

PROSPECTUS



**12,364,568 Shares of Common Stock
Offered by the Selling Stockholders**

This prospectus relates to the proposed resale or other disposition of an aggregate of 12,364,568 shares of our Common Stock, \$0.001 par value per share (the “Shares”), by the selling stockholders identified in this prospectus (collectively with any of the holders’ transferees, pledgees, donees or successors, the “Selling Stockholders”). The Shares covered by this prospectus consist of (i) 12,065,875 Shares that are issuable upon conversion of Series X¹ Preferred Stock that was issued in a private placement transaction dated September 14, 2020 and (ii) 298,693 Shares that are issuable upon conversion of Series X¹ Preferred Stock underlying warrants that the Company assumed in connection with the acquisition of Anelixis Therapeutics, Inc. on September 14, 2020.

The Company will not receive any proceeds from the sale by the Selling Stockholders of the Shares. We are paying the cost of registering the Shares covered by this prospectus as well as various related expenses. The Selling Stockholders are responsible for all selling commissions, transfer taxes and other costs related to the offer and sale of its shares.

Sales of the Shares by the Selling Stockholders may occur 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 sell shares to or through underwriters, broker-dealers or agents, who may receive compensation in the form of discounts, concessions or commissions from the Selling Stockholders, the purchasers of the shares, or both. If required, the number of shares to be sold, the public offering price of those shares, the names of any underwriters, broker-dealers or agents and any applicable commission or discount will be included in a supplement to this prospectus, called a prospectus supplement. See the disclosure under the heading “Plan of Distribution” elsewhere in this prospectus for more information about how the Selling Stockholders may sell or otherwise dispose of their Shares hereunder.

The Company’s Common Stock is traded on The Nasdaq Capital Market under the symbol “NVUS.” On December 21, 2020, the closing sale price of our Common Stock was \$17.00 per share.

Investing in our common stock involves a high degree of risk. Please read the information contained in and incorporated by reference under the heading “[Risk Factors](#)” beginning on page 6 of this prospectus, and under similar headings in the other documents that are filed after the date hereof and incorporated by reference into this prospectus.

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

This prospectus is dated December 22, 2020

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ABOUT THIS PROSPECTUS

You should read this prospectus, any applicable prospectus supplement and the information incorporated by reference in this prospectus before making an investment in the securities of Novus Therapeutics, Inc. See “Where You Can Find More Information” and “Incorporation of Certain Information by Reference” for additional information. You should rely only on the information contained in or incorporated by reference in this prospectus or a prospectus supplement. The Company has not authorized anyone to provide you with different information. This document may be used only in jurisdictions where offers and sales of these securities are permitted. You should assume that information contained in this prospectus, or in any document incorporated by reference, is accurate only as of any date on the front cover of the applicable document. Our business, financial condition, results of operations and prospects may have changed since that date.

Unless otherwise indicated, references to the terms “Novus,” “our,” “us,” “we”, or the “Company” refer to Novus Therapeutics, Inc. and its wholly-owned subsidiaries, on a consolidated basis.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the information incorporated by reference in this prospectus contains “forward-looking statements” as defined by the Private Securities Litigation Reform Act of 1995, which statements involve substantial risks and uncertainties. Any statements about the Company’s future expectations, plans and prospects, including statements about its strategy, future operations, and development of its product candidates and other statements containing words such as “believes,” “anticipates,” “plans,” “expects,” “estimates,” “intends,” “predicts,” “projects,” “targets,” “could,” “may,” and similar expressions, constitute forward-looking statements, although not all forward-looking statements include such identifying words. Forward-looking statements include, but are not limited to statements regarding:

- our short operating history and the Anelixis acquisition, which may make it difficult to evaluate the success of our business to date and to assess our future viability;
- the impact of the COVID-19 pandemic on our operations, including our ability to access capital markets;
- expectations regarding the timing for the commencement and completion of product development or clinical trials for the Company’s product candidates;
- the timing, costs, conduct and outcome of preclinical studies and clinical trials;
- meeting future clinical and regulatory milestones, such as New Drug Application (“NDA”) submissions;
- the risk that clinical trials of the Company’s product candidates may not be successful in establishing safety and tolerability or efficacy;
- the Company’s plans and timing with respect to seeking regulatory approvals and uncertainties regarding the regulatory process;
- the anticipated treatment of data by the U.S. Food and Drug Administration (“FDA”), the European Medicines Agency (“EMA”) or other regulatory authorities of the Company’s product candidates;
- the rate and degree of market acceptance and clinical utility of the Company’s product candidates;
- 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 product candidates with significant commercial potential;
- the availability of funds and resources to pursue the Company’s research and development projects, including preclinical studies and clinical trials of its product candidates, and manufacturing activities.
- the Company’s estimates regarding expenses, future revenue, capital requirements and needs for additional financing;
- developments relating to the Company’s competitors and industry; the impact of government laws and regulations; and
- the duration over which the Company’s cash balances will fund its operations.

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 on a timely basis, or at all; 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 FDA or equivalent foreign regulatory agencies and, if the Company is able to obtain such approval for an investigational product, whether it will be successfully distributed and marketed; and the duration of the COVID-19 pandemic, including economic and other impacts of the pandemic and of actions taken in response to it by governments, businesses, and individuals. These risks and uncertainties, as well as other risks and uncertainties that could cause the Company’s actual results to differ significantly from the forward-looking statements contained herein, are described in greater detail in described under the heading “Risk Factors” in this prospectus.

THE COMPANY

Overview

Novus is a biopharmaceutical company focused on developing life-changing, targeted medicines for patients undergoing organ or cellular transplantation, as well as those living with immunological diseases. Our lead product candidate, AT-1501, is a humanized monoclonal antibody (mAb), designed to target CD40 Ligand (“CD40L,” also called CD154), a molecule expressed on the surface of human immune system T cells. The central role of CD40/CD40L signaling in generating pro-inflammatory responses makes it an attractive candidate for therapeutic intervention in autoimmune disease, induction and maintenance of transplant tolerance, and neuroinflammation. Blocking the activation of the CD40L pathway ameliorates disease progression and pathology in preclinical models of autoimmunity and prevents acute and long-term allograft transplant rejection in multiple animal species.

We currently plan to develop AT-1501 in up to 4 indications: prevention of kidney allograft rejection, prevention of islet cell allograft rejection, treatment of autoimmune nephritis, and treatment of amyotrophic lateral sclerosis (“ALS”). AT-1501 successfully completed a Phase 1 study in healthy subjects and a cohort of subjects with ALS and has received an orphan drug designation from the U.S. FDA for the treatment of ALS.

In September 2020, we acquired Anelixis Therapeutics, Inc. (“Anelixis”), the company that owned or controlled the intellectual property related to AT-1501, a humanized IgG1 anti-CD40L antibody lacking Fc effector function. AT-1501 is designed to inhibit signaling via CD40L, a costimulatory type II membrane receptor expressed on activated T cells and CD40, a receptor expressed on Antigen Presenting Cells (“APC”s). Interactions between B cell expressing CD40, and activated CD4+ “helper” T cells expressing CD40L, play a critical role in promoting germinal center formation, clonal expansion, antibody production, and secretion of pro-inflammatory cytokines that amplify immune response. The role of CD40 in B cells has been extensively characterized and has been shown to be essential for productive primary and secondary humoral immune responses to T cell dependent antigens. Anti CD40L antibodies also inhibit both CD40 as well as CD11 costimulatory receptors on antigen presenting cells, thus inhibiting the pro-inflammatory polarization of CD4+ and CD8+ lymphocytes. Blocking the ligand also polarizes CD4+ lymphocytes to FoxP3 positive Tregs, a specialized subpopulation of T cells that act to suppress immune response, which functionally secrete IL10 and other cytokines creating a more tolerogenic environment. Finally, blocking the CD-CD40L pathway has not been shown to cause systemic lymphopenia.

Our business strategy is to optimize the clinical and commercial value of AT-1501 and become a global biopharmaceutical company with a focused autoimmune franchise.

Reverse Stock Split

In October 2020, we effected a reverse stock-split of our issued and outstanding Common Stock and options for Common Stock at a ratio of one-for-eighteen (the “Reverse Stock Split”). The Reverse Stock Split reduces the number of shares of common stock issuable upon the conversion of the Company’s outstanding preferred stock and the exercise or vesting of its outstanding stock options, restricted stock units and warrants in proportion to the ratio of the reverse stock split and causes a proportionate increase in the conversion and exercise prices of such convertible notes, stock options and warrants. The par value per common share remained unchanged. Except where the context otherwise requires, share numbers in this prospectus reflect the Reverse Stock Split.

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.

SELECTED FINANCIAL DATA

The following selected financial data has been derived from our audited consolidated financial statements included in our Annual Report on Form 10-K filed with the SEC on March 17, 2020, and our unaudited consolidated financial statements included in our Quarterly Reports on Form 10-Q filed with the SEC on May 15, 2020, and August 14, 2020, as adjusted to reflect the Reverse Stock Split for all periods presented. Our unaudited consolidated financial statements included in our Quarterly Report on Form 10-Q filed with the SEC on November 16, 2020 gave retroactive effect to the reverse stock-split for all periods presented. Our historical results are not indicative of the results that may be expected in the future and results of interim periods are not indicative of the results for the entire year. In addition, the below presented historical results do not present the pro forma impact of the acquisition of Anelixis, as presented in the unaudited pro forma financial statements and accompanying notes for the six months ended June 30, 2020 and the fiscal year ended December 31, 2019 contained in the Company's definitive proxy statement on Schedule 14A dated November 20, 2020 as Annex D thereto and incorporated herein by reference.

AS REPORTED

(in thousands, except share and per share amounts)	Years Ended December 31,	
	2019	2018
Net loss and comprehensive loss	\$ (16,011)	\$ (14,065)
Net loss per share, basic and diluted	\$ (1.36)	\$ (1.56)
Weighted-average common shares outstanding, basic and diluted	11,799,468	9,005,352
Common shares outstanding at year end	12,967,338	9,422,143
	Three Months Ended March 31,	
	2020	2019
	(Unaudited)	
Net loss and comprehensive loss	\$ (8,177)	\$ (4,881)
Net loss per share, basic and diluted	\$ (0.47)	\$ (0.52)
Weighted-average common shares outstanding, basic and diluted	17,267,123	9,427,073
Common shares outstanding at period end	16,069,562	9,447,361
	Three Months Ended June 30,	
	2020	2019
	(Unaudited)	
Net loss and comprehensive loss	\$ (2,586)	\$ (4,093)
Net loss per share, basic and diluted	\$ (0.15)	\$ (0.35)
Weighted-average common shares outstanding, basic and diluted	16,981,540	11,751,110
Common shares outstanding at period end	19,379,562	12,974,923
	Six Months Ended June 30,	
	2020	2019
	(Unaudited)	
Net loss and comprehensive loss	\$ (10,763)	\$ (8,974)
Net loss per share, basic and diluted	\$ (0.63)	\$ (0.85)
Weighted-average common shares outstanding, basic and diluted	17,124,331	10,595,511
Common shares outstanding at period end	19,379,562	12,974,923

AS ADJUSTED FOR ONE-FOR-EIGHTEEN REVERSE STOCK SPLIT

(unaudited, in thousands, except share and per share amounts):

	Years Ended December 31,	
	2019	2018
	(Unaudited)	
Net loss and comprehensive loss	\$ (16,011)	\$ (14,065)
Net loss per share, basic and diluted	\$ (24.42)	\$ (28.11)
Weighted-average common shares outstanding, basic and diluted	655,526	500,297
Common shares outstanding at year end	720,407	523,452
	Three Months Ended March 31,	
	2020	2019
	(Unaudited)	
Net loss and comprehensive loss	\$ (8,177)	\$ (4,881)
Net loss per share, basic and diluted	\$ (8.52)	\$ (9.32)
Weighted-average common shares outstanding, basic and diluted	959,285	523,726
Common shares outstanding at period end	892,753	524,853
	Three Months Ended June 30,	
	2020	2019
	(Unaudited)	
Net loss and comprehensive loss	\$ (2,586)	\$ (4,093)
Net loss per share, basic and diluted	\$ (2.74)	\$ (6.27)
Weighted-average common shares outstanding, basic and diluted	943,419	652,839
Common shares outstanding at period end	1,076,642	720,829
	Six Months Ended June 30,	
	2020	2019
	(Unaudited)	
Net loss and comprehensive loss	\$ (10,763)	\$ (8,974)
Net loss per share, basic and diluted	\$ (11.31)	\$ (15.25)
Weighted-average common shares outstanding, basic and diluted	951,352	588,640
Common shares outstanding at period end	1,076,642	720,829

RISK FACTORS

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

USE OF PROCEEDS

The proceeds from the resale of the Shares under this prospectus are solely for the accounts of the Selling Stockholders. We will not receive any proceeds from the sale of Shares under this prospectus.

SELLING STOCKHOLDERS

Concurrent with the Company's acquisition of Anelixis on September 14, 2020, the Company entered into a Stock Purchase Agreement (the "Stock Purchase Agreement") with certain institutional and accredited investors (the "Investors"), pursuant to which the Company issued and sold approximately 217,200 shares of Series X¹ Preferred Stock for an aggregate purchase price of approximately \$108.15 million (the "Financing"). The Financing was exempt from registration pursuant to Section 4(a)(2) of the Securities Act and/or Regulation D promulgated thereunder, as a transaction by an issuer not involving a public offering.

At the closing of the Financing, the Company entered into a Registration Rights Agreement (the "Registration Rights Agreement") with the Investors. Pursuant to the Registration Rights Agreement, the Company has included in this prospectus 12,065,875 shares of Common Stock, which may be issued upon conversion of the Series X¹ Preferred Shares issued pursuant to the Stock Purchase Agreement.

In addition, this prospectus includes 298,693 Shares that are issuable upon conversion of Series X¹ Preferred Stock underlying warrants held by Noble Capital Markets, Inc., which the Company assumed in connection with the acquisition of Anelixis.

Except as otherwise noted below, the following table sets forth certain information regarding the Selling Stockholders and the shares of Common Stock beneficially owned by each person or entity, which is based on information that is available to us as of December 1, 2020. The Selling Stockholders may offer shares under this prospectus from time to time and may elect to sell none, some or all of the shares set forth next to its name. As a result, we cannot estimate the number of shares of Common Stock that the Selling Stockholders will beneficially own after termination of sales under this prospectus. In addition, the Selling Stockholders may have sold, transferred or otherwise disposed of all or a portion of such holder's shares of Common Stock since the date on which it provided information for this table.

Beneficial ownership is determined in accordance with the rules and regulations of the SEC and includes voting or investment power with respect to our common stock. Shares of our common stock subject to options or warrants that are currently exercisable or exercisable within 60 days of December 1, 2020 are considered outstanding and beneficially owned by the person holding the options or warrants for the purpose of calculating the percentage ownership of that person but not for the purpose of calculating the percentage ownership of any other person.

We are relying on written commitments from the Selling Stockholders to notify us of any changes in its beneficial ownership after the date it originally provided this information. See "Plan of Distribution".

Selling Stockholder (1)	Shares Beneficially Owned Before Offering (2)	Shares Offered	Shares of Common Stock Beneficially Owned After Offering (3)	
			Number	Percent
Entities affiliated with BVF Partners L.P. (4)	2,789,382	2,594,055	1,851,042	9.990%
Cormorant Global Healthcare Master Fund, LP(5)	1,952,500	1,952,500	—	—
Logos Global Master Fund, LP(6)	1,339,793	1,115,722	224,071	1.209%
Entities affiliated with EcoR1 Capital (7)	1,115,722	1,115,722	—	—
Fidelity Select Portfolios: Biotechnology Portfolio (8)	1,004,111	1,004,111	—	—
Adage Capital Partners L.P. (9)	892,555	892,555	—	—
Woodline Master Fund LP (10)	892,555	892,555	—	—
Ridgeback Capital Mgmt LLC (11)	669,388	669,388	—	—
Noble Capital Markets, Inc. (12)	298,693	298,693	—	—
Janus Henderson Biotech Innovation Master Fund Limited (13)	278,888	278,888	—	—
Samsara BioCapital, L.P. (14)	278,888	278,888	—	—

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Gregory J. Flesher (15)	104,348	55,555	48,793	*
Michael P. Cruse (16)	22,533	11,111	11,422	*
All other Selling Stockholders as a group (17)	1,204,825	1,204,825	—	—

* Less than one percent (1%) of outstanding the Common Stock.

- (1) If required, information about other selling stockholders, except for any future transferees, pledgees, donees or successors of the selling stockholder named in the table above, will be set forth in a prospectus supplement or amendment to the registration statement of which this prospectus is a part. Additionally, post-effective amendments to the registration statement will be filed to disclose any material changes to the plan of distribution from the description contained in the final prospectus.
- (2) Includes common stock issuable upon conversion of Series X¹ Preferred Stock. Effective as of 5:00 p.m. (Eastern time) on the second business day after the date on which stockholder approval of the conversion of the Series X¹ Preferred Stock into Shares in accordance with Nasdaq Listing Rule 5635(a) is received, each share of Series X¹ Preferred Stock then outstanding automatically converts into approximately 55.555556 shares of Common Stock (which reflects the Reverse Stock Split), and at any time thereafter at the option of the holder thereof, into approximately 55.555556 shares of Common Stock, in each case, subject to certain beneficial ownership limitations, including that a holder of Series X¹ Preferred Stock is prohibited from converting shares of Series X¹ Preferred Stock into shares of Common Stock if, as a result of such conversion, such holder, together with its affiliates, would beneficially own more than a specified percentage (to be initially set at 9.9% and thereafter adjusted by the holder between to a number between 4.9% and 19.9%) of the total number of shares of Common Stock issued and outstanding immediately after giving effect to such conversion. The number of Shares in the second column does not reflect these limitations.
- (3) 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. The beneficial ownership numbers and percentages shown assume the conversion into Common Stock of the Series X¹ Preferred Stock after giving effect to the impact of the beneficial ownership limitations discussed in footnote No. 2 above.
- (4) Based on information available to the Company and information provided in a Schedule 13G filed by BVF Partners L.P. (“Partners”) on October 5, 2020. Consists of (i) 195,326 shares of common stock, (ii) 2,950,850 shares of common stock issuable upon the exercise of warrants and (iii) 6,885,096 shares of Common Stock issuable upon conversion of shares of convertible preferred stock held by Biotechnology Value Fund, L.P. (“BVF”), Biotechnology Value Fund II, L.P. (“BVF2”), Biotechnology Value Trading Fund OS L.P. (“Trading Fund OS”), and held in a certain Partners managed account (collectively, the “BVF Entities”). The warrants and shares of convertible preferred stock are subject to a beneficial ownership limitation of 9.99%, which does not permit the BVF Entities to exercise that portion of the warrants or convert that portion of the convertible preferred stock that would result in the BVF Entities owning, after exercise or conversion, 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. BVF I GP L.L.C. (“BVF GP”), as the general partner of BVF, may be deemed to beneficially own the shares beneficially owned by BVF. BVF II GP L.L.C. (“BVF2 GP”), as the general partner of BVF2, may be deemed to beneficially own the shares beneficially owned by BVF2. BVF Partners OS Ltd. (“Partners OS”), as the general partner of Trading Fund OS, may be deemed to beneficially own the shares beneficially owned by Trading Fund OS. BVF GP Holdings L.L.C. (“BVF GPH”), as the sole member of each of BVF GP and BVF2 GP, may be deemed to beneficially own the shares beneficially owned in the aggregate by BVF and BVF2. Partners, as the investment manager of general partner of BVF, BVF2, and 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 Lampert, as a director and officer of BVF Inc., may be deemed to beneficially own the shares beneficially owned by BVF Inc. BVF GP disclaims beneficial ownership of the shares beneficially owned by BVF. BVF2 GP disclaims beneficial ownership of the shares beneficially owned by BVF2. Partners OS disclaims beneficial ownership of the shares beneficially owned by Trading Fund OS. BVF GPH disclaims beneficial ownership of the shares beneficially owned by BVF and BVF2. Each of Partners, BVF Inc. and Mr. Lampert disclaims beneficial ownership of the shares beneficially owned by BVF, BVF2, Trading Fund OS, and held in the Partners mManaged aAccounts. The Schedule 13G indicates that the aforementioned entities share voting and investment power over the securities owned. The address of BVF, BVF2, BVF GP, BVF2 GP, BVF GPH, Partners, BVF Inc. and Mr. Lampert is 44 Montgomery St., 40th Floor, San Francisco, California 94104, and the address of Trading Fund OS and Partners OS is PO Box 309 Uglund House, Grand Cayman, KY1-1104, Cayman Islands.
- (5) Based on information provided to the Company by the Selling Stockholder. Consists of 35,145 shares of Series X¹ Preferred Stock. Bihua Chen may be deemed to beneficially own the shares owned by the Selling Stockholder. The address of the Selling Stockholder is 200 Clarendon Street, 52nd Floor, Boston, MA 02116.
- (6) Based on information provided to the Company by the Selling Stockholder information provided in a Schedule 13G filed by Logos Global Management LP on November 9, 2020. Consists of (i) 224,071 shares of Common stock and (ii) 20,083 shares of Series X¹ Preferred Stock. Arsani William may be deemed to beneficially own the shares owned by the Selling Stockholder. The address of the Selling Stockholder is 1 Letterman Drive, Ste D3-700, San Francisco, CA 94129.
- (7) Based on information provided to the Company by the Selling Stockholder. Consists of 20,083 shares of Series X¹ Preferred Stock owned by EcoR1 Capital Fund, L.P. and EcoR1 Capital Fund Qualified, L.P. Oleg Nodelman may be deemed to beneficially own the shares owned by the Selling Stockholder. The address of the Selling Stockholder is 357 Tehama Street #3, San Francisco, CA 94103.
- (8) Based on information provided to the Company by the Selling Stockholder. Consists of 1,004,111 shares of Common Stock. The address of the Selling Stockholder is Mag & Co c/o Brown Brothers Harriman & Co, Attn: Corporate Actions/Vault, 140 Broadway, New York, NY 10005.
- (9) Based on information provided to the Company by the Selling Stockholder. Consists of 16,066 shares of Series X¹ Preferred Stock. Robert Atchinson and Phillip Gross, as managing members of Adage Capital Advisors, L. L. C, may be deemed to beneficially own the share owned by the Selling Stockholder. The address of the Selling Stockholder is 200 Clarendon Street, 52nd Floor, Boston, MA, 02116.
- (10) Based on information provided to the Company by the Selling Stockholder. Consists of 16,066 shares of Series X¹ Preferred Stock. Woodline Partners LP serves as the investment manager of Woodline Master Fund LP and may be deemed to be the beneficial owner of the shares reported on this line. Woodline Master Fund LP disclaims any beneficial ownership of these shares. The address of the Selling Stockholder is 4 Embarcadero Center, Suite 3450, San Francisco, CA 94111.

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- (11) Based on information provided to the Company by the Selling Stockholder. Consists of 12,049 shares of Series X¹ Preferred Stock. Wayne Holman may be deemed to beneficially own the shares owned by the Selling Stockholder. The address of the Selling Stockholder is 348 West 14th Street, New York, NY 10014.
- (12) Based on information provided to the Company by the Selling Stockholder. Consists of 5,376,539 warrants exercisable into 5,376.47 shares of Series X¹ Preferred Stock. Nico P. Pronk may be deemed to beneficially own the shares owned by the Selling Stockholder. The address of the Selling Stockholder is 225 NE Mizner Blvd, Suite 150, Boca Raton, FL 33432.
- (13) Based on information provided to the Company by the Selling Stockholder. Consists of 5,020 shares of Series X¹ Preferred Stock. Such shares may be deemed to be beneficially owned by Janus Capital Management LLC (“Janus”), an investment adviser registered under the Investment Advisers Act of 1940, who acts as investment adviser for the Fund and has the ability to make decisions with respect to the voting and disposition of the shares subject to the oversight of the board of directors of the Fund. Under the terms of its management contract with the Fund, Janus has overall responsibility for directing the investments of the Fund in accordance with the Fund’s investment objective, policies and limitations. Andrew Acker and Dan Lyons have been appointed by Janus to make decisions with respect to the voting and disposition of the Shares. The address of the Selling Stockholder is 151 Detroit Street, Denver, CO 80206.
- (14) Based on information provided to the Company by the Selling Stockholder. Consists of 5,020 shares of Series X¹ Preferred Stock. Srinivas Akkaraju may be deemed to beneficially own the shares owned by the Selling Stockholder. The address of the Selling Stockholder is 628 Middlefield Road, Palo Alto, CA 94301.
- (15) Based on information provided to the Company by the Selling Stockholder. Consists of (i) 8,717 shares of Common Stock, (ii) 40,078 shares of Common Stock exercisable as of November 15, 2020 or that will become exercisable within 60 days after such date and (iii) 1,0000 shares of Series X¹ Preferred Stock. Mr. Flesher served as Chief Executive Officer of the Company from July 30, 2015 until September 4, 2020. The address of the Selling Stockholder is c/o Novus Therapeutics, Inc. 19900 MacArthur Blvd., Suite 550, Irvine, CA 92612.
- (16) Based on information provided to the Company by the Selling Stockholder. Consists of (i) 3,136 shares of Common Stock, (ii) 8,286 shares of Common Stock exercisable as of November 15, 2020 or that will become exercisable within 60 days after such date and (iii) 200 shares of Series X¹ Preferred Stock. Mr. Cruse served as Vice President Corporate Operations of the Company from May 10, 2017 until June 30, 2020. The address of the Selling Stockholder is c/o Novus Therapeutics, Inc. 19900 MacArthur Blvd., Suite 550, Irvine, CA 92612
- (17) Consists of 21,687 shares of Series X¹ Preferred Stock. Includes shares of 18 Selling Stockholders that individually hold less than one percent (1%) of outstanding Common Stock.

Relationship with the Selling Stockholders

In addition to the Stock Purchase Agreement, on September 16, 2020, in connection with the Financing, we entered into a registration rights agreement with the Selling Stockholders (the “Registration Rights Agreement”).

Pursuant to the Registration Rights Agreement, we agreed to prepare and file with the SEC a registration statement that permits the resale or other disposition of the Selling Stockholders’ Shares issued upon conversion of the Series X¹ Preferred Stock issued to such Selling Stockholder pursuant to the Stock Purchase Agreement and, subject to certain exceptions, use commercially reasonable efforts to keep the registration statement of which this prospectus forms a part effective under the Securities Act for so long as such securities registered for resale thereunder retain their character as Registrable Securities.

We have also agreed, among other things, to indemnify the Selling Stockholders and their officers, directors, agents, partners, members, managers, stockholders, affiliates and employees from certain liabilities and to pay all fees and expenses incident to our obligations under the Registration Rights Agreement.

PLAN OF DISTRIBUTION

We are registering the Shares issued to the Selling Stockholders to permit the resale of these Shares by the holders of the Shares from time to time after the date of this prospectus. We will not receive any of the proceeds from the sale by the selling stockholders of the Shares. We will, or will procure to, bear all fees and expenses incident to our obligation to register the Shares.

The Selling Stockholders may sell all or a portion of the Shares beneficially owned by them and offered hereby from time to time directly or through one or more underwriters, broker-dealers or agents. If the Shares are sold through underwriters or broker-dealers, the Selling Stockholders will be responsible for underwriting discounts or commissions or agent’s commissions. The Shares may be sold on any national securities exchange or quotation service on which the securities may be listed or quoted at the time of sale, in the over-the-counter market or in transactions otherwise than on these exchanges or systems or in the over-the-counter market and in one or more transactions at fixed prices, at prevailing market prices at the time of the sale, at varying prices determined at the time of sale,

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or at negotiated prices. These sales may be effected in transactions, which may involve crosses or block transactions. The Selling Stockholders may use any one or more of the following methods when selling shares:

- 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;
- settlement of short sales;
- broker-dealers may agree with the selling stockholders to sell a specified number of such shares at a stipulated price per share;
- through the writing or settlement of options or other hedging transactions, whether such options are listed on an options exchange or otherwise;
- a combination of any such methods of sale; and
- any other method permitted pursuant to applicable law.

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, as amended, or the Securities Act, as permitted by that rule, or Section 4(a)(1) under the Securities Act, if available, rather than under this prospectus, provided that they meet the criteria and conform to the requirements of those provisions.

Broker-dealers engaged by the Selling Stockholders may arrange for other broker-dealers to participate in sales. If the Selling Stockholders effect such transactions by selling Shares to or through underwriters, broker-dealers or agents, such underwriters, broker-dealers or agents may receive commissions in the form of discounts, concessions or commissions from the Selling Stockholders or commissions from purchasers of the Shares for whom they may act as agent or to whom they may sell as principal. Such commissions will be in amounts to be negotiated, but, except as set forth in a supplement to this Prospectus, in the case of an agency transaction will not be in excess of a customary brokerage commission in compliance with FINRA Rule 2121; and in the case of a principal transaction a markup or markdown in compliance with FINRA IM-2121.01.

In connection with sales of the Shares or otherwise, 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 Shares in the course of hedging in positions they assume. The Selling Stockholders may also sell Shares short and if such short sale shall take place after the date that this Registration Statement is declared effective by the Commission, the Selling Stockholders may deliver Shares covered by this prospectus to close out short positions and to return borrowed shares in connection with such short sales. The Selling Stockholders may also loan or pledge Shares to broker-dealers that in turn may sell such shares, to the extent permitted by applicable law. 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 Selling Stockholders, 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 pursuant to this prospectus or any amendment to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act of 1933, amending, if necessary, 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 and donate the Shares in other circumstances in which case the transferees, donees, pledgees or other successors in interest will be the selling beneficial owners for purposes of this prospectus.

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The Selling Stockholders and any broker-dealer or agents participating in the distribution of the Shares may be deemed to be “underwriters” within the meaning of Section 2(11) of the Securities Act in connection with such sales. In such event, any commissions paid, or any discounts or concessions allowed to, any such broker-dealer or agent and any profit on the resale of the shares purchased by them may be deemed to be underwriting commissions or discounts 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 applicable prospectus delivery requirements of the Securities Act including Rule 172 thereunder and may be subject to certain statutory liabilities of, including but not limited to, Sections 11, 12 and 17 of the Securities Act and Rule 10b-5 under the Securities Exchange Act of 1934, as amended, or the Exchange Act.

Each Selling Stockholders has informed the Company that it is not a registered broker-dealer and does not have any written or oral agreement or understanding, directly or indirectly, with any person to distribute the Shares. Upon the Company being notified in writing by a Selling Stockholders that any material arrangement has been entered into with a broker-dealer for the sale of Common Stock through a block trade, special offering, exchange distribution or secondary distribution or a purchase by a broker or dealer, a supplement to this prospectus will be filed, if required, pursuant to Rule 424(b) under the Securities Act, disclosing (i) the name of each such Selling Stockholders and of the participating broker-dealer(s), (ii) the number of shares involved, (iii) the price at which such the Shares were sold, (iv) the commissions paid or discounts or concessions allowed to such broker-dealer(s), where applicable, (v) that such broker-dealer(s) did not conduct any investigation to verify the information set out or incorporated by reference in this prospectus, and (vi) other facts material to the transaction. In no event shall any broker-dealer receive fees, commissions and markups, which, in the aggregate, would exceed eight percent (8.0%).

Under the securities laws of some U.S. states, the Shares may be sold in such states only through registered or licensed brokers or dealers. In addition, in some U.S. states the Shares may not be sold unless such shares have been registered or qualified for sale in such state or an exemption from registration or qualification is available and is complied with.

There can be no assurance that any Selling Stockholders will sell any or all of the Shares registered pursuant to the shelf registration statement, of which this prospectus forms a part.

Each Selling Stockholders and any other person participating in such distribution will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including, without limitation, to the extent applicable, Regulation M of the Exchange Act, which may limit the timing of purchases and sales of any of the Shares by the Selling Stockholders and any other participating person. To the extent applicable, Regulation M may also restrict the ability of any person engaged in the distribution of the Shares to engage in market-making activities with respect to the Shares. All of the foregoing may affect the marketability of the Shares and the ability of any person or entity to engage in market-making activities with respect to the Shares.

We will pay all expenses of the registration of the Shares pursuant to the registration rights agreement, including, without limitation, Securities and Exchange Commission filing fees and expenses of compliance with state securities or “blue sky” laws; provided, however, that each Selling Stockholders 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, in accordance with the registration rights agreement, or the Selling Stockholders will be entitled to contribution. We may be indemnified by the Selling Stockholders against civil liabilities, including liabilities under the Securities Act, that may arise from any written information furnished to us by the Selling Stockholders specifically for use in this prospectus, in accordance with the related registration rights agreements, or we may be entitled to contribution.

LEGAL MATTERS

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

EXPERTS

Novus Therapeutics, Inc.

KMJ Corbin & Company LLP, independent registered public accounting firm, has audited our consolidated financial statements as of and for the year ended December 31, 2019, included in our Annual Report on Form 10-K for the year ended December 31, 2019 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 consolidated financial statements are incorporated by reference in reliance on KMJ Corbin & Company LLP's report, given on their authority as experts in accounting and auditing.

Ernst & Young LLP, independent registered public accounting firm, has audited our consolidated financial statements as of and for the year ended December 31, 2018, included in our Annual Report on Form 10-K for the year ended December 31, 2019, 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.

Anelixis Therapeutics, Inc.

The audited financial statements of Anelixis Therapeutics, Inc. for the years ended December 31, 2019 and 2018 incorporated in this prospectus by reference to the Company's Proxy Statement on Schedule 14A and Form 8-K/A dated November 20, 2020 have been audited by AAFCPAs, Inc, as stated in their report (which includes emphasis of matter paragraphs regarding the Company's ability to continue as a going concern and the adoption of Accounting Standards Updates (ASU) Nos. 2014-19, *Revenue from Contracts with Customers* (Topic 606) and 2018-08, *Not-for-Profit Entities* (Topic 958): *Clarifying the Scope and the Accounting Guidance for Contributions Received and Contributions Made*), 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 under the Exchange Act. You may read and copy any reports, statements or other information on file at the SEC's public reference facility located at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information regarding its public facilities. Our SEC filings, including the complete registration statement of which this prospectus is a part, are available to the public from commercial document retrieval services and also available at the Internet website maintained by the SEC at <http://www.sec.gov>.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to "incorporate by reference" into this prospectus the information we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is an important part of this prospectus, and information that we file later with the SEC will automatically update and supersede this information. We incorporate by reference the documents listed below and any future filings made with the SEC under Sections 13(a), 13(c), 14, or 15(d) of the Securities Exchange Act of 1934 subsequent to the date of this registration statement until the end of any offerings under this prospectus:

- Our Annual Report on [Form 10-K](#) for the fiscal year ended December 31, 2019, including the information specifically incorporated by reference into the Annual Report on Form 10-K from our [definitive proxy statement](#) for the 2020 Annual Meeting of Stockholders;
- Our Quarterly Reports on Form 10-Q for the fiscal quarters ended [March 31, 2020](#), [June 30, 2020](#) and [September 30, 2020](#);
- Our Current Reports on Forms 8-K and 8-K/A dated [January 16, 2020](#), [February 7, 2020](#), [February 19, 2020](#), [February 20, 2020](#), [April 23, 2020](#), [May 13, 2020](#), [June 17, 2020](#), [September 4, 2020](#), [September 15, 2020](#), [October 6, 2020](#), [November 20, 2020](#), [December 10, 2020](#) and [December 22, 2020](#);

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- Our [definitive proxy statement](#) on Schedule 14A dated November 20, 2020 as supplemented on December 10, 2020;
- 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
- All documents filed by the Company pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act, after the date of the original Registration Statement and prior to effectiveness of the registration statement of which this prospectus is a part, provided that all documents “furnished” by the Company to the SEC and not “filed” are not deemed incorporated by reference herein.

You should rely only on the information incorporated by reference or provided in this prospectus or any prospectus supplement. We have not authorized anyone else to provide you with different information. You should not assume that the information in this prospectus or any prospectus supplement is accurate as of any date other than the date on the front page of those documents.

Notwithstanding the foregoing, unless specifically stated to the contrary, information that we furnish (and that is not deemed “filed” with the SEC) under Items 2.02 and 7.01 of any Current Report on Form 8-K, including the related exhibits under Item 9.01, is not incorporated by reference into this prospectus or the registration statement of which this prospectus is a part.

We will furnish without charge to you, on written or oral request, a copy of any or all of the documents incorporated by reference in this prospectus, including exhibits to these documents. You should direct any requests for documents to Novus Therapeutics Inc., 19900 MacArthur Boulevard, Suite 550, Irvine, California 92612, telephone: (949) 238-8090.



**12,364,568 Shares of Common Stock
Offered by the Selling Stockholders**

PROSPECTUS

December 22, 2020
