in the foreseeable future. However, if the exercise price of the Warrants is adjusted as a result of certain events affecting our common stock (or in certain circumstances, there is a failure to make adjustments), such adjustments may result in the deemed payment of a taxable dividend to a U.S. holder. U.S. holders should consult their tax advisors regarding the proper treatment of any adjustments to the exercise price of the Warrants.

We are currently required to report the amount of any deemed distributions on our website or to the IRS and to holders not exempt from reporting. The IRS has proposed regulations addressing the amount and timing of deemed distributions, as well as, obligations of withholding agents and filing and notice obligations of issuers in respect of such deemed distributions. If adopted as proposed, the regulations would generally provide that (i) the amount of a deemed distribution is the excess of the fair market value of the right to acquire stock immediately after the exercise price adjustment over the fair market value of the right to acquire stock (after the exercise price adjustment) without the adjustment, (ii) the deemed distribution occurs at the earlier of the date the adjustment occurs under the terms of the instrument and the date of the actual distribution of cash or property that results in the deemed distribution and (iii) we are required to report the amount of any deemed distributions on our website or to the IRS and to all holders (including holders that would otherwise be exempt from reporting). The final

regulations will be effective for deemed distributions occurring on or after the date of adoption, but holders and withholding agents may rely on them prior to that date under certain circumstances.

**Distributions on Common Stock or Series D Warrants**

As described in the section entitled "Dividend Policy," we do not expect to pay any cash dividends on our common stock in the foreseeable future. However, if we do make distributions of cash or property on our common stock or Series D Warrants, such distributions will constitute dividends to the extent paid out of our current or accumulated earnings and profits, as determined for U.S. federal income tax purposes. Dividends received by a corporate U.S. holder may be eligible for a dividends received deduction, subject to applicable limitations. Dividends received by certain non-corporate U.S. holders, including individuals, are generally taxed at the lower applicable capital gains rate provided certain holding period and other requirements are satisfied. Distributions in excess of our current and accumulated earnings and profits will constitute a return of capital and first be applied against and reduce a U.S. holder's adjusted tax basis in its common stock or Series D Warrants, as the case may be, but not below zero. Any excess will be treated as capital gain and will be treated as described below in the section relating to the sale or disposition of our common stock or Series D Warrants, as applicable.

**Sale, Exchange or Other Disposition of Common Stock or Series D Warrants**

Upon a sale, exchange, or other disposition of our common stock, a U.S. holder generally will recognize capital gain or loss equal to the difference between the amount realized (not including any amount attributable to declared and unpaid dividends, which will be taxable as described above to U.S. holders of record who have not previously included such dividends in income) and the U.S. holder's adjusted tax basis in our common stock or Series D Warrant. A U.S. holder's adjusted tax basis in our common stock or Series D Warrant generally will equal (i) its cost for the common stock or Series D Warrant (in the case of common stock or Series D Warrant acquired in this Offering) or (ii) the sum of (A) its tax basis in a Series D Warrant and (B) the exercise price of the Series D Warrant (in the case of common stock acquired upon exercise of a Warrant and as discussed above under "—Treatment of Series D Warrants" and "—Sale or Other Disposition, Exercise or Expiration of Warrants"), reduced by the amount of any cash distributions treated as a return of capital as described above. Such capital gain or loss generally will be long-term capital gain or loss if the U.S. holder's holding period for our common stock or Series D Warrant exceeded one year at the time of disposition. Long-term capital gains recognized by certain non-corporate U.S. Holders, including individuals, generally are subject to reduced rates of taxation. The deductibility of capital losses is subject to limitations.

**Information Reporting and Backup Withholding**

A U.S. holder may be subject to information reporting and backup withholding when such holder receives payments (including constructive dividends) or receives proceeds from the sale or other taxable disposition of Warrants or shares of our common stock. Certain U.S. holders are exempt from backup withholding, including corporations and certain tax-exempt organizations. A U.S. holder will be subject to backup withholding if such holder is not otherwise exempt and such holder:

- fails to furnish the holder's taxpayer identification number, which for an individual is ordinarily his or her social security number;
- furnishes an incorrect taxpayer identification number;
- is notified by the IRS that the holder previously failed to properly report payments of interest or dividends; or
- fails to certify under penalties of perjury that the holder has furnished a correct taxpayer identification number and that the IRS has not notified the holder that the holder is subject to backup withholding.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules may be allowed as a refund or a credit against a U.S. holder's U.S. federal income tax liability, provided the required

information is timely furnished to the IRS. U.S. holders should consult their tax advisors regarding their qualification for an exemption from backup withholding and the procedures for obtaining such an exemption.

**Tax Considerations Applicable to Non-U.S. Holders**

For purposes of this discussion, a "non-U.S. holder" is a beneficial owner of Warrants or shares of our common stock that is neither a U.S. holder nor an entity treated as a partnership for U.S. federal income tax purposes.

**Exercise of Warrants**

A non-U.S. holder generally will not be subject to U.S. federal income tax on the exercise of Warrants into shares of our common stock. However, if a cashless exercise of the Warrants results in a taxable exchange, as described in "— Tax Considerations Applicable to U.S. holders — Sale or Other Disposition, Exercise or Expiration of Warrants," the rules described below under "Sale or Other Disposition of Common Stock or Warrants" would apply.

**Constructive Dividends on Warrants**

As described in the section entitled "Dividend Policy," we do not expect to pay any cash dividends on our common stock in the foreseeable future. However, if the exercise price is adjusted as a result of certain events affecting our common stock (or in certain circumstances, there is a failure to make adjustments), such adjustments may result in the deemed payment of a taxable dividend to a U.S. holder. Any resulting withholding tax attributable to deemed dividends may be collected from other amounts payable or distributable to, or other assets of, the non-U.S. holder. Non-U.S. holders should consult their tax advisors regarding the proper treatment of any adjustments to the Warrants.

**Distributions on Common Stock or Series D Warrants**

As described in the section entitled "Dividend Policy," we do not expect to pay any cash dividends on our common stock in the foreseeable future. However, if we do make distributions of cash or property on our common stock or Series D Warrants, such distributions will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. Amounts not treated as dividends for U.S. federal income tax purposes will constitute a return of capital and first be applied against and reduce a non-U.S. holder's adjusted tax basis in its common stock or Series D Warrants, as the case may be, but not below zero. Any excess will be treated as capital gain and will be treated as described below in the section relating to the sale or disposition of our common stock or Series D Warrants. Because we may not know the extent to which a distribution is a dividend for U.S. federal income tax purposes at the time it is made, for purposes of the withholding rules discussed below we or the applicable withholding agent may treat the entire distribution as a dividend.

Subject to the discussion below on backup withholding and foreign accounts, dividends paid to a non- U.S. holder of our common stock or Series D Warrants that are not effectively connected with the non-U.S. holder's conduct of a trade or business within the United States will be subject to U.S. federal withholding tax at a rate of 30% of the gross amount of the dividends (or such lower rate specified by an applicable income tax treaty).

Non-U.S. holders will be entitled to a reduction in or an exemption from withholding on dividends as a result of either (a) an applicable income tax treaty or (b) the non-U.S. holder holding our common stock or Series D Warrants in connection with the conduct of a trade or business within the United States and dividends being effectively connected with that trade or business. To claim such a reduction in or exemption from withholding, the non-U.S. holder must provide the applicable withholding agent with a properly executed (a) IRS Form W-8BEN or W-8BEN-E (or other applicable documentation) claiming an exemption from or reduction of the withholding tax under the benefit of an income tax treaty between the United States and the country in which the

non-U.S. holder resides or is established, or (b) IRS Form W-8ECI stating that the dividends are not subject to withholding tax because they are effectively connected with the conduct by the non-U.S. holder of a trade or business within the United States, as may be applicable. These certifications must be provided to the applicable withholding agent prior to the payment of dividends and must be updated periodically. Non-U.S. holders that do not timely provide the applicable withholding agent with the required certification, but that qualify for a reduced rate under an applicable income tax treaty, may obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund with the IRS.

If dividends paid to a non-U.S. holder are effectively connected with the non-U.S. holder's conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, the non-U.S. holder maintains a permanent establishment in the United States to which such dividends are attributable), then, although exempt from U.S. federal withholding tax (provided the non-U.S. holder provides appropriate certification, as described above), the non-U.S. holder will be subject to U.S. federal income tax on such dividends on a net income basis at the regular graduated U.S. federal income tax rates. In addition, a non-U.S. holder that is a corporation may be subject to a branch profits tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on its effectively connected earnings and profits for the taxable year that are attributable to such dividends, as adjusted for certain items. Non-U.S. holders should consult their tax advisors regarding their entitlement to benefits under any applicable income tax treaty.

**Sale or Other Disposition of Common Stock or Warrants**

Subject to the discussions below on backup withholding and foreign accounts, a non-U.S. holder will not be subject to U.S. federal income tax on any gain realized upon the sale, redemption or other taxable disposition of our Warrants or our common stock unless:

- the gain is effectively connected with the non-U.S. holder's conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, the non-U.S. holder maintains a permanent establishment in the United States to which such gain is attributable);
- the non-U.S. holder is a nonresident alien individual present in the United States for 183 days or more during the taxable year of the disposition and certain other requirements are met; or
- our Warrants or our common stock constitute a U.S. real property interest, or USRPI, by reason of our status as a U.S. real property holding corporation, or USRPHC, for U.S. federal income tax purposes.

Gain described in the first bullet point above generally will be subject to U.S. federal income tax on a net income basis at the regular graduated rates. A Non-U.S. holder that is a corporation also may be subject to a branch profits tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on such effectively connected earnings and profits, as adjusted for certain items.

Gain described in the second bullet point above will be subject to U.S. federal income tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on any gain derived from the disposition, which may be offset by U.S. source capital losses of the non-U.S. holder (even though the individual is not considered a resident of the United States), provided the non-U.S. holder has timely filed U.S. federal income tax returns with respect to such losses.

With respect to the third bullet point above, we believe we are not currently and do not anticipate becoming a USRPHC. Because the determination of whether we are a USRPHC depends on the fair market value of our USRPIs relative to the fair market value of our other business assets and our non- U.S. real property interests, however, there can be no assurance we are not a USRPHC or will not become one in the future.

Non-U.S. holders should consult their tax advisors regarding potentially applicable income tax treaties that may provide for different rules.

**Information Reporting and Backup Withholding**

Subject to the discussion below on foreign accounts, a non-U.S. holder will not be subject to backup withholding with respect to distributions on our common stock or Warrants we make to the non-U.S. holder (including constructive dividends with respect to the Warrants) provided the applicable withholding agent does not have actual knowledge or reason to know such holder is a United States person and the holder certifies its non-U.S. status, such as by providing a valid IRS Form W-8BEN, W-8BEN-E or W-8ECI, or other applicable certification. However, information returns generally will be filed with the IRS in connection with any distributions (including deemed distributions) made on our common stock and Warrants to the non-U.S. holder, regardless of whether any tax was actually withheld. Copies of these information returns may also be made available under the provisions of a specific treaty or agreement to the tax authorities of the country in which the non-U.S. holder resides or is established.

Information reporting and backup withholding may apply to the proceeds of a sale or other taxable disposition of Warrants or our common stock within the United States, and information reporting may (although backup withholding generally will not) apply to the proceeds of a sale or other taxable disposition of Warrants or our common stock outside the United States conducted through certain U.S.- related financial intermediaries, in each case, unless the beneficial owner certifies under penalty of perjury that it is a non-U.S. holder on IRS Form W-8BEN or W-8BEN-E, or other applicable form (and the payor does not have actual knowledge or reason to know that the beneficial owner is a U.S. person) or such owner otherwise establishes an exemption. Proceeds of a disposition of Warrants or our common stock conducted through a non-U.S. office of a non-U.S. broker generally will not be subject to backup withholding or information reporting.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules may be allowed as a refund or a credit against a non-U.S. holder's U.S. federal income tax liability, provided the required information is timely furnished to the IRS.

**Additional Withholding Tax on Payments Made to Foreign Accounts**

Withholding taxes may be imposed under the Foreign Account Tax Compliance Act, or FATCA, on certain types of payments made to non-U.S. financial institutions and certain other non-U.S. entities. Specifically, a 30% withholding tax may be imposed on dividends (including deemed dividends) with respect to, or (subject to the proposed Treasury Regulations discussed below) gross proceeds from the sale or other disposition of, Warrants or our common stock paid to, a "foreign financial institution" or a "non-financial foreign entity" (each as defined in the Code), unless (1) the foreign financial institution undertakes certain diligence and reporting obligations, (2) the non-financial foreign entity either certifies it does not have any "substantial United States owners" (as defined in the Code) or furnishes identifying information regarding each substantial United States owner, or (3) the foreign financial institution or non-financial foreign entity otherwise qualifies for an exemption from these rules. If the payee is a foreign financial institution and is subject to the diligence and reporting requirements in (1) above, it must enter into an agreement with the U.S. Department of the Treasury requiring, among other things, that it undertake to identify accounts held by certain "specified United States persons" or "United States owned foreign entities" (each as defined in the Code), annually report certain information about such accounts, and withhold 30% on certain payments to non-compliant foreign financial institutions and certain other account holders. Foreign financial institutions located in jurisdictions that have an intergovernmental agreement with the United States governing FATCA may be subject to different rules.

Under the applicable Treasury Regulations and administrative guidance, withholding under FATCA generally applies to payments of dividends (including deemed dividends). While withholding under FATCA would have applied also to payments of gross proceeds from the sale or other disposition of our common stock or Warrants on or after January 1, 2019, recently proposed Treasury Regulations eliminate FATCA withholding on payments of gross proceeds entirely. Taxpayers generally may rely on these proposed Treasury Regulations until final Treasury Regulations are issued. Because we may not know the extent to which a distribution is a dividend for U.S. federal income tax purposes at the time it is made, for purposes of these withholding rules we or the applicable withholding agent may treat the entire distribution as a dividend. Prospective investors should consult their tax advisors regarding the potential application of these withholding provisions.

## UNDERWRITING

We have entered into an underwriting agreement dated , 2020 with H.C. Wainwright & Co., LLC (the "representative") as the representative of the underwriters named below and the sole book-running manager of this Offering. Subject to the terms and conditions of the underwriting agreement, the underwriters have agreed to purchase the number of our securities set forth opposite their names below.

| Underwriters | Class A Units | Class B Units |
|---|---|---|
| H.C. Wainwright & Co., LLC | | |
| Total | | |

A copy of the underwriting agreement will be filed as an exhibit to a Current Report on Form 8-K on or around the date of this prospectus and incorporated by reference into this prospectus supplement.

We have been advised by the underwriters that they propose to offer the securities directly to the public at the public offering prices set forth on the cover page of this prospectus. Any securities sold by the underwriters to securities dealers will be sold at the public offering price less a selling concession not in excess of $ per share and $ per Series C Warrant.

The underwriting agreement provides that subject to the satisfaction or waiver by the underwriters of the conditions contained in the underwriting agreement, the underwriters are obligated to purchase and pay for all of the securities offered by this prospectus supplement.

No action has been taken by us or the underwriters that would permit a public offering of the units in any jurisdiction outside the United States where action for that purpose is required. None of our securities included in this Offering may be offered or sold, directly or indirectly, nor may this prospectus supplement or any other offering material or advertisements in connection with the offer and sales of any of the securities offered hereby be distributed or published in any jurisdiction except under circumstances that will result in compliance with the applicable rules and regulations of that jurisdiction. Persons who receive this prospectus supplement are advised to inform themselves about and to observe any restrictions relating to this Offering of securities and the distribution of this prospectus supplement. This prospectus supplement is neither an offer to sell nor a solicitation of any offer to buy the securities in any jurisdiction where that would not be permitted or legal.

The underwriters have advised us that they do not intend to confirm sales to any account over which they exercise discretionary authority.

### Underwriting Discount and Expenses

The following table summarizes the underwriting discount and commission to be paid to the underwriters by us.

| | Per Class A Unit | Per Class B Unit | Total Without Option Exercise | Total With Full Option Exercise |
|---|---|---|---|---|
| Public offering price | | | | |
| Underwriting discount to be paid to the underwriters by us (6.0%) | | | | |
| Proceeds to us (before expenses) | | | | |

We estimate the total expenses payable by us for this Offering to be approximately $ , which amount includes (i) the underwriting discount of $ , (ii) the reimbursement of the representative's accountable expenses, including its legal fees, in the amount of up to $150,000, (iii) other estimated company expenses of approximately $200,000, which includes legal, accounting and printing costs and various fees associated with the registration of our securities.

**Option to Purchase Additional Securities**

We have granted to the underwriters an option, exercisable not later than 30 days after the date of this prospectus supplement, to purchase up to a number of an additional shares and/or additional Series C Warrants (equal to 15% of the shares (including the number of shares of common stock underlying the Series D Warrants) and 15% of the Series C Warrants sold in this offering) in any combination thereof. Any shares of common stock and/or Series C Warrants so purchased shall be sold at the public offering price per share and per Series C Warrant, less the underwriting discounts and commissions, set forth on the cover page of this prospectus supplement. If any additional shares and/or Series C Warrants are purchased pursuant to this option, the underwriters will offer these additional shares and/or Series C Warrants on the same terms as those on which the other securities are being offered hereby.

**Determination of Offering Price**

Our common stock is currently traded on the Nasdaq Capital Market under the symbol "ZSAN." On February 10, 2020, the closing price of our common stock was $0.8734 per share. We do not intend to apply for listing of the Series C Warrants or Series D Warrants on any securities exchange or other trading system.

The public offering prices of the securities offered by this prospectus supplement will be determined by negotiation between us and the underwriters. Among the factors considered in determining the public offering prices of the shares of common stock, Series C Warrants and Series D Warrants were:

- our history and our prospects;
- the industry in which we operate;
- our past and present operating results;
- the previous experience of our executive officers; and
- the general condition of the securities markets at the time of this Offering.

The offering price stated on the cover page of this prospectus supplement should not be considered an indication of the actual value of the securities sold in this Offering. That price is subject to change as a result of market conditions and other factors and we cannot assure you that the shares of common stock, Series C Warrants or Series D Warrants sold in this Offering can be resold at or above the public offering price.

**Lock-up Agreements**

Our officers, directors and one of our stockholders, Aisling Capital IV, LP ("Aisling"), have agreed with the representative to be subject to a lock-up period of ninety (90) days (or 60 days, in the case of Aisling) following the date of this prospectus supplement. This means that, subject to certain exceptions, during the applicable lock-up period, such persons may not offer for sale, contract to sell, sell, distribute, grant any option, right or warrant to purchase, pledge, hypothecate or otherwise dispose of, directly or indirectly, any shares of our common stock or any securities convertible into, or exercisable or exchangeable for, shares of our common stock. Certain limited transfers are permitted during the lock-up period if the transferee agrees to these lock-up restrictions.

We have also agreed, in the underwriting agreement, to similar lock-up restrictions on the issuance and sale of our securities for sixty (60) days following the date of this prospectus supplement, although we will be permitted to, among other things, issue stock options or other equity awards under our existing plans, and have agreed to a restriction on the issuance of any variable priced securities for one hundred and eighty (180) days following the closing of this offering, except that that we may sell and issue shares under at-the-market offering programs or a future at-the-market offering program, subject to certain conditions, after the sixty days lock-up period. The representative may, in its sole discretion and without notice, waive the terms of any of these lock-up agreements.

**Stabilization, Short Positions and Penalty Bids**

In connection with this offering, the underwriters may engage in stabilizing transactions, over-allotment transactions, syndicate covering transactions and penalty bids in connection with our common stock.

Overallotment transactions involve sales by the underwriters of shares of common stock in excess of the number of shares the underwriters are obligated to purchase. This creates a syndicate short position which may be either a covered short position or a naked short position. In a covered short position, the number of shares over-allotted by the underwriters is not greater than the number of shares that they may purchase in the option to purchase additional securities. In a naked short position, the number of shares involved is greater than the number of shares in the option to purchase additional securities. The underwriters may close out any short position by exercising its option to purchase additional securities and/or purchasing shares in the open market.

Stabilizing transactions permit bids to purchase shares of common stock so long as the stabilizing bids do not exceed a specified maximum.

Syndicate covering transactions involve purchases of common stock in the open market after the distribution has been completed in order to cover syndicate short positions. Such a naked short position would be closed out by buying securities in the open market. A naked short position is more likely to be created if the underwriters are concerned that there could be downward pressure on the price of the securities in the open market after pricing that could adversely affect investors who purchase in the offering.

Penalty bids permit the underwriters to reclaim a selling concession from a syndicate member when the securities originally sold by the syndicate member are purchased in a stabilizing or syndicate covering transaction to cover syndicate short positions.

In connection with this Offering, the underwriters also may engage in passive market making transactions in our common stock in accordance with Regulation M during a period before the commencement of offers or sales of shares of our common stock in this Offering and extending through the completion of the distribution. In general, a passive market maker must display its bid at a price not in excess of the highest independent bid for that security. However, if all independent bids are lowered below the passive market maker's bid that bid must then be lowered when specific purchase limits are exceeded. Passive market making may stabilize the market price of the securities at a level above that which might otherwise prevail in the open market and, if commenced, may be discontinued at any time.

Neither we nor the underwriters make any representations or predictions as to the direction or magnitude of any effect that the transactions described above may have on the prices of our securities. In addition, neither we nor the underwriters make any representations that the underwriters will engage in these transactions or that any transactions, once commenced will not be discontinued without notice.

**Indemnification**

We have agreed to indemnify the underwriters against certain liabilities, including certain liabilities arising under the Securities Act, or to contribute to payments that the underwriters may be required to make for these liabilities.

**Other Relationships**

The representative and its affiliates may in the future engage in investment banking and other commercial dealings in the ordinary course of business with us or our affiliates. The representative may in the future receive customary fees and commissions for these transactions.

**Transfer Agent and Registrar**

The transfer agent and registrar for our common stock is Computershare Trust Company, N.A.

## LEGAL MATTERS

The validity of the securities offered hereby will be passed upon for us by Latham & Watkins LLP. As of the date of this prospectus, attorneys with Latham & Watkins LLP participating in the preparation of this prospectus supplement beneficially own shares of our common stock representing less than 0.0001% of our outstanding common stock as of September 30, 2019. Ellenoff Grossman & Schole LLP, New York, New York is acting as counsel to the underwriters in connection with this Offering.

## EXPERTS

Our balance sheets and our related statements of operations and comprehensive loss, changes in stockholders' equity, and cash flows as of and for the years ended December 31, 2018 and 2017, have been audited by Marcum LLP, an independent registered public accounting firm, as stated in its report which is incorporated by reference into this prospectus and elsewhere in the registration statement of which this prospectus is a part. Such financial statements are incorporated by reference herein in reliance on the report of such firm given upon their authority as experts in accounting and auditing. The report on the financial statements contains an explanatory paragraph regarding our ability to continue as a going concern. On May 28, 2019, Zosano Pharma Corporation dismissed Marcum LLP as auditors and, accordingly, Marcum LLP has not performed any audit or review procedures with respect to any financial statements incorporated by reference in this prospectus supplement for the periods after the date of dismissal.

## WHERE YOU CAN FIND MORE INFORMATION; INCORPORATION BY REFERENCE

We have filed with the SEC a registration statement on Form S-3 under the Securities Act, of which this prospectus supplement and the accompanying base prospectus form a part. The rules and regulations of the SEC allow us to omit from this prospectus supplement and the accompanying base prospectus certain information included in the registration statement. For further information about us and the securities we are offering under this prospectus supplement and the accompanying base prospectus, you should refer to the registration statement and the exhibits and schedules filed with the registration statement. With respect to the statements contained in this prospectus supplement and the accompanying base prospectus regarding the contents of any agreement or any other document, in each instance, the statement is qualified in all respects by the complete text of the agreement or document, a copy of which has been filed as an exhibit to the registration statement.

We file reports, proxy statements and other information with the SEC under the Securities Exchange Act of 1934, as amended. The SEC maintains an Internet website that contains reports, proxy statements and other information about issuers, like us, that file electronically with the SEC. The address of that website is www.sec.gov.

The SEC allows us to "incorporate by reference" the information we file with them which means that we can disclose important information to you by referring you to those documents instead of having to repeat the information in this prospectus supplement and the accompanying base prospectus. The information incorporated by reference is considered to be part of this prospectus supplement and the accompanying base prospectus, and later information that we file with the SEC will automatically update and supersede this information. We incorporate by reference the documents listed below and any future information filed (rather than furnished) with the SEC under Sections 13(a), 13(c), 14, or 15(d) of the Exchange Act between the date of this prospectus supplement and the termination of this Offering, provided, however, that we are not incorporating any information furnished under Item 2.02 or Item 7.01 of any current report on Form 8-K:

- our Annual Report on Form 10-K for the year ended December 31, 2018, filed with the SEC on March 25, 2019;
- our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2019, June 30, 2019 and September 30, 2019, filed with the SEC on May 14, 2019, August 14, 2019 and November 14, 2019, respectively;
- our Current Reports on Form 8-K filed with the SEC on January 16, 2019, April 11, 2019, May 31, 2019, July 22, 2019, August 19, 2019, August 26, 2019, September 10, 2019, September 27, 2019, October 8, 2019, October 10, 2019, October 24, 2019, November 27, 2019, December 23, 2019, January 8, 2020 and February 11, 2020 and our amended Current Report on Form 8-K/A filed with the SEC on February 28, 2019; and
- the description of our common stock contained in our Registration Statement on Form 8-A, filed with the SEC on July 25, 2014 (File No. 001-36570), including any amendments or reports filed for the purpose of updating such description.

These documents may also be accessed on our website at www.zosanopharma.com. Except as otherwise specifically incorporated by reference in this prospectus supplement and the accompanying base prospectus, information contained in, or accessible through, our website is not a part of this prospectus supplement and the accompanying base prospectus.

We will furnish without charge to you, upon written or oral request, a copy of any or all of the documents incorporated by reference, including exhibits to these documents by writing or telephoning us at the following address:

Zosano Pharma Corporation
34790 Ardentech Court
Fremont, CA 94555
(510) 745-1200
Attention: Chief Financial Officer

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**PROSPECTUS**


# Zosano Pharma Corporation

## $75,000,000

**Common Stock**
**Preferred Stock**
**Debt Securities**
**Warrants**
**Units**

We may offer and sell up to $75,000,000 in the aggregate of the securities identified above from time to time in one or more offerings. This prospectus provides you with a general description of the securities.

Each time we offer and sell securities, we will provide a supplement to this prospectus that contains specific information about the offering and the amounts, prices and terms of the securities. The supplement may also add, update or change information contained in this prospectus with respect to that offering. You should carefully read this prospectus and the applicable prospectus supplement before you invest in any of our securities.

We may offer and sell the securities described in this prospectus and any prospectus supplement to or through one or more underwriters, dealers and agents, or directly to purchasers, or through a combination of these methods. If any underwriters, dealers or agents are involved in the sale of any of the securities, their names and any applicable purchase price, fee, commission or discount arrangement between or among them will be set forth, or will be calculable from the information set forth, in the applicable prospectus supplement. See the sections of this prospectus entitled "About this Prospectus" and "Plan of Distribution" for more information. No securities may be sold without delivery of this prospectus and the applicable prospectus supplement describing the method and terms of the offering of such securities.

**INVESTING IN OUR SECURITIES INVOLVES RISKS. SEE THE "RISK FACTORS" ON PAGE 5 OF THIS PROSPECTUS AND ANY SIMILAR SECTION CONTAINED IN THE APPLICABLE PROSPECTUS SUPPLEMENT CONCERNING FACTORS YOU SHOULD CONSIDER BEFORE INVESTING IN OUR SECURITIES.**

Our common stock is listed on the Nasdaq Capital Market under the symbol "ZSAN." On February 13, 2019, the closing price of our common stock on the Nasdaq Capital Market was $2.40 per share.

As of February 13, 2019, the aggregate market value of our outstanding common stock held by non-affiliates, or our public float, was approximately $35.7 million based on 10,361,748 shares of outstanding common stock held by non-affiliates, at a price of $3.45 per share, which was the last reported sale price of our common stock on the Nasdaq Capital Market on December 17, 2018. We have not offered any securities pursuant to General Instruction I.B.6 of Form S-3 during the prior 12 calendar month period that ends on and includes the date of this prospectus. Pursuant to General Instruction I.B.6 of Form S-3, in no event will we sell securities registered on this registration statement in a public primary offering with a value exceeding more than one-third of our public float in any 12-month period so long as our public float remains below $75.0 million.

**Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.**

**The date of this prospectus is March 27, 2019.**

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## ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the U.S. Securities and Exchange Commission (the "SEC"), using a "shelf" registration process. By using a shelf registration statement, we may sell securities from time to time and in one or more offerings up to a total dollar amount of $75,000,000 of securities as described in this prospectus, subject to any applicable limits prescribed by General Instruction I.B.6 of Form S-3. Each time that we offer and sell securities, we will provide a prospectus supplement to this prospectus that contains specific information about the securities being offered and sold and the specific terms of that offering. We may also authorize one or more free writing prospectuses to be provided to you that may contain material information relating to these offerings. The prospectus supplement or free writing prospectus may also add, update or change information contained in this prospectus with respect to that offering. If there is any inconsistency between the information in this prospectus and the applicable prospectus supplement or free writing prospectus, you should rely on the prospectus supplement or free writing prospectus, as applicable. Before purchasing any securities, you should carefully read both this prospectus and the applicable prospectus supplement (and any applicable free writing prospectuses), together with the additional information described under the heading "Where You Can Find More Information; Incorporation by Reference."

We have not authorized anyone to provide you with any information or to make any representations other than those contained in this prospectus, any applicable prospectus supplement or any free writing prospectuses prepared by or on behalf of us or to which we have referred you. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. We will not make 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 and the applicable prospectus supplement to this prospectus is accurate only as of the date on its respective cover, that the information appearing in any applicable free writing prospectus is accurate only as of the date of that free writing prospectus, and that any information incorporated by reference is accurate only as of the date of the document incorporated by reference, unless we indicate otherwise. Our business, financial condition, results of operations and prospects may have changed since those dates. This prospectus incorporates by reference, and any prospectus supplement or free writing prospectus may contain and incorporate by reference, market data and industry statistics and forecasts that are based on independent industry publications and other publicly available information. Although we believe these sources are reliable, we do not guarantee the accuracy or completeness of this information and we have not independently verified this information. In addition, the market and industry data and forecasts that may be included or incorporated by reference in this prospectus, any prospectus supplement or any applicable free writing prospectus may involve estimates, assumptions and other risks and uncertainties and are subject to change based on various factors, including those discussed under the heading "Risk Factors" contained in this prospectus, the applicable prospectus supplement and any applicable free writing prospectus, and under similar headings in other documents that are incorporated by reference into this prospectus. Accordingly, investors should not place undue reliance on this information.

When we refer to "we," "our," "us" and the "Company" in this prospectus, we mean Zosano Pharma Corporation, unless otherwise specified. When we refer to "you," we mean the potential holders of the applicable series of securities.

This prospectus contains references to our trademarks and to trademarks belonging to other entities, which are protected under applicable intellectual property laws. Solely for convenience, trademarks and trade names referred to in this prospectus, including logos, artwork and other visual displays, may appear without the ® or ™ symbols, but such references are not intended to indicate that we or their respective owners will not assert, to the fullest extent under applicable law, our rights or the rights of the applicable licensor to these trademarks and trade names. We do not intend our use or display of other companies' trade names or trademarks to imply a relationship with, or endorsement or sponsorship of us by, any such companies.

## WHERE YOU CAN FIND MORE INFORMATION; INCORPORATION BY REFERENCE

### Available Information

We file annual, quarterly and other reports, proxy statements and other information with the SEC. The SEC maintains a website that contains reports, proxy and information statements and other information about issuers, such as us, who file electronically with the SEC. The address of that website is *http://www.sec.gov*.

Our website address is www.zosanopharma.com. The information on our website, however, is not, and should not be deemed to be, a part of this prospectus.

This prospectus and any prospectus supplement are part of a registration statement that we filed with the SEC and do not contain all of the information in the registration statement. The full registration statement may be obtained from the SEC or us, as provided below. Forms of the indenture and other documents establishing the terms of the offered securities are or may be filed as exhibits to the registration statement or documents incorporated by reference in the registration statement. Statements in this prospectus or any prospectus supplement about these documents are summaries and each statement is qualified in all respects by reference to the document to which it refers. You should refer to the actual documents for a more complete description of the relevant matters. You may obtain a copy of the registration statement through the SEC's website, as provided above.

### Incorporation by Reference

The SEC's rules allow 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 information incorporated by reference is deemed to be part of this prospectus, and subsequent information that we file with the SEC will automatically update and supersede that information. Any statement contained in this prospectus or a previously filed document incorporated by reference will be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus or a subsequently filed document incorporated by reference modifies or replaces that statement.

This prospectus and any accompanying prospectus supplement incorporate by reference the documents set forth below that have previously been filed with the SEC (but excluding any information in such documents that has been furnished to, rather than filed with, the SEC):

- Our Annual Report on Form 10-K for the year ended December 31, 2017, filed with the SEC on March 12, 2018.
- The information specifically incorporated by reference into our Annual Report on Form 10-K from our Definitive Proxy Statement on Schedule 14A, filed with the SEC on April 30, 2018.
- Our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2018, June 30, 2018 and September 30, 2018, filed with the SEC on May 15, 2018, August 9, 2018 and November 15, 2018, respectively.
- Our Current Reports on Form 8-K filed with the SEC on January 25, 2018, February 12, 2018, April 3, 2018, April 20, 2018, May 15, 2018 (at 16:10:32), May 22, 2018, June 5, 2018, June 12, 2018, August 6, 2018, August 9, 2018, September 24, 2018, September 26, 2018, October 3, 2018, October 16, 2018, and January 16, 2019.
- The description of our Common Stock contained in our Registration Statement on Form 8-A, dated July 25, 2014, filed with the SEC on July 25, 2014 (File No. 001-36570) and any amendment or report filed with the SEC for the purpose of updating the description.

All reports and other documents we subsequently file pursuant to Section 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934 (the "Exchange Act"), prior to the termination of this offering, including all

such documents we may file with the SEC after the date of the initial registration statement and prior to the effectiveness of the registration statement, but excluding any information furnished to, rather than filed with, the SEC, will also be incorporated by reference into this prospectus and deemed to be part of this prospectus from the date of the filing of such reports and documents.

You may request a free copy of any of the documents incorporated by reference in this prospectus by writing or telephoning us at the following address:

Zosano Pharma Corporation
34790 Ardentech Court
Fremont, CA 94555
(510) 745-1200

Exhibits to the filings will not be sent, however, unless those exhibits have specifically been incorporated by reference in this prospectus or any accompanying prospectus supplement.

## THE COMPANY

Zosano Pharma Corporation is a clinical stage biopharmaceutical company focused on providing rapid systemic administration of therapeutics to patients using our proprietary Adhesive Dermally-Applied Microarray, or ADAM, technology. In February 2017, we announced positive results from our ZOTRIP pivotal efficacy trial, or ZOTRIP trial, that evaluated Qtrypta™ (M207), which is our proprietary formulation of zolmitriptan delivered via our ADAM technology, as an acute treatment for migraine. We are focused on developing products where rapid administration of established molecules with known safety and efficacy profiles provides an increased benefit to patients, for markets where patients remain underserved by existing therapies. We anticipate that many of our current and future development programs may enable us to utilize a regulatory pathway that would streamline clinical development and accelerate the path toward commercialization.

We were incorporated under the laws of the State of Delaware as ZP Holdings, Inc. in January 2012, and changed our name to Zosano Pharma Corporation in June 2014. Our business was spun out of ALZA Corporation, a subsidiary of Johnson & Johnson, in October 2006. We were originally incorporated under the name The Macroflux Corporation, and changed our name to Zosano Pharma, Inc. in 2007 following the spin-off from Johnson & Johnson. In April 2012, in a transaction to recapitalize the business, a wholly-owned subsidiary of ZP Holdings was merged with and into Zosano Pharma, Inc., whereby Zosano Pharma, Inc. was the surviving entity and became a wholly-owned subsidiary of ZP Holdings. In June 2014, Zosano Pharma, Inc. changed its name to ZP Opco, Inc. ZP Group LLC, a former subsidiary that was originally formed as a joint venture with Asahi Kasei Pharmaceuticals USA (Asahi), ceased operations in December 2013 and was dissolved on December 30, 2016. On November 1, 2017, ZP Opco, Inc. merged with and into Zosano Pharma Corporation, with Zosano Pharma Corporation as the surviving corporation of the merger.

Our principal executive offices are located at 34790 Ardentech Court, Fremont, California 94555. Our telephone number is (510)745-1200.

## RISK FACTORS

Investment in any securities offered pursuant to this prospectus and the applicable prospectus supplement involves risks. You should carefully consider the risk factors incorporated by reference to our most recent Annual Report on Form 10-K and Quarterly Reports on Form 10-Q, and any subsequent Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q or Current Reports on Form 8-K we file after the date of this prospectus, and all other information contained or incorporated by reference into this prospectus, as updated by our subsequent filings under the Exchange Act, and the risk factors and other information contained in the applicable prospectus supplement and any applicable free writing prospectus before acquiring any of such securities. The occurrence of any of these risks might cause you to lose all or part of your investment in the offered securities.

## USE OF PROCEEDS

We intend to use the net proceeds from the sale of the securities as set forth in the applicable prospectus supplement.

## DESCRIPTION OF CAPITAL STOCK

*The following is a summary of all material characteristics of our capital stock as set forth in our amended and restated certificate of incorporation and our amended and restated bylaws. The summary does not purport to be complete and is qualified in its entirety by reference to our amended and restated certificate of incorporation and amended and restated bylaws, each of which are incorporated by reference as exhibits to the registration statement of which this prospectus is a part, and the applicable provisions of Delaware law. The disclosure below has been updated, as applicable, to reflect our 1-for-20 reverse split which became effective on January 25, 2018.*

### General

Our authorized capital stock consists of 250,000,000 shares of common stock, par value $0.0001 per share, and 5,000,000 shares of preferred stock, par value $0.0001 per share, all of which shares of preferred stock are undesignated. As of December 31, 2018, we had 11,973,039 shares of common stock issued and outstanding, which were held of record by 10 holders. This number of record holders does not include beneficial owners whose shares are held by nominees in street name.

### Common Stock

*Voting rights*. Holders of our common stock are entitled to one vote per share held of record on all matters to be voted upon by our stockholders. The election of directors by our stockholders is determined by a plurality of the votes cast by the stockholders entitled to vote on the election. Other matters subject to a vote by our stockholders are decided by the affirmative vote of our stockholders having a majority in voting power of the votes cast by the stockholders present or represented and voting on such matter. Our common stock does not have cumulative voting rights.

*Dividend rights*. Subject to preferences that may be applicable to the holders of any outstanding shares of our preferred stock, the holders of our common stock are entitled to receive such lawful dividends as may be declared by our Board of Directors.

*Liquidation and dissolution*. In the event of our liquidation, dissolution or winding up, and subject to the rights of the holders of any outstanding shares of our preferred stock, the holders of shares of our common stock will be entitled to receive pro rata all of our remaining assets available for distribution to our stockholders.

*Other rights and restrictions.* Our amended and restated certificate of incorporation does not permit us to redeem shares of our common stock at our election, provide for a sinking fund with respect to our common stock or provide for the granting of preemptive rights to any stockholder. All outstanding shares are fully paid and nonassessable. Our secured term loan facility with Hercules Technology Growth Capital, Inc., or Hercules, contains covenants that restrict our ability to pay dividends.

### Preferred Stock

Pursuant to our amended and restated certificate of incorporation, our Board of Directors is authorized, without stockholder approval, from time to time to issue up to 5,000,000 shares of preferred stock in one or more series, each of the series to have such rights and preferences, including voting rights, dividend rights, conversion rights, redemption privileges and liquidation preferences, as the Board of Directors may determine. The rights of the holders of common stock will be subject to, and may be adversely affected by, the rights of holders of any preferred stock that we may issue in the future. The issuance of preferred stock, while providing desirable flexibility in connection with possible acquisitions and other corporate purposes, could have the effect of making it more difficult for others to acquire, or of discouraging others from attempting to acquire, a majority of our outstanding voting stock. We have no current plans to issue any shares of preferred stock.

**Options and Warrants**

As of December 31, 2018, options to purchase 1,309,994 shares of our common stock were outstanding under our 2012 Stock Incentive Plan, our Amended and Restated 2014 Equity and Incentive Plan and in connection with September 2016, January 2017 and June 2017 inducement awards, at a weighted average exercise price of $5.91 per share. In addition, we have issued 473 restricted stock units under the 2014 Equity and Incentive Plan as of December 31, 2018.

As of December 31, 2018, we had outstanding warrants, held by Hercules, to purchase 1,583 shares of our common stock at an exercise price of $176.80 and 2,035 shares of our common stock at an exercise price of $147.40 per share. These warrants are exercisable by Hercules at any time, in whole or in part, until January 27, 2020 and June 23, 2020, respectively. The exercise prices are subject to proportional adjustment upon the subdivision or combination of shares of the common stock, or an appropriate adjustment by the board at the time of a merger event, as defined in the applicable warrant agreement, or a reclassification of shares (by combination, reclassification, exchange or subdivision of securities or otherwise).

In August 2016, we completed a private placement to certain investors of 239,997 shares of our common stock and Series A and Series B warrants to purchase an aggregate of 480,000 shares of our common stock. The Series A warrants are no longer exercisable as of August 2017. As of December 31, 2018, we had outstanding Series B warrants to purchase 195,906 shares of our common stock at an exercise price of $31.00 per share. The exercise price is subject to proportional adjustment upon the subdivision or combination of shares of the common stock (by any stock split, stock dividend, recapitalization, reverse stock split, or otherwise), but the exercise price cannot be reduced below the par value of the common stock. The Series B warrants are exercisable at any time, in whole or in part, until August 19, 2021.

On September 25, 2018, we issued a warrant to Trinity Capital Fund III, L.P. (“Trinity”) to purchase 75,000 shares of our common stock at an exercise price of $3.5928 per share. The warrant is immediately exercisable, in whole or in part, upon issuance, and excluding certain mergers or acquisitions, expires on September 25, 2025. The exercise price is subject to proportional adjustment upon the subdivision or combination of shares of common stock, including for dividends declared or paid on the outstanding shares of common stock payable in common stock, or a reclassification of shares (by reclassification, exchange, combination, substitution or replacement of securities or otherwise).

**Registration Rights**

On October 20, 2017, we entered into the registration rights agreement with LPC pursuant to which we agreed to file with the SEC one or more registration statements as necessary to register for sale under the Securities Act shares of common stock that we issued or may issue to LPC under the LPC Purchase Agreement. We registered 392,104 shares of common stock for resale pursuant to a registration statement on Form S-1 on November 13, 2017 and which was declared effective on November 21, 2017.

In August 2016, we entered into a securities purchase agreement, or the Securities Purchase Agreement, in connection with a private placement, pursuant to which we granted certain investors certain registration rights with respect to the shares purchased as well as the shares issuable upon exercise of the warrants. In particular, the Securities Purchase Agreement required us to file a registration statement with the SEC to register the sale of such shares within 30 days of the consummation of the private placement and to maintain continuous effectiveness of the registration statement. A registration statement relating to such shares was filed on September 9, 2016 and declared effective by the SEC on September 23, 2016.

On June 23, 2015, we issued a warrant, or the Warrant, to Hercules to purchase 2,035 shares of the Company’s common stock at an exercise price of $147.40 per share. Pursuant to the Warrant, we agreed, among other things, that we would file with the SEC a registration statement to register the sale of the shares issuable

upon exercise of the Warrant within 30 days of the Company becoming eligible to use a Form S-3 registration statement to register such shares. A registration statement relating to such shares was filed on September 9, 2016 and declared effective by the SEC on September 23, 2016.

**Anti-Takeover Effects of Provisions of Delaware Law and Our Charter and By-laws**

Provisions of Delaware law and our amended and restated certificate of incorporation and amended and restated bylaws could make it more difficult to acquire us by means of a tender offer, a proxy contest, open market purchases, removal of incumbent directors and otherwise. These provisions, summarized below, are expected to discourage types of coercive takeover practices and inadequate takeover bids and to encourage persons seeking to acquire control of us to first negotiate with us. We believe that the benefits of increased protection of our potential ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure us outweigh the disadvantages of discouraging takeover or acquisition proposals because negotiation of these proposals could result in an improvement of their terms.

We must comply with Section 203 of the Delaware General Corporation Law, an anti-takeover law. In general, Section 203 prohibits a publicly held Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a period of three years following the date the person became an interested stockholder, unless the business combination or the transaction in which the person became an interested stockholder is approved in a prescribed manner. Generally, a "business combination" includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to an interested stockholder. An "interested stockholder" includes a person who, together with affiliates and associates, owns, or did own within three years before the determination of interested stockholder status, 15% or more of the corporation's voting stock. The existence of this provision generally will have an anti-takeover effect for transactions not approved in advance by the Board of Directors, including discouraging attempts that might result in a premium over the market price for the shares of common stock held by stockholders.

Our amended and restated certificate of incorporation and our amended and restated bylaws require that any action required or permitted to be taken by our stockholders must be effected at a duly called annual or special meeting of the stockholders and may not be effected by a consent in writing. In addition, special meetings of our stockholders may be called only by the Board of Directors and some of our officers. Our amended and restated bylaws establish an advance notice procedure for stockholder proposals to be brought before an annual meeting of stockholders, including proposed nominations of candidates for election to our Board of Directors. Our amended and restated certificate of incorporation and amended and restated bylaws also provide for our Board of Directors to be divided into three classes, with each class serving staggered three-year terms. These provisions may have the effect of deterring hostile takeovers or delaying changes in our control or management.

**Listing on the Nasdaq Capital Market**

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

**Authorized but Unissued Shares**

The authorized but unissued shares of common stock and preferred stock are available for future issuance without stockholder approval, subject to any limitations imposed by the Nasdaq Listing Rules. These additional shares may be used for a variety of corporate finance transactions, acquisitions and employee benefit plans. The existence of authorized but unissued and unreserved common stock and preferred stock could make it more difficult or discourage an attempt to obtain control of us by means of a proxy contest, tender offer, merger or otherwise.

**Transfer Agent and Registrar**

The transfer agent and registrar for our common stock is Computershare Trust Company, N.A.

## DESCRIPTION OF DEBT SECURITIES

The following description, together with the additional information we include in any applicable prospectus supplement or free writing prospectus, summarizes certain general terms and provisions of the debt securities that we may offer under this prospectus. When we offer to sell a particular series of debt securities, we will describe the specific terms of the series in a supplement to this prospectus. We will also indicate in the supplement to what extent the general terms and provisions described in this prospectus apply to a particular series of debt securities.

We may issue debt securities either separately, or together with, or upon the conversion or exercise of or in exchange for, other securities described in this prospectus. Debt securities may be our senior, senior subordinated or subordinated obligations and, unless otherwise specified in a supplement to this prospectus, the debt securities will be our direct, unsecured obligations and may be issued in one or more series.

The debt securities will be issued under an indenture between us and a third party to be identified therein, as trustee. We have summarized select portions of the indenture below. The summary is not complete. The form of the indenture has been filed as an exhibit to the registration statement and you should read the indenture for provisions that may be important to you. In the summary below, we have included references to the section numbers of the indenture so that you can easily locate these provisions. Capitalized terms used in the summary and not defined herein have the meanings specified in the indenture.

### General

The terms of each series of debt securities will be established by or pursuant to a resolution of our board of directors and set forth or determined in the manner provided in a resolution of our board of directors, in an officer's certificate or by a supplemental indenture. (Section 2.2) The particular terms of each series of debt securities will be described in a prospectus supplement relating to such series (including any pricing supplement or term sheet).

We can issue an unlimited amount of debt securities under the indenture that may be in one or more series with the same or various maturities, at par, at a premium, or at a discount. (Section 2.1) We will set forth in a prospectus supplement (including any pricing supplement or term sheet) relating to any series of debt securities being offered, the aggregate principal amount and the following terms of the debt securities, if applicable:

- the title and ranking of the debt securities (including the terms of any subordination provisions);
- the price or prices (expressed as a percentage of the principal amount) at which we will sell the debt securities;
- any limit on the aggregate principal amount of the debt securities;
- the date or dates on which the principal of the securities of the series is payable;
- the rate or rates (which may be fixed or variable) per annum or the method used to determine the rate or rates (including any commodity, commodity index, stock exchange index or financial index) at which the debt securities will bear interest, the date or dates from which interest will accrue, the date or dates on which interest will commence and be payable and any regular record date for the interest payable on any interest payment date;
- the place or places where principal of, and interest, if any, on the debt securities will be payable (and the method of such payment), where the securities of such series may be surrendered for registration of transfer or exchange, and where notices and demands to us in respect of the debt securities may be delivered;
- the period or periods within which, the price or prices at which and the terms and conditions upon which we may redeem the debt securities;

- any obligation we have to redeem or purchase the debt securities pursuant to any sinking fund or analogous provisions or at the option of a holder of debt securities and the period or periods within which, the price or prices at which and in the terms and conditions upon which securities of the series shall be redeemed or purchased, in whole or in part, pursuant to such obligation;
- the dates on which and the price or prices at which we will repurchase debt securities at the option of the holders of debt securities and other detailed terms and provisions of these repurchase obligations;
- the denominations in which the debt securities will be issued, if other than denominations of $1,000 and any integral multiple thereof;
- whether the debt securities will be issued in the form of certificated debt securities or global debt securities;
- the portion of principal amount of the debt securities payable upon declaration of acceleration of the maturity date, if other than the principal amount;
- the currency of denomination of the debt securities, which may be United States Dollars or any foreign currency, and if such currency of denomination is a composite currency, the agency or organization, if any, responsible for overseeing such composite currency;
- the designation of the currency, currencies or currency units in which payment of principal of, premium and interest on the debt securities will be made;
- if payments of principal of, premium or interest on the debt securities will be made in one or more currencies or currency units other than that or those in which the debt securities are denominated, the manner in which the exchange rate with respect to these payments will be determined;
- the manner in which the amounts of payment of principal of, premium, if any, or interest on the debt securities will be determined, if these amounts may be determined by reference to an index based on a currency or currencies or by reference to a commodity, commodity index, stock exchange index or financial index;
- any provisions relating to any security provided for the debt securities;
- any addition to, deletion of or change in the Events of Default described in this prospectus or in the indenture with respect to the debt securities and any change in the acceleration provisions described in this prospectus or in the indenture with respect to the debt securities;
- any addition to, deletion of or change in the covenants described in this prospectus or in the indenture with respect to the debt securities;
- any depositaries, interest rate calculation agents, exchange rate calculation agents or other agents with respect to the debt securities;
- the provisions, if any, relating to conversion or exchange of any debt securities of such series, including if applicable, the conversion or exchange price and period, provisions as to whether conversion or exchange will be mandatory, the events requiring an adjustment of the conversion or exchange price and provisions affecting conversion or exchange;
- any other terms of the debt securities, which may supplement, modify or delete any provision of the indenture as it applies to that series, including any terms that may be required under applicable law or regulations or advisable in connection with the marketing of the securities; and
- whether any of our direct or indirect subsidiaries will guarantee the debt securities of that series, including the terms of subordination, if any, of such guarantees. (Section 2.2)

We may issue debt securities that provide for an amount less than their stated principal amount to be due and payable upon declaration of acceleration of their maturity pursuant to the terms of the indenture. We will provide you with information on the federal income tax considerations and other special considerations applicable to any of these debt securities in the applicable prospectus supplement.

If we denominate the purchase price of any of the debt securities in a foreign currency or currencies or a foreign currency unit or units, or if the principal of and any premium and interest on any series of debt securities is payable in a foreign currency or currencies or a foreign currency unit or units, we will provide you with information on the restrictions, elections, general tax considerations, specific terms and other information with respect to that issue of debt securities and such foreign currency or currencies or foreign currency unit or units in the applicable prospectus supplement.

**Transfer and Exchange**

Each debt security will be represented by either one or more global securities registered in the name of The Depository Trust Company (the "Depositary"), or a nominee of the Depositary (we will refer to any debt security represented by a global debt security as a "book-entry debt security"), or a certificate issued in definitive registered form (we will refer to any debt security represented by a certificated security as a "certificated debt security") as set forth in the applicable prospectus supplement. Except as set forth under the heading "Global Debt Securities and Book-Entry System" below, book-entry debt securities will not be issuable in certificated form.

*Certificated Debt Securities.* You may transfer or exchange certificated debt securities at any office we maintain for this purpose in accordance with the terms of the indenture. (Section 2.4) No service charge will be made for any transfer or exchange of certificated debt securities, but we may require payment of a sum sufficient to cover any tax or other governmental charge payable in connection with a transfer or exchange. (Section 2.7)

You may effect the transfer of certificated debt securities and the right to receive the principal of, premium and interest on certificated debt securities only by surrendering the certificate representing those certificated debt securities and either reissuance by us or the trustee of the certificate to the new holder or the issuance by us or the trustee of a new certificate to the new holder.

*Global Debt Securities and Book-Entry System.* Each global debt security representing book-entry debt securities will be deposited with, or on behalf of, the Depositary, and registered in the name of the Depositary or a nominee of the Depositary. Please see "Global Securities."

**Covenants**

We will set forth in the applicable prospectus supplement any restrictive covenants applicable to any issue of debt securities. (Article IV)

**No Protection in the Event of a Change of Control**

Unless we state otherwise in the applicable prospectus supplement, the debt securities will not contain any provisions which may afford holders of the debt securities protection in the event we have a change in control or in the event of a highly leveraged transaction (whether or not such transaction results in a change in control) which could adversely affect holders of debt securities.

**Consolidation, Merger and Sale of Assets**

We may not consolidate with or merge with or into, or convey, transfer or lease all or substantially all of our properties and assets to any person (a "successor person") unless:

- we are the surviving corporation or the successor person (if other than Zosano Pharma Corporation) is a corporation organized and validly existing under the laws of any U.S. domestic jurisdiction and expressly assumes our obligations on the debt securities and under the indenture; and
- immediately after giving effect to the transaction, no Default or Event of Default, shall have occurred and be continuing.

Notwithstanding the above, any of our subsidiaries may consolidate with, merge into or transfer all or part of its properties to us. (Section 5.1)

**Events of Default**

"Event of Default" means with respect to any series of debt securities, any of the following:

- default in the payment of any interest upon any debt security of that series when it becomes due and payable, and continuance of such default for a period of 30 days (unless the entire amount of the payment is deposited by us with the trustee or with a paying agent prior to the expiration of the 30-day period);
- default in the payment of principal of any security of that series at its maturity;
- default in the performance or breach of any other covenant or warranty by us in the indenture (other than a covenant or warranty that has been included in the indenture solely for the benefit of a series of debt securities other than that series), which default continues uncured for a period of 60 days after we receive written notice from the trustee or Zosano Pharma Corporation and the trustee receive written notice from the holders of not less than 25% in principal amount of the outstanding debt securities of that series as provided in the indenture;
- certain voluntary or involuntary events of bankruptcy, insolvency or reorganization of Zosano Pharma Corporation;
- any other Event of Default provided with respect to debt securities of that series that is described in the applicable prospectus supplement. (Section 6.1)

No Event of Default with respect to a particular series of debt securities (except as to certain events of bankruptcy, insolvency or reorganization) necessarily constitutes an Event of Default with respect to any other series of debt securities. (Section 6.1) The occurrence of certain Events of Default or an acceleration under the indenture may constitute an event of default under certain indebtedness of ours or our subsidiaries outstanding from time to time.

We will provide the trustee written notice of any Default or Event of Default within 30 days of becoming aware of the occurrence of such Default or Event of Default, which notice will describe in reasonable detail the status of such Default or Event of Default and what action we are taking or propose to take in respect thereof. (Section 6.1)

If an Event of Default with respect to debt securities of any series at the time outstanding occurs and is continuing, then the trustee or the holders of not less than 25% in principal amount of the outstanding debt securities of that series may, by a notice in writing to us (and to the trustee if given by the holders), declare to be due and payable immediately the principal of (or, if the debt securities of that series are discount securities, that portion of the principal amount as may be specified in the terms of that series) and accrued and unpaid interest, if any, on all debt securities of that series. In the case of an Event of Default resulting from certain events of bankruptcy, insolvency or reorganization, the principal (or such specified amount) of and accrued and unpaid interest, if any, on all outstanding debt securities will become and be immediately due and payable without any declaration or other act on the part of the trustee or any holder of outstanding debt securities. At any time after a declaration of acceleration with respect to debt securities of any series has been made, but before a judgment or decree for payment of the money due has been obtained by the trustee, the holders of a majority in principal amount of the outstanding debt securities of that series may rescind and annul the acceleration if all Events of Default, other than the non-payment of accelerated principal and interest, if any, with respect to debt securities of that series, have been cured or waived as provided in the indenture. (Section 6.2) We refer you to the prospectus supplement relating to any series of debt securities that are discount securities for the particular provisions relating to acceleration of a portion of the principal amount of such discount securities upon the occurrence of an Event of Default.

The indenture provides that the trustee may refuse to perform any duty or exercise any of its rights or powers under the indenture unless the trustee receives indemnity satisfactory to it against any cost, liability or expense which might be incurred by it in performing such duty or exercising such right or power. (Section 7.1(e)) Subject to certain rights of the trustee, the holders of a majority in principal amount of the outstanding debt securities of any series will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the trustee or exercising any trust or power conferred on the trustee with respect to the debt securities of that series. (Section 6.12)

No holder of any debt security of any series will have any right to institute any proceeding, judicial or otherwise, with respect to the indenture or for the appointment of a receiver or trustee, or for any remedy under the indenture, unless:

- that holder has previously given to the trustee written notice of a continuing Event of Default with respect to debt securities of that series; and
- the holders of not less than 25% in principal amount of the outstanding debt securities of that series have made written request, and offered indemnity or security satisfactory to the trustee, to the trustee to institute the proceeding as trustee, and the trustee has not received from the holders of not less than a majority in principal amount of the outstanding debt securities of that series a direction inconsistent with that request and has failed to institute the proceeding within 60 days. (Section 6.7)

Notwithstanding any other provision in the indenture, the holder of any debt security will have an absolute and unconditional right to receive payment of the principal of, premium and any interest on that debt security on or after the due dates expressed in that debt security and to institute suit for the enforcement of payment. (Section 6.8)

The indenture requires us, within 120 days after the end of our fiscal year, to furnish to the trustee a statement as to compliance with the indenture. (Section 4.3) If a Default or Event of Default occurs and is continuing with respect to the securities of any series and if it is known to a responsible officer of the trustee, the trustee shall mail to each Securityholder of the securities of that series notice of a Default or Event of Default within 90 days after it occurs or, if later, after a responsible officer of the trustee has knowledge of such Default or Event of Default. The indenture provides that the trustee may withhold notice to the holders of debt securities of any series of any Default or Event of Default (except in payment on any debt securities of that series) with respect to debt securities of that series if the trustee determines in good faith that withholding notice is in the interest of the holders of those debt securities. (Section 7.5)

**Modification and Waiver**

We and the trustee may modify, amend or supplement the indenture or the debt securities of any series without the consent of any holder of any debt security:

- to cure any ambiguity, defect or inconsistency;
- to comply with covenants in the indenture described above under the heading “Consolidation, Merger and Sale of Assets”;
- to provide for uncertificated securities in addition to or in place of certificated securities;
- to add guarantees with respect to debt securities of any series or secure debt securities of any series;
- to surrender any of our rights or powers under the indenture;
- to add covenants or events of default for the benefit of the holders of debt securities of any series;
- to comply with the applicable procedures of the applicable depositary;
- to make any change that does not adversely affect the rights of any holder of debt securities;

- to provide for the issuance of and establish the form and terms and conditions of debt securities of any series as permitted by the indenture;
- to effect the appointment of a successor trustee with respect to the debt securities of any series and to add to or change any of the provisions of the indenture to provide for or facilitate administration by more than one trustee; or
- to comply with requirements of the SEC in order to effect or maintain the qualification of the indenture under the Trust Indenture Act. (Section 9.1)

We may also modify and amend the indenture with the consent of the holders of at least a majority in principal amount of the outstanding debt securities of each series affected by the modifications or amendments. We may not make any modification or amendment without the consent of the holders of each affected debt security then outstanding if that amendment will:

- reduce the amount of debt securities whose holders must consent to an amendment, supplement or waiver;
- reduce the rate of or extend the time for payment of interest (including default interest) on any debt security;
- reduce the principal of or premium on or change the fixed maturity of any debt security or reduce the amount of, or postpone the date fixed for, the payment of any sinking fund or analogous obligation with respect to any series of debt securities;
- reduce the principal amount of discount securities payable upon acceleration of maturity;
- waive a default in the payment of the principal of, premium or interest on any debt security (except a rescission of acceleration of the debt securities of any series by the holders of at least a majority in aggregate principal amount of the then outstanding debt securities of that series and a waiver of the payment default that resulted from such acceleration);
- make the principal of or premium or interest on any debt security payable in currency other than that stated in the debt security;
- make any change to certain provisions of the indenture relating to, among other things, the right of holders of debt securities to receive payment of the principal of, premium and interest on those debt securities and to institute suit for the enforcement of any such payment and to waivers or amendments; or
- waive a redemption payment with respect to any debt security. (Section 9.3)

Except for certain specified provisions, the holders of at least a majority in principal amount of the outstanding debt securities of any series may on behalf of the holders of all debt securities of that series waive our compliance with provisions of the indenture. (Section 9.2) The holders of a majority in principal amount of the outstanding debt securities of any series may on behalf of the holders of all the debt securities of such series waive any past default under the indenture with respect to that series and its consequences, except a default in the payment of the principal of, premium or any interest on any debt security of that series; provided, however, that the holders of a majority in principal amount of the outstanding debt securities of any series may rescind an acceleration and its consequences, including any related payment default that resulted from the acceleration. (Section 6.13)

**Defeasance of Debt Securities and Certain Covenants in Certain Circumstances**

*Legal Defeasance*. The indenture provides that, unless otherwise provided by the terms of the applicable series of debt securities, we may be discharged from any and all obligations in respect of the debt securities of any series (subject to certain exceptions). We will be so discharged upon the deposit with the trustee, in trust, of

money and/or U.S. government obligations or, in the case of debt securities denominated in a single currency other than U.S. Dollars, government obligations of the government that issued or caused to be issued such currency, that, through the payment of interest and principal in accordance with their terms, will provide money or U.S. government obligations in an amount sufficient in the opinion of a nationally recognized firm of independent public accountants or investment bank to pay and discharge each installment of principal, premium and interest on and any mandatory sinking fund payments in respect of the debt securities of that series on the stated maturity of those payments in accordance with the terms of the indenture and those debt securities.

This discharge may occur only if, among other things, we have delivered to the trustee an opinion of counsel stating that we have received from, or there has been published by, the United States Internal Revenue Service a ruling or, since the date of execution of the indenture, there has been a change in the applicable United States federal income tax law, in either case to the effect that, and based thereon such opinion shall confirm that, the beneficial owners of the debt securities of that series will not recognize income, gain or loss for United States federal income tax purposes as a result of the deposit, defeasance and discharge and will be subject to United States federal income tax on the same amounts and in the same manner and at the same times as would have been the case if the deposit, defeasance and discharge had not occurred. (Section 8.3)

*Defeasance of Certain Covenants*. The indenture provides that, unless otherwise provided by the terms of the applicable series of debt securities, upon compliance with certain conditions:

- we may omit to comply with the covenant described under the heading “Consolidation, Merger and Sale of Assets” and certain other covenants set forth in the indenture, as well as any additional covenants which may be set forth in the applicable prospectus supplement; and
- any omission to comply with those covenants will not constitute a Default or an Event of Default with respect to the debt securities of that series (“covenant defeasance”).

The conditions include:

- depositing with the trustee money and/or U.S. government obligations or, in the case of debt securities denominated in a single currency other than U.S. Dollars, government obligations of the government that issued or caused to be issued such currency, that, through the payment of interest and principal in accordance with their terms, will provide money in an amount sufficient in the opinion of a nationally recognized firm of independent public accountants or investment bank to pay and discharge each installment of principal of, premium and interest on and any mandatory sinking fund payments in respect of the debt securities of that series on the stated maturity of those payments in accordance with the terms of the indenture and those debt securities; and
- delivering to the trustee an opinion of counsel to the effect that the holders of the debt securities of that series will not recognize income, gain or loss for United States federal income tax purposes as a result of the deposit and related covenant defeasance and will be subject to United States federal income tax on the same amounts and in the same manner and at the same times as would have been the case if the deposit and related covenant defeasance had not occurred. (Section 8.4)

**No Personal Liability of Directors, Officers, Employees or Stockholders**

None of our past, present or future directors, officers, employees or stockholders, as such, will have any liability for any of our obligations under the debt securities or the indenture or for any claim based on, or in respect or by reason of, such obligations or their creation. By accepting a debt security, each holder waives and releases all such liability. This waiver and release is part of the consideration for the issue of the debt securities. However, this waiver and release may not be effective to waive liabilities under U.S. federal securities laws, and it is the view of the SEC that such a waiver is against public policy.

**Governing Law**

The indenture and the debt securities, including any claim or controversy arising out of or relating to the indenture or the securities, will be governed by the laws of the State of New York.

The indenture will provide that we, the trustee and the holders of the debt securities (by their acceptance of the debt securities) irrevocably waive, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to the indenture, the debt securities or the transactions contemplated thereby.

The indenture will provide that any legal suit, action or proceeding arising out of or based upon the indenture or the transactions contemplated thereby may be instituted in the federal courts of the United States of America located in the City of New York or the courts of the State of New York in each case located in the City of New York, and we, the trustee and the holder of the debt securities (by their acceptance of the debt securities) irrevocably submit to the non-exclusive jurisdiction of such courts in any such suit, action or proceeding. The indenture will further provide that service of any process, summons, notice or document by mail (to the extent allowed under any applicable statute or rule of court) to such party's address set forth in the indenture will be effective service of process for any suit, action or other proceeding brought in any such court. The indenture will further provide that we, the trustee and the holders of the debt securities (by their acceptance of the debt securities) irrevocably and unconditionally waive any objection to the laying of venue of any suit, action or other proceeding in the courts specified above and irrevocably and unconditionally waive and agree not to plead or claim any such suit, action or other proceeding has been brought in an inconvenient forum. (Section 10.10)

## DESCRIPTION OF WARRANTS

We may issue warrants for the purchase of shares of our common stock or preferred stock or of debt securities. We may issue warrants independently or together with other securities, and the warrants may be attached to or separate from any offered securities. Each series of warrants will be issued under a separate warrant agreement to be entered into between us and the investors or a warrant agent. The following summary of material provisions of the warrants and warrant agreements are subject to, and qualified in their entirety by reference to, all the provisions of the warrant agreement and warrant certificate applicable to a particular series of warrants. The terms of any warrants offered under a prospectus supplement may differ from the terms described below. We urge you to read the applicable prospectus supplement and any related free writing prospectus, as well as the complete warrant agreements and warrant certificates that contain the terms of the warrants.

The particular terms of any issue of warrants will be described in the prospectus supplement relating to the issue. Those terms may include:

- the number of shares of common stock or preferred stock purchasable upon the exercise of warrants to purchase such shares and the price at which such number of shares may be purchased upon such exercise;
- the designation, stated value and terms (including, without limitation, liquidation, dividend, conversion and voting rights) of the series of preferred stock purchasable upon exercise of warrants to purchase preferred stock;
- the principal amount of debt securities that may be purchased upon exercise of a debt warrant and the exercise price for the warrants, which may be payable in cash, securities or other property;
- the date, if any, on and after which the warrants and the related debt securities, preferred stock or common stock will be separately transferable;
- the terms of any rights to redeem or call the warrants;
- the date on which the right to exercise the warrants will commence and the date on which the right will expire;
- United States Federal income tax consequences applicable to the warrants; and
- any additional terms of the warrants, including terms, procedures, and limitations relating to the exchange, exercise and settlement of the warrants.

Holders of equity warrants will not be entitled:

- to vote, consent or receive dividends;
- receive notice as stockholders with respect to any meeting of stockholders for the election of our directors or any other matter; or
- exercise any rights as stockholders of the Company.

Each warrant will entitle its holder to purchase the principal amount of debt securities or the number of shares of preferred stock or common stock at the exercise price set forth in, or calculable as set forth in, the applicable prospectus supplement. Unless we otherwise specify in the applicable prospectus supplement, holders of the warrants may exercise the warrants at any time up to the specified time on the expiration date that we set forth in the applicable prospectus supplement. After the close of business on the expiration date, unexercised warrants will become void.

A holder of warrant certificates may exchange them for new warrant certificates of different denominations, present them for registration of transfer and exercise them at the corporate trust office of the warrant agent or any

other office indicated in the applicable prospectus supplement. Until any warrants to purchase debt securities are exercised, the holder of the warrants will not have any rights of holders of the debt securities that can be purchased upon exercise, including any rights to receive payments of principal, premium or interest on the underlying debt securities or to enforce covenants in the applicable indenture. Until any warrants to purchase common stock or preferred stock are exercised, the holders of the warrants will not have any rights of holders of the underlying common stock or preferred stock, including any rights to receive dividends or payments upon any liquidation, dissolution or winding up on the common stock or preferred stock, if any.

## DESCRIPTION OF UNITS

We may issue units consisting of any combination of the other types of securities offered under this prospectus in one or more series. We may evidence each series of units by unit certificates that we will issue under a separate agreement. We may enter into unit agreements with a unit agent. Each unit agent will be a bank or trust company that we select. We will indicate the name and address of the unit agent in the applicable prospectus supplement relating to a particular series of units.

The following description, together with the additional information included in any applicable prospectus supplement, summarizes the general features of the units that we may offer under this prospectus. You should read any prospectus supplement and any free writing prospectus that we may authorize to be provided to you related to the series of units being offered, as well as the complete unit agreements that contain the terms of the units. Specific unit agreements will contain additional important terms and provisions and we will file as an exhibit to the registration statement of which this prospectus is a part, or will incorporate by reference from another report that we file with the SEC, the form of each unit agreement relating to units offered under this prospectus.

If we offer any units, certain terms of that series of units will be described in the applicable prospectus supplement, including, without limitation, the following, as applicable:

- the title of the series of units;
- identification and description of the separate constituent securities comprising the units;
- the price or prices at which the units will be issued;
- the date, if any, on and after which the constituent securities comprising the units will be separately transferable;
- a discussion of certain United States federal income tax considerations applicable to the units; and
- any other terms of the units and their constituent securities.

## GLOBAL SECURITIES

**Book-Entry, Delivery and Form**

Unless we indicate differently in any applicable prospectus supplement or free writing prospectus, the securities initially will be issued in book-entry form and represented by one or more global notes or global securities, or, collectively, global securities. The global securities will be deposited with, or on behalf of, The Depository Trust Company, New York, New York, as depositary ("DTC"), and registered in the name of Cede & Co., the nominee of DTC. Unless and until it is exchanged for individual certificates evidencing securities under the limited circumstances described below, a global security may not be transferred except as a whole by the depositary to its nominee or by the nominee to the depositary, or by the depositary or its nominee to a successor depositary or to a nominee of the successor depositary.

DTC has advised us that it is:

- a limited-purpose trust company organized under the New York Banking Law;
- a "banking organization" within the meaning of the New York Banking Law;
- a member of the Federal Reserve System;
- a "clearing corporation" within the meaning of the New York Uniform Commercial Code; and
- a "clearing agency" registered pursuant to the provisions of Section 17A of the Exchange Act.

DTC holds securities that its participants deposit with DTC. DTC also facilitates the settlement among its participants of securities transactions, such as transfers and pledges, in deposited securities through electronic computerized book-entry changes in participants' accounts, thereby eliminating the need for physical movement of securities certificates. "Direct participants" in DTC include securities brokers and dealers, including underwriters, banks, trust companies, clearing corporations and other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation, or DTCC. DTCC is the holding company for DTC, National Securities Clearing Corporation and Fixed Income Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC system is also available to others, which we sometimes refer to as indirect participants, that clear through or maintain a custodial relationship with a direct participant, either directly or indirectly. The rules applicable to DTC and its participants are on file with the SEC.

Purchases of securities under the DTC system must be made by or through direct participants, which will receive a credit for the securities on DTC's records. The ownership interest of the actual purchaser of a security, which we sometimes refer to as a beneficial owner, is in turn recorded on the direct and indirect participants' records. Beneficial owners of securities will not receive written confirmation from DTC of their purchases. However, beneficial owners are expected to receive written confirmations providing details of their transactions, as well as periodic statements of their holdings, from the direct or indirect participants through which they purchased securities. Transfers of ownership interests in global securities are to be accomplished by entries made on the books of participants acting on behalf of beneficial owners. Beneficial owners will not receive certificates representing their ownership interests in the global securities, except under the limited circumstances described below.

To facilitate subsequent transfers, all global securities deposited by direct participants with DTC will be registered in the name of DTC's partnership nominee, Cede & Co., or such other name as may be requested by an authorized representative of DTC. The deposit of securities with DTC and their registration in the name of Cede & Co. or such other nominee will not change the beneficial ownership of the securities. DTC has no knowledge of the actual beneficial owners of the securities. DTC's records reflect only the identity of the direct participants to whose accounts the securities are credited, which may or may not be the beneficial owners. The participants are responsible for keeping account of their holdings on behalf of their customers.

So long as the securities are in book-entry form, you will receive payments and may transfer securities only through the facilities of the depositary and its direct and indirect participants. We will maintain an office or agency in the location specified in the prospectus supplement for the applicable securities, where notices and demands in respect of the securities and the indenture may be delivered to us and where certificated securities may be surrendered for payment, registration of transfer or exchange.

Conveyance of notices and other communications by DTC to direct participants, by direct participants to indirect participants and by direct participants and indirect participants to beneficial owners will be governed by arrangements among them, subject to any legal requirements in effect from time to time.

Redemption notices will be sent to DTC. If less than all of the securities of a particular series are being redeemed, DTC's practice is to determine by lot the amount of the interest of each direct participant in the securities of such series to be redeemed.

Neither DTC nor Cede & Co. (or such other DTC nominee) will consent or vote with respect to the securities. Under its usual procedures, DTC will mail an omnibus proxy to us as soon as possible after the record date. The omnibus proxy assigns the consenting or voting rights of Cede & Co. to those direct participants to whose accounts the securities of such series are credited on the record date, identified in a listing attached to the omnibus proxy.

So long as securities are in book-entry form, we will make payments on those securities to the depositary or its nominee, as the registered owner of such securities, by wire transfer of immediately available funds. If securities are issued in definitive certificated form under the limited circumstances described below and unless if otherwise provided in the description of the applicable securities herein or in the applicable prospectus supplement, we will have the option of making payments by check mailed to the addresses of the persons entitled to payment or by wire transfer to bank accounts in the United States designated in writing to the applicable trustee or other designated party at least 15 days before the applicable payment date by the persons entitled to payment, unless a shorter period is satisfactory to the applicable trustee or other designated party.

Redemption proceeds, distributions and dividend payments on the securities will be made to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit direct participants' accounts upon DTC's receipt of funds and corresponding detail information from us on the payment date in accordance with their respective holdings shown on DTC records. Payments by participants to beneficial owners will be governed by standing instructions and customary practices, as is the case with securities held for the account of customers in bearer form or registered in "street name." Those payments will be the responsibility of participants and not of DTC or us, subject to any statutory or regulatory requirements in effect from time to time. Payment of redemption proceeds, distributions and dividend payments to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC, is our responsibility, disbursement of payments to direct participants is the responsibility of DTC, and disbursement of payments to the beneficial owners is the responsibility of direct and indirect participants.

Except under the limited circumstances described below, purchasers of securities will not be entitled to have securities registered in their names and will not receive physical delivery of securities. Accordingly, each beneficial owner must rely on the procedures of DTC and its participants to exercise any rights under the securities and the indenture.

The laws of some jurisdictions may require that some purchasers of securities take physical delivery of securities in definitive form. Those laws may impair the ability to transfer or pledge beneficial interests in securities.

DTC may discontinue providing its services as securities depositary with respect to the securities at any time by giving reasonable notice to us. Under such circumstances, in the event that a successor depositary is not obtained, securities certificates are required to be printed and delivered.

As noted above, beneficial owners of a particular series of securities generally will not receive certificates representing their ownership interests in those securities. However, if:

- DTC notifies us that it is unwilling or unable to continue as a depositary for the global security or securities representing such series of securities or if DTC ceases to be a clearing agency registered under the Exchange Act at a time when it is required to be registered and a successor depositary is not appointed within 90 days of the notification to us or of our becoming aware of DTC's ceasing to be so registered, as the case may be;
- we determine, in our sole discretion, not to have such securities represented by one or more global securities; or
- an Event of Default has occurred and is continuing with respect to such series of securities,

we will prepare and deliver certificates for such securities in exchange for beneficial interests in the global securities. Any beneficial interest in a global security that is exchangeable under the circumstances described in the preceding sentence will be exchangeable for securities in definitive certificated form registered in the names that the depositary directs. It is expected that these directions will be based upon directions received by the depositary from its participants with respect to ownership of beneficial interests in the global securities.

**Euroclear and Clearstream**

If so provided in the applicable prospectus supplement, you may hold interests in a global security through Clearstream Banking S.A. ("Clearstream"), or Euroclear Bank S.A./N.V., as operator of the Euroclear System ("Euroclear"), either directly if you are a participant in Clearstream or Euroclear or indirectly through organizations which are participants in Clearstream or Euroclear. Clearstream and Euroclear will hold interests on behalf of their respective participants through customers' securities accounts in the names of Clearstream and Euroclear, respectively, on the books of their respective U.S. depositaries, which in turn will hold such interests in customers' securities accounts in such depositaries' names on DTC's books.

Clearstream and Euroclear are securities clearance systems in Europe. Clearstream and Euroclear hold securities for their respective participating organizations and facilitate the clearance and settlement of securities transactions between those participants through electronic book-entry changes in their accounts, thereby eliminating the need for physical movement of certificates.

Payments, deliveries, transfers, exchanges, notices and other matters relating to beneficial interests in global securities owned through Euroclear or Clearstream must comply with the rules and procedures of those systems. Transactions between participants in Euroclear or Clearstream, on one hand, and other participants in DTC, on the other hand, are also subject to DTC's rules and procedures.

Investors will be able to make and receive through Euroclear and Clearstream payments, deliveries, transfers and other transactions involving any beneficial interests in global securities held through those systems only on days when those systems are open for business. Those systems may not be open for business on days when banks, brokers and other institutions are open for business in the United States.

Cross-market transfers between participants in DTC, on the one hand, and participants in Euroclear or Clearstream, on the other hand, will be effected through DTC in accordance with the DTC's rules on behalf of Euroclear or Clearstream, as the case may be, by their respective U.S. depositaries; however, such cross-market transactions will require delivery of instructions to Euroclear or Clearstream, as the case may be, by the counterparty in such system in accordance with the rules and procedures and within the established deadlines (European time) of such system. Euroclear or Clearstream, as the case may be, will, if the transaction meets its settlement requirements, deliver instructions to its U.S. depositary to take action to effect final settlement on its behalf by delivering or receiving interests in the global securities through DTC, and making or receiving payment in accordance with normal procedures for same-day fund settlement. Participants in Euroclear or Clearstream may not deliver instructions directly to their respective U.S. depositaries.

Due to time zone differences, the securities accounts of a participant in Euroclear or Clearstream purchasing an interest in a global security from a direct participant in DTC will be credited, and any such crediting will be reported to the relevant participant in Euroclear or Clearstream, during the securities settlement processing day (which must be a business day for Euroclear or Clearstream) immediately following the settlement date of DTC. Cash received in Euroclear or Clearstream as a result of sales of interests in a global security by or through a participant in Euroclear or Clearstream to a direct participant in DTC will be received with value on the settlement date of DTC but will be available in the relevant Euroclear or Clearstream cash account only as of the business day for Euroclear or Clearstream following DTC's settlement date.

**Other**

The information in this section of this prospectus concerning DTC, Clearstream, Euroclear and their respective book-entry systems has been obtained from sources that we believe to be reliable, but we do not take responsibility for this information. This information has been provided solely as a matter of convenience. The rules and procedures of DTC, Clearstream and Euroclear are solely within the control of those organizations and could change at any time. Neither we nor the trustee nor any agent of ours or of the trustee has any control over those entities and none of us takes any responsibility for their activities. You are urged to contact DTC, Clearstream and Euroclear or their respective participants directly to discuss those matters. In addition, although we expect that DTC, Clearstream and Euroclear will perform the foregoing procedures, none of them is under any obligation to perform or continue to perform such procedures and such procedures may be discontinued at any time. Neither we nor any agent of ours will have any responsibility for the performance or nonperformance by DTC, Clearstream and Euroclear or their respective participants of these or any other rules or procedures governing their respective operations.

## PLAN OF DISTRIBUTION

We may sell the securities from time to time pursuant to underwritten public offerings, negotiated transactions, block trades or a combination of these methods or through underwriters or dealers, through agents and/or directly to one or more purchasers. The securities may be distributed from time to time in one or more transactions:

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

Each time that we sell securities covered by this prospectus, we will provide a prospectus supplement or supplements that will describe the method of distribution and set forth the terms and conditions of the offering of such securities, including the offering price of the securities and the proceeds to us, if applicable.

Offers to purchase the securities being offered by this prospectus may be solicited directly. Agents may also be designated to solicit offers to purchase the securities from time to time. Any agent involved in the offer or sale of our securities will be identified in a prospectus supplement.

If a dealer is utilized in the sale of the securities being offered by this prospectus, the securities will be sold to the dealer, as principal. The dealer may then resell the securities to the public at varying prices to be determined by the dealer at the time of resale.

If an underwriter is utilized in the sale of the securities being offered by this prospectus, an underwriting agreement will be executed with the underwriter at the time of sale and the name of any underwriter will be provided in the prospectus supplement that the underwriter will use to make resales of the securities to the public. In connection with the sale of the securities, we or the purchasers of securities for whom the underwriter may act as agent, may compensate the underwriter in the form of underwriting discounts or commissions. The underwriter may sell the securities to or through dealers, and those dealers may receive compensation in the form of discounts, concessions or commissions from the underwriters and/or commissions from the purchasers for which they may act as agent. Unless otherwise indicated in a prospectus supplement, an agent will be acting on a best efforts basis and a dealer will purchase securities as a principal, and may then resell the securities at varying prices to be determined by the dealer.

Any compensation paid to underwriters, dealers or agents in connection with the offering of the securities, and any discounts, concessions or commissions allowed by underwriters to participating dealers will be provided in the applicable prospectus supplement. Underwriters, dealers and agents participating in the distribution of the securities may be deemed to be underwriters within the meaning of the Securities Act of 1933, as amended (the "Securities Act"), and any discounts and commissions received by them and any profit realized by them on resale of the securities may be deemed to be underwriting discounts and commissions. We may enter into agreements to indemnify underwriters, dealers and agents against civil liabilities, including liabilities under the Securities Act, or to contribute to payments they may be required to make in respect thereof and to reimburse those persons for certain expenses.

Any common stock will be listed on the Nasdaq Capital Market, but any other securities may or may not be listed on a national securities exchange. To facilitate the offering of securities, certain persons participating in the offering may engage in transactions that stabilize, maintain or otherwise affect the price of the securities. This may include over-allotments or short sales of the securities, which involve the sale by persons participating in the offering of more securities than were sold to them. In these circumstances, these persons would cover such over-allotments or short positions by making purchases in the open market or by exercising their over-allotment

option, if any. In addition, these persons may stabilize or maintain the price of the securities by bidding for or purchasing securities in the open market or by imposing penalty bids, whereby selling concessions allowed to dealers participating in the offering may be reclaimed if securities sold by them are repurchased in connection with stabilization transactions. The effect of these transactions may be to stabilize or maintain the market price of the securities at a level above that which might otherwise prevail in the open market. These transactions may be discontinued at any time.

We may engage in at the market offerings into an existing trading market in accordance with Rule 415(a)(4) under the Securities Act. In addition, we may enter into derivative transactions with third parties, or sell securities not covered by this prospectus to third parties in privately negotiated transactions. If the applicable prospectus supplement so indicates, in connection with those derivatives, the third parties may sell securities covered by this prospectus and the applicable prospectus supplement, including in short sale transactions. If so, the third party may use securities pledged by us or borrowed from us or others to settle those sales or to close out any related open borrowings of stock, and may use securities received from us in settlement of those derivatives to close out any related open borrowings of stock. The third party in such sale transactions will be an underwriter and, if not identified in this prospectus, will be named in the applicable prospectus supplement (or a post-effective amendment). In addition, we may otherwise loan or pledge securities to a financial institution or other third party that in turn may sell the securities short using this prospectus and an applicable prospectus supplement. Such financial institution or other third party may transfer its economic short position to investors in our securities or in connection with a concurrent offering of other securities.

The specific terms of any lock-up provisions in respect of any given offering will be described in the applicable prospectus supplement.

The underwriters, dealers and agents may engage in transactions with us, or perform services for us, in the ordinary course of business for which they receive compensation.

## LEGAL MATTERS

Latham & Watkins LLP will pass upon certain legal matters relating to the issuance and sale of the securities offered hereby on behalf of Zosano Pharma Corporation. Additional legal matters may be passed upon for us or any underwriters, dealers or agents, by counsel that we will name in the applicable prospectus supplement.

## EXPERTS

The consolidated balance sheets of Zosano Pharma Corporation and the related consolidated statements of operations, stockholders' deficit, and cash flows as of and for the years ended December 31, 2017 and 2016, have been audited by Marcum LLP, an independent registered public accounting firm, as stated in their report which is incorporated by reference into this prospectus and elsewhere in the registration statement of which this prospectus is a part. Such financial statements are incorporated by reference herein in reliance on the report of such firm given upon their authority as experts in accounting and auditing. The report on the consolidated financial statements contains an explanatory paragraph regarding the Company's ability to continue as a going concern.

**Class A Units each consisting of one Share of Common Stock and one Series C Warrant and**
**Class B Units each consisting of one Pre-Funded Series D Warrant and one Series C Warrant**
**(or some combination of Class A Units and Class B Units)**
**(and Shares of Common Stock Issuable Upon Exercise of the Series C Warrants and Pre-Funded Series D Warrants)**


**Prospectus Supplement**

*Sole Book-Running Manager*

**H.C. Wainwright & Co.**

**, 2020**