

**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)  
1990 MacArthur Blvd., Suite 550  
Irvine, California 92612  
(949) 238-8090

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

(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.  
1990 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)

*With a copy to:*

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

**Approximate Date of Commencement of Proposed Sale to the Public:** From time to time after this Registration Statement becomes effective.

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, 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

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 to Section 7(a)(2)(B) of the Securities Act.

**CALCULATION OF REGISTRATION FEE**

Title of each class of securities to be registered	Amount to be registered (1)	Proposed maximum offering price per share (2)	Proposed maximum aggregate offering Price (2)	Amount of registration fee
Common Stock, par value \$0.001 per share	7,070,680	\$1.57	\$11,100,967.60	\$1,345.44

(1) Represents 6,898,224 shares of Common Stock that are issuable upon the exercise of certain warrants issued pursuant to a securities purchase agreement with the selling stockholders named herein and 172,456 shares of Common Stock that are issuable upon exercise of certain warrants issued to our placement agent pursuant to an engagement letter. In addition, pursuant to Rule 416 under the Securities Act of 1933, as amended, this registration statement also covers such an indeterminate amount of shares of common stock as may become issuable to prevent dilution resulting from stock splits, stock dividends and similar events.

(2) Calculated pursuant to Rule 457(c), solely for the purpose of computing the amount of the registration fee, on the basis of the average of the high and low prices of the registrant's Common Stock quoted on The Nasdaq Capital Market on June 5, 2019.

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, as amended, or until the Registration Statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

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[Table of Contents](#)

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

Subject to Completion, dated June 7, 2019

**PRELIMINARY PROSPECTUS**



**7,070,680 Shares of Common Stock**

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Pursuant to this prospectus, the selling stockholders identified herein (the “Selling Stockholders”) are offering on a resale basis an aggregate of 7,070,680 shares (the “Shares”) of common stock, par value \$0.001 per share (the “Common Stock”), of Novus Therapeutics, Inc., a Delaware corporation. Of the 7,070,680 Shares, 3,449,112 Shares are issuable upon the exercise of outstanding Series A warrants (the “Series A Warrants”) and 3,449,112 Shares are issuable upon the exercise of outstanding Series B warrants (the “Series B Warrants”). The Series A and Series B Warrants were purchased pursuant to a securities purchase agreement by and among the Company and the Selling Stockholders, dated April 30, 2019 (the “Purchase Agreement”). The remaining 172,456 Shares are issuable upon the exercise of warrants issued to the Company’s placement agent in connection with the Purchase Agreement (the “Placement Agent Warrants,” and, collectively with the Series A Warrants and the Series B Warrants, the “Warrants”). We will not receive any of the proceeds from the sale by the Selling Stockholders of the Shares. Upon any exercise of the Warrants by payment of cash, however, we will receive the exercise price of the Warrants.

The Selling Stockholders may sell or otherwise dispose of the Shares in a number of different ways and at varying prices. We provide more information about how the Selling Stockholders may sell or otherwise dispose of the Shares in the section entitled “Plan of Distribution” on page 10. Discounts, concessions, commissions and similar selling expenses attributable to the sale of the Shares will be borne by the Selling Stockholders. We will pay all expenses (other than discounts, concessions, commissions and similar selling expenses) relating to the registration of the Shares with the Securities and Exchange Commission.

Our common stock is currently quoted on The Nasdaq Capital Market under the symbol “NVUS”. On June 5, 2019, the last reported sale price of our common stock on The Nasdaq Capital Market was \$1.63 per share. Our principal executive offices are located at 19900 MacArthur Blvd., Suite 550, Irvine, California 92612, and our telephone number is (949) 238-8090.

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**Investing in our securities involves risks. You should carefully consider the [Risk Factors](#) beginning on page 4 of this prospectus before you make an investment in our securities.**

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

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**The date of this prospectus is \_\_\_\_\_, 2019**

**TABLE OF CONTENTS**

<a href="#">ABOUT THIS PROSPECTUS</a>	ii
<a href="#">CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS</a>	
<a href="#">PROSPECTUS SUMMARY</a>	1
<a href="#">THE OFFERING</a>	3
<a href="#">RISK FACTORS</a>	4
<a href="#">USE OF PROCEEDS</a>	5
<a href="#">DIVIDEND POLICY</a>	6
<a href="#">DETERMINATION OF OFFERING PRICE</a>	7
<a href="#">SELLING STOCKHOLDERS</a>	8
<a href="#">PLAN OF DISTRIBUTION</a>	10
<a href="#">EXPERTS</a>	12
<a href="#">LEGAL MATTERS</a>	12
<a href="#">WHERE YOU CAN FIND ADDITIONAL INFORMATION</a>	13
<a href="#">INFORMATION INCORPORATED BY REFERENCE</a>	14

You should rely only on the information that we have provided or incorporated by reference in this prospectus and any prospectus supplement that we may authorize to be provided to you. We have not, and the Selling Stockholders have not, authorized anyone to provide you with different information. No dealer, salesperson or other person is authorized to give any information or to represent anything not contained in this prospectus or any prospectus supplement that we may authorize to be provided to you. If anyone provides you with different or inconsistent information, you should not rely on it. You should assume that the information in this prospectus and any prospectus supplement is accurate only as of the date on the cover of the document and that any information we have incorporated by reference is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus or any prospectus supplement or any sale of a security. Our business, financial condition, results of operations and prospects may have changed since those dates.

We urge you to carefully read this prospectus and any prospectus supplement, together with the information incorporated herein by reference as described under the heading “Where You Can Find Additional Information” and “Incorporation Incorporated by Reference.”

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 indicated, references to the terms “Novus” or the “Company”, refer to Novus Therapeutics, Inc.

## 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 or the date of the document incorporated by reference 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.

## PROSPECTUS SUMMARY

*This summary highlights certain information about us and this offering contained elsewhere in this prospectus. Because it is only a summary, it does not contain all of the information that you should consider before investing in shares of our securities and it is qualified in its entirety by, and should be read in conjunction with, the more detailed information appearing elsewhere in this prospectus. Before you decide to invest in our securities, you should read the entire prospectus carefully, including “Risk Factors” beginning on page 4, and the consolidated financial statements and related notes and information incorporated by reference into this prospectus.*

### Company Overview

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

#### *Surfactant Platform (OP02xx)*

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

Novus has completed three phase 1 placebo-controlled clinical trials in adults that were designed to evaluate safety and tolerability of single and repeated intranasal doses of OP0201. Results of two single-dose phase 1 clinical trials demonstrated safety and tolerability of OP0201 nasal aerosol in both healthy adults (study C-001) and in adults with acute otitis media (study C-004). The Company also completed enrollment of a 14-day phase 1 clinical trial in healthy adults (study C-002). In addition, Novus is currently conducting an exploratory phase 2a clinical trial of OP0201 nasal aerosol in infants and children with acute otitis media (study C-006). Upon completion of the phase 2a study, Novus intends to initiate phase 2 and phase 3 studies with an initial focus on a development program that, if successful, will lead to registration of OP0201 nasal aerosol in North America and key European markets as a product to treat OM and prevent OM in infants and children. Additional development activities to support registration of OP0201 nasal aerosol in other countries, or for other indications, or other patient populations, may occur in the future.

#### *Foam Platform (OP01xx)*

OP0101 and OP0102 are foam-based products intended to be used as a delivery vehicle for drugs to be administered into the ear canals, as well as the nasal and sinus cavities. OP0101 was the initial product utilizing

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[Table of Contents](#)

the foam platform. It was developed as an improved treatment option for acute otitis externa (“AOE”), a common infectious medical condition of the outer ear canal that affects tens of millions of adults and children each year (frequently called “swimmer’s ear”). Novus completed four clinical trials of OP0101 in 353 adult and pediatric subjects, including a successful phase 2b study with a steroid-free, antibiotic-only formulation of OP0101 that was non-inferior to standard of care, but with a more favorable dosing regimen (dose daily instead of two doses daily for seven days).

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

**Corporate 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 *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**

The Selling Stockholders identified in this prospectus are offering on a resale basis a total of 7,070,680 Shares issuable upon the exercise of the Warrants.

**Common stock to be offered by the Selling Stockholders** 7,070,680 shares

**Common stock outstanding prior to this offering** 12,974,923 shares as of May 31, 2019

**Common stock to be outstanding after this offering** 20,045,603 shares

**Use of proceeds** We will not receive any proceeds from the sale of the Shares by the Selling Stockholders, except for the exercise price paid for the Shares offered hereby and issuable upon the exercise of the Warrants. See “Use of Proceeds” on page 5 of this prospectus.

**Risk factors** This investment involves a high degree of risk. See “Risk Factors” on page 4 of this prospectus for a discussion of factors you should consider carefully before making an investment decision.

**Nasdaq Capital Market Symbol** “NVUS”

## **RISK FACTORS**

Investing in our securities involves a high degree of risk. Before making an investment decision with respect to our securities, we urge you to carefully consider the risks described in the “Risk Factors” section of our Annual Report on Form 10-K for the year ended December 31, 2018, and our Quarterly Report on Form 10-Q for the quarter ended March 31, 2019, which are incorporated by reference into this prospectus.

The risks and uncertainties incorporated by reference into this prospectus are not the only ones we face. Additional risks and uncertainties not presently known or which we consider immaterial as of the date hereof may also have an adverse effect on our business. If any of the matters discussed in the following risk factors were to occur, our business, financial condition, results of operations, cash flows or prospects could be materially adversely affected, the market price of our securities could decline and you could lose all or part of your investment in our securities.



**USE OF PROCEEDS**

We will not receive any of the proceeds from the sale of the Shares by the Selling Stockholders. The Shares offered hereby are issuable upon the exercise of the Warrants. Upon exercise of such Warrants we will receive the applicable cash exercise price paid by the holders of the Warrants.

**DIVIDEND POLICY**

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

**DETERMINATION OF OFFERING PRICE**

The prices at which the Shares covered by this prospectus may actually be sold will be determined by the prevailing public market price for shares of our Common Stock, by negotiations between the Selling Stockholders and buyers of our Common Stock in private transactions or as otherwise described in “Plan of Distribution.”

## SELLING STOCKHOLDERS

This prospectus covers the possible resale by the Selling Stockholders identified in the table below of 7,070,680 Shares issuable upon the exercise of the Warrants. The Selling Stockholders acquired the Warrants pursuant to the Purchase Agreement and we are filing the registration statement of which this prospectus is a part pursuant to the provisions of the Purchase Agreement.

The Selling Stockholders may sell some, all or none of their Shares. We do not know how long the Selling Stockholders will hold the Warrants, whether any will exercise the Warrants, and upon such exercise, how long such Selling Stockholders will hold the Shares before selling them, and we currently have no agreements, arrangements or understandings with the Selling Stockholders regarding the sale of any of the Shares.

The following table presents information regarding the Selling Stockholders and the Shares that each may offer and sell from time to time under this prospectus. The table is prepared based on information supplied to us by the Selling Stockholders, and reflects their respective holdings as of May 31, 2019, unless otherwise noted in the footnotes to the table. Beneficial ownership is determined in accordance with Section 13(d) of the Exchange Act and Rule 13d-3 thereunder. The percentage of shares beneficially owned prior to the offering is based on 12,974,923 shares of our Common Stock actually outstanding as of May 31, 2019.

Selling Stockholder	Shares Beneficially Owned Before this Offering	Percentage of Outstanding Shares Beneficially Owned Before this Offering	Shares to be Sold in this Offering	Percentage of Outstanding Shares Beneficially Owned After this Offering (1)
Charles Worthman (2)	1,724	*	1,724	*
Mark Viklund (2)	5,174	*	5,174	*
Michael Vasinkevich (2)	111,234	*	111,234	*
Noam Rubinstein (2)	54,324	*	54,324	*
Entities affiliated with OrbiMed				
Israel Partners Limited Partnership (5)	4,475,722	31.37%	1,292,408	9.96%
Entities affiliated with BVF				
Partners L.P. (6)	1,336,556	9.16%(4)	1,615,510	5.71%
Armistice Capital Master Fund, Ltd. (7)	657,647	4.99%(3)	1,938,610	3.01%
683 Capital Partners, LP (8)	969,306	7.12%(4)	646,204	2.49%
Laurence Lytton (9)	375,306	2.84%(3)	250,404	*
Lincoln Park Capital Fund, LLC (10)	657,647	4.99%(3)	904,684	3.49%
JDS1, LLC (11)	375,306	2.84%(3)	250,404	*

\* Represents beneficial ownership of less than one percent.

- (1) Assumes all Shares offered by the Selling Stockholders hereby are sold and that the Selling Stockholders buy or sell no additional shares of Common Stock prior to the completion of this offering.
- (2) The Selling Stockholder is an affiliate of a registered broker-dealer.
- (3) The warrants are subject to a beneficial ownership limitation of 4.99%, which does not permit the Selling Stockholder to exercise that portion of the warrants that would result in the Selling Stockholder and its affiliates owning, after exercise, a number of shares of common stock in excess of the beneficial ownership limitation. The amounts and percentages in the table give effect to the 4.99% beneficial ownership limitation.
- (4) The warrants are subject to a beneficial ownership limitation of 9.99%, which does not permit the Selling Stockholder to exercise that portion of the warrants that would result in the Selling Stockholder and its

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## Table of Contents

affiliates owning, after exercise, a number of shares of common stock in excess of the beneficial ownership limitation. The amounts and percentages in the table give effect to the 9.99% beneficial ownership limitation.

- (5) Based on a Schedule 13D/A filed on May 6, 2019. Consists of (i) 3,183,314 shares of common stock and (ii) 1,292,408 Shares issuable upon the exercise of Warrants, held by OrbiMed Israel Partners Limited Partnership, an Israeli limited partnership (“OrbiMed Partners”). OrbiMed Israel BioFund GP Limited Partnership, an Israeli limited partnership (“OrbiMed BioFund”) is the general partner of OrbiMed Partners. OrbiMed Israel GP Ltd., an Israeli limited liability company (“OrbiMed Israel”), is the general partner of OrbiMed BioFund. The address OrbiMed Israel, OrbiMed BioFund and OrbiMed Partners is 89 Medinat HaYehudim St., Build E, 11th Floor, Herzliya 46766 Israel.
- (6) Based on a Schedule 13G filed on May 10, 2019. Consists of (i) 808,129 shares of common stock beneficially owned by Biotechnology Value Fund, L.P. (“BVF”) (which includes 398,861 shares of common stock issuable upon the exercise of Warrants to purchase Shares held by BVF), (ii) 439,714 shares of common stock beneficially owned by Biotechnology Value Fund II, L.P. (“BVF2”) (which includes 108,819 shares of common stock issuable upon the exercise of Warrants to purchase Shares held by BVF2), (iii) 59,006 shares of common stock beneficially owned by Biotechnology Value Trading Fund OS L.P. (“Trading Fund OS”), and (iv) 29,707 shares of common stock held in a certain Partners managed account. BVF Partners OS Ltd. (“Partners OS”), as the general partner of Trading Fund OS, may be deemed to beneficially own the beneficially owned by Trading Fund OS. Partners, as the general partner of BVF, BVF2, the investment manager of Trading Fund OS, and the sole member of Partners OS, may be deemed to beneficially own the shares beneficially owned by BVF, BVF2 and Trading Fund OS. BVF Inc., as the general partner of Partners, may be deemed to beneficially own the shares beneficially owned by Partners. Mark N. Lampert, as a director and officer of BVF Inc., may be deemed to beneficially own the shares beneficially owned by BVF Inc. Partners OS disclaims beneficial ownership of the shares beneficially owned by Trading Fund OS. Each of Partners, BVF Inc. and Mr. Lampert disclaims beneficial ownership of the shares beneficially owned by BVF, BVF2 and Trading Fund OS. The address of BVF is 44 Montgomery St., 40th Floor, San Francisco, California 94104.
- (7) Based on a Schedule 13G filed on June 5, 2019. Consists of (i) 361,677 shares of common stock and (ii) 295,970 Shares issuable upon the exercise of Warrants. Armistice Capital, LLC, the investment manager of Armistice Capital Master Fund Ltd., or Armistice, and Steven Boyd, the managing member of Armistice Capital, LLC, hold shared voting and dispositive power over the shares held by Armistice. Each of Armistice Capital, LLC and Steven Boyd disclaims beneficial ownership of the securities listed except to the extent of their pecuniary interest therein. The principal business address of Armistice is c/o Armistice Capital, LLC, 510 Madison Avenue, 7th Floor, New York, New York, 10022.
- (8) Consists of (i) 323,102 shares of common stock and (ii) 646,204 Shares issuable upon the exercise of Warrants. The address of 683 Capital Partners, LP is 3 Columbus Circle, Suite 2205, New York, New York 10019.
- (9) Consists of (i) 125,102 shares of common stock and (ii) 250,204 Shares issuable upon the exercise of Warrants. The address of Laurence Lytton is 467 Central Park West, 17A, New York, New York 10025.
- (10) Consists of (i) 452,342 shares of common stock and (ii) 904,684 Shares issuable upon the exercise of Warrants. The address of Lincoln Park Capital Fund, LLC is 440 N. Wells St, Suite 410, Chicago, Illinois 60654.
- (11) Consists of (i) 125,102 shares of common stock and (ii) 250,204 Shares issuable upon the exercise of Warrants. The address of JDS1, LLC is 2200 Fletcher Ave, Suite 501, Fort Lee, New Jersey 07024.

## PLAN OF DISTRIBUTION

The Selling Stockholders, which, as used herein, includes donees, pledgees, transferees or other successors-in-interest selling Shares or interests in Shares received after the date of this prospectus from a Selling Stockholder as a gift, pledge, partnership distribution or other transfer, may, from time to time, sell, transfer or otherwise dispose of any or all of their Shares or interests in Shares on any stock exchange, market or trading facility on which the Shares are traded or in private transactions. These dispositions may be at fixed prices, at prevailing market prices at the time of sale, at prices related to the prevailing market price, at varying prices determined at the time of sale, or at negotiated prices.

The Selling Stockholders may use any one or more of the following methods when disposing of Shares or interests therein:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the Shares as agent, but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- short sales effected after the date the registration statement of which this prospectus is a part is declared effective by the SEC;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;
- broker-dealers may agree with the Selling Stockholders to sell a specified number of such Shares at a stipulated price per share;
- a combination of any such methods of sale; and
- any other method permitted by applicable law.

The Selling Stockholders may, from time to time, pledge or grant a security interest in some or all of the Shares owned by them and, if they default in the performance of their secured obligations, the pledgees or secured parties may offer and sell the Shares, from time to time, under this prospectus, or under an amendment to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act amending the list of Selling Stockholders to include the pledgee, transferee or other successors-in-interest as Selling Stockholders under this prospectus. The Selling Stockholders also may transfer the Shares in other circumstances, in which case the transferees, pledgees or other successors-in-interest will be the selling beneficial owners for purposes of this prospectus.

In connection with the sale of our common stock or interests therein, the Selling Stockholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the common stock in the course of hedging the positions they assume. The Selling Stockholders may also sell Shares short and deliver these securities to close out their short positions, or loan or pledge the common stock to broker-dealers that in turn may sell these securities. The Selling Stockholders may also enter into option or other transactions with broker-dealers or other financial institutions or the creation of one or more derivative securities which require the delivery to such broker-dealer or other financial institution of Shares offered by this prospectus, which Shares such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

The aggregate proceeds to the Selling Stockholders from the sale of the common stock offered by them will be the purchase price of the common stock less discounts or commissions, if any. Each of the Selling Stockholders

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## [Table of Contents](#)

reserves the right to accept and, together with their agents from time to time, to reject, in whole or in part, any proposed purchase of common stock to be made directly or through agents. We will not receive any of the proceeds from this offering. Upon any exercise of the warrants by payment of cash, however, we will receive the exercise price of the warrants.

The Selling Stockholders also may resell all or a portion of the Shares in open market transactions in reliance upon Rule 144 under the Securities Act, provided that they meet the criteria and conform to the requirements of that rule.

The Selling Stockholders and any underwriters, broker-dealers or agents that participate in the sale of the common stock or interests therein may be “underwriters” within the meaning of Section 2(11) of the Securities Act. Any discounts, commissions, concessions or profit they earn on any resale of the Shares may be underwriting discounts and commissions under the Securities Act. Selling stockholders who are “underwriters” within the meaning of Section 2(11) of the Securities Act will be subject to the prospectus delivery requirements of the Securities Act.

To the extent required, the Shares to be sold, the names of the Selling Stockholders, the respective purchase prices and public offering prices, the names of any agents, dealer or underwriter, any applicable commissions or discounts with respect to a particular offer will be set forth in an accompanying prospectus supplement or, if appropriate, a post-effective amendment to the registration statement of which this prospectus is a part.

In order to comply with the securities laws of some states, if applicable, the common stock may be sold in these jurisdictions only through registered or licensed brokers or dealers. In addition, in some states the common stock may not be sold unless it has been registered or qualified for sale or an exemption from registration or qualification requirements is available and is complied with.

We have advised the Selling Stockholders that the anti-manipulation rules of Regulation M under the Exchange Act may apply to sales of Shares in the market and to the activities of the Selling Stockholders and their affiliates. In addition, to the extent applicable we will make copies of this prospectus (as it may be supplemented or amended from time to time) available to the Selling Stockholders for the purpose of satisfying the prospectus delivery requirements of the Securities Act. The Selling Stockholders may indemnify any broker-dealer that participates in transactions involving the sale of the Shares against certain liabilities, including liabilities arising under the Securities Act.

We will pay all expenses of the registration of the Shares of common stock, including, without limitation, SEC filing fees and expenses of compliance with state securities or “blue sky” laws; provided, however, that each selling stockholder will pay all underwriting discounts and selling commissions, if any and any related legal expenses incurred by it. We will indemnify the Selling Stockholders against certain liabilities, including some liabilities under the Securities Act, arising in connection with the registration statement of which this prospectus is a part.

We have agreed with the Selling Stockholders to keep the registration statement of which this prospectus is a part effective until the time that no purchaser of Warrants owns any Warrants or shares of common stock issuable upon exercise of the Warrants.

**EXPERTS**

Ernst & Young LLP, independent registered public accounting firm, has audited our consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2018, as set forth in their report (which contains an explanatory paragraph describing conditions that raise substantial doubt about the Company's ability to continue as a going concern as described in Note 2 to the consolidated financial statements), 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.

**LEGAL MATTERS**

Certain legal matters relating to the validity of the securities offered by this prospectus will be passed upon for us by Gibson, Dunn & Crutcher LLP, San Francisco, California.



### WHERE YOU CAN FIND ADDITIONAL 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.

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.

## INFORMATION INCORPORATED BY REFERENCE

The SEC allows the Company to “incorporate by reference” the information that is filed by the Company with the SEC, which means that the Company can disclose important information to you by referring you to those documents. The documents incorporated by reference are:

1. The Company’s [Annual Report on Form 10-K](#) and [10-K/A](#) for the fiscal year ended December 31, 2018, filed with the SEC on March 28, 2019 and April 30, 2019, respectively;
2. The Company’s [Quarterly Report on Form 10-Q for the quarter ended March 31, 2019](#), filed with the SEC on May 15, 2018;
3. The Company’s [Definitive Proxy Statement on Schedule 14A](#), filed with the SEC on May 5, 2019;
4. The Company’s Current Reports on Form 8-K, filed with the SEC on [April 22, 2019](#) and [May 2, 2019](#);
5. 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; and
6. We also incorporate by reference into this prospectus supplement all documents (other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items) that are filed by us with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act (i) after the date of the initial filing of the registration statement of which this prospectus forms a part and prior to effectiveness of the registration statement, or (ii) after the date of this prospectus but prior to the termination of the offering. These documents include periodic reports, such as Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, as well as proxy statements.

Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this registration statement to the extent that a statement contained herein or in any other subsequently filed document which 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 registration statement. Under no circumstances will any information filed under items 2.02 or 7.01 of Form 8-K be deemed to be incorporated by reference unless such Form 8-K expressly provides to the contrary.

The Company will provide, without charge, to each person, including any beneficial owner, to whom a copy of this prospectus is delivered, upon such person’s written or oral request, a copy of any and all of the information incorporated by reference in this prospectus, other than exhibits to such documents, unless such exhibits are specifically incorporated by reference into the information that this prospectus incorporates. Requests should be directed to:

Novus Therapeutics, Inc.

19900 MacArthur Boulevard, Suite 550

Irvine, California 92612

Attn: Investor Relations

(949) 238-8090

**Novus Therapeutics, Inc.**



**7,070,680 Shares of Common Stock**

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PROSPECTUS

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June , 2019

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**PART II**  
**INFORMATION NOT REQUIRED IN PROSPECTUS**

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

The following are the estimated expenses of the distribution of the Shares registered hereunder on Form S-1 (the amounts set forth above are estimate, except the SEC registration fee:

SEC registration fee	\$ 1,346
Accounting fees and expenses	50,000
Legal fees and expenses	100,000
Printing and miscellaneous expenses	95,000
Total	\$246,346

**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 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.

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## [Table of Contents](#)

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.

On April 30, 2019, we offered and sold an aggregate of 3,449,112 shares of our common stock at a purchase price of \$3.095 per share, pursuant to our shelf registration statement on Form S-3. In a concurrent private placement, we sold two series of warrants in a private placement. The Series A Warrants are immediately exercisable eighteen-month warrants to purchase up to 3,449,112 shares at an exercise price of \$4.00 per share. The Series B Warrants are five-year warrants to purchase up to 3,449,112 shares at an exercise price of \$4.00 per share that become exercisable only upon the exercise of the Series A Warrants. We also granted to the placement agent for the offering and its designees warrants to purchase up to 172,456 shares of common stock, which have substantially the same terms as the Series A Warrants, except that the warrants granted to the placement agent have an exercise price equal to \$3.86875 and will expire on April 30, 2024 (the “Placement Agent Warrants”). The Series A Warrants and the Series B Warrants and the shares of common stock underlying such warrants were sold and issued without registration under the Securities Act in reliance on the exemptions provided by Section 4(a)(2) of the Securities Act as transactions not involving a public offering and Rule 506 promulgated under the Securities Act as sales to accredited investors. The Placement Agent Warrants and the shares of common stock issuable upon exercise of the Placement Agent Warrants are being issued in reliance on the exemption from registration provided by Section 4(a)(2) of the Securities Act as transactions not involving a public offering.

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**Table of Contents****ITEM 16. Exhibit Index.****EXHIBIT INDEX**

Exhibit Number	Exhibit Description	Form	Incorporated by Reference		Filing Date
			File No.	Exhibit	
2.1	<a href="#">Amended and Restated Share Purchase Agreement dates as of March 2, 2017, by an among the Registrant, Otic Pharma, Ltd., and Shareholders of Otic Pharma, Ltd., named therein</a>	10-K	001-36620	2.1	March 3, 2017
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
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
4.2	<a href="#">Form of Warrant</a>	8-K	001-36620	4.1	May 2, 2019
4.3	<a href="#">Form of Placement Agent Warrant</a>	8-K	001-36620	4.2	May 2, 2019
5.1**	<a href="#">Opinion of Gibson, Dunn &amp; Crutcher LLP</a>				
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="#">First Amendment to Lease Agreement, dated April 19, 2018, by and between The Irvine Company LLC and Novus Therapeutics, Inc.</a>	10-Q	00136620	10.1	August 7, 2018
10.5	<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

## Table of Contents

<u>Exhibit Number</u>	<u>Exhibit Description</u>	<u>Form</u>	<u>Incorporated by Reference</u>		<u>Filing Date</u>
			<u>File No.</u>	<u>Exhibit</u>	
10.6	<a href="#"><u>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†</u></a>	10-Q	001-36620	10.4	August 9, 2017
10.7*	<a href="#"><u>Offer of Employment, dated July 1, 2017, from Novus Therapeutics, Inc. to Jon Kuwahara</u></a>	10-Q	001-36620	10.5	August 9, 2017
10.8*	<a href="#"><u>Management Continuity Agreement, dated August 7, 2017, between Novus Therapeutics, Inc. and Gregory J. Flesher</u></a>	10-Q	001-36620	10.6	August 9, 2017
10.9*	<a href="#"><u>Management Continuity Agreement, dated August 7, 2017, between Novus Therapeutics, Inc. and Jon S. Kuwahara</u></a>	10-Q	001-36620	10.7	August 9, 2017
10.10	<a href="#"><u>Equity Distribution Agreement, dated as of August 21, 2017, between Novus Therapeutics, Inc. and Piper Jaffray &amp; Co.</u></a>	8-K	001-36620	1.1	August 22, 2017
10.11*	<a href="#"><u>Otic Pharma Ltd. Global Share Incentive Plan (2012)</u></a>	10-K	001-36620	10.10	April 2, 2018
10.12*	<a href="#"><u>Tokai Pharmaceuticals, Inc. 2007 Stock Incentive Plan</u></a>	10-K	001-36620	10.11	April 2, 2018
10.13*	<a href="#"><u>Tokai Pharmaceuticals, Inc. 2014 Stock Incentive Plan</u></a>	10-Q	001-36620	10.2	August 7, 2018
10.14*	<a href="#"><u>Novus Therapeutics, Inc., 2014 Employee Stock Purchase Plan</u></a>	10-Q	001-36620	10.3	August 7, 2018
10.14*	<a href="#"><u>Executive Employment Agreement, dated November 10, 2015, between Otic Pharma, Inc. and Catherine C. Turkel</u></a>	10-K	001-36620	10.15	March 28, 2019
10.15	<a href="#"><u>Form of Securities Purchase Agreement, dated April 30, 2019, by and between Novus Therapeutics, Inc. and the Purchasers named therein</u></a>	8-K	001-36620	10.1	May 2, 2019
10.16*	<a href="#"><u>Management Continuity Agreement, date August 7, 2017, between Novus Therapeutics, Inc. and Catherine C. Turkel</u></a>	10-Q	011-36620	10.1	May 14, 2019
21.1	<a href="#"><u>Subsidiaries of the Registrant</u></a>	10-K	001-36620	21.1	April 2, 2018
23.1**	<a href="#"><u>Consent of Ernst &amp; Young LLP, independent registered public accounting firm</u></a>				
23.2**	<a href="#"><u>Consent of Gibson, Dunn &amp; Crutcher LLP (included in Exhibit 5.1)</u></a>				
24.1	<a href="#"><u>Power of Attorney (included on the signature page to this registration statement)</u></a>				

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## Table of Contents

- \* Indicates a management contract or compensatory plan or arrangement.
- \*\* 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:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement.

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

*provided, however,* that paragraphs (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) above do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment 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.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(5) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:

(i) Each prospectus filed by the Registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the Registration Statement as of the date the filed prospectus was deemed part of and included in the Registration Statement; and

(ii) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the Registration Statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the Registration Statement relating to the securities in the Registration Statement to which that prospectus relates, and the offering of such securities at that



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[Table of Contents](#)

time shall be deemed to be the initial bona fide offering thereof. Provided, however, that no statement made in a registration statement or prospectus that is part of the Registration Statement or made in a document incorporated or deemed incorporated by reference into the Registration Statement or prospectus that is part of the Registration Statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the Registration Statement or prospectus that was part of the Registration Statement or made in any such document immediately prior to such effective date.

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

(h) Insofar as indemnification for liabilities arising under the Securities Act, as amended, 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 SEC 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.

**SIGNATURES**

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant has duly caused this Registration Statement on Form S-1 to be signed on its behalf by the undersigned, thereunto duly authorized, in Irvine, California, on June 7, 2019.

NOVUS THERAPEUTICS, INC.

By: /s/ GREGORY J. FLESHER

Gregory J. Flesher  
Chief Executive Officer

**POWER OF ATTORNEY**

We, the undersigned officers and directors of Novus Therapeutics, Inc. hereby severally constitute and appoint Gregory J. Flesher and Jon S. Kuwahara, and each of them singly, our true and lawful attorneys with full power to any of them, and to each of them singly, to sign for us and in our names in the capacities indicated below the Registration Statement on Form S-1 filed herewith and any and all amendments (including post-effective amendments) to said Registration Statement, and any registration statement filed pursuant to Rule 462 under the Securities Act of 1933, as amended, in connection with said Registration Statement, and to file or cause to be filed the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, and generally to do all such things in our name and on our behalf in our capacities as officers and directors to enable Novus Therapeutics, Inc. to comply with the provisions of the Securities Act of 1933, as amended, and all requirements of the Securities and Exchange Commission, hereby ratifying and confirming all that said attorneys, and each of them, or their substitute or substitutes, shall do or cause to be done by virtue hereof.

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[Table of Contents](#)

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Office(s)</u>	<u>Date</u>
<u>/s/ Gregory J. Flesher</u> Gregory J. Flesher	Chief Executive Officer and Director (Principal Executive Officer)	June 7, 2019
<u>/s/ Jon S. Kuwahara</u> Jon S. Kuwahara	Senior Vice President Finance & Administration (Principal Financial Officer and Principal Accounting Officer)	June 7, 2019
<u>/s/ Keith A. Katkin</u> Keith A. Katkin	Director, Chairman of the Board of Directors	June 7, 2019
<u>/s/ Gary A. Lyons</u> Gary A. Lyons	Director	June 7, 2019
<u>/s/ Erez Chimovits</u> Erez Chimovits	Director	June 7, 2019
<u>/s/ Cheryl L. Cohen</u> Cheryl L. Cohen	Director	June 7, 2019
<u>/s/ John S. McBride</u> John S. McBride	Director	June 7, 2019

GIBSON DUNN

Gibson, Dunn & Crutcher LLP

555 Mission Street  
San Francisco, CA 94105-0921  
Tel 415.393.8200  
www.gibsondunn.com

June 7, 2019

Novus Therapeutics, Inc.  
19900 MacArthur Blvd., Suite 550  
Irvine, California 92612

Re: *Novus Therapeutics, Inc.*  
*Registration Statement on Form S-1*

Ladies and Gentlemen:

We have examined the Registration Statement on Form S-1 (the "Registration Statement"), of Novus Therapeutics, Inc., a Delaware corporation (the "Company"), filed with the Securities and Exchange Commission (the "Commission") pursuant to the Securities Act of 1933, as amended (the "Securities Act"), in connection with the offering by the Company of up to 7,070,680 shares of the Company's common stock, par value \$0.001 per share (the "Shares").

In arriving at the opinion expressed below, we have examined originals, or copies certified or otherwise identified to our satisfaction as being true and complete copies of the originals, of specimen common stock certificates, and such other documents, corporate records, certificates of officers of the Company and of public officials and other instruments as we have deemed necessary or advisable to enable us to render the opinions set forth below. In our examination, we have assumed without independent investigation the genuineness of all signatures, the legal capacity and competency of all natural persons, the authenticity of all documents submitted to us as originals and the conformity to original documents of all documents submitted to us as copies.

Based upon the foregoing, and subject to the assumptions, exceptions, qualifications and limitations set forth herein, we are of the opinion that the Shares, when issued against payment therefor as set forth in the Registration Statement, will be validly issued, fully paid and non-assessable.

We consent to the filing of this opinion as an exhibit to the Registration Statement, and we further consent to the use of our name under the caption "Legal Matters" in the Registration Statement and the prospectus that forms a part thereof. In giving these consents, we do not thereby admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act or the Rules and Regulations of the Commission.

Very truly yours,

/s/ GIBSON, DUNN & CRUTCHER

Beijing • Brussels • Century City • Dallas • Denver • Dubai • Frankfurt • Hong Kong • Houston • London • Los Angeles • Munich  
New York • Orange County • Palo Alto • Paris • San Francisco • São Paulo • Singapore • Washington, D.C.

**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 27, 2019, in the Registration Statement (Form S-1) and related Prospectus of Novus Therapeutics, Inc. for the registration of 7,070,680 shares of its common stock.

/s/ Ernst & Young LLP

Irvine, California  
June 7, 2019