Registration No. 333-

UNITED STATES SECURITIES AND EXCHANGE COMMISSION WASHINGTON, DC 20549

FORM S-8 REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

Intellia Therapeutics, Inc.

(Exact name of registrant as specified in its charter)

Delaware (State or other jurisdiction of incorporation or organization) 36-4785571 (I.R.S. Employer Identification No.)

40 Erie Street, Suite 130 Cambridge, Massachusetts (857) 285-6200

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

Intellia Therapeutics, Inc. 2015 Amended and Restated Stock Option and Incentive Plan (Full title of the plan)

John Leonard, M.D. President and Chief Executive Officer 40 Erie Street, Suite 130 Cambridge, Massachusetts (857) 285-6200 (Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

Arthur R. McGivern, Esq. William D. Collins, Esq. Goodwin Procter LLP 100 Northern Ave. Boston, Massachusetts 02210 (617) 570-1000

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, 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	\boxtimes	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 pursuant to Section 7(a)(2)(B) of the Securities Act.

CALCULATION OF REGISTRATION FEE

Title of securities	Amount to be	Proposed maximum offering price	Proposed maximum aggregate	Amount of
to be registered	registered(1)	per share	offering price	registration fee
Common Stock, \$0.0001 par value per share, reserved for issuance				
pursuant to the Intellia Therapeutics, Inc. Amended and				
Restated 2015 Stock Option and Incentive Plan	2,007,922 shares (2)	\$12.44 (3)	\$24,978,549.68 (3)	\$3,242.22

(1) In accordance with Rule 416 under the Securities Act of 1933, as amended, this registration statement shall be deemed to cover any additional securities that may from time to time be offered or issued to prevent dilution resulting from stock splits, stock dividends or similar transactions effected without the receipt of consideration which results in an increase in the number of our outstanding shares of common stock.

- (2) Represents an automatic increase to the number of shares available for issuance under the Amended and Restated 2015 Stock Option and Incentive Plan (the "2015 Plan"). Shares available for issuance under the 2015 Plan were previously registered on registration statements on Form S-8 filed with the Securities and Exchange Commission on May 6, 2016 (File No. 333-21200), June 5, 2017 (File No. 333-218511) and February 27, 2019 (File No. 333-229900).
- (3) Estimated solely for the purpose of calculating the registration fee pursuant to Rules 457(c) and 457(h) of the Securities Act of 1933, as amended. The price per share and aggregate offering price are calculated on the basis of \$12.44, the average of the high and low price of the registrant's Common Stock as reported on the NASDAQ Global Market on February 25, 2020.

Statement of Incorporation by Reference

This Registration Statement on Form S-8 is filed to register the offer and sale of an additional 2,007,922 shares of the Registrant's common stock, \$0.0001 par value per share, to be issued under the Registrant's Amended and Restated 2015 Stock Option and Incentive Plan. This Registration Statement incorporates by reference the contents of the registration statement on Form S-8, File No. 333-211200, filed by the Registrant on May 6, 2016, and the registration relating to the Registrant's Amended and Restated 2015 Stock Option pursuant to General Instruction E.

Part II

Information Required in the Registration Statement

Item 8. Exhibits.

See the Exhibit Index below for a list of exhibits filed as part of this registration statement on Form S-8, which Exhibit Index is incorporated herein by reference.

EXHIBIT INDEX

Number	Description
4.1	Form of Common Stock Certificate of the Registrant (incorporated by reference to Exhibit 4.1 of the Registrant's Current Report on Form 8-K (File No. 001-37766) filed with the Securities and Exchange Commission on May 17, 2016)
4.2	Second Restated Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit 3.1 of the Registrant's Current Report on Form 8-K (File No. 001-37766) filed with the Securities and Exchange Commission on May 17, 2016)
4.3	Second Amended and Restated By-Laws of the Registrant (incorporated by reference to Exhibit 3.2 of the Registrant's Current Report on Form 8-K (File No. 001-37766) filed with the Securities and Exchange Commission on May 17, 2016)
4.4	Investors' Rights Agreement among the Registrant and certain of its stockholders, dated August 20, 2015 (incorporated by reference to Exhibit 4.1 of the Registration Statement on Form S-1 (File No. 333-210689) filed with the Securities and Exchange Commission on April 11, 2016)
4.5	Amendment No. 1 to Investors' Rights Agreement among the Registrant and certain of its stockholders, dated April 11, 2016 (incorporated by reference to Exhibit 4.2 of the Registration Statement on Form S-1 (File No. 333-210689) filed with the Securities and Exchange Commission on
4.6	<u>April 12, 2016)</u> <u>Amendment No. 2 to Investors' Rights Agreement among the Registrant and certain of its stockholders, dated August 25, 2016 (incorporated by reference to Exhibit 4.3 of the Registration Statement on Form S-1 (File No. 333-210689) filed with the Securities and Exchange Commission on April 27, 2016)</u>
5.1*	Opinion of Goodwin Procter LLP
23.1*	Consent of Goodwin Procter LLP (included in Exhibit 5.1)
23.2*	Consent of Deloitte & Touche LLP, Independent Registered Public Accounting Firm
24.1*	Power of attorney (included on the signature pages of this registration statement)
99.1	<u>Amended and Restated 2015 Stock Option and Incentive Plan (incorporated by reference to Exhibit 10.1 of the Registration Statement on Form S-1 (File No. 333-210689) filed with the Securities and Exchange Commission on April 27, 2016)</u>

* Filed herewith.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Cambridge, Commonwealth of Massachusetts, on this 27th day of February, 2020.

INTELLIA THERAPEUTICS, INC.

By: /s/ John Leonard

John Leonard, M.D. President and Chief Executive Officer

POWER OF ATTORNEY AND SIGNATURES

KNOW ALL BY THESE PRESENT, that each individual whose signature appears below hereby constitutes and appoints each of John Leonard, M.D., José E. Rivera, J.D. and Glenn Goddard as such person's true and lawful attorney-in-fact and agent with full power of substitution and resubstitution, for such person in such person's name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Registration Statement on Form S-8, and to file the same, with all exhibits thereto, and all documents in connection therewith, with the Securities and Exchange Commission granting unto each said attorney-in-fact and agent full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as such person might or could do in person, hereby ratifying and confirming all that any said attorney-in-fact and agent, or any substitute or substitutes of any of them, may lawfully do or cause to be done by virtue hereof.

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

Name	Title	Date
/s/ John Leonard	President, Chief Executive Officer and Director	February 27, 2020
John Leonard, M.D.	(Principal Executive Officer)	
/s/ Glenn Goddard	Executive Vice President, Chief Financial Officer	February 27, 2020
Glenn Goddard	(Principal Financial and Accounting Officer)	
/s/ Fred Cohen	Director	February 27, 2020
Fred Cohen, M.D., D.Phil.		
/s/ Caroline Dorsa	Director	February 27, 2020
Caroline Dorsa		
/s/ Jean François Formela	Director	February 27, 2020
Jean François Formela, M.D.		
/s/ Jesse Goodman	Director	February 27, 2020
Jesse Goodman, M.D.		

	/s/ Perry Karsen	Director
	Perry Karsen	
	/s/ Frank Verwiel	Director
-	Frank Verwiel, M.D.	_

February 27, 2020

Re: <u>Securities Being Registered under Registration Statement on Form S-8</u>

Ladies and Gentlemen:

We have acted as counsel to you in connection with your filing of a Registration Statement on Form S-8 (the "Registration Statement") pursuant to the Securities Act of 1933, as amended (the "Securities Act"), on or about the date hereof relating to an aggregate of 2,007,922 shares (the "2015 Plan Shares") of Common Stock, \$0.0001 par value per share ("Common Stock"), of Intellia Therapeutics, Inc., a Delaware corporation (the "Company"), that may be issued pursuant to the Company's Amended and Restated 2015 Stock Option and Incentive Plan (the "2015 Plan").

We have reviewed such documents and made such examination of law as we have deemed appropriate to give the opinions set forth below. We have relied, without independent verification, on certificates of public officials and, as to matters of fact material to the opinion set forth below, on certificates of officers of the Company.

The opinion set forth below is limited to the Delaware General Corporation Law.

For purposes of the opinion set forth below, we have assumed that no event occurs that causes the number of authorized shares of Common Stock available for issuance by the Company to be less than the number of then unissued Shares.

Based on the foregoing, we are of the opinion that the 2015 Plan Shares have been duly authorized and, upon issuance and delivery against payment therefor in accordance with the terms of the 2015 Plan, will be validly issued, fully paid and nonassessable.

We hereby consent to the inclusion of this opinion as Exhibit 5.1 to the Registration Statement. In giving our consent, we do not admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations thereunder.

Very truly yours, /s/ Goodwin Procter LLP GOODWIN PROCTER LLP

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in this Registration Statement on Form S-8 of our reports dated February 27, 2020, relating to the financial statements of Intellia Therapeutics, Inc. and the effectiveness of Intellia Therapeutics, Inc.'s internal control over financial reporting, appearing in the Annual Report on Form 10-K of Intellia Therapeutics, Inc. for the year ended December 31, 2019.

/s/ Deloitte & Touche LLP Boston, Massachusetts February 27, 2020