

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**  
Washington, D.C. 20549

**FORM S-1  
REGISTRATION STATEMENT**  
*UNDER  
THE SECURITIES ACT OF 1933*

**Novus Therapeutics, Inc.**

(Exact name of Registrant as specified in its charter)

Delaware  
(State or other jurisdiction of  
incorporation or organization)

2834  
(Primary Standard Industrial  
Classification Code Number)

20-1000967  
(I.R.S. Employer  
Identification Number)

19900 MacArthur Blvd., Suite 550  
Irvine, California 92612  
(949) 238-8090

(Address, including zip code, and telephone number, including area code, of Registrant's principal executive offices)

Gregory J. Flesher  
Chief Executive Officer  
Novus Therapeutics, Inc.  
19900 MacArthur Blvd., Suite 550  
Irvine, California 92612  
(949) 238-8090

(Name, address, including zip code, and telephone number, including area code, of agent for service)

*Copies to:*

Ryan A. Murr  
Gibson, Dunn & Crutcher LLP  
555 Mission Street, Suite 3000  
San Francisco, CA 94105-0921  
(415) 393-8373

Charlie Kim  
Cooley LLP  
4401 Eastgate Mall  
San Diego, CA 92121-1909  
(858) 550-6049

**Approximate date of commencement of proposed sale to the public:  
As soon as practicable after the effective date of this Registration Statement.**

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933 check the following box:

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer  Accelerated filer   
Non-accelerated filer  (Do not check if a smaller reporting company) Smaller reporting company   
Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

**CALCULATION OF REGISTRATION FEE**

Title of each class of securities to be registered	Proposed maximum aggregate offering price <sup>(1)(2)</sup>	Amount of registration fee
Common stock, \$0.001 par value per share	\$34,500,000	\$4,296

(1) Includes \$4,500,000 of additional shares of common stock that may be purchased by the underwriters pursuant to an option to purchase additional shares.

(2) Estimated solely for the purpose of calculating the amount of the registration fee in accordance with Rule 457(o) under the Securities Act of 1933, as amended.

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

[Table of Contents](#)

The information in this preliminary prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell these securities, and it is not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

Subject to completion, dated July 31, 2018

# Prospectus

Shares



## NOVUS THERAPEUTICS, INC.

### Common Stock

\$ per share

- Novus Therapeutics, Inc. is offering \_\_\_\_\_ shares of its common stock.
- Nasdaq Capital Market trading symbol: "NVUS."
- On July 27, 2018, the last reported sale price of our common stock on the Nasdaq Capital Market was \$7.20 per share.

Investing in our common stock involves a high degree of risk. See "[Risk Factors](#)" beginning on page 6.

	Per share	Total
Public offering price	\$	\$
Underwriting discounts and commissions <sup>(1)</sup>	\$	\$
Proceeds to Novus Therapeutics, Inc., before expenses	\$	\$

(1) See "Underwriting" for additional disclosure regarding underwriting discounts, commissions and estimated offering expenses.

The underwriters have been granted an option for a period of 30 days to purchase up to \_\_\_\_\_ additional shares of common stock.

We are an "emerging growth company," as that term is used in the Jumpstart Our Business Startups Act of 2012, and, as such, have elected to comply with certain reduced public company reporting requirements for this prospectus and future filings.

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

The underwriters expect to deliver the shares of common stock to purchasers on or about \_\_\_\_\_, 2018.

## Piper Jaffray

The date of this prospectus is \_\_\_\_\_, 2018

TABLE OF CONTENTS

Contents

<a href="#">PROSPECTUS SUMMARY</a>	1
<a href="#">THE OFFERING</a>	4
<a href="#">RISK FACTORS</a>	6
<a href="#">CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS</a>	8
<a href="#">USE OF PROCEEDS</a>	9
<a href="#">CAPITALIZATION</a>	10
<a href="#">DILUTION</a>	11
<a href="#">DESCRIPTION OF CAPITAL STOCK</a>	12
<a href="#">UNDERWRITING</a>	15
<a href="#">LEGAL MATTERS</a>	22
<a href="#">EXPERTS</a>	22
<a href="#">WHERE YOU CAN FIND MORE INFORMATION</a>	23
<a href="#">INCORPORATION OF CERTAIN INFORMATION BY REFERENCE</a>	24

---

We have not authorized anyone to provide you with information other than that contained in this prospectus 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 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.

No action is being taken in any jurisdiction outside the United States to permit a public offering of our common stock or possession or distribution of this prospectus in that jurisdiction. Persons who come into possession of this prospectus in jurisdictions outside the United States are required to inform themselves about and to observe any restrictions as to this offering and the distribution of this prospectus applicable to that jurisdiction.

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, (3) the term “Common Stock” refers to shares of Novus Therapeutics’ Common Stock and (4) the term “stockholder(s)” refers to the holders of Common Stock or securities exercisable for Common Stock.

## PROSPECTUS SUMMARY

*This summary highlights certain information about us, this offering and selected information contained elsewhere in or incorporated by reference into this prospectus. This summary is not complete and does not contain all of the information that you should consider before deciding whether to invest in our common stock. For a more complete understanding of our company and this offering, we encourage you to read and consider carefully the more detailed information in this prospectus, including the information incorporated by reference in this prospectus, and the information included in any free writing prospectus that we have authorized for use in connection with this offering, including the information under the heading “Risk Factors” in this prospectus on page 6 and in the documents incorporated by reference into this prospectus.*

### 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. Novus’ lead product candidate (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, with over half of cases occurring in children under five years of age. OM is one of the most common disorders seen in pediatric practice, and in the United States 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 (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”). In the United States alone, over \$5 billion is spent annually on the management of OM. In the course of a year, over 8 million children are diagnosed with acute OM (“AOM” or middle ear inflammation with infectious fluid) and over 2 million children are diagnosed with OM with effusion (“OME” or middle ear inflammation with non-infectious fluid). Additionally, over 2.5 million children are diagnosed with recurrent AOM (“RAOM”) or chronic OME (“COME”), and at least 1 million people are diagnosed with Chronic Suppurative Otitis Media (“CSOM” or eardrum perforation with persistent drainage), oftentimes resulting in surgeries. Assuming one prescription for each AOM and OME diagnosis and two or more additional refills for each RAOM, COME, and CSOM patient, OP-02 has a U.S. opportunity of over 20 million prescriptions per year.

OP-02 is a drug-device combination product comprised of a proprietary formulation 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”) and is intended to be used to restore the normal physiologic activity of the Eustachian tube (“ET”), which is the small tube that connects the middle ear to the back of the nasopharynx. Together DPPC and CP are designed to 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 is intended to promote ‘de-sticking’ of the ET so that ventilation and drainage of the middle ear may occur.

The positive effects of OP-02 on Eustachian tube function have been observed in preclinical animal studies. Meaningful reductions in passive opening pressure (“POP”) of healthy Eustachian tube, as well as meaningful reduction in severity and duration of OM episodes in three animal species after treatment

## Table of Contents

with OP-02 have been observed. In two separate animal-model experiments, the investigators studied the effects of intranasal administration of an early formulation of OP-02 on Eustachian tube POP of the left ear as compared to propellant in healthy Mongolian gerbils and albino mice. In both animal species, administration of OP-02 resulted in significant ( $p < 0.001$ ) reductions in mean Eustachian tube POP measurements at both the 5 and 10-minute assessment times compared to baseline and immediately following propellant alone administration. In a study of experimentally induced AOM in chinchillas, the use of OP-02 was associated with a marked reduction in the severity and duration of AOM. Furthermore, quantitative cultures of middle ear fluid showed dramatic decreases in bacterial colonization with intranasal surfactant treatment alone (i.e., no antibiotics were administered in this study). Based on these findings, Novus believes that resolution of effusion may occur significantly earlier with surfactant treatment than with placebo. The data suggest that enhancement/restoration of Eustachian tube function is beneficial in acute bacterial OM. Prior to licensing rights to OP-02, nine humans with various OM and ETD conditions were treated with OP-02 by the inventors. This human experience was captured as case studies and reported to the FDA. Based on these case studies, in conjunction with the preclinical animal data, Novus believes that a product of this type may have utility in the treatment and prevention of OM and ETD in children and adults.

Novus expects to initiate a phase 1 clinical program of OP-02 in 2018. The phase 1 program will include a single safety study to evaluate repeated intranasal doses of OP-02 in healthy adults plus additional phase 1 studies to explore safety and efficacy in patients with OME and AOM. Novus expects to complete the phase 1 program by mid-2019. Upon completion of the phase 1 program in 2019, Novus intends to initiate a phase 2 program consisting of multiple phase 2 clinical trials that will evaluate OP-02 as a treatment for OME and as a treatment to prevent COME, as well as a separate study to evaluate OP-02 as a treatment to prevent RAOM in children 6-months of age or older. Upon successful completion of the phase 2 studies in late 2020, Novus plans to initiate a phase 3 program of OP-02, with an initial focus on the registration of OP-02 in North America and key European markets as a product to treat and prevent AOM and OME in children. Additional development activities to support registration in other countries and/or for other OM 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 clinical trial 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 combination drug product containing an antibiotic plus an anesthetic designed to rapidly relieve ear pain (an unmet need in AOE) and eradicate the infection with less than seven days of treatment. Novus subsequently paused the OP-01 development program to focus resources on OP-02.

### **Recent Developments**

As of June 30, 2018, we had cash and cash equivalents of approximately \$ .

On June 19, 2018, we disclosed receipt of final meeting minutes from a Type C meeting with the U.S. Food and Drug Administration (FDA) that was held at our request to discuss our OP-02 development program in OM. The FDA provided guidance on the planned 505(b)(2) development path for OP-02 and

confirmed that no additional preclinical or clinical studies beyond our planned phase 1 safety study in healthy adults will be required before initiation of phase 2 studies in children 6-months of age or older with OM. The FDA also confirmed that development of OP-02 for separate OM treatment and prevention indications is acceptable and provided initial guidance on study design for those indications.

#### **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.

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](http://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.

---

---

**THE OFFERING**

Issuer	Novus Therapeutics, Inc.
Common stock offered by us	shares, plus to up an additional shares if the underwriters exercise their option to purchase additional shares.
Common stock to be outstanding after this offering	shares (or shares if the underwriters exercise their option to purchase additional shares.)
Underwriter's option to purchase additional shares	The underwriters have been granted a 30-day option to purchase up to an additional shares of our common stock.
Use of proceeds	<p>We estimate that the net proceeds to us from this offering will be approximately \$ million, after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. We intend to use the net proceeds from this offering as follows:</p> <ul style="list-style-type: none"><li>• approximately \$10 million to fund a phase 2 clinical trial evaluating OP-02 as a treatment for OME and as a treatment to prevent chronic OME in children;</li><li>• approximately \$10 million to fund a phase 2 clinical trial evaluating OP-02 as a treatment to prevent recurrent AOM in children; and</li><li>• the remainder for working capital purposes, including general operating expenses.</li></ul> <p>See "Use of Proceeds" on page 9.</p>
Risk factors	Investing in our common stock involves a high degree of risk. See "Risk Factors" beginning on page 6 of this prospectus and under similar headings in the other documents that are filed after the date hereof and incorporated by reference in this prospectus for a discussion of factors you should carefully consider before deciding to invest in shares of our common stock.
Nasdaq Capital Market symbol	"NVUS".
The above discussion and table are based on	shares of our common stock issued and outstanding as of June 30, 2018 and excludes the following:
	<ul style="list-style-type: none"><li>• shares of our common stock issuable upon the exercise of stock options outstanding as of June 30, 2018, at a weighted-average exercise price of \$ per share; and</li></ul>

---

[Table of Contents](#)

- additional shares of our common stock available for future issuance, as of June 30, 2018, under our 2014 Stock Incentive Plan and our Employee Stock Purchase Plan.

Except as otherwise indicated, all information contained in this prospectus:

- assumes that the underwriters do not exercise their option to purchase additional shares; and
- assumes no exercise of outstanding options after June 30, 2018.

## RISK FACTORS

*Investing in our common stock involves a high degree of risk. Before investing in our common stock, you should carefully consider the risks and uncertainties described below and under the sections captioned “Risk Factors” contained 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 market price of our common stock could decline, and you may lose all or part of your investment.*

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

***If you purchase shares of common stock in this offering, you will suffer immediate and substantial dilution of your investment.***

The price per share of our common stock in this offering may exceed the net tangible book value per share of our common stock outstanding prior to this offering. Therefore, if you purchase shares of our common stock in this offering, you may pay a price per share that substantially exceeds our net tangible book value per share after this offering. To the extent shares are issued under outstanding options at exercise prices lower than the price of our common stock in this offering, you will incur further dilution. Assuming that an aggregate of \_\_\_\_\_ shares of our common stock are sold at a price of \$ \_\_\_\_\_ per share, the last reported sale price of our common stock on the Nasdaq Capital Market on \_\_\_\_\_, 2018, for aggregate net proceeds to us of \$ \_\_\_\_\_ million after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us, you will experience immediate dilution of \$ \_\_\_\_\_ per share, representing the difference between our as adjusted net tangible book value per share as of June 30, 2018 after giving effect to this offering and the assumed offering price. See the section entitled “Dilution” below for a more detailed illustration of the dilution you would incur if you participate in this offering.

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

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

***We have broad discretion in the use of our cash and cash equivalents, including the net proceeds we receive in this offering, and may not use them effectively.***

Our management has broad discretion to use our cash and cash equivalents, including the net proceeds we receive in this offering, to fund our operations and could spend these funds in ways that do not improve our results of operations or enhance the value of our common stock, and you will not have the opportunity as part of your investment decision to assess whether the net proceeds are being used appropriately. The failure by our management to apply these funds effectively could result in financial losses that could have a material adverse effect on our business, cause the price of our common stock to

---

[Table of Contents](#)

decline and delay the development of our product candidates. Pending their use to fund our operations, we may invest our cash and cash equivalents, including the net proceeds from this offering, in a manner that does not produce income or that loses value.

## 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;
- expected 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 under the caption "Risk Factors" in this prospectus and the documents incorporated by reference herein. 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.

## USE OF PROCEEDS

We estimate that the net proceeds to us from the sale of \_\_\_\_\_ shares of common stock offered by us in this offering will be approximately \$ \_\_\_\_\_ million, based on an assumed public offering price of \$ \_\_\_\_\_ per share, which is the last reported sale price of our common stock on the Nasdaq Capital Market on \_\_\_\_\_, 2018, after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us.

As of June 30, 2018, we had cash and cash equivalents of \$ \_\_\_\_\_ million. We intend to use the net proceeds from this offering as follows:

- approximately \$10 million to fund a phase 2 clinical trial evaluating OP-02 as a treatment for OME and as a treatment to prevent chronic OME in children;
- approximately \$10 million to fund a phase 2 clinical trial evaluating OP-02 as a treatment to prevent recurrent AOM in children; and
- the remainder for working capital purposes, including general operating expenses.

Our expected use of net proceeds from this offering represents our current intentions based upon our present plans and business condition. As of the date of this prospectus, we cannot predict with certainty all of the particular uses for the net proceeds to be received upon the closing of this offering or the amounts that we will actually spend on the uses set forth above. The amounts and timing of our actual use of the net proceeds from this offering will vary depending on numerous factors, including the progress of our clinical trials and other development efforts for OP-02 and other factors described in “Risk Factors” beginning on page 6 or incorporated by reference herein, as well as the amount of cash we use in our operations. As a result, our management will have broad discretion in the application of the net proceeds, and investors will be relying on our judgment regarding the application of the net proceeds from this offering. In addition, we might decide to postpone or not pursue clinical trials or preclinical activities if the net proceeds from this offering and the other sources of cash are less than expected.

Pending application of the net proceeds, we intend to invest the net proceeds from this offering in short- and intermediate-term, interest-bearing obligations, investment-grade instruments, certificates of deposit or direct or guaranteed obligations of the U.S. government.

## CAPITALIZATION

The following table sets forth our cash, cash equivalents and short-term investments and capitalization as of June 30, 2018:

- on an actual basis; and
- on an as-adjusted basis to reflect the issuance and sale by us approximately \_\_\_\_\_ shares of our common stock in this offering at an assumed public offering price of \$ \_\_\_\_\_ per share, which was the last reported sale price of our common stock on the Nasdaq Capital Market on \_\_\_\_\_, 2018, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

You should read this information together with our financial statements and related notes and the information under the captions “Selected Financial Data” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” appearing in our Annual Report on Form 10-K for the fiscal year ended December 31, 2017 and Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2018, incorporated by reference in this prospectus. For more details on how you can obtain our Commission reports and other information, you should read the section of the prospectus entitled “Where You Can Find More Information.”

	As of June 30, 2018	
	Actual	As Adjusted
	(in thousands, except share data) (unaudited)	
Cash, cash equivalents and short-term investments	\$ _____	\$ _____
Stockholders’ equity:		
Preferred stock, par value \$0.001 per share—5,000,000 shares authorized; no shares issued or outstanding, actual and as adjusted	—	—
Common stock, par value \$0.001 per share—200,000,000 shares authorized; _____ shares issued and outstanding, actual; 200,000,000 shares authorized, _____ shares issued and outstanding, as adjusted		
Additional paid-in capital		
Accumulated other comprehensive loss		
Deficit accumulated during the development stage		
Total stockholders’ equity		
Total capitalization	\$ _____	\$ _____

The number of shares of common stock issued and outstanding in the table above excludes the following shares as of June 30, 2018:

- \_\_\_\_\_ shares of our common stock issuable upon the exercise of stock options outstanding as of June 30, 2018, at a weighted-average exercise price of \$ \_\_\_\_\_ per share; and
- \_\_\_\_\_ additional shares of our common stock available for future issuance, as of June 30, 2018, under our 2014 Stock Incentive Plan and Employee Stock Purchase Plan.

## DILUTION

If you invest in our common stock in this offering, your ownership interest will be diluted to the extent of the difference between the public offering price per share of our common stock and the as-adjusted net tangible book value per share of our common stock immediately after this offering.

Net tangible book value per share is determined by dividing our total tangible assets less our total liabilities by the number of shares of common stock outstanding. Our historical net tangible book value as of June 30, 2018 was approximately \$            million, or \$            per share.

Dilution per share to new investors represents the difference between the amount per share paid by purchasers of shares of common stock in this offering and the as-adjusted net tangible book value per share of common stock immediately after completion of this offering. After giving effect to the sale of            shares of common stock in this offering by us at an assumed public offering price of \$            per share, which is the last reported sale price of our common stock on the Nasdaq Capital Market on           , 2018, and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us, our as-adjusted net tangible book value as of June 30, 2018 would have been \$            million, or \$            per share. This represents an immediate increase in net tangible book value of \$            per share to existing stockholders and an immediate dilution of \$            per share to investors participating in this offering, as illustrated in the following table:

Assumed public offering price per share	\$
Historical net tangible book value per share as of June 30, 2018	\$
Increase in as-adjusted net tangible book value per share attributable to new investors	<u>          </u>
As-adjusted net tangible book value per share after this offering	
Dilution per share to investors participating in this offering	<u>          </u>

The foregoing calculations exclude the following shares as of June 30, 2018:

- shares of our common stock issuable upon the exercise of stock options outstanding as of June 30, 2018, at a weighted-average exercise price of \$            per share; and
- additional shares of our common stock available for future issuance, as of June 30, 2018, under our 2014 Stock Incentive Plan and Employee Stock Purchase Plan.

Furthermore, we may choose to raise additional capital through the sale of equity or convertible debt securities due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. New investors will experience further dilution if any of our outstanding options are exercised, new options are issued and exercised under our equity incentive plans or we issue additional shares of common stock, other equity securities or convertible debt securities in the future.

## 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 June 30, 2018, 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 may be entitled to 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 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.

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.

### **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.

## [Table of Contents](#)

### ***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 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.”

## UNDERWRITING

Piper Jaffray & Co., or Piper Jaffray, is acting as representative of each of the underwriters named below. Subject to the terms and conditions set forth in an underwriting agreement among us and the underwriters, we have agreed to sell to the underwriters, and the underwriters have agreed, severally and not jointly, to purchase from us, the number of shares of our common stock set forth opposite its name below.

<u>Underwriters</u>	<u>Number of Shares</u>
Piper Jaffray & Co.	
Total	

Subject to the terms and conditions set forth in the underwriting agreement, the underwriters have agreed, severally and not jointly, to purchase all of the shares sold under the underwriting agreement if any of these shares are purchased. If an underwriter defaults, the underwriting agreement provides that the purchase commitments of the non-defaulting underwriters may be increased or the underwriting agreement may be terminated.

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act relating to losses or claims resulting from material misstatements in or omissions from this prospectus, the registration statement of which this prospectus is a part, certain free writing prospectuses that may be used in the offering and in any marketing materials used in connection with this offering and to contribute to payments the underwriters may be required to make in respect of those liabilities.

The underwriters are offering the shares, subject to prior sale, when, as and if issued to and accepted by them, subject to approval of legal matters by their counsel, including the validity of the shares, and other conditions contained in the underwriting agreement, such as the receipt by the underwriters of officers' certificates and legal opinions. The underwriters reserve the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part.

### Commissions and Discounts

The representative has advised us that the underwriters propose initially to offer the shares to the public at the public offering price set forth on the cover page of this prospectus and to dealers at that price less a concession not in excess of \$ \_\_\_\_\_ per share. After the initial offering, the public offering price, concession or any other term of this offering may be changed.

We have granted to the underwriters an option, exercisable for 30 days from the date of this prospectus, to purchase up to \_\_\_\_\_ additional shares of our common stock at the public offering price listed on the cover page of this prospectus, less underwriting discounts and commissions. To the extent the option is exercised, each underwriter will become obligated, subject to certain conditions, to purchase approximately the same percentage of the additional shares of common stock as the number listed next to the underwriter's name in the preceding table bears to the total number of shares of common stock listed next to the names of all underwriters in the table above.

The following table shows the public offering price, underwriting discounts and commissions and proceeds before expenses to us. The information assumes either no exercise or full exercise by the underwriters of their option to purchase additional shares.

## Table of Contents

	<u>Per Share</u>	<u>Without Option</u>	<u>With Option</u>
Public offering price	\$	\$	\$
Underwriting discounts and commissions paid by us	\$	\$	\$
Proceeds to us, before expenses	\$	\$	\$

The estimated offering expenses payable by us, exclusive of the underwriting discounts and commissions, are approximately \$ . We have also agreed to reimburse the underwriters for certain of their expenses in an amount not to exceed \$ in connection with the clearance of this offering with the Financial Industry Regulatory Authority, as set forth in the underwriting agreement.

### **Listing**

Our common stock is listed on The Nasdaq Capital Market under the trading symbol “NVUS.”

### **No Sales of Similar Securities**

We have agreed that we will not offer, sell, contract to sell, pledge or otherwise dispose of, directly or indirectly, or file with the SEC a registration statement under the Securities Act relating to, any of our shares of common stock or securities convertible into or exchangeable or exercisable for any of our shares of common stock, or publicly disclose the intention to make any offer, sale, pledge, disposition or filing, without the prior written consent of Piper Jaffray for a period of 90 days after the date of this prospectus, subject to specified limited exceptions.

Our officers and directors and certain of our stockholders have agreed, subject to specified limited exceptions, that they will not offer, sell, contract to sell, pledge or otherwise dispose of, directly or indirectly, any of our shares of common stock or securities convertible into or exchangeable or exercisable for any of our shares of common stock, enter into a transaction that would have the same effect, or enter into any swap, hedge or other arrangement that transfers, in whole or in part, any of the economic consequences of ownership of our shares of common stock, whether any of these transactions are to be settled by delivery of our shares of common stock or other securities, in cash or otherwise, or publicly disclose the intention to make any offer, sale, pledge or disposition, or to enter into any transaction, swap, hedge or other arrangement, without, in each case, the prior written consent of Piper Jaffray for a period of 90 days after the date of this prospectus.

Piper Jaffray may, in its sole discretion and at any time or from time to time before the termination of the 90-day restricted period, release all or any portion of the securities subject to lock-up agreements. There are no existing agreements between the underwriters and any of our stockholders who will execute a lock-up agreement providing consent to the sale of shares prior to the expiration of the 90-day restricted period.

### **Price Stabilization, Short Positions and Penalty Bids**

Until the distribution of the shares is completed, SEC rules may limit underwriters and selling group members from bidding for and purchasing shares of our common stock. However, the representatives may engage in transactions that stabilize the price of our common stock, such as bids or purchases to peg, fix or maintain that price. In connection with this offering, the underwriters may purchase and sell shares of our common stock in the open market. These transactions may include short sales, purchases on the open market to cover positions created by short sales and stabilizing transactions. Short sales involve the sale by the underwriters of a greater number of shares than they are required to purchase in this offering. “Covered” short sales are sales made in an amount not greater than the underwriters’ option to purchase additional shares described above. The underwriters may close out any covered short position by either exercising their option to purchase additional shares or purchasing shares in the open

## **Table of Contents**

market. In determining the source of shares to close out the covered short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase shares through the option to purchase additional shares. "Naked" short sales are sales in excess of the option to purchase additional shares. The underwriters must close out any naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of our common stock in the open market after pricing that could adversely affect investors who purchase in this offering. Stabilizing transactions consist of various bids for or purchases of shares of our common stock made by the underwriters in the open market prior to the closing of this offering.

The underwriters may also impose a penalty bid. This occurs when a particular underwriter repays to the underwriters a portion of the underwriting discount received by it because the representatives have repurchased shares sold by or for the account of such underwriter in stabilizing or short covering transactions.

Similar to other purchase transactions, the underwriters' purchases to cover the syndicate short sales may have the effect of raising or maintaining the market price of our common stock or preventing or retarding a decline in the market price of our common stock. As a result, the price of our common stock may be higher than the price that might otherwise exist in the open market. The underwriters may conduct these transactions on Nasdaq, in the over-the-counter market or otherwise.

Neither we nor any of the underwriters make any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of our common stock. In addition, neither we nor any of the underwriters make any representation that the representatives will engage in these transactions or that these transactions, once commenced, will not be discontinued without notice.

### **Electronic Offer, Sale and Distributions of Shares**

In connection with this offering, certain of the underwriters or securities dealers may distribute prospectuses by electronic means, such as e-mail. In addition, one or more of the underwriters may facilitate Internet distribution for this offering to certain of their Internet subscription customers. Any such underwriter may allocate a limited number of shares for sale to its online brokerage customers. An electronic prospectus is available on the Internet websites maintained by any such underwriter. Other than the prospectus in electronic format, the information on the websites of any such underwriter is not part of this prospectus.

### **Other Relationships**

The underwriters and their respective affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, investment research, principal investment, hedging, financing and brokerage activities. Certain of the underwriters and their affiliates have engaged in, and may in the future engage in, investment banking and other commercial dealings in the ordinary course of business with us or our affiliates. They have received, or may in the future receive, customary fees and commissions for these transactions.

In the ordinary course of their various business activities, the underwriters and their respective affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers, and such investment and securities activities may involve securities and/or instruments of the issuer. The underwriters and their respective affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or

## Table of Contents

instruments and may at any time hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

### **Selling Restrictions**

#### *European Economic Area*

In relation to each Member State of the European Economic Area which has implemented the Prospectus Directive (each, a Relevant Member State) an offer to the public of any shares of our common stock may not be made in that Relevant Member State, except that an offer to the public in that Relevant Member State of any shares of our common stock may be made at any time under the following exemptions under the Prospectus Directive, if they have been implemented in that Relevant Member State:

- (a) to any legal entity which is a qualified investor as defined in the Prospectus Directive;
- (b) to fewer than 100 or, if the Relevant Member State has implemented the relevant provision of the 2010 PD Amending Directive, 150, natural or legal persons (other than qualified investors as defined in the Prospectus Directive), as permitted under the Prospectus Directive, subject to obtaining the prior consent of the representatives for any such offer; or
- (c) in any other circumstances falling within Article 3(2) of the Prospectus Directive, provided that no such offer of shares of our common stock shall result in a requirement for the publication by us or any underwriter of a prospectus pursuant to Article 3 of the Prospectus Directive.

For the purposes of this provision, the expression an “offer to the public” in relation to any shares of our common stock in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and any shares of our common stock to be offered so as to enable an investor to decide to purchase any shares of our common stock, as the same may be varied in that Member State by any measure implementing the Prospectus Directive in that Member State, the expression “Prospectus Directive” means Directive 2003/71/EC (and amendments thereto, including the 2010 PD Amending Directive, to the extent implemented in the Relevant Member State), and includes any relevant implementing measure in the Relevant Member State, and the expression “2010 PD Amending Directive” means Directive 2010/73/EU.

#### *United Kingdom*

Each underwriter has represented and agreed that:

- (a) it has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the Financial Services and Markets Act 2000 (the FSMA)) received by it in connection with the issue or sale of the shares of our common stock in circumstances in which Section 21(1) of the FSMA does not apply to us; and
- (b) it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to the shares of our common stock in, from or otherwise involving the United Kingdom.

#### *Canada*

The shares of our common stock may be sold only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 Prospectus Exemptions or subsection 73.3(1) of the Securities Act (Ontario), and are permitted clients, as defined in National Instrument 31-103 Registration Requirements, Exemptions and Ongoing Registrant

## Table of Contents

Obligations. Any resale of the shares of our common stock must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if the prospectus (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 (or, in the case of securities issued or guaranteed by the government of a non-Canadian jurisdiction, section 3A.4) of National Instrument 33-105 Underwriting Conflicts (NI 33-105), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

### *Hong Kong*

The common shares may not be offered or sold in Hong Kong by means of any document other than (i) in circumstances which do not constitute an offer to the public within the meaning of the Companies Ordinance (Cap. 32, Laws of Hong Kong), or (ii) to "professional investors" within the meaning of the Securities and Futures Ordinance (Cap. 571, Laws of Hong Kong) and any rules made thereunder, or (iii) in other circumstances which do not result in the document being a "prospectus" within the meaning of the Companies Ordinance (Cap. 32, Laws of Hong Kong) and no advertisement, invitation or document relating to the shares may be issued or may be in the possession of any person for the purpose of issue (in each case whether in Hong Kong or elsewhere), which is directed at, or the contents of which are likely to be accessed or read by, the public in Hong Kong (except if permitted to do so under the laws of Hong Kong) other than with respect to common shares which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" within the meaning of the Securities and Futures Ordinance (Cap. 571, Laws of Hong Kong) and any rules made thereunder.

### *Israel*

This document does not constitute a prospectus under the Israeli Securities Law, 5728-1968, or the Securities Law, and has not been filed with or approved by the Israel Securities Authority. In the State of Israel, this prospectus is being distributed only to, and is directed only at, and any offer of the securities and is directed only at (i) a limited number of persons in accordance with Section 15A(a)(1) of the Securities Law or (ii) investors listed in the first addendum, or the Addendum, to the Securities Law, consisting primarily of joint investment in trust funds, provident funds, insurance companies, banks, portfolio managers, investment advisors, members of the Tel Aviv Stock Exchange, underwriters, venture capital funds, entities with equity in excess of NIS 50 million and "qualified individuals", each as defined in the Addendum (as it may be amended from time to time), collectively referred to as qualified investors (in each case purchasing for their own account or, where permitted under the Addendum, for the accounts of their clients who are investors listed in the Addendum). Qualified investors will be required to submit written confirmation that they fall within the scope of the Addendum, are aware of the meaning of the Addendum and agree to it.

### *Singapore*

This prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this prospectus and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the common shares may not be circulated or distributed, nor may the common shares be offered or sold, or be made the subject of an invitation for subscription or

## Table of Contents

purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor under Section 274 of the Securities and Futures Act, Chapter 289 of Singapore (the SFA), (ii) to a relevant person pursuant to Section 275(1), or any person pursuant to Section 275(1A), and in accordance with the conditions specified in Section 275 of the SFA or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA, in each case subject to compliance with conditions set forth in the SFA.

Where the common shares are subscribed or purchased under Section 275 of the SFA by a relevant person which is:

- (a) a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or
- (b) a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of the trust is an individual who is an accredited investor,

shares, debentures and units of shares and debentures of that corporation or the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferred within six months after that corporation or that trust has acquired the common shares pursuant to an offer made under Section 275 of the SFA except:

- (a) to an institutional investor (for corporations, under Section 274 of the SFA) or to a relevant person defined in Section 275(2) of the SFA, or to any person pursuant to an offer that is made on terms that such shares, debentures and units of shares and debentures of that corporation or such rights and interest in that trust are acquired at a consideration of not less than \$200,000 (or its equivalent in a foreign currency) for each transaction, whether such amount is to be paid for in cash or by exchange of securities or other assets, and further for corporations, in accordance with the conditions specified in Section 275 of the SFA;
- (b) where no consideration is or will be given for the transfer; or
- (c) where the transfer is by operation of law.

### *Switzerland*

The common shares may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange (the SIX) or on any other stock exchange or regulated trading facility in Switzerland. This document has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this document nor any other offering or marketing material relating to the common shares or the offering may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this document nor any other offering or marketing material relating to the offering, or the common shares have been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of common shares will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA, and the offer of common shares has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes (CISA). Accordingly, no public distribution, offering or advertising, as defined in CISA, its implementing ordinances and notices, and no distribution to any non-qualified investor, as defined in CISA, its implementing ordinances and notices, shall be undertaken in or from Switzerland, and the investor

## Table of Contents

protection afforded to acquirers of interests in collective investment schemes under CISA does not extend to acquirers of common shares.

### *United Arab Emirates*

This offering has not been approved or licensed by the Central Bank of the United Arab Emirates (the UAE), Securities and Commodities Authority of the UAE and/or any other relevant licensing authority in the UAE including any licensing authority incorporated under the laws and regulations of any of the free zones established and operating in the territory of the UAE, in particular the Dubai Financial Services Authority (DFSA), a regulatory authority of the Dubai International Financial Centre (DIFC). The offering does not constitute a public offer of securities in the UAE, DIFC and/or any other free zone in accordance with the Commercial Companies Law, Federal Law No 8 of 1984 (as amended), DFSA Offered Securities Rules and NASDAQ Dubai Listing Rules, accordingly, or otherwise. The common shares may not be offered to the public in the UAE and/or any of the free zones.

The common shares may be offered and issued only to a limited number of investors in the UAE or any of its free zones who qualify as sophisticated investors under the relevant laws and regulations of the UAE or the free zone concerned.

### *France*

This prospectus (including any amendment, supplement or replacement thereto) is not being distributed in the context of a public offering in France within the meaning of Article L. 411-1 of the French Monetary and Financial Code (Code monétaire et financier).

This prospectus has not been and will not be submitted to the French Autorité des marchés financiers (the AMF) for approval in France and accordingly may not and will not be distributed to the public in France.

Pursuant to Article 211-3 of the AMF General Regulation, French residents are hereby informed that:

- (a) the transaction does not require a prospectus to be submitted for approval to the AMF;
- (b) persons or entities referred to in Point 2°, Section II of Article L.411-2 of the Monetary and Financial Code may take part in the transaction solely for their own account, as provided in Articles D. 411-1, D. 734-1, D. 744-1, D. 754-1 and D. 764-1 of the Monetary and Financial Code; and
- (c) the financial instruments thus acquired cannot be distributed directly or indirectly to the public otherwise than in accordance with Articles L. 411-1, L. 411-2, L. 412-1 and L. 621-8 to L. 621-8-3 of the Monetary and Financial Code.

This prospectus is not to be further distributed or reproduced (in whole or in part) in France by the recipients of this prospectus. This prospectus has been distributed on the understanding that such recipients will only participate in the issue or sale of our common stock for their own account and undertake not to transfer, directly or indirectly, our common stock to the public in France, other than in compliance with all applicable laws and regulations and in particular with Articles L. 411-1 and L. 411-2 of the French Monetary and Financial Code.

## LEGAL MATTERS

The validity of the shares of common stock offered hereby will be passed upon for us by Gibson, Dunn & Crutcher LLP, San Francisco, California. Certain legal matters relating to this offering will be passed upon for the underwriters by Cooley LLP, San Diego, California.

## 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](http://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

Shares



**NOVUS THERAPEUTICS, INC.**

**Common Stock**

---

**PROSPECTUS**

---

**Piper Jaffray**

, 2018

**PART II**  
**Information Not Required in Prospectus**

**Item 13. Other Expenses of Issuance and Distribution.**

The following table sets forth the costs and expenses, other than the underwriting discounts and commissions, payable by the registrant in connection with the sale of common stock being registered. All amounts are estimates except for the SEC registration fee and the FINRA filing fee.

<u>Item</u>	<u>Amount to be paid</u>
SEC registration fee	\$ 4,296
FINRA filing fee	5,675
Printing and engraving expenses	25,000
Legal fees and expenses	100,000
Accounting fees and expenses	50,000
Transfer Agent fees and expenses	25,000
Miscellaneous expenses	43,929
Total	<u>\$ 253,900</u>

**Item 14. Indemnification of Directors and Officers.**

Section 102 of the Delaware General Corporation Law permits a corporation to eliminate the personal liability of directors of a corporation to the corporation or its stockholders for monetary damages for a breach of fiduciary duty as a director, except where the director breached his duty of loyalty, failed to act in good faith, engaged in intentional misconduct or knowingly violated a law, authorized the payment of a dividend or approved a stock repurchase in violation of Delaware corporate law or obtained an improper personal benefit. Our certificate of incorporation provides that none of our directors shall be personally liable to us or our stockholders for monetary damages for any breach of fiduciary duty as director, notwithstanding any provision of law imposing such liability, except to the extent that the Delaware General Corporation Law prohibits the elimination or limitation of liability of directors for breaches of fiduciary duty.

Section 145 of the Delaware General Corporation Law provides that a corporation has the power to indemnify a director, officer, employee or agent of the corporation and certain other persons serving at the request of the corporation in related capacities against expenses (including attorneys' fees), judgments, fines and amounts paid in settlements actually and reasonably incurred by the person in connection with an action, suit or proceeding to which he is or is threatened to be made a party by reason of such position, if such person acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the corporation and, in any criminal action or proceeding, had no reasonable cause to believe his conduct was unlawful, except that, in the case of actions brought by or in the right of the corporation, no indemnification shall be made with respect to any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or other adjudicating court determines that, despite the adjudication of liability but in view of all of the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

Our certificate of incorporation provides that we will indemnify each person who was or is a party or threatened to be made a party to or is involved in any threatened, pending or completed action, suit or proceeding by reason of the fact that he or she is or was a director or officer of us or is or was serving at

## Table of Contents

our request as a director or officer of another corporation, partnership, joint venture, trust or other enterprise to the fullest extent permitted by the Delaware General Corporation Law. Our certificate of incorporation provides that expenses must be advanced to these indemnitees under certain circumstances.

We have entered into indemnification agreements with each of our directors and officers. Each indemnification agreement provides that we will, among other things, indemnify our directors and executive officers for some expenses, including attorneys' fees, judgments, fines and settlement amounts incurred by a director or officer in any action or proceeding arising out of his or her service as one of our directors or officers, or any of our subsidiaries or any other company or enterprise to which the person provides services at our request.

In addition, we maintain standard policies of insurance under which coverage is provided to our directors and officers against losses arising from claims made by reason of breach of duty or other wrongful act, and to us with respect to payments which may be made by us to such directors and officers pursuant to the above indemnification provisions or otherwise as a matter of law. In any underwriting agreement we enter into in connection with the sale of common stock being registered hereby, the underwriters will agree to indemnify, under certain conditions, us, our directors, our officers and persons who control us within the meaning of the Securities Act of 1933, as amended (the "Securities Act") against certain liabilities.

### **Item 15. Recent Sales of Unregistered Securities.**

In the three years preceding the filing of this registration statement, we have issued the following securities that were not registered under the Securities Act.

On May 10, 2017, pursuant to a stock purchase agreement (the "Stock Purchase Agreement") with certain purchasers named therein, we sold an aggregate of 400,400 shares of our common stock at a price of \$9.99 per share for an aggregate purchase price of approximately \$4.0 million. Such sales were exempt from registration under Section 4(a)(2) and Regulation D and Regulation S under the Securities Act, and the rules promulgated thereunder. All of the purchasers of unregistered securities for which we relied on Section 4(a)(2) and/or Regulation D represented that they were accredited investors as defined under the Securities Act. All of the purchasers of unregistered securities for which we relied on Regulation S represented that they were non-U.S. purchasers. We claimed such exemptions on the basis that (a) the purchasers in each case represented that they intended to acquire the securities for investment only and not with a view to the distribution thereof and that they either received adequate information about the registrant or had access, through employment or other relationships, to such information and (b) appropriate legends were affixed to the stock certificates issued in such transactions.

### **Item 16. Exhibits and Financial Statement Schedules.**

Exhibit Number	Exhibit Description	Incorporated by Reference			
		Form	File No.	Exhibit	Filing Date
1.1*	Form of Underwriting Agreement				
3.1	<a href="#">Restated Certificate of Incorporation of Novus Therapeutics, Inc., a Delaware corporation, dated September 22, 2014</a>	8-K	001-36620	3.1	September 26, 2014
3.2	<a href="#">Certificate of Amendment to Certificate of Incorporation of Novus Therapeutics, Inc. (effecting, among other things a reverse stock-split), filed with the Secretary of the State of Delaware on May 9, 2017</a>	8-K	001-36620	3.1	May 15, 2017

## Table of Contents

Exhibit Number	Exhibit Description	Incorporated by Reference			
		Form	File No.	Exhibit	Filing Date
3.3	<a href="#">Certificate of Amendment to Certificate of Incorporation of Novus Therapeutics, Inc. (effecting, among other things a change in the corporation's name to "Novus Therapeutics, Inc."), filed with the Secretary of the State of Delaware on May 9, 2017</a>	8-K	001-36620	3.2	May 15, 2017
3.4	<a href="#">Amended and Restated Bylaws of Novus Therapeutics, Inc.</a>	8-A/A	001-36620	3.4	June 23, 2017
4.1	<a href="#">Form of Common Stock Certificate</a>	8-A/A	001-36620	4.1	June 23, 2017
5.1*	Opinion of Gibson, Dunn & Crutcher LLP				
10.1	<a href="#">Registration Rights Agreement, dated May 10, 2017, by and among the Company and the Purchasers</a>	8-K	001-36620	10.1	May 15, 2017
10.2	<a href="#">Form of Indemnification Agreement between Novus Therapeutics, Inc. and each of its directors and executive officers</a>	10-Q	001-36620	10.1	August 9, 2017
10.3	<a href="#">Lease Agreement, dated as of September 2, 2015, by and between The Irvine Company LLC and Otic Pharma, Inc.</a>	10-Q	001-36620	10.2	August 9, 2017
10.4	<a href="#">Executive Employment Agreement, dated July 15, 2015, between Otic Pharma, Inc., and Gregory J. Flesher</a>	10-Q	001-36620	10.3	August 9, 2017
10.5	<a href="#">Exclusive License Agreement, dated November 1, 2015, between Scientific Development and Research, Inc. and Otodyne, Inc., on the one hand, and Oticpharma, Inc., on the other hand†</a>	10-Q	001-36620	10.4	August 9, 2017
10.6	<a href="#">Offer of Employment, dated July 1, 2017, from Novus Therapeutics, Inc. to Jon Kuwahara</a>	10-Q	001-36620	10.5	August 9, 2017
10.7	<a href="#">Management Continuity Agreement, dated August 7, 2017, between Novus Therapeutics, Inc. and Gregory J. Flesher</a>	10-Q	001-36620	10.6	August 9, 2017
10.8	<a href="#">Management Continuity Agreement, dated August 7, 2017, between Novus Therapeutics, Inc. and Jon S. Kuwahara</a>	10-Q	001-36620	10.7	August 9, 2017
10.9	<a href="#">Equity Distribution Agreement, dated as of August 21, 2017, between Novus Therapeutics, Inc. and Piper Jaffray &amp; Co.</a>	8-K	001-36620	1.1	August 22, 2017

## Table of Contents

Exhibit Number	Exhibit Description	Incorporated by Reference			
		Form	File No.	Exhibit	Filing Date
10.10	<a href="#">Otic Pharma Ltd. Global Share Incentive Plan (2012)</a>	10-K	001-36620	10.10	April 2, 2018
10.11	<a href="#">Tokai Pharmaceuticals, Inc. 2007 Stock Incentive Plan</a>	10-K	001-36620	10.11	April 2, 2018
10.12	<a href="#">Tokai Pharmaceuticals, Inc. 2014 Stock Incentive Plan</a>	10-K	001-36620	10.12	April 2, 2018
21.1	<a href="#">Subsidiaries of the Registrant</a>	10-K	001-36620	21.1	April 2, 2018
23.1**	<a href="#">Consent of Ernst &amp; Young LLP, independent registered public accounting firm</a>				
23.2**	<a href="#">Consent of Brightman, Almagor Zohar &amp; Co., a member of Deloitte Touche Tohmatsu Limited</a>				
23.3*	Consent of Gibson, Dunn & Crutcher LLP (included in Exhibit 5.1)				
24.1	<a href="#">Power of Attorney (included on the signature page to this registration statement)</a>				
*	To be filed by amendment				
**	Filed herewith				
†	Portions of this exhibit have been omitted and filed separately with the Securities and Exchange Commission pursuant to a request for confidential treatment.				

### **Item 17. Undertakings.**

(a) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to section 13(a) or section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(b) The undersigned registrant hereby undertakes that:

- (1) For purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b) (1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.

## Table of Contents

- (2) For the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(c) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.



**Consent of Independent Registered Public Accounting Firm**

We consent to the reference to our firm under the caption “Experts” and to the use of our report dated March 30, 2018, in the Registration Statement (Form S-1) and related Prospectus of Novus Therapeutics, Inc. for the registration of shares of its common stock.

/s/ Ernst & Young LLP

Irvine, California  
July 31, 2018

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in this Registration Statement on Form S-1 of our report dated March 30, 2018 relating to the financial statements of Novus Therapeutics Inc. (the “Company”) for the year ended December 31, 2016, which report expresses an unqualified opinion and includes an explanatory paragraph regarding the Company’s ability to continue as a going concern, appearing in the Company’s Annual Report on Form 10-K for the year ended December 31, 2017. We also consent to the reference to us under the heading “Experts” in such Registration Statement.

/s/ Brightman Almagor Zohar & Co.

Brightman Almagor Zohar & Co.  
Certified Public Accountants  
Member of Deloitte Touche Tohmatsu Limited

Tel Aviv, Israel  
July 31, 2018