

Prospectus Supplement
(To prospectus dated July 31, 2018)



3,449,112 shares of common stock

Pursuant to this prospectus supplement and the accompanying prospectus, we are offering 3,449,112 shares of our common stock, \$0.001 par value per share, at a price of \$3.095 per share, to institutional investors pursuant to this prospectus supplement and the accompanying prospectus and a securities purchase agreement with such investors.

In a concurrent private placement, we are selling to such investors immediately exercisable eighteen-month warrants to purchase up to 3,449,112 shares which represent 100% of the number of shares of our common stock being purchased in this offering at an exercise price of \$4.00 per share (the “Series A Warrants”) and five-year warrants to purchase up to 3,449,112 shares which represent 100% of the number of shares of our common stock being purchased in this offering at an exercise price of \$4.00 per share that become exercisable only upon the exercise of the Series A Warrants (the “Series B Warrants,” and, collectively with the Series A Warrants, the “Warrants”). The Warrants and the shares of our common stock issuable upon the exercise of the Warrants are being offered pursuant to the exemption provided in Section 4(a)(2) under the Securities Act of 1933, as amended (the “Securities Act”), and Rule 506(b) promulgated thereunder, and they are not being offered pursuant to this prospectus supplement and the accompanying prospectus.

Our common stock is traded on The Nasdaq Capital Market, or Nasdaq, under the symbol “NVUS.” The last reported sale price of our common stock on Nasdaq on April 29, 2019 was \$2.88 per share. The Warrants being issued in the concurrent private placement are not listed on any securities exchange, and we do not expect to list the Warrants.

We have retained H.C. Wainwright & Co., LLC to act as our exclusive placement agent in connection with the shares of common stock offered by this prospectus supplement and the accompanying prospectus. The placement agent has agreed to use its reasonable best efforts to sell the shares of common stock offered by this prospectus supplement and the accompanying prospectus.

We have agreed to pay the placement agent the placement agent fees set forth in the table below, which assumes that we sell all of the shares of common stock we are offering.

| | <u>Per Share</u> | <u>Total</u> |
|--------------------------------------|------------------|-----------------|
| Offering price | \$ 3.095 | \$10,675,001.64 |
| Placement agent fees (1) | \$ 0.2167 | \$ 747,250.11 |
| Proceeds, before expenses, to us (2) | \$ 2.8783 | \$ 9,927,751.53 |

- (1) We have also agreed to reimburse the placement agent for certain of its expenses and to issue warrants to purchase shares of common stock to the placement agent as further described under the “Plan of Distribution” on page S-13 of this prospectus supplement.
- (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 the concurrent private placement.

Investing in our common stock involves risks. You should carefully consider all of the information set forth in this prospectus supplement, the accompanying base prospectus and the documents incorporated by reference in this prospectus supplement before deciding to invest in our common stock. Please see “[Risk Factors](#)” on page S-7 of this prospectus supplement and in the documents incorporated by reference in this prospectus supplement and the accompanying prospectus to read about factors you should consider before buying shares of our common stock.

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 accompanying prospectus. Any representation to the contrary is a criminal offense.

Within the 60-day period prior to the date of this prospectus supplement, as specified in General Instruction I.B.6 of Form S-3, the aggregate market value of our outstanding voting and non-voting common equity held by non-affiliates was \$32,699,547, based on 9,447,361 shares of outstanding common stock, of which 6,673,377 shares were held by non-affiliates, and a per share price of \$4.90, which was the last sale price of our common stock on the Nasdaq Capital Market on March 1, 2019. Pursuant to General Instruction I.B.6 of Form S-3, in no event will we sell securities in a public primary offering with a value exceeding one-third of our public float in any 12-month period so long as our public float remains below \$75,000,000. As of the date of this prospectus, we have sold approximately \$109,750 of 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 supplement but excluding the shares being sold pursuant to this offering.

We anticipate delivery of the shares will take place on or about May 2, 2019, subject to the satisfaction of certain conditions.

H.C. Wainwright & Co.

The date of this prospectus supplement is April 30, 2019.

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You should rely only on the information incorporated by reference or provided in this prospectus supplement and the accompanying prospectus. We have not authorized anyone to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. This prospectus supplement and the accompanying prospectus do not constitute an offer to sell, or a solicitation of an offer to purchase, the securities offered by this prospectus supplement and the accompanying prospectus in any jurisdiction where it is unlawful to make such offer or solicitation. You should not assume that the information contained in this prospectus supplement or the accompanying prospectus, or any document incorporated by reference in this prospectus supplement or the accompanying prospectus, is accurate as of any date other than the date on the front cover of the applicable document. Neither the delivery of this prospectus supplement nor any distribution of securities pursuant to this prospectus supplement shall, under any circumstances, create any implication that there has been no change in the information set forth or incorporated by reference into this prospectus supplement or in our affairs since the date of this prospectus supplement. Our business, financial condition, results of operations and prospects may have changed since that date.

ABOUT THIS PROSPECTUS SUPPLEMENT

On July 23, 2018, we filed with the Securities and Exchange Commission, or the SEC, a registration statement on Form S-3 (File No. 333-226286) utilizing a shelf registration process relating to the securities described in this prospectus supplement, which registration statement became effective on July 31, 2018. Under this shelf registration, we may, from time to time, sell common stock and other securities, including in this offering.

This document is in two parts. The first part is this prospectus supplement, which describes the specific terms of this offering of common stock and also adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference into the prospectus and this prospectus supplement. The second part is the accompanying prospectus dated July 31, 2018, which provides more general information, some of which does not apply to this offering. Generally, when we refer to this prospectus, we are referring to both parts of this document combined.

If the description of the offering varies between this prospectus supplement and the accompanying prospectus, you should rely on the information contained in this prospectus supplement. To the extent there is any other conflict between the information contained in this prospectus supplement, on the one hand, and the information contained in the accompanying prospectus or in any document incorporated by reference that was filed with the Securities and Exchange Commission, or SEC, before the date of this prospectus supplement, on the other hand, you should rely on the information in this prospectus supplement. 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 the accompanying prospectus—the statement in the document having the later date modifies or supersedes the earlier statement. It is important for you to read and consider all information contained in this prospectus supplement and the accompanying prospectus, including the documents we have referred you to in the section entitled “Where You Can Find More Information” below in this prospectus supplement.

We further note that the representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference in this prospectus supplement or the accompanying prospectus were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

Unless otherwise noted: (1) the term “Novus Therapeutics” refers to Novus Therapeutics, Inc., a Delaware corporation, formerly known as Tokai Pharmaceuticals, Inc., (2) the terms “Novus,” the “Company,” “we,” “us,” and “our,” refer to the ongoing business operations of Novus Therapeutics and its subsidiaries, including Otic Pharma, Ltd., whether such activities are conducted through Novus Therapeutics or a subsidiary of the company, and (3) the term “Common Stock” refers to shares of Novus Therapeutics’ Common Stock and the term “stockholder(s)” refers to the holders of Common Stock or securities exercisable for Common Stock.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement and the accompanying prospectus, the information incorporated by reference herein and therein and any free writing prospectus that we have authorized for use in connection with this offering contain or may include forward-looking statements that involve substantial risks and uncertainties. Any statements in this prospectus supplement and the accompanying prospectus, the information incorporated by reference herein and therein and any free writing prospectus that we have authorized for use in connection with this offering about the Company's future expectations, plans and prospects, including statements about its strategy, future operations, development of its product candidates, the review of strategic alternatives and the outcome of such review and other statements containing the words "believes," "anticipates," "plans," "expects," "estimates," "intends," "predicts," "projects," "targets," "could," "may," and similar expressions, constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, although not all forward-looking statements include such identifying words. Forward-looking statements include, but are not limited to statements regarding:

- expectations regarding the timing for the commencement and completion of product development or clinical trials;
- the rate and degree of market acceptance and clinical utility of the Company's products;
- the Company's commercialization, marketing and manufacturing capabilities and strategy;
- the Company's intellectual property position and strategy;
- the Company's ability to identify additional products or product candidates with significant commercial potential;
- the Company's estimates regarding expenses, future revenue, capital requirements and needs for additional financing;
- developments relating to the Company's competitors and industry; and
- the impact of government laws and regulations.

Actual results may differ materially from those indicated by such forward-looking statements as a result of various important factors, including: the ability to develop commercially viable product formulations; the sufficiency of the Company's cash resources; the ability to obtain necessary regulatory and ethics approvals to commence additional clinical trials; whether data from early clinical trials will be indicative of the data that will be obtained from future clinical trials; whether the results of clinical trials will warrant submission for regulatory approval of any investigational product; whether any such submission will receive approval from the United States Food and Drug Administration or equivalent foreign regulatory agencies and, if we are able to obtain such approval for an investigational product, whether it will be successfully distributed and marketed. These risks and uncertainties, as well as other risks and uncertainties that could cause the Company's actual results to differ significantly from the forward-looking statements contained herein, are described in greater detail in the "Risk Factors" section in this prospectus supplement, the section of the accompanying prospectus entitled "Risk Factors" and the risk factors and cautionary statements described in other documents that we file from time to time with the SEC, specifically under "Item 1A: Risk Factors" and elsewhere in our most recent Annual Report on Form 10-K for the period ended December 31, 2018, and any of our subsequent Quarterly Reports on Form 10-Q and Current Reports on Form 8-K. Any forward-looking statement speaks only as of the date on which it is made, and the Company expressly disclaims any intent to update any forward-looking statements, whether as a result of new information, future events or otherwise.

PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights certain information about us, this offering and selected information contained elsewhere in or incorporated by reference into this prospectus supplement. This summary is not complete and does not contain all of the information that you should consider before deciding whether to invest in our common stock. For a more complete understanding of our company and this offering, we encourage you to read and consider carefully the more detailed information in this prospectus supplement, including the information incorporated by reference in this prospectus supplement, and the information included in any free writing prospectus or prospectus supplement that we have authorized for use in connection with this offering, including the information under the heading “Risk Factors” in this prospectus supplement on page S-7 and in the documents incorporated by reference into this prospectus supplement.

Company Overview

Novus Therapeutics, Inc. is a specialty pharmaceutical company focused on developing products for patients with disorders of the ear, nose, and throat (“ENT”). The Company has two platform technologies, each with the potential to be developed for multiple indications. Novus’ lead program (OP0201) is a surfactant-based nasal aerosol drug-device combination product candidate being developed as a potential first-in-class treatment option for patients at risk for, or with, otitis media (“OM”), which is middle ear inflammation and effusion with or without infection. Globally, OM affects more than 700 million adults and children every year, with over half of the cases occurring in children under five years of age. OM is one of the most common disorders seen in pediatric practice, and in the U.S. is a leading cause of health care visits and the most frequent reason children are prescribed antibiotics or undergo surgery. Novus also has a foam-based drug delivery technology platform (OP01xx), which may be developed in the future to deliver drugs into the ear, nasal, and sinus cavities.

Surfactant Platform (OP02xx)

The first product in the surfactant platform program, OP0201, is being developed as a potential first-in-class treatment option for OM. OM is often caused by Eustachian tube dysfunction (“ETD”). OP0201 is a nasal aerosol, drug-device combination product comprised of a novel formulation of a surfactant (dipalmitoylphosphatidylcholine [DPPC]) and a spreading agent (cholesteryl palmitate [CP]) suspended in propellant. The product is administered intranasally via a pressurized metered-dose inhaler (pMDI). OP0201 is intended to be used to restore the normal physiologic activity of the Eustachian tube (“ET”), which is a small tube that connects from the chamber of the middle ear to the back of the nasopharynx. Together, the active ingredients in OP0201 effectively absorb to the air-liquid interface of the mucosa and reduce the interfacial surface tension of the ET, which reduces passive pressure required for the ET to open. In other words, OP0201 promotes ‘de-sticking’ of the ET so that ventilation of the middle ear is restored.

Novus is currently conducting four clinical trials to explore the safety, tolerability, and potential efficacy of OP0201:

- Study C-001 is a phase 1 clinical trial designed to evaluate safety, tolerability, and ET function following a single intranasal dose of OP0201 in 16 healthy adults. The randomized, double-blind, placebo-controlled, cross-over trial explores the effects of a 20 mg dose of OP0201 on ET function. Assessment of ET function is captured using continuous tympanic impedance while subjects are exposed to changes in atmospheric pressure produced within a hyperbaric/hypobaric chamber. Data from this study was disclosed in April 2019.
- Study C-002 is a phase 1 clinical trial designed to evaluate safety and tolerability of daily intranasal administration of OP0201 over 14 consecutive days in 30 healthy adults. The randomized, double-blind, placebo-controlled, parallel-group, dose-escalation trial includes a 30 mg per day dose (Cohort A) and 60 mg per day dose (Cohort B) of OP0201. Data from this study is expected to be available in June 2019.
- Study C-004 is a phase 1 clinical trial designed to evaluate safety, tolerability, and relief of ear pain over a 60-minute observation period following a single intranasal dose of OP0201 in 24 adults with acute otitis media. The randomized, double-blind, placebo-controlled, parallel-group trial explores the effects of a 20 mg intranasal dose of OP0201. Assessment of pain relief is captured utilizing a Visual Analog Scale (VAS), Numeric Rating Scale (NRS-11), Patient Global Impression of Change (PGIC), and Clinical Global Impressions Scale: Global Improvement (CGI-I). Data from this study was disclosed in April 2019.

- Study C-006 is an exploratory phase 2a clinical trial designed to evaluate safety, tolerability, and efficacy of daily intranasal administration of OP0201 over 10 consecutive days in up to 50 pediatric patients, 6 to 24 months of age, with acute otitis media. The randomized, double-blind, placebo-controlled, parallel-group trial explores the effects of a 20 mg per day dose of OP0201 as an adjunct to oral antibiotics. Patients will receive 10 days of treatment and will be followed for up to 30 days, during which multiple endpoints will be explored. The study is being amended to increase the sample size from 50 subjects to approximately 140 subjects. Enrollment is currently ongoing with data now expected in the first half of 2020.

Upon completion of these clinical studies, Novus intends to initiate phase 2 and phase 3 studies, with an initial focus on a development program that, if successful, will lead to registration of OP0201 in North America and key European markets as a product to treat OM and prevent OM in children. Additional development activities to support registration of OP0201 in other countries, or for other indications, or other patient populations, may occur in the future.

Foam Platform (OP01xx)

OP0101 and OP0102 are foam-based products intended to be used as a delivery vehicle for drugs to be administered into the ear canals, as well as the nasal and sinus cavities. OP0101 was the initial product utilizing the foam platform. It was developed as an improved treatment option for acute otitis externa (“AOE”), a common infectious medical condition of the outer ear canal that affects tens of millions of adults and children each year (frequently called “swimmer’s ear”). Novus completed four clinical trials of OP0101 in 353 adult and pediatric subjects, including a successful phase 2b study with a steroid-free, antibiotic-only formulation of OP0101 that was non-inferior to standard of care, but with a more favorable dosing regimen (once a day dosing instead of twice a day).

In 2016, Novus began development of OP0102, a second-generation formulation designed to rapidly relieve ear pain (an unmet need in AOE) and eradicate infection with less than seven days of treatment. Novus subsequently suspended the OP0102 development program to focus resources on the surfactant program.

Reverse Merger

On May 9, 2017, Tokai Pharmaceuticals, Inc. (“Tokai”) purchased all of the common and preferred shares of Otic Pharma, Ltd. (“Otic”) in exchange for the issuance of a certain number of shares of common stock of Tokai (the “Reverse Merger”), pursuant to the Share Purchase Agreement by and among Tokai, Otic and the shareholders of Otic. Immediately following the Reverse Merger, the Company effected a reverse stock split at a ratio of one-for-nine and the name of the surviving corporation was changed to “Novus Therapeutics, Inc.”

Corporate Information

Otic was founded in the State of Israel in 2008. In 2015, Otic established U.S. operations and moved its corporate headquarters to Irvine, California. In 2017, Otic consummated the Reverse Merger with Tokai Pharmaceuticals, Inc., a Delaware corporation that was incorporated on March 26, 2004 and subsequently changed its name to Novus Therapeutics, Inc. Our executive offices are located at 19900 MacArthur Boulevard, Suite 550, Irvine, California 92612. Our telephone number is (949) 238-8090 and our website is www.novustherapeutics.com. The information contained in, or accessible through, our website does not constitute part of this prospectus supplement. We have included our website address in this prospectus supplement solely as an inactive textual reference.

THE OFFERING

| | |
|--|--|
| Issuer | Novus Therapeutics, Inc. |
| Common Stock Offered | 3,449,112 shares |
| Offering Price | \$3.095 |
| Common stock to Be Outstanding After This Offering(1) | 12,871,255 shares |
| Concurrent private placement | <ul style="list-style-type: none">• Unregistered warrants to purchase 3,449,112 shares of common stock at an exercise price of \$4.00 which are immediately exercisable with a term of eighteen months from the issue date; and• Unregistered warrants to purchase 3,449,112 shares of common stock at an exercise price of \$4.00 with a term of five years from the issue date, which will become exercisable only upon the exercise of the eighteen-month warrants. |
| Use of proceeds | We estimate that the net proceeds from this offering, after deducting the placement agent fees and estimated offering expenses, will be approximately \$9.8 million, which excludes the proceeds, if any, from the exercise of the Warrants offered in the concurrent private placement. We intend to use the net proceeds to fund expansion of the ongoing phase 2a clinical trial in acute otitis media from 50 to approximately 140 patients, as well as for working capital and other general corporate purposes. See “Use of Proceeds” on page S-9 of this prospectus supplement. |
| Risk Factors | Your investment in shares of our common stock involves substantial risks. You should read “Risk Factors” on page S-7 of this prospectus supplement and the accompanying prospectus and in the documents incorporated by reference herein and therein for a discussion of factors to consider before deciding to purchase shares of our common stock. |
| NASDAQ Capital Market Symbol | “NVUS” |

- (1) The number of shares of common stock outstanding is based on an aggregate of 9,422,143 shares outstanding as of December 31, 2018, and excludes:
- 974,817 shares of our common stock issuable upon the exercise of stock options outstanding as of December 31, 2018, at a weighted-average exercise price of \$12.31 per share;
 - 764,966 additional shares of our common stock available for future issuance, as of December 31, 2018, under our 2014 Stock Incentive Plan;
 - Up to 6,898,224 shares of our common stock issuable upon the exercise of the Warrants offered in the concurrent private placement, with an exercise price of \$4.00 per share; and
 - 172,456 shares of our common stock issuable upon the exercise of warrants offered as compensation to H.C. Wainwright & Co., LLC, which represent 5% of the aggregate number of shares placed in this offering, with an exercise price of \$3.86875 per share.

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Unless otherwise indicated, all information in this prospectus supplement assumes no exercise of outstanding options issued under our 2014 Stock Incentive Plan or 2014 Employee Stock Purchase Plan or the Warrants offered in the concurrent private placement.

RISK FACTORS

Investing in our securities involves a high degree of risk. You should consider carefully the risks and uncertainties described below together with the other information included in this prospectus, and other information included in our securities filings, including our Annual Reports on Form 10-K, our Quarterly Reports on Form 10-Q and other information in our consolidated financial statements incorporated by reference herein, before deciding to purchase our common stock. These risks and uncertainties are not the only risks and uncertainties we face. Additional risks and uncertainties not currently known to us, or that we currently view as immaterial, may also impair our business. If any of the risks or uncertainties described in our SEC filings or any additional risks and uncertainties actually occur, our business, financial condition, results of operations and cash flow could be materially and adversely affected. In that case, the trading price of our common stock could decline and you might lose all or part of your investment.

We may be required to raise additional financing by issuing new securities with terms or rights superior to those of our existing securityholders, which could adversely affect the market price of shares of our common stock and our business.

We will require additional financing to fund future operations, including our research and development activities and any possible sales and marketing activities. We may not be able to obtain financing on favorable terms, if at all. If we raise additional funds by issuing equity securities, the percentage ownership of our current stockholders will be reduced, and the holders of the new equity securities may have rights superior to those of our existing securityholders, which could adversely affect the market price of our common stock and the voting power of shares of our common stock. If we raise additional funds by issuing debt securities, the holders of these debt securities would similarly have some rights senior to those of our existing securityholders, and the terms of these debt securities could impose restrictions on operations and create a significant interest expense for us which could have a materially adverse effect on our business.

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

The issuance of additional shares of our common stock or securities convertible into or exchangeable for our common stock could be dilutive to stockholders if they do not invest in future offerings. We intend to use the net proceeds from this offering to fund expansion of the ongoing phase 2a clinical trial in acute otitis media from 50 to approximately 140 patients, as well as for working capital and other general corporate purposes. We may seek additional capital through a combination of private and public equity offerings, debt financings, strategic partnerships and alliances and licensing arrangements, which may cause your ownership interest to be diluted.

If the outstanding options and Warrants are converted or exercised, you may incur further dilution. Moreover, to the extent that we issue in the future more options or warrants to purchase shares of our common stock, or other securities convertible into or exchangeable for shares of our common stock such as convertible notes or convertible preferred stock, and those options, warrants or other securities are exercised, converted or exchanged, stockholders may experience further dilution.

There is no public market for the Warrants offered in the concurrent private placement.

There is no established public trading market for the Warrants offered in the concurrent private placement, and we do not expect a market to develop. In addition, we do not intend to apply to list the Warrants on any national securities exchange or other nationally recognized trading system, including the Nasdaq Capital Market. Without an active market, the liquidity of the Warrants will be limited.

The Warrants offered in the concurrent private placement are speculative in nature.

The Warrants offered in the concurrent private placement do not confer any rights of common stock ownership on their holders, such as voting rights or the right to receive dividends, but rather merely represent the right to acquire shares of common stock at a fixed price and during a fixed period of time. Specifically, commencing on the date of issuance for the Series A Warrants and on upon the exercise of the Series A Warrants for the Series B Warrants, holders of the Warrants may exercise their right to acquire the common stock and pay an exercise price of \$4.00 per share, subject to certain adjustments, prior to the expiration of the Warrants, at which time the Warrants would be automatically exercised on a cashless basis. Moreover, following this offering and the concurrent private placement,

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the market value of the Warrants, if any, is uncertain and there can be no assurance that the market value of the Warrants will equal or exceed their imputed offering price. The Warrants will not be listed or quoted for trading on any market or exchange. There can also be no assurance that the market price of the common stock will ever equal or exceed the exercise price of the Warrants, and consequently, whether it will ever be profitable for holders of the Warrants to exercise the Warrants.

You will experience immediate and substantial dilution in the net tangible book value per share of the common stock you purchase.

The offering price per share of our common stock being offered is substantially higher than the net tangible book value per share of our outstanding common stock. As a result, the investors purchasing shares of our common stock in this offering will incur immediate dilution of \$1.355 per share, after giving effect to the sale of an aggregate of 3,449,112 shares of our common stock at an offering price of \$3.095 per share, and after deducting commissions and estimated offering expenses payable by us. See “Dilution” on page S-11 of this prospectus supplement for a more detailed discussion of the dilution you will incur if you purchase shares in this offering.

A substantial number of shares of our common stock may be sold in this offering, which could cause the price of our common stock to decline.

In this offering we are selling 3,449,112 shares of common stock, which represents approximately 36.6% of our outstanding common stock as of December 31, 2018, after giving effect to the sale of the shares of common stock in this offering. In addition, the investors in this offering will receive unregistered Warrants in a concurrent private placement to purchase up to 6,898,224 shares of common stock which represent 200% of the number of shares purchased in this offering. This sale and any future sales of a substantial number of shares of our common stock in the public market, or the perception that such sales may occur, could adversely affect the price of our common stock on the Nasdaq Capital Market. We cannot predict the effect, if any, that market sales of those shares of common stock or the availability of those shares of common stock for sale will have on the market price of our common stock.

Our management will have broad discretion in the use of the net proceeds from this offering and might not use them effectively.

Our management will have broad discretion in the application of the net proceeds from this offering, and our stockholders will not have the opportunity as part of their investment decision to assess whether the net proceeds are being used appropriately. Because of the number and variability of factors that will determine our use of the net proceeds from this offering, their ultimate use may vary substantially from their currently intended use. The failure by our management to apply these funds effectively could harm our business. See “Use of Proceeds” on page S-9 of this prospectus supplement for a description of our proposed use of proceeds from this offering.

USE OF PROCEEDS

We estimate that the net proceeds from this offering will be approximately \$9.8 million, after deducting the placement agent fees and estimated offering expenses payable by us and excluding any proceeds we may receive upon exercise of the Warrants being offered in the concurrent private placement.

We intend to use the net proceeds from the sale of our securities by us under this prospectus supplement to fund expansion of the ongoing phase 2a clinical trial in acute otitis media from 50 to approximately 140 patients, as well as for working capital and other general corporate purposes. General corporate purposes may include funding formulation and development of our product candidates, general and administrative expenses, and other costs associated with operating as a public company.

DIVIDEND POLICY

We have never declared or paid cash dividends on our common stock. We anticipate that we will retain all of our future earnings, if any, for use in the expansion and operation of our business and do not anticipate paying cash dividends in the foreseeable future. Payment of future dividends, if any, will be at the discretion of our Board of Directors.

PRIVATE PLACEMENT OF WARRANTS

Concurrently with the closing of the sale of shares of common stock in this offering, we also expect to issue and sell to the investors Warrants to purchase an aggregate of up to 6,898,224 shares of our common stock, at an exercise price equal to \$4.00 per share.

The Warrants are being issued in two series. The Series A Warrants are immediately exercisable eighteen-month warrants to purchase up to 3,449,112 shares which represent 100% of the number of shares of our common stock being purchased in this offering at an exercise price of \$4.00 per share. The Series B Warrants are five-year warrants to purchase up to 3,449,112 shares which represent 100% of the number of shares of our common stock being purchased in this offering at an exercise price of \$4.00 per share that become exercisable only upon the exercise of the Series A Warrants.

Subject to limited exceptions, a holder of Warrants will not have the right to exercise any portion of its Warrants if the holder, together with its affiliates, would beneficially own in excess of 4.99% (or 9.99% at the investor's election), of the number of shares of our common stock outstanding immediately after giving effect to such exercise, provided that the holder may increase or decrease the beneficial ownership limitation up to 9.99%, provided, further, that any increase in the beneficial ownership limitation shall not be effective until 61 days following notice of such change to the Company.

In the event of a Fundamental Transaction (as defined in the Warrant), the holder shall have the right to receive the number of shares of common stock of the successor or acquiring entity or of the Company, if it is the surviving entity, and any additional consideration receivable as a result of such Fundamental Transaction for each Warrant that is exercisable immediately prior to the Fundamental Transaction, without regard to the limitations on exercise described above. If the consideration is a choice of securities, cash or property, then the holder shall be given the same choice as to consideration it receives upon any exercise of the Warrant following such Fundamental Transaction.

The Warrants will be issued and sold without registration under the Securities Act, or state securities laws, in reliance on the exemptions provided by Section 4(a)(2) of the Act and/or Regulation D promulgated thereunder and in reliance on similar exemptions under applicable state laws. Accordingly, the investors may exercise those Warrants and sell the underlying shares of common stock only pursuant to an effective registration statement under the Securities Act covering the resale of those shares, an exemption under Rule 144 under the Securities Act or another applicable exemption under the Securities Act.

As soon as practicable (and in any event within 45 calendar days of the date of this prospectus supplement), we will file a registration statement on Form S-3 (or other appropriate form if the Company is not then S-3 eligible) providing for the resale by the purchasers of the warrant shares issued and issuable upon exercise of the Warrants. The Company will use commercially reasonable efforts to cause such registration to become effective within 181 days following the issuance of the Warrants and to keep such registration statement effective at all times until no purchaser owns any Warrants or warrant shares issuable upon exercise thereof.

DILUTION

If you invest in our common stock and Warrants, you will experience dilution to the extent of the difference between the offering price per share (attributing no value to the Warrants) and the net tangible book value per share of our common stock immediately after this offering.

Our net tangible book value on December 31, 2018 was approximately \$12.6 million, or \$1.34 per share of our common stock. “Net tangible book value” is tangible assets less total liabilities. “Net tangible book value per share” is net tangible book value divided by the total number of shares outstanding. Dilution in net tangible book value per share represents the difference between the amount per share paid by purchasers of shares of common stock in this offering and the net tangible book value per share of our common stock immediately after this offering. For purposes of this calculation, the shares of our common stock issuable upon exercise of the Warrants have not been included.

After giving effect to the sale of 3,449,112 shares of our common stock in this offering at the offering price of \$3.095 per share and after deducting the placement agent’s fees and estimated offering expenses payable by us, and excluding the proceeds, if any, from the exercise of Warrants offered in the concurrent private placement, our as adjusted net tangible book value as of December 31, 2018, would have been approximately \$22.4 million, or \$1.74 per share. This represents an immediate increase in net tangible book value of \$0.40 per share to existing stockholders and immediate dilution in net tangible book value of \$1.355 per share to new investors purchasing our common stock in this offering at the offering price. The following table illustrates this dilution on a per share basis:

| | |
|---|-----------------------|
| Offering price per share of common stock | \$3.095 |
| Net tangible book value per share as of December 31, 2018 | \$1.34 |
| Increase in net tangible book value per share attributable to new investors | <u>\$0.40</u> |
| As adjusted net tangible book value per share as of December 31, 2018, after giving effect to this offering | <u>\$ 1.74</u> |
| Dilution in net tangible book value per share to investors in this offering | <u><u>\$1.355</u></u> |

The number of shares of common stock outstanding is based on an aggregate of 9,422,143 shares outstanding as of December 31, 2018, and excludes:

- 974,817 shares of our common stock issuable upon the exercise of stock options outstanding as of December 31, 2018, at a weighted-average exercise price of \$12.31 per share;
- 764,966 additional shares of our common stock available for future issuance, as of December 31, 2018, under our 2014 Stock Incentive Plan;
- Up to 6,898,224 shares of our common stock issuable upon the exercise of the Warrants offered in the concurrent private placement, with an exercise price of \$4.00 per share; and
- 172,456 shares of our common stock issuable upon the exercise of warrants offered as compensation to H.C. Wainwright & Co., LLC, which represent 5% of the aggregate number of shares placed in this offering, with an exercise price of \$3.86875 per share.

Because there is no minimum offering amount required as a condition to the closing of this offering, the dilution per share to the new investors may be more than that indicated above in the event that the actual number of shares sold, if any, is less than the maximum number of shares of our common stock we are offering.

The above illustration of dilution per share to the investors participating in this offering assumes no exercise of outstanding options to purchase our common stock or Warrants to purchase shares of our common stock that will be outstanding after this offering. The exercise, if any, of outstanding options and Warrants that will be outstanding after this offering having an exercise price less than the offering price will increase dilution to the new investors.

Investors that acquire additional shares of common stock through the exercise of the Warrants offered in the concurrent private placement may experience additional dilution depending on our net tangible book value at the time of exercise.

PLAN OF DISTRIBUTION

Pursuant to an engagement letter agreement dated April 22, 2019, and as amended on April 29, 2019, we have engaged H.C. Wainwright & Co., LLC, or Wainwright or the placement agent, to act as our exclusive placement agent in connection with this offering of our shares of common stock pursuant to this prospectus supplement and accompanying prospectus and Warrants in a concurrent private placement. Under the terms of the engagement agreement, the placement agent has agreed to be our exclusive placement agent, on a reasonable best efforts basis, in connection with the issuance and sale by us of our shares of common stock in this takedown from our shelf registration statement and Warrants in a concurrent private placement. The terms of this offering were subject to market conditions and negotiations between us, the placement agent and prospective investors. The engagement agreement does not give rise to any commitment by the placement agent to purchase any of our shares of common stock or Warrants, and the placement agent will have no authority to bind us by virtue of the engagement agreement. Further, the placement agent does not guarantee that it will be able to raise new capital in any prospective offering. The placement agent may engage sub-agents or selected dealers to assist with the offering. We will enter into securities purchase agreements directly with investors who purchase shares of common stock in this offering.

We expect to deliver the shares of our common stock being offered pursuant to this prospectus supplement and accompanying prospectus on or about May 2, 2019.

We have agreed to pay the placement agent a total cash fee equal to 7.0% of the gross proceeds of this offering. We will also pay the placement agent a management fee equal to 1.0% of the gross proceeds of this offering, \$35,000 for non-accountable expenses, an expense allowance of up to \$80,000 for legal fees and other out-of-pocket expenses, and \$10,000 for the placement agent's clearing expenses. We will also pay the placement agent a cash fee equal to 7.0% of the gross proceeds we receive from the cash exercise of the Series A Warrants being issued in the concurrent private placement. We estimate the total expenses payable by us for this offering will be approximately \$125,000, which amount excludes the placement agent's fees.

In addition, we have agreed to issue to the placement agent warrants to purchase up to 172,456 shares of common stock representing 5.0% of the aggregate number of shares of common stock sold in this offering. The placement agent warrants will have substantially the same terms as the Series A Warrants issued to the investors in the concurrent private placement, except that the placement agent warrants will have an exercise price equal to \$3.86875 or 125% of the offering price per share and will have a term equal to five years from the effective date of this offering. Pursuant to FINRA Rule 5110(g), the placement agent warrants and any shares issued upon exercise of the placement agent warrants shall not be sold, transferred, assigned, pledged, or hypothecated, or be the subject of any hedging, short sale, derivative, put or call transaction that would result in the effective economic disposition of the securities by any person for a period of 180 days immediately following the date of effectiveness or commencement of sales of this offering, except the transfer of any security: (i) by operation of law or by reason of our reorganization; (ii) to any FINRA member firm participating in the offering and the officers or partners thereof, if all securities so transferred remain subject to the lock-up restriction set forth above for the remainder of the time period; (iii) if the aggregate amount of our securities held by the placement agent or related persons do not exceed 1% of the securities being offered; (iv) that is beneficially owned on a pro-rata basis by all equity owners of an investment fund, provided that no participating member manages or otherwise directs investments by the fund and the participating members in the aggregate do not own more than 10% of the equity in the fund; or (v) the exercise or conversion of any security, if all securities remain subject to the lock-up restriction set forth above for the remainder of the time period.

We have granted the placement agent a 12-month right of first refusal to participate in any further capital raising transactions undertaken by us and for any acquisition or disposition of assets or any merger or other business combination or any financing or refinancing of debt.

We also have granted the placement agent a tail cash fee equal to 7.0% of the gross proceeds and warrants to purchase shares of common stock equal to 5.0% of the aggregate number of shares of common stock sold in any offering, within 12 months of June 21, 2019, to investors whom the placement agent contacted or introduced to us directly or indirectly in connection with this offering.

We have agreed to indemnify the placement agent and specified other persons against certain liabilities relating to or arising out of the placement agent's activities under the placement agency agreement and to contribute to payments that the placement agent may be required to make in respect of such liabilities.

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The placement agent may be deemed to be an underwriter within the meaning of Section 2(a)(11) of the Securities Act, and any commissions received by it and any profit realized on the resale of the securities sold by it while acting as principal might be deemed to be underwriting discounts or commissions under the Securities Act. As an underwriter, the placement agent would be required to comply with the requirements of the Securities Act and the Exchange Act, including, without limitation, Rule 415(a)(4) under the Securities Act and Rule 10b-5 and Regulation M under the Exchange Act. These rules and regulations may limit the timing of purchases and sales of shares of common stock and Warrants by the placement agent acting as principal. Under these rules and regulations, the placement agent:

- may not engage in any stabilization activity in connection with our securities; and
- may not bid for or purchase any of our securities or attempt to induce any person to purchase any of our securities, other than as permitted under the Exchange Act, until it has completed its participation in the distribution.

From time to time, the placement agent may provide in the future various advisory, investment and commercial banking and other services to us in the ordinary course of business, for which they have received and may continue to receive customary fees and commissions. However, except as disclosed in this prospectus supplement, we have no present arrangements with the placement agent for any further services.

LEGAL MATTERS

The validity of the securities being offered by this prospectus will be passed upon by Gibson, Dunn & Crutcher, LLP, San Francisco, California. Ellenoff Grossman & Schole LLP, New York, New York, is counsel to the placement agent in connection with this offering.

EXPERTS

Ernst & Young LLP, independent registered public accounting firm, has audited our consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2018, as set forth in their report, which is incorporated by reference in this prospectus and elsewhere in the registration statement. Our financial statements are incorporated by reference in reliance on Ernst & Young LLP's report, given on their authority as experts in accounting and auditing.

WHERE YOU CAN FIND ADDITIONAL INFORMATION ABOUT US

We have filed a registration statement on Form S-3 with the SEC for the securities we are offering by this prospectus supplement. This prospectus supplement does not include all of the information contained in the registration statement. You should refer to the registration statement and its exhibits for additional information. We will provide to each person, including any beneficial owner, to whom a prospectus supplement is delivered, a copy of any or all of the information that has been incorporated by reference in the prospectus supplement but not delivered with the prospectus supplement.

We file annual, quarterly and current reports, proxy statements and other information with the SEC. The SEC maintains a website at www.sec.gov that contains reports, proxy and information statements and other information regarding registrants. Our SEC filings, including our registration statement and the exhibits and schedules thereto, are available on the SEC website at www.sec.gov.

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

INCORPORATION OF DOCUMENTS BY REFERENCE

The SEC allows us to “incorporate by reference” information that we file with them. Incorporation by reference allows us to disclose important information to you by referring you to those other documents. The information incorporated by reference is an important part of this prospectus supplement and the accompanying prospectus, and information that we file later with the SEC will automatically update and supersede this information. Statements in this prospectus supplement and the accompanying prospectus regarding the provisions of certain documents filed with, or incorporated by reference in, the registration statement are not necessarily complete and each statement is qualified in all respects by that reference. Copies of all or any part of the registration statement, including the documents incorporated by reference or the exhibits, may be obtained upon payment of the prescribed rates at the offices of the SEC listed above in “Where You Can Find More Information.” The documents we are incorporating by reference into this prospectus supplement are:

- Our Annual Report on Form 10-K for the fiscal year ended December 31, 2018, as amended on April 30, 2019;
- Our Current Report on Form 8-K filed April 22, 2019; and
- The description of our common stock contained in our Registration Statement on Form 8-A filed with the SEC on September 12, 2014, as amended on June 23, 2017, as well as any subsequent amendments or reports filed for the purpose of updating such description.

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

We will furnish without charge to you, on written or oral request, a copy of any or all of the documents incorporated by reference in this prospectus, including exhibits to these documents. You should direct any requests for documents to:

Novus Therapeutics, Inc.
19900 MacArthur Boulevard, Suite 550
Irvine, California 92612
Attn: Investor Relations
(949) 238-8090

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

PROSPECTUS

\$150,000,000



NOVUS THERAPEUTICS, INC.

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

We may offer and sell securities from time to time in one or more offerings of up to \$150,000,000 in aggregate offering price. This prospectus describes the general terms of these securities and the general manner in which these securities will be offered. We will provide the specific terms of these securities in supplements to this prospectus. The prospectus supplements also will describe the specific manner in which these securities will be offered and also may supplement, update or amend information contained in this prospectus. You should read this prospectus and any applicable prospectus supplement before you invest in any of our securities.

We may offer these securities in amounts, at prices and on terms determined at the time of offering. The securities may be sold directly to you, through agents, or through underwriters and dealers. If agents, underwriters or dealers are used to sell the securities, we will name them and describe their compensation in a prospectus supplement.

Our common stock is listed on the Nasdaq Capital Market under the symbol "NVUS." On July 18, 2018, the last reported sale price of our common stock on the Nasdaq Capital Market was \$6.79 per share.

Investing in our common stock involves a high degree of risk. Please read the information contained in and incorporated by reference under the heading "[Risk Factors](#)" beginning on page 4 of this prospectus, and under similar headings in the other documents that are filed after the date hereof and incorporated by reference into this prospectus.

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

The date of this prospectus is July 31, 2018

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission, which we refer to as the “SEC,” utilizing a “shelf” registration process. Under the shelf registration process, we may offer and sell any combination of the securities described in this prospectus in one or more offerings for an aggregate initial offering price of up to \$150,000,000 from time to time under this prospectus at prices and on terms to be determined by market conditions at the time of offering.

This prospectus provides you with a general description of the securities we may offer. Each time we sell securities, we will provide one or more prospectus supplements that will contain specific information about the terms of the offering. The prospectus supplement may also add, update or change information contained in this prospectus. You should read both this prospectus and the accompanying prospectus supplement together with the additional information described under the heading “Where You Can Find More Information” beginning on page 27 of this prospectus.

The registration statement containing this prospectus, including exhibits to the registration statement, provides additional information about us and the securities offered under this prospectus. The registration statement can be read on the SEC’s website or at the SEC’s public reading room mentioned under the heading “Where You Can Find More Information” in this prospectus.

We have not authorized anyone to provide you with information other than that contained in this prospectus, any accompanying prospectus supplement or in any free writing prospectus 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 to you. We are offering to sell, and seeking offers to buy, our securities only in jurisdictions where offers and sales are permitted. The information contained in this prospectus, any accompanying prospectus supplement or in any free writing prospectus is accurate only as of their respective dates, regardless of the time of delivery of such materials or the time of any sale our securities. Our business, financial condition, results of operations, and prospects may have changed since those dates.

Unless otherwise noted: (1) the term “Novus Therapeutics” refers to Novus Therapeutics, Inc., a Delaware corporation, formerly known as Tokai Pharmaceuticals, Inc., (2) the terms “Novus,” the “Company,” “we,” “us,” and “our,” refer to the ongoing business operations of Novus Therapeutics and its subsidiaries, including Otic Pharma, Ltd., whether such activities are conducted through Novus Therapeutics or a subsidiary of the company, and (3) the term “Common Stock” refers to shares of Novus Therapeutics’ Common Stock and the term “stockholder(s)” refers to the holders of Common Stock or securities exercisable for Common Stock.

ABOUT NOVUS THERAPEUTICS, INC.

Company Overview

Novus Therapeutics, Inc. (“Novus”) is a specialty pharmaceutical company focused on developing products for disorders of the ear, nose, and throat (“ENT”). Novus has two technologies, each that has the potential to be developed for multiple ENT indications. The company’s lead product (OP-02) is a surfactant-based, combination drug product being developed as a potential first-in-class treatment option for patients at risk for, or with, otitis media (“OM” or middle ear inflammation with or without infection). Globally, OM affects more than 700 million adults and children every year. OM is a common disorder seen in pediatric practice, and in the United States is the most frequent reason children are prescribed antibiotics and undergo surgery. Novus also has a foam-based drug delivery technology (OP-01), which may be developed in the future to deliver drugs into the ear, nasal, and sinus cavities.

OP-02 Surfactant Program

OP-02 is being developed as a potential first-in-class treatment option for OM, which is often caused by Eustachian tube dysfunction (“ETD”). OP-02 is a drug-device combination product comprised of a novel formulation of a surfactant (dipalmitoylphosphatidylcholine (“DPPC”)) and a spreading agent (cholesteryl palmitate (“CP”)) suspended in propellant. The product is administered intranasally via a metered-dose inhaler and is intended to be used to restore the normal physiologic activity of the Eustachian tube (“ET”), which is a small tube that connects from the chamber of the middle ear to the back of the nasopharynx. Together DPPC and CP effectively absorb to the air-liquid interface of the mucosa and reduce the interfacial surface tension of the ET, which reduces passive pressure required for the ET to open. In other words, OP-02 promotes ‘de-sticking’ of the ET so that ventilation and drainage of the middle ear may occur.

Novus expects to initiate a phase 1 clinical program of OP-02 in 2018. The phase 1 program will include a single study to evaluate repeated intranasal doses of OP-02 in healthy subjects plus additional phase 1 studies to explore safety and efficacy in patients with OM. Upon completion of the phase 1 program, Novus intends to initiate phase 2 and 3 studies of OP-02, with an initial focus on a development program that, if successful, will lead to registration of OP-02 in North America and key European markets as a product to treat OM and prevent OM in children. Additional development activities to support registration in other countries and/or for other OM/ETD disorders, or in other patient populations, may occur in the future.

OP-01 Foam Platform

OP-01 is a foam-based product intended to be used as a delivery vehicle for drugs to be administered into the ears, as well as the nasal and sinus cavities. Specifically, OP-01 was initially developed as an improved treatment option for acute otitis externa (“AOE”), a common medical condition of the outer ear canal that affects tens of millions of adults and children each year (frequently called “swimmer’s ear”). Novus completed four clinical trials of OP-01 in 353 adult and pediatric subjects, including a successful phase 2b study with a steroid-free, antibiotic-only formulation of OP-01 that performed similarly to standard of care, but with a favorable dosing regimen.

In 2016, Novus began development of a second-generation formulation of OP-01 designed to rapidly relieve ear pain (an unmet need in AOE) and eradicate infection with less than seven days of treatment. Novus subsequently paused the OP-01 development program to focus resources on OP-02.

Reverse Merger

On December 21, 2016, Tokai Pharmaceuticals, Inc. (“Tokai”), a Delaware corporation, Otic, and the shareholders of Otic (each a “Seller” and collectively, the “Sellers”), entered into a Share Purchase Agreement (the “Share Purchase Agreement”), pursuant to which, among other things, each Seller agreed to sell to Tokai, and Tokai agreed to purchase from each Seller, all of the common and preferred shares of Otic (“Otic Shares”) owned by such Seller in exchange for the issuance of a certain number of shares of common stock of Tokai, as determined pursuant to the terms of the Share Purchase Agreement (the “Reverse Merger”). The parties amended and restated the Share Purchase Agreement on March 2, 2017.

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On May 9, 2017, Tokai, Otic, and the Sellers closed the transaction contemplated by the Share Purchase Agreement, and subsequently effected a reverse stock split at a ratio of one-for-nine (the “Reverse Stock Split”). On a post-split basis, Tokai issued to the Sellers an aggregate of 4,027,693 shares of Tokai’s common stock in exchange for all outstanding Otic Shares. Following the completion of the Reverse Merger, the business being conducted by Tokai became primarily the business conducted by Otic. In connection with the Reverse Merger, the name of the surviving corporation was changed to “Novus Therapeutics, Inc.” The shares of common stock being offered through this prospectus give effect to the Reverse Stock Split.

Company Information

We were incorporated under the laws of the State of Delaware on March 26, 2004 under the name Tokai Pharmaceuticals, Inc. and we changed our name to Novus Therapeutics on May 9, 2017. Our principal executive offices are located at 19900 MacArthur Boulevard, Suite 550, Irvine, California 92612, and our telephone number is (949) 238-8090. Our website address is www.novustherapeutics.com. The information contained in, or accessible through, our website does not constitute part of this prospectus. We have included our website address in this prospectus solely as an inactive textual reference.

RISK FACTORS

Before making an investment decision, you should carefully consider the risks described under “Risk Factors” in the applicable prospectus supplement, together with all of the other information appearing in this prospectus or incorporated by reference into this prospectus and any applicable prospectus supplement, in light of your particular investment objectives and financial circumstances. Our business, financial condition or results of operations could be materially adversely affected by any of these risks. The trading price of our securities could decline due to any of these risks, and you may lose all or part of your investment. This prospectus and the incorporated documents also contain forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of certain factors, including the risks mentioned elsewhere in this prospectus. You should also consider the risks, uncertainties and assumptions discussed under the heading “Risk Factors” included in our most recent Annual Report on Form 10-K, as revised or supplemented by our most recent Quarterly Report on Form 10-Q, as well as our subsequent Quarterly Reports on Form 10-Q, which are incorporated herein by reference, together with the other information contained in this prospectus and in our filings with the SEC that we have incorporated by reference in this prospectus. We expect to update these Risk Factors from time to time in the periodic and current reports we file with the SEC after the date of this prospectus. These updated Risk Factors will be incorporated by reference in this prospectus. If any of these risks occur, our business, financial condition, results of operations and future growth prospects could be materially and adversely affected. In these circumstances, the trading price of our securities could decline, and you may lose all or part of your investment.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the information incorporated by reference in this prospectus contain forward-looking statements within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act that involve substantial risks and uncertainties. Any statements in this prospectus about the company's future expectations, plans and prospects, including statements about its strategy, future operations, development of its product candidates, the review of strategic alternatives and the outcome of such review and other statements containing the words "believes," "anticipates," "plans," "expects," "estimates," "intends," "predicts," "projects," "targets," "could," "may," and similar expressions, constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, although not all forward-looking statements include such identifying words.

The forward-looking statements in this prospectus and the information incorporated by reference in this prospectus include, among other things, statements about:

- expectations regarding the timing for the commencement and completion of product development or clinical trials;
- the rate and degree of market acceptance and clinical utility of the company's products;
- the company's commercialization, marketing and manufacturing capabilities and strategy;
- the company's intellectual property position and strategy;
- the company's ability to identify additional products or product candidates with significant commercial potential;
- the company's estimates regarding expenses, future revenue, capital requirements and needs for additional financing;
- developments relating to the company's competitors and industry;
- the impact of government laws and regulations; and
- other risks and uncertainties, including those listed under the caption "Risk Factors."

Actual results may differ materially from those indicated by such forward-looking statements as a result of various important factors, including: the ability to develop commercially viable product formulations; the sufficiency of the company's cash resources; the ability to obtain necessary regulatory and ethics approvals to commence additional clinical trials; whether data from early clinical trials will be indicative of the data that will be obtained from future clinical trials; whether the results of clinical trials will warrant submission for regulatory approval of any investigational product; whether any such submission will receive approval from the United States Food and Drug Administration or equivalent foreign regulatory agencies and, if we are able to obtain such approval for an investigational product, whether it will be successfully distributed and marketed. These risks and uncertainties, as well as other risks and uncertainties that could cause the company's actual results to differ significantly from the forward-looking statements contained herein, are described in greater detail under the caption "Risk Factors." Any forward-looking statements contained in this prospectus speak only as of the date hereof and not of any future date, and the company expressly disclaims any intent to update any forward-looking statements, whether as a result of new information, future events or otherwise.

DESCRIPTION OF DEBT SECURITIES

We may offer debt securities that may be senior or subordinated. We refer to the senior debt securities and the subordinated debt securities collectively as debt securities. The following description summarizes the general terms and provisions of the debt securities. We will describe the specific terms of the debt securities and the extent, if any, to which the general provisions summarized below apply to any series of debt securities in the prospectus supplement relating to the series and any applicable free writing prospectus that we authorize to be delivered.

We may issue senior debt securities from time to time, in one or more series under a senior indenture to be entered into between us and a senior trustee to be named in a prospectus supplement, which we refer to as the senior trustee. We may issue subordinated debt securities from time to time, in one or more series under a subordinated indenture to be entered into between us and a subordinated trustee to be named in a prospectus supplement, which we refer to as the subordinated trustee. The forms of senior indenture and subordinated indenture are filed as exhibits to the registration statement of which this prospectus forms a part. Together, the senior indenture and the subordinated indenture are referred to as the indentures and, together, the senior trustee and the subordinated trustee are referred to as the trustees. This prospectus briefly outlines some of the provisions of the indentures. The following summary of the material provisions of the indentures is qualified in its entirety by the provisions of the indentures, including definitions of certain terms used in the indentures. Wherever we refer to particular sections or defined terms of the indentures, those sections or defined terms are incorporated by reference in this prospectus or the applicable prospectus supplement. You should review the indentures that are filed as exhibits to the registration statement of which this prospectus forms a part for additional information.

None of the indentures will limit the amount of debt securities that we may issue. The applicable indenture will provide that debt securities may be issued up to an aggregate principal amount authorized from time to time by us and may be payable in any currency or currency unit designated by us or in amounts determined by reference to an index.

General

The senior debt securities will constitute our unsecured and unsubordinated general obligations and will rank *pari passu* with our other unsecured and unsubordinated obligations. The subordinated debt securities will constitute our unsecured and subordinated general obligations and will be junior in right of payment to our senior indebtedness (including senior debt securities), as described under the heading “—Certain Terms of the Subordinated Debt Securities—Subordination.”

The debt securities will be our unsecured obligations. Any secured debt or other secured obligations will be effectively senior to the debt securities to the extent of the value of the assets securing such debt or other obligations.

The applicable prospectus supplement and/or free writing prospectus will include any additional or different terms of the debt securities of any series being offered, including the following terms:

- the title and type of the debt securities;
- whether the debt securities will be senior or subordinated debt securities, and, with respect to debt securities issued under the subordinated indenture the terms on which they are subordinated;
- the aggregate principal amount of the debt securities;
- the price or prices at which we will sell the debt securities;
- the maturity date or dates of the debt securities and the right, if any, to extend such date or dates;
- the rate or rates, if any, per year, at which the debt securities will bear interest, or the method of determining such rate or rates;
- the date or dates from which such interest will accrue, the interest payment dates on which such interest will be payable or the manner of determination of such interest payment dates and the related record dates;
- the right, if any, to extend the interest payment periods and the duration of that extension;

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- the manner of paying principal and interest and the place or places where principal and interest will be payable;
- provisions for a sinking fund, purchase fund or other analogous fund, if any;
- any redemption dates, prices, obligations and restrictions on the debt securities;
- the currency, currencies or currency units in which the debt securities will be denominated and the currency, currencies or currency units in which principal and interest, if any, on the debt securities may be payable;
- any conversion or exchange features of the debt securities;
- whether and upon what terms the debt securities may be defeased;
- any events of default or covenants in addition to or in lieu of those set forth in the indenture;
- whether the debt securities will be issued in definitive or global form or in definitive form only upon satisfaction of certain conditions;
- whether the debt securities will be guaranteed as to payment or performance;
- any special tax implications of the debt securities; and
- any other material terms of the debt securities.

When we refer to “principal” in this section with reference to the debt securities, we are also referring to “premium, if any.”

We may from time to time, without notice to or the consent of the holders of any series of debt securities, create and issue further debt securities of any such series ranking equally with the debt securities of such series in all respects (or in all respects other than (1) the payment of interest accruing prior to the issue date of such further debt securities or (2) the first payment of interest following the issue date of such further debt securities). Such further debt securities may be consolidated and form a single series with the debt securities of such series and have the same terms as to status, redemption or otherwise as the debt securities of such series.

You may present debt securities for exchange and you may present debt securities for transfer in the manner, at the places and subject to the restrictions set forth in the debt securities and the applicable prospectus supplement. We will provide you those services without charge, although you may have to pay any tax or other governmental charge payable in connection with any exchange or transfer, as set forth in the indenture.

Debt securities may bear interest at a fixed rate or a floating rate. Debt securities bearing no interest or interest at a rate that at the time of issuance is below the prevailing market rate (original issue discount securities) may be sold at a discount below their stated principal amount. U.S. federal income tax considerations applicable to any such discounted debt securities or to certain debt securities issued at par which are treated as having been issued at a discount for U.S. federal income tax purposes will be described in the applicable prospectus supplement.

We may issue debt securities with the principal amount payable on any principal payment date, or the amount of interest payable on any interest payment date, to be determined by reference to one or more currency exchange rates, securities or baskets of securities, commodity prices or indices. You may receive a payment of principal on any principal payment date, or a payment of interest on any interest payment date, that is greater than or less than the amount of principal or interest otherwise payable on such dates, depending on the value on such dates of the applicable currency, security or basket of securities, commodity or index. Information as to the methods for determining the amount of principal or interest payable on any date, the currencies, securities or baskets of securities, commodities or indices to which the amount payable on such date is linked and certain related tax considerations will be set forth in the applicable prospectus supplement.

Certain Terms of the Senior Debt Securities

Covenants. Unless we indicate otherwise in a prospectus supplement, the senior debt securities will not contain any financial or restrictive covenants, including covenants restricting us from incurring, issuing, assuming or guaranteeing any indebtedness secured by a lien on any of our property or capital stock, or restricting us from entering into sale and leaseback transactions.

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Consolidation, Merger and Sale of Assets. Unless we indicate otherwise in a prospectus supplement, we may not consolidate with or merge into any other person, in a transaction in which we are not the surviving corporation, or convey, transfer or lease our properties and assets substantially as an entirety to any person, in either case, unless:

- the successor entity, if any, is a U.S. corporation, limited liability company, partnership or trust (subject to certain exceptions provided for in the senior indenture);
- the successor entity assumes our obligations on the senior debt securities and under the senior indenture;
- immediately after giving effect to the transaction, no default or event of default shall have occurred and be continuing; and
- certain other conditions are met.

No Protection in the Event of a Change in Control. Unless we indicate otherwise in a prospectus supplement with respect to a particular series of senior debt securities, the senior debt securities will not contain any provisions that may afford holders of the senior 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).

Events of Default. Unless we indicate otherwise in a prospectus supplement with respect to a particular series of senior debt securities, the following are events of default under the senior indenture for any series of senior debt securities:

- failure to pay interest on any senior debt securities of such series when due and payable, if that default continues for a period of 30 days (or such other period as may be specified for such series);
- failure to pay principal on the senior debt securities of such series when due and payable whether at maturity, upon redemption, by declaration or otherwise (and, if specified for such series, the continuance of such failure for a specified period);
- default in the performance of or breach of any of our covenants or agreements in the senior indenture applicable to senior debt securities of such series, other than a covenant breach which is specifically dealt with elsewhere in the senior indenture, and that default or breach continues for a period of 90 days after we receive written notice from the trustee or from the holders of 25% or more in aggregate principal amount of the senior debt securities of such series;
- certain events of bankruptcy or insolvency, whether or not voluntary; and
- any other event of default provided for in such series of senior debt securities as may be specified in the applicable prospectus supplement.

The default by us under any other debt, including any other series of debt securities, is not a default under the senior indenture.

If an event of default other than an event of default specified in the fourth bullet point above occurs with respect to a series of senior debt securities and is continuing under the senior indenture, then, and in each such case, either the trustee or the holders of not less than 25% in aggregate principal amount of such series then outstanding under the senior indenture (each such series voting as a separate class) by written notice to us and to the trustee, if such notice is given by the holders, may, and the trustee at the request of such holders shall, declare the principal amount of and accrued interest on such series of senior debt securities to be immediately due and payable, and upon this declaration, the same shall become immediately due and payable.

If an event of default specified in the fourth bullet point above occurs and is continuing, the entire principal amount of and accrued interest on each series of senior debt securities then outstanding shall become immediately due and payable.

Unless otherwise specified in the prospectus supplement relating to a series of senior debt securities originally issued at a discount, the amount due upon acceleration shall include only the original issue price of the senior debt securities, the amount of original issue discount accrued to the date of acceleration and accrued interest, if any.

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Upon certain conditions, declarations of acceleration may be rescinded and annulled and past defaults may be waived by the holders of a majority in aggregate principal amount of all the senior debt securities of such series affected by the default, each series voting as a separate class. Furthermore, subject to various provisions in the senior indenture, the holders of a majority in aggregate principal amount of a series of senior debt securities, by notice to the trustee, may waive an existing default or event of default with respect to such senior debt securities and its consequences, except a default in the payment of principal of or interest on such senior debt securities or in respect of a covenant or provision of the senior indenture which cannot be modified or amended without the consent of the holders of each such senior debt security. Upon any such waiver, such default shall cease to exist, and any event of default with respect to such senior debt securities shall be deemed to have been cured, for every purpose of the senior indenture; but no such waiver shall extend to any subsequent or other default or event of default or impair any right consequent thereto.

The holders of a majority in aggregate principal amount of a series of senior debt securities may 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 such senior debt securities. However, the trustee may refuse to follow any direction that conflicts with law or the senior indenture, that may involve the trustee in personal liability or that the trustee determines in good faith may be unduly prejudicial to the rights of holders of such series of senior debt securities not joining in the giving of such direction and may take any other action it deems proper that is not inconsistent with any such direction received from holders of such series of senior debt securities. A holder may not pursue any remedy with respect to the senior indenture or any series of senior debt securities unless:

- the holder gives the trustee written notice of a continuing event of default;
- the holders of at least 25% in aggregate principal amount of such series of senior debt securities make a written request to the trustee to pursue the remedy in respect of such event of default;
- the requesting holder or holders offer the trustee indemnity satisfactory to the trustee against any costs, liability or expense;
- the trustee does not comply with the request within 60 days after receipt of the request and the offer of indemnity; and
- during such 60-day period, the holders of a majority in aggregate principal amount of such series of senior debt securities do not give the trustee a direction that is inconsistent with the request.

These limitations, however, do not apply to the right of any holder of a senior debt security to receive payment of the principal of and interest on such senior debt security in accordance with the terms of such debt security, or to bring suit for the enforcement of any such payment in accordance with the terms of such debt security, on or after the due date for the senior debt securities, which right shall not be impaired or affected without the consent of the holder.

The senior indenture requires certain of our officers to certify, on or before a fixed date in each year in which any senior debt security is outstanding, as to their knowledge of our compliance with all covenants, agreements and conditions under the senior indenture.

Satisfaction and Discharge. We can satisfy and discharge our obligations to holders of any series of debt securities if:

- we pay or cause to be paid, as and when due and payable, the principal of and any interest on all senior debt securities of such series outstanding under the senior indenture; or
- all senior debt securities of such series have become due and payable or will become due and payable within one year (or are to be called for redemption within one year) and we deposit in trust a combination of cash and U.S. government or U.S. government agency obligations that will generate enough cash to make interest, principal and any other payments on the debt securities of that series on their various due dates.

Under current U.S. federal income tax law, the deposit and our legal release from the debt securities would be treated as though we took back your debt securities and gave you your share of the cash and debt securities or bonds deposited in trust. In that event, you could recognize gain or loss on the debt securities you give back to us. Purchasers of the debt securities should consult their own advisers with respect to the tax consequences to them of such deposit and discharge, including the applicability and effect of tax laws other than the U.S. federal income tax law.

Defeasance. Unless the applicable prospectus supplement provides otherwise, the following discussion of legal defeasance and discharge and covenant defeasance will apply to any series of debt securities issued under the indentures.

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Legal Defeasance. We can legally release ourselves from any payment or other obligations on the debt securities of any series (called “legal defeasance”) if certain conditions are met, including the following:

- We deposit in trust for your benefit and the benefit of all other direct holders of the debt securities of the same series a combination of cash and U.S. government or U.S. government agency obligations that will generate enough cash to make interest, principal and any other payments on the debt securities of that series on their various due dates.
- There is a change in current U.S. federal income tax law or an IRS ruling that lets us make the above deposit without causing you to be taxed on the debt securities any differently than if we did not make the deposit and instead repaid the debt securities ourselves when due. Under current U.S. federal income tax law, the deposit and our legal release from the debt securities would be treated as though we took back your debt securities and gave you your share of the cash and debt securities or bonds deposited in trust. In that event, you could recognize gain or loss on the debt securities you give back to us.
- We deliver to the trustee a legal opinion of our counsel confirming the tax law change or ruling described above.

If we accomplish legal defeasance, as described above, you would have to rely solely on the trust deposit for repayment of the debt securities. You could not look to us for repayment in the event of any shortfall.

Covenant Defeasance. Without any change of current U.S. federal tax law, we can make the same type of deposit described above and be released from some of the covenants in the debt securities (called “covenant defeasance”). In that event, you would lose the protection of those covenants but would gain the protection of having money and securities set aside in trust to repay the debt securities. In order to achieve covenant defeasance, we must do the following (among other things):

- We must deposit in trust for your benefit and the benefit of all other direct holders of the debt securities of the same series a combination of cash and U.S. government or U.S. government agency obligations that will generate enough cash to make interest, principal and any other payments on the debt securities of that series on their various due dates.
- We must deliver to the trustee a legal opinion of our counsel confirming that under current U.S. federal income tax law we may make the above deposit without causing you to be taxed on the debt securities any differently than if we did not make the deposit and instead repaid the debt securities ourselves when due.

If we accomplish covenant defeasance, you could still look to us for repayment of the debt securities if there were a shortfall in the trust deposit. In fact, if one of the events of default occurred (such as our bankruptcy) and the debt securities become immediately due and payable, there may be such a shortfall. Depending on the events causing the default, you may not be able to obtain payment of the shortfall.

Modification and Waiver. We and the trustee may amend or supplement the senior indenture or the senior debt securities without the consent of any holder:

- to convey, transfer, assign, mortgage or pledge any assets as security for the senior debt securities of one or more series;
- to evidence the succession of a corporation, limited liability company, partnership or trust to us, and the assumption by such successor of our covenants, agreements and obligations under the senior indenture or to otherwise comply with the covenant relating to mergers, consolidations and sales of assets;
- to comply with requirements of the SEC in order to effect or maintain the qualification of the senior indenture under the Trust Indenture Act of 1939, as amended;
- to add to our covenants such new covenants, restrictions, conditions or provisions for the protection of the holders, and to make the occurrence, or the occurrence and continuance, of a default in any such additional covenants, restrictions, conditions or provisions an event of default;
- to cure any ambiguity, defect or inconsistency in the senior indenture or in any supplemental indenture or to conform the senior indenture or the senior debt securities to the description of senior debt securities of such series set forth in this prospectus or any applicable prospectus supplement;

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- to provide for or add guarantors with respect to the senior debt securities of any series;
- to establish the form or forms or terms of the senior debt securities as permitted by the senior indenture;
- to evidence and provide for the acceptance of appointment under the senior indenture by a successor trustee, or to make such changes as shall be necessary to provide for or facilitate the administration of the trusts in the senior indenture by more than one trustee;
- to add to, delete from or revise the conditions, limitations and restrictions on the authorized amount, terms, purposes of issue, authentication and delivery of any series of senior debt securities;
- to make any change to the senior debt securities of any series so long as no senior debt securities of such series are outstanding; or
- to make any change that does not adversely affect the rights of any holder in any material respect.

Other amendments and modifications of the senior indenture or the senior debt securities issued may be made, and our compliance with any provision of the senior indenture with respect to any series of senior debt securities may be waived, with the consent of the holders of a majority of the aggregate principal amount of the outstanding senior debt securities of all series affected by the amendment or modification (voting together as a single class); provided, however, that each affected holder must consent to any modification, amendment or waiver that:

- extends the final maturity of any senior debt securities of such series;
- reduces the principal amount of any senior debt securities of such series;
- reduces the rate or extends the time of payment of interest on any senior debt securities of such series;
- reduces the amount payable upon the redemption of any senior debt securities of such series;
- changes the currency of payment of principal of or interest on any senior debt securities of such series;
- reduces the principal amount of original issue discount securities payable upon acceleration of maturity or the amount provable in bankruptcy;
- waives an uncured default in the payment of principal of or interest on the senior debt securities (except in the case of a rescission of acceleration as described above);
- changes the provisions relating to the waiver of past defaults or changes or impairs the right of holders to receive payment or to institute suit for the enforcement of any payment or conversion of any senior debt securities of such series on or after the due date therefor;
- modifies any of the provisions of these restrictions on amendments and modifications, except to increase any required percentage or to provide that certain other provisions cannot be modified or waived without the consent of the holder of each senior debt security of such series affected by the modification; or
- reduces the above-stated percentage of outstanding senior debt securities of such series whose holders must consent to a supplemental indenture or modifies or amends or waives certain provisions of or defaults under the senior indenture.

It shall not be necessary for the holders to approve the particular form of any proposed amendment, supplement or waiver, but it shall be sufficient if the holders' consent approves the substance thereof. After an amendment, supplement or waiver of the senior indenture in accordance with the provisions described in this section becomes effective, the trustee must give to the holders affected thereby certain notice briefly describing the amendment, supplement or waiver. Any failure by the trustee to give such notice, or any defect therein, shall not, however, in any way impair or affect the validity of any such amendment, supplemental indenture or waiver.

No Personal Liability of Incorporators, Stockholders, Officers, Directors. The senior indenture provides that no recourse shall be had under any obligation, covenant or agreement of ours in the senior indenture or any supplemental indenture, or in any of the senior debt securities or because of the creation of any indebtedness represented thereby, against any of our incorporators, stockholders, officers or directors, past, present or future, or of any predecessor or successor entity thereof under any law, statute or constitutional provision or by the enforcement of any assessment or by any legal or equitable proceeding or otherwise. Each holder, by accepting the senior debt securities, waives and releases all such liability.

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Concerning the Trustee. The senior indenture provides that, except during the continuance of an event of default, the trustee will not be liable except for the performance of such duties as are specifically set forth in the senior indenture. If an event of default has occurred and is continuing, the trustee will exercise such rights and powers vested in it under the senior indenture and will use the same degree of care and skill in its exercise as a prudent person would exercise under the circumstances in the conduct of such person's own affairs.

The senior indenture and the provisions of the Trust Indenture Act of 1939 incorporated by reference therein contain limitations on the rights of the trustee thereunder, should it become a creditor of ours, to obtain payment of claims in certain cases or to realize on certain property received by it in respect of any such claims, as security or otherwise. The trustee is permitted to engage in other transactions, provided that if it acquires any conflicting interest (as defined in the Trust Indenture Act), it must eliminate such conflict or resign.

We may have normal banking relationships with the senior trustee in the ordinary course of business.

Unclaimed Funds. All funds deposited with the trustee or any paying agent for the payment of principal, premium, interest or additional amounts in respect of the senior debt securities that remain unclaimed for two years after the date upon which such principal, premium or interest became due and payable will be repaid to us. Thereafter, any right of any holder of senior debt securities to such funds shall be enforceable only against us, and the trustee and paying agents will have no liability therefor.

Governing Law. The senior indenture and the senior debt securities will be governed by, and construed in accordance with, the internal laws of the State of New York.

Certain Terms of the Subordinated Debt Securities

Other than the terms of the subordinated indenture and subordinated debt securities relating to subordination or otherwise as described in the prospectus supplement relating to a particular series of subordinated debt securities, the terms of the subordinated indenture and subordinated debt securities are identical in all material respects to the terms of the senior indenture and senior debt securities.

Additional or different subordination terms may be specified in the prospectus supplement applicable to a particular series.

Subordination. The indebtedness evidenced by the subordinated debt securities is subordinate to the prior payment in full of all of our senior indebtedness, as defined in the subordinated indenture. During the continuance beyond any applicable grace period of any default in the payment of principal, premium, interest or any other payment due on any of our senior indebtedness, we may not make any payment of principal of or interest on the subordinated debt securities (except for certain sinking fund payments). In addition, upon any payment or distribution of our assets upon any dissolution, winding-up, liquidation or reorganization, the payment of the principal of and interest on the subordinated debt securities will be subordinated to the extent provided in the subordinated indenture in right of payment to the prior payment in full of all our senior indebtedness. Because of this subordination, if we dissolve or otherwise liquidate, holders of our subordinated debt securities may receive less, ratably, than holders of our senior indebtedness. The subordination provisions do not prevent the occurrence of an event of default under the subordinated indenture.

The term "senior indebtedness" of a person means with respect to such person the principal of, premium, if any, interest on, and any other payment due pursuant to any of the following, whether outstanding on the date of the subordinated indenture or incurred by that person in the future:

- all of the indebtedness of that person for money borrowed;
- all of the indebtedness of that person evidenced by notes, debentures, bonds or other securities sold by that person for money;
- all of the lease obligations that are capitalized on the books of that person in accordance with generally accepted accounting principles;

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- all indebtedness of others of the kinds described in the first two bullet points above and all lease obligations of others of the kind described in the third bullet point above that the person, in any manner, assumes or guarantees or that the person in effect guarantees through an agreement to purchase, whether that agreement is contingent or otherwise; and
- all renewals, extensions or refundings of indebtedness of the kinds described in the first, second or fourth bullet point above and all renewals or extensions of leases of the kinds described in the third or fourth bullet point above;

unless, in the case of any particular indebtedness, renewal, extension or refunding, the instrument creating or evidencing it or the assumption or guarantee relating to it expressly provides that such indebtedness, renewal, extension or refunding is not superior in right of payment to the subordinated debt securities. Our senior debt securities constitute senior indebtedness for purposes of the subordinated debt indenture.

DESCRIPTION OF CAPITAL STOCK

The following description of our capital stock is intended as a summary only and therefore is not a complete description of our capital stock. This description is based upon, and is qualified by reference to, our certificate of incorporation, our by-laws and applicable provisions of Delaware corporate law. You should read our certificate of incorporation and by-laws, which are filed as exhibits to the registration statement of which this prospectus forms a part, for the provisions that are important to you.

Our authorized capital stock consists of 200,000,000 shares of common stock and 5,000,000 shares of preferred stock. As of March 31, 2018, 9,407,024 shares of common stock were outstanding and no shares of preferred stock were outstanding.

Common Stock

Annual Meeting. Annual meetings of our stockholders are held on the date designated in accordance with our by-laws. Written notice must be mailed to each stockholder entitled to vote not less than ten nor more than 60 days before the date of the meeting. The presence in person or by proxy of the holders of record of a majority of our issued and outstanding shares entitled to vote at such meeting constitutes a quorum for the transaction of business at meetings of the stockholders. Special meetings of the stockholders may be called for any purpose only by the board of directors, and business transacted at any special meetings of stockholders shall be limited to matters relating to the purpose or purposes stated in the notice of such meeting. Except as may be otherwise provided by applicable law, our restated certificate of incorporation or our by-laws, all elections shall be decided by a plurality, and all other questions shall be decided by a majority, of the votes cast by stockholders entitled to vote thereon at a duly held meeting of stockholders at which a quorum is present.

Voting Rights. Each holder of common stock is entitled to one vote for each share held on all matters to be voted upon by stockholders.

Dividends. The holders of common stock, after any preferences of holders of any preferred stock, are entitled to receive dividends when and if declared by the board of directors out of legally available funds.

Liquidation and Dissolution. If we are liquidated or dissolved, the holders of the common stock will be entitled to share in our assets available for distribution to stockholders in proportion to the amount of common stock they own. The amount available for common stockholders is calculated after payment of liabilities. Holders of any preferred stock will receive a preferential share of our assets before the holders of the common stock receive any assets.

Other Rights. Holders of the common stock have no right to:

- convert the stock into any other security;
- have the stock redeemed;
- purchase additional stock; or
- maintain their proportionate ownership interest.

The common stock does not have cumulative voting rights. Holders of shares of the common stock are not required to make additional capital contributions.

Transfer Agent and Registrar. Continental Stock Transfer & Trust Company is transfer agent and registrar for the common stock.

Preferred Stock

We are authorized to issue “blank check” preferred stock, which may be issued in one or more series upon authorization of our board of directors. Our board of directors is authorized to fix the designation of the series, the number of authorized shares of the series, dividend rights and terms, conversion rights, voting rights, redemption rights and terms, liquidation preferences and any other rights, powers, preferences and limitations applicable to each series of preferred stock. The authorized shares of our preferred stock are available for issuance without further action by our stockholders, unless such action is required by applicable law or the rules of any stock exchange on which our securities may be

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listed. If the approval of our stockholders is not required for the issuance of shares of our preferred stock, our board may determine not to seek stockholder approval. The specific terms of any series of preferred stock offered pursuant to this prospectus will be described in the prospectus supplement relating to that series of preferred stock.

A series of our preferred stock could, depending on the terms of such series, impede the completion of a merger, tender offer or other takeover attempt. Our board of directors will make any determination to issue preferred shares based upon its judgment as to the best interests of our stockholders. Our directors, in so acting, could issue preferred stock having terms that could discourage an acquisition attempt through which an acquirer may be able to change the composition of our board of directors, including a tender offer or other transaction that some, or a majority, of our stockholders might believe to be in their best interests or in which stockholders might receive a premium for their stock over the then-current market price of the stock.

The preferred stock has the terms described below unless otherwise provided in the prospectus supplement relating to a particular series of preferred stock. You should read the prospectus supplement relating to the particular series of preferred stock being offered for specific terms, including:

- the designation and stated value per share of the preferred stock and the number of shares offered;
- the amount of liquidation preference per share;
- the price at which the preferred stock will be issued;
- the dividend rate, or method of calculation of dividends, the dates on which dividends will be payable, whether dividends will be cumulative or noncumulative and, if cumulative, the dates from which dividends will commence to accumulate;
- any redemption or sinking fund provisions;
- if other than the currency of the United States, the currency or currencies including composite currencies in which the preferred stock is denominated and/or in which payments will or may be payable;
- any conversion provisions; and
- any other rights, preferences, privileges, limitations and restrictions on the preferred stock.

The preferred stock will, when issued, be fully paid and non-assessable. Unless otherwise specified in the prospectus supplement, each series of preferred stock will rank equally as to dividends and liquidation rights in all respects with each other series of preferred stock. The rights of holders of shares of each series of preferred stock will be subordinate to those of our general creditors.

Rank. Unless otherwise specified in the prospectus supplement, the preferred stock will, with respect to dividend rights and rights upon our liquidation, dissolution or winding up of our affairs, rank:

- senior to our common stock and to all equity securities ranking junior to such preferred stock with respect to dividend rights or rights upon our liquidation, dissolution or winding up of our affairs;
- on a parity with all equity securities issued by us, the terms of which specifically provide that such equity securities rank on a parity with the preferred stock with respect to dividend rights or rights upon our liquidation, dissolution or winding up of our affairs; and
- junior to all equity securities issued by us, the terms of which specifically provide that such equity securities rank senior to the preferred stock with respect to dividend rights or rights upon our liquidation, dissolution or winding up of our affairs.

The term “equity securities” does not include convertible debt securities.

Dividends. Holders of the preferred stock of each series will be entitled to receive, when, as and if declared by our board of directors, cash dividends at such rates and on such dates described in the prospectus supplement. Different series of preferred stock may be entitled to dividends at different rates or based on different methods of calculation. The dividend rate may be fixed or variable or both. Dividends will be payable to the holders of record as they appear on our stock books on record dates fixed by our board of directors, as specified in the applicable prospectus supplement.

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Dividends on any series of preferred stock may be cumulative or noncumulative, as described in the applicable prospectus supplement. If our board of directors does not declare a dividend payable on a dividend payment date on any series of noncumulative preferred stock, then the holders of that noncumulative preferred stock will have no right to receive a dividend for that dividend payment date, and we will have no obligation to pay the dividend accrued for that period, whether or not dividends on that series are declared payable on any future dividend payment dates. Dividends on any series of cumulative preferred stock will accrue from the date we initially issue shares of such series or such other date specified in the applicable prospectus supplement.

No dividends may be declared or paid or funds set apart for the payment of any dividends on any parity securities unless full dividends have been paid or set apart for payment on the preferred stock. If full dividends are not paid, the preferred stock will share dividends pro rata with the parity securities.

No dividends may be declared or paid or funds set apart for the payment of dividends on any junior securities unless full dividends for all dividend periods terminating on or prior to the date of the declaration or payment will have been paid or declared and a sum sufficient for the payment set apart for payment on the preferred stock.

Liquidation Preference. Upon any voluntary or involuntary liquidation, dissolution or winding up of our affairs, then, before we make any distribution or payment to the holders of any common stock or any other class or series of our capital stock ranking junior to the preferred stock in the distribution of assets upon any liquidation, dissolution or winding up of our affairs, the holders of each series of preferred stock shall be entitled to receive out of assets legally available for distribution to stockholders, liquidating distributions in the amount of the liquidation preference per share set forth in the prospectus supplement, plus any accrued and unpaid dividends thereon. Such dividends will not include any accumulation in respect of unpaid noncumulative dividends for prior dividend periods. Unless otherwise specified in the prospectus supplement, after payment of the full amount of their liquidating distributions, the holders of preferred stock will have no right or claim to any of our remaining assets. Upon any such voluntary or involuntary liquidation, dissolution or winding up, if our available assets are insufficient to pay the amount of the liquidating distributions on all outstanding preferred stock and the corresponding amounts payable on all other classes or series of our capital stock ranking on parity with the preferred stock and all other such classes or series of shares of capital stock ranking on parity with the preferred stock in the distribution of assets, then the holders of the preferred stock and all other such classes or series of capital stock will share ratably in any such distribution of assets in proportion to the full liquidating distributions to which they would otherwise be entitled.

Upon any such liquidation, dissolution or winding up and if we have made liquidating distributions in full to all holders of preferred stock, we will distribute our remaining assets among the holders of any other classes or series of capital stock ranking junior to the preferred stock according to their respective rights and preferences and, in each case, according to their respective number of shares. For such purposes, our consolidation or merger with or into any other corporation, trust or entity, or the sale, lease or conveyance of all or substantially all of our property or assets will not be deemed to constitute a liquidation, dissolution or winding up of our affairs.

Redemption. If so provided in the applicable prospectus supplement, the preferred stock will be subject to mandatory redemption or redemption at our option, as a whole or in part, in each case upon the terms, at the times and at the redemption prices set forth in such prospectus supplement.

The prospectus supplement relating to a series of preferred stock that is subject to mandatory redemption will specify the number of shares of preferred stock that shall be redeemed by us in each year commencing after a date to be specified, at a redemption price per share to be specified, together with an amount equal to all accrued and unpaid dividends thereon to the date of redemption. Unless the shares have a cumulative dividend, such accrued dividends will not include any accumulation in respect of unpaid dividends for prior dividend periods. We may pay the redemption price in cash or other property, as specified in the applicable prospectus supplement. If the redemption price for preferred stock of any series is payable only from the net proceeds of the issuance of shares of our capital stock, the terms of such preferred stock may provide that, if no such shares of our capital stock shall have been issued or to the extent the net proceeds from any issuance are insufficient to pay in full the aggregate redemption price then due, such preferred stock shall automatically and mandatorily be converted into the applicable shares of our capital stock pursuant to conversion provisions specified in the applicable prospectus supplement. Notwithstanding the foregoing, we will not redeem any preferred stock of a series unless:

- if that series of preferred stock has a cumulative dividend, we have declared and paid or contemporaneously declare and pay or set aside funds to pay full cumulative dividends on the preferred stock for all past dividend periods and the then current dividend period; or

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- if such series of preferred stock does not have a cumulative dividend, we have declared and paid or contemporaneously declare and pay or set aside funds to pay full dividends for the then current dividend period.

In addition, we will not acquire any preferred stock of a series unless:

- if that series of preferred stock has a cumulative dividend, we have declared and paid or contemporaneously declare and pay or set aside funds to pay full cumulative dividends on all outstanding shares of such series of preferred stock for all past dividend periods and the then current dividend period; or
- if that series of preferred stock does not have a cumulative dividend, we have declared and paid or contemporaneously declare and pay or set aside funds to pay full dividends on the preferred stock of such series for the then current dividend period.

However, at any time we may purchase or acquire preferred stock of that series (1) pursuant to a purchase or exchange offer made on the same terms to holders of all outstanding preferred stock of such series or (2) by conversion into or exchange for shares of our capital stock ranking junior to the preferred stock of such series as to dividends and upon liquidation.

If fewer than all of the outstanding shares of preferred stock of any series are to be redeemed, we will determine the number of shares that may be redeemed pro rata from the holders of record of such shares in proportion to the number of such shares held or for which redemption is requested by such holder or by any other equitable manner that we determine. Such determination will reflect adjustments to avoid redemption of fractional shares.

Unless otherwise specified in the prospectus supplement, we will mail notice of redemption at least 30 days but not more than 60 days before the redemption date to each holder of record of preferred stock to be redeemed at the address shown on our stock transfer books. Each notice shall state:

- the redemption date;
- the number of shares and series of preferred stock to be redeemed;
- the redemption price;
- the place or places where certificates for such preferred stock are to be surrendered for payment of the redemption price;
- that dividends on the shares to be redeemed will cease to accrue on such redemption date;
- the date on which the holder's conversion rights, if any, as to such shares shall terminate; and
- the specific number of shares to be redeemed from each such holder if fewer than all the shares of any series are to be redeemed.

If notice of redemption has been given and we have set aside the funds necessary for such redemption in trust for the benefit of the holders of any shares called for redemption, then from and after the redemption date, dividends will cease to accrue on such shares, and all rights of the holders of such shares will terminate, except the right to receive the redemption price.

Voting Rights. Holders of preferred stock will not have any voting rights, except as required by law or as indicated in the applicable prospectus supplement.

Unless otherwise provided for under the terms of any series of preferred stock, no consent or vote of the holders of shares of preferred stock or any series thereof shall be required for any amendment to our certificate of incorporation that would increase the number of authorized shares of preferred stock or the number of authorized shares of any series thereof or decrease the number of authorized shares of preferred stock or the number of authorized shares of any series thereof (but not below the number of authorized shares of preferred stock or such series, as the case may be, then outstanding).

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Conversion Rights. The terms and conditions, if any, upon which any series of preferred stock is convertible into our common stock will be set forth in the applicable prospectus supplement relating thereto. Such terms will include the number of shares of common stock into which the shares of preferred stock are convertible, the conversion price, rate or manner of calculation thereof, the conversion period, provisions as to whether conversion will be at our option or at the option of the holders of the preferred stock, the events requiring an adjustment of the conversion price and provisions affecting conversion in the event of the redemption.

Transfer Agent and Registrar. The transfer agent and registrar for the preferred stock will be set forth in the applicable prospectus supplement.

Provisions of Our Certificate of Incorporation and By-laws and Delaware Law That May Have Anti-Takeover Effects

Staggered Board; Removal of Directors

Our certificate of incorporation and by-laws divide our board of directors into three classes with staggered three-year terms. In addition, a director is only able to be removed for cause and only by the affirmative vote of the holders of at least 75% of the votes that all of our stockholders would be entitled to cast in an annual election of directors. Any vacancy on our board of directors, including a vacancy resulting from an enlargement of our board of directors, may only be filled by vote of a majority of our directors then in office. The classification of our board of directors and the limitations on the removal of directors and filling of vacancies could make it more difficult for a third party to acquire, or discourage a third party from seeking to acquire, control of our company.

Stockholder Action by Written Consent; Special Meetings

Our certificate of incorporation provides that any action required or permitted to be taken by our stockholders must be effected at a duly called annual or special meeting of such holders and may not be effected by any consent in writing by such holders. Our certificate of incorporation and by-laws also provide that, except as otherwise required by law, special meetings of our stockholders can only be called by our board of directors.

Advance Notice Requirements for Stockholder Proposals

Our by-laws establish an advance notice procedure for stockholder proposals to be brought before an annual meeting of stockholders, including proposed nominations of persons for election to our board of directors. Stockholders at an annual meeting may only consider proposals or nominations specified in the notice of meeting or brought before the meeting by or at the direction of our board of directors or by a stockholder of record on the record date for the meeting who is entitled to vote at the meeting and who has delivered timely written notice in proper form to our secretary of the stockholder's intention to bring such business before the meeting. These provisions could have the effect of delaying until the next stockholder meeting stockholder actions that are favored by the holders of a majority of our outstanding voting securities.

Delaware Business Combination Statute

We are subject to Section 203 of the Delaware General Corporation Law. Subject to certain exceptions, Section 203 prevents a publicly-held Delaware corporation from engaging in a "business combination" with any "interested stockholder" for three years following the date that the person became an interested stockholder, unless the interested stockholder attained such status with the approval of our board of directors or unless the business combination is approved in a prescribed manner. A "business combination" includes, among other things, a merger or consolidation involving us and the "interested stockholder" and the sale of more than 10% of our assets. In general, an "interested stockholder" is any entity or person beneficially owning 15% or more of our outstanding voting stock and any entity or person affiliated with or controlling or controlled by such entity or person.

Amendment of Certificate of Incorporation and By-laws

The Delaware General Corporation Law provides generally that the affirmative vote of a majority of the shares entitled to vote on any matter is required to amend a corporation's certificate of incorporation or by-laws, unless a corporation's certificate of incorporation or by-laws, as the case may be, requires a greater percentage. Our by-laws may be amended or repealed by a majority vote of our board of directors or by the affirmative vote of the holders of at least 75% of the

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votes that all of our stockholders would be entitled to cast in any annual election of directors. In addition, the affirmative vote of the holders of at least 75% of the votes that all of our stockholders would be entitled to cast in any annual election of directors is required to amend or repeal or to adopt any provisions inconsistent with any of the provisions of our certificate of incorporation described above under “—Staggered Board; Removal of Directors” and “—Stockholder Action by Written Consent; Special Meetings.”

DESCRIPTION OF WARRANTS

We may issue warrants to purchase common stock, preferred stock or debt securities. We may offer warrants separately or together with one or more additional warrants, common stock, preferred stock, or debt securities, or any combination of those securities in the form of units, as described in the applicable prospectus supplement. If we issue warrants as part of a unit, the accompanying prospectus supplement will specify whether those warrants may be separated from the other securities in the unit prior to the expiration date of the warrants. The applicable prospectus supplement will also describe the following terms of any warrants:

- the specific designation and aggregate number of, and the offering price at which we will issue, the warrants;
- the currency or currency units in which the offering price, if any, and the exercise price are payable;
- the date on which the right to exercise the warrants will begin and the date on which that right will expire or, if you may not continuously exercise the warrants throughout that period, the specific date or dates on which you may exercise the warrants;
- whether the warrants are to be sold separately or with other securities as parts of units;
- whether the warrants will be issued in definitive or global form or in any combination of these forms, although, in any case, the form of a warrant included in a unit will correspond to the form of the unit and of any security included in that unit;
- any applicable material U.S. federal income tax consequences;
- the identity of the warrant agent for the warrants and of any other depositaries, execution or paying agents, transfer agents, registrars or other agents;
- the proposed listing, if any, of the warrants or any securities purchasable upon exercise of the warrants on any securities exchange;
- the designation and terms of any equity securities purchasable upon exercise of the warrants;
- the designation, aggregate principal amount, currency and terms of any debt securities that may be purchased upon exercise of the warrants;
- if applicable, the designation and terms of the preferred stock with which the warrants are issued and the number of warrants issued with each security;
- if applicable, the date from and after which any warrants issued as part of a unit and the related debt securities, preferred stock, or common stock will be separately transferable;
- the number of shares of common stock, preferred stock purchasable upon exercise of a warrant and the price at which those shares may be purchased;
- if applicable, the minimum or maximum amount of the warrants that may be exercised at any one time;
- information with respect to book-entry procedures, if any;
- the anti-dilution provisions of, and other provisions for changes to or adjustment in the exercise price of, the warrants, if any;
- any redemption or call provisions; and
- any additional terms of the warrants, including terms, procedures and limitations relating to the exchange or exercise of the warrants.

DESCRIPTION OF UNITS

As specified in the applicable prospectus supplement, we may issue units consisting of one or more shares of common stock, shares of preferred stock, debt securities, warrants or any combination of such securities.

The applicable prospectus supplement will specify the following terms of any units in respect of which this prospectus is being delivered:

- the terms of the units and of any of the shares of common stock, shares of preferred stock, debt securities, or warrants comprising the units, including whether and under what circumstances the securities comprising the units may be traded separately;
- a description of the terms of any unit agreement governing the units;
- if appropriate, a discussion of material U.S. federal income tax considerations; and
- a description of the provisions for the payment, settlement, transfer or exchange of the units.

RATIO OF EARNINGS TO FIXED CHARGES

If we offer debt securities and/or preference equity securities under this prospectus, then we will, if required at that time, provide a ratio of earnings to fixed charges and/or ratio of combined fixed charges and preference dividends to earnings, respectively, in the applicable prospectus supplement for such offering.

USE OF PROCEEDS

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

PLAN OF DISTRIBUTION

We may sell the securities covered by this prospectus from time to time in one or more offerings. Registration of the securities covered by this prospectus does not mean, however, that those securities will necessarily be offered or sold.

We may sell the securities:

- through underwriters;
- through dealers;
- through agents;
- directly to purchasers; or
- through a combination of any of these methods of sale.

In addition, we may issue the securities as a dividend or distribution or in a subscription rights offering to our existing security holders. This prospectus may be used in connection with any offering of our securities through any of these methods or other methods described in the applicable prospectus supplement.

We may directly solicit offers to purchase securities, or agents may be designated to solicit such offers. We will, in the prospectus supplement relating to such offering, name any agent that could be viewed as an underwriter under the Securities Act, and describe any commissions that we must pay. Any such agent will be acting on a best efforts basis for the period of its appointment or, if indicated in the applicable prospectus supplement, on a firm commitment basis.

The distribution of the securities may be effected from time to time in one or more transactions:

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

Each prospectus supplement will describe the method of distribution of the securities and any applicable restrictions.

The prospectus supplement with respect to the securities of a particular series will describe the terms of the offering of the securities, including the following:

- the name of the agent or any underwriters;
- the public offering or purchase price and the proceeds we will receive from the sale of the securities;
- any discounts and commissions to be allowed or re-allowed or paid to the agent or underwriters;
- all other items constituting underwriting compensation;
- any discounts and commissions to be allowed or re-allowed or paid to dealers; and
- any exchanges on which the securities will be listed.

If any underwriters or agents are utilized in the sale of the securities in respect of which this prospectus is delivered, we will enter into an underwriting agreement or other agreement with them at the time of sale to them, and we will set forth in the prospectus supplement relating to such offering the names of the underwriters or agents and the terms of the related agreement with them.

If a dealer is utilized in the sale of the securities in respect of which this prospectus is delivered, we will sell such securities to the dealer, as principal. The dealer may then resell such securities to the public at varying prices to be determined by such dealer at the time of resale.

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If we offer securities in a subscription rights offering to our existing security holders, we may enter into a standby underwriting agreement with dealers, acting as standby underwriters. We may pay the standby underwriters a commitment fee for the securities they commit to purchase on a standby basis. If we do not enter into a standby underwriting arrangement, we may retain a dealer-manager to manage a subscription rights offering for us.

Remarketing firms, agents, underwriters, dealers and other persons may be entitled under agreements which they may enter into with us to indemnification by us against certain civil liabilities, including liabilities under the Securities Act, and may be customers of, engage in transactions with or perform services for us in the ordinary course of business.

If so indicated in the applicable prospectus supplement, we will authorize underwriters or other persons acting as our agents to solicit offers by certain institutions to purchase securities from us pursuant to delayed delivery contracts providing for payment and delivery on the date stated in the prospectus supplement. Each contract will be for an amount not less than, and the aggregate amount of securities sold pursuant to such contracts shall not be less nor more than, the respective amounts stated in the prospectus supplement. Institutions with whom the contracts, when authorized, may be made include commercial and savings banks, insurance companies, pension funds, investment companies, educational and charitable institutions and other institutions, but shall in all cases be subject to our approval. Delayed delivery contracts will not be subject to any conditions except that:

- the purchase by an institution of the securities covered under that contract shall not at the time of delivery be prohibited under the laws of the jurisdiction to which that institution is subject; and
- if the securities are also being sold to underwriters acting as principals for their own account, the underwriters shall have purchased such securities not sold for delayed delivery. The underwriters and other persons acting as our agents will not have any responsibility in respect of the validity or performance of delayed delivery contracts.

Certain agents, underwriters and dealers, and their associates and affiliates may be customers of, have borrowing relationships with, engage in other transactions with, and/or perform services, including investment banking services, for us or one or more of our respective affiliates in the ordinary course of business.

In order to facilitate the offering of the securities, any underwriters may engage in transactions that stabilize, maintain or otherwise affect the price of the securities or any other securities the prices of which may be used to determine payments on such securities. Specifically, any underwriters may overallocate in connection with the offering, creating a short position for their own accounts. In addition, to cover overallocations or to stabilize the price of the securities or of any such other securities, the underwriters may bid for, and purchase, the securities or any such other securities in the open market. Finally, in any offering of the securities through a syndicate of underwriters, the underwriting syndicate may reclaim selling concessions allowed to an underwriter or a dealer for distributing the securities in the offering if the syndicate repurchases previously distributed securities in transactions to cover syndicate short positions, in stabilization transactions or otherwise. Any of these activities may stabilize or maintain the market price of the securities above independent market levels. Any such underwriters are not required to engage in these activities and may end any of these activities at any time.

Under Rule 15c6-1 of the Exchange Act, trades in the secondary market generally are required to settle in two business days, unless the parties to any such trade expressly agree otherwise. The applicable prospectus supplement may provide that the original issue date for your securities may be more than two scheduled business days after the trade date for your securities. Accordingly, in such a case, if you wish to trade securities on any date prior to the second business day before the original issue date for your securities, you will be required, by virtue of the fact that your securities initially are expected to settle more than two scheduled business days after the trade date for your securities, to make alternative settlement arrangements to prevent a failed settlement.

The securities may be new issues of securities and may have no established trading market. The securities may or may not be listed on a national securities exchange. We can make no assurance as to the liquidity of or the existence of trading markets for any of the securities.

LEGAL MATTERS

Unless the applicable prospectus supplement indicates otherwise, the validity of the securities in respect of which this prospectus is being delivered will be passed upon for us by Gibson, Dunn & Crutcher LLP, San Francisco, California. 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

Novus Therapeutics, Inc.

Ernst & Young LLP, independent registered public accounting firm, has audited our consolidated financial statements as of and for the year ended December 31, 2017, included in our Annual Report on Form 10-K for the year ended December 31, 2017, as set forth in their report, which is incorporated by reference in this prospectus and elsewhere in the registration statement. Our financial statements are incorporated by reference in reliance on Ernst & Young LLP's report, given on their authority as experts in accounting and auditing.

Otic Pharma, Ltd.

The audited consolidated financial statements of Otic Pharma, Ltd. and its subsidiary incorporated in this prospectus by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2017 (which comprise the balance sheet as of December 31, 2016, and the related Statements of Operations, Changes in Shareholders Deficit and Cash Flows for the year then ended, and the related notes to the financial statements) have been audited by Brightman, Almagor Zohar & Co., a member of Deloitte Touche Tohmatsu Limited, as stated in their report incorporated by reference and given upon the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC's website at <http://www.sec.gov>. Copies of certain information filed by us with the SEC are also available on our website at www.novustherapeutics.com. Our website is not a part of this prospectus and is not incorporated by reference in this prospectus. You may also read and copy any document we file at the SEC's Public Reference Room, 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the operation of the Public Reference Room.

This prospectus is part of a registration statement that we filed with the SEC. This prospectus omits some information contained in the registration statement in accordance with SEC rules and regulations. You should review the information and exhibits in the registration statement for further information about us and our subsidiaries and the securities we are offering. Statements in this prospectus concerning any document we filed as an exhibit to the registration statement or that we otherwise filed with the SEC are not intended to be comprehensive and are qualified by reference to these filings. You should review the complete document to evaluate these statements.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to incorporate by reference in this prospectus much of the information we file with the SEC, which means that we can disclose important information to you by referring you to those publicly available documents. The information that we incorporate by reference in this prospectus is considered to be part of this prospectus. Because we are incorporating by reference future filings with the SEC, this prospectus is continually updated and those future filings may modify or supersede some of the information included or incorporated in this prospectus. This means that you must look at all of the SEC filings that we incorporate by reference to determine if any of the statements in this prospectus or in any document previously incorporated by reference have been modified or superseded.

Any statement contained in any document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded, for purposes of this prospectus, to the extent that a statement contained in or omitted from this prospectus, or in any other subsequently filed document that also is or is deemed to be incorporated by reference herein, modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus. We incorporate by reference the documents listed below which have been filed by us:

- Our Annual Report on Form 10-K for the fiscal year ended December 31, 2017, including the information specifically incorporated by reference into the Annual Report on Form 10-K from our definitive proxy statement for the 2018 Annual Meeting of Stockholders;
- Our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2018;
- Our Current Reports on Form 8-K filed March 12, 2018 and June 14, 2018; and
- The description of our common stock contained in our Registration Statement on Form 8-A filed with the SEC on September 12, 2014, as amended on June 23, 2017, as well as any subsequent amendments or reports filed for the purpose of updating such description.

All documents we file with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, except as to any portion of any report or documents that is not deemed “filed” under such provisions: (1) on or after the date of filing of the registration statement containing this prospectus and prior to the effectiveness of the registration statement and (2) on or after the date of this prospectus until the earlier of the date on which all of the securities registered hereunder have been sold or the registration statement of which this prospectus is a part has been withdrawn, shall be deemed incorporated by reference in this prospectus and to be a part of this prospectus from the date of filing of those documents.

Nothing in this prospectus shall be deemed to incorporate information furnished but not filed with the SEC pursuant to Item 2.02 or 7.01 of Form 8-K.

Upon written or oral request, we will provide without charge to each person to whom a copy of the prospectus is delivered a copy of the documents incorporated by reference herein (other than exhibits to such documents unless such exhibits are specifically incorporated by reference herein). You may request a copy of these filings, at no cost, by writing or telephoning us at the address set forth below. We have authorized no one to provide you with any information that differs from that contained in this prospectus. Accordingly, you should not rely on any information that is not contained in this prospectus. You should not assume that the information in this prospectus is accurate as of any date other than the date of the front cover of this prospectus.

Novus Therapeutics, Inc.
19900 MacArthur Boulevard, Suite 550
Irvine, California 92612
Attn: Investor Relations
(949) 238-8090



3,449,112 shares of common stock

PROSPECTUS SUPPLEMENT

H.C. Wainwright & Co.

April 30, 2019
