

**SECURITIES AND EXCHANGE COMMISSION**  
WASHINGTON, D.C. 20549

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

**ONCONOVA THERAPEUTICS, INC.**

(Exact name of registrant as specified in its charter)

**DELAWARE**  
(State or other jurisdiction of  
incorporation or organization)

**22-3627252**  
(I.R.S. Employer  
Identification No.)

**375 Pheasant Run**  
**Newtown, PA 18940**  
(Address, including zip code, of registrant's principal executive offices)

**ONCONOVA THERAPEUTICS, INC. 2013 EQUITY COMPENSATION PLAN**  
(Full title of the plan)

**With copies to:**

**Ramesh Kumar, Ph.D.**  
President and Chief Executive Officer  
Onconova Therapeutics, Inc.  
375 Pheasant Run  
Newtown, PA 18940  
(267) 759-3680  
(Name, address, including zip code, and telephone number, including area code, of agent for service)

**Joanne R. Soslow**  
Morgan, Lewis & Bockius LLP  
1701 Market Street  
Philadelphia, PA 19103-2921  
Tel: (215) 963-5000  
Fax: (215) 963-5001

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. (Check one):

Large accelerated filer  Accelerated filer   
Non-accelerated filer  Smaller reporting company   
(Do not check if a 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 Exchange Act.

**CALCULATION OF REGISTRATION FEE**

Title of Securities To be Registered	Amount to be Registered (1)	Proposed Maximum Offering Price Per Share (2)	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee
Common Stock, \$0.01 par value per share	200,000 shares	\$ 1.49	\$ 298,000.00	\$ 37.10

- (1) Represents shares of Common Stock, \$0.01 par value per share, of the Registrant (the "Common Stock") that were automatically added to the shares authorized for issuance under the Onconova Therapeutics, Inc. 2013 Equity Compensation Plan (the "Plan"), on January 1, 2018 pursuant to an "evergreen" provision contained in the Plan. Pursuant to such provision, on January 1 of each year until 2023, the number of shares authorized for issuance under the Plan is automatically increased by a number equal to the lesser of (a) a number of shares of Common Stock equal to four percent (4%) of the issued and outstanding Common Stock, without duplication, (b) 200,000 shares of Common Stock (which number reflects the Registrant's one-for-ten reverse stock split, which was effective May 31, 2016) and (c) such lesser number as determined by the board of directors of the Registrant. Pursuant to Rule 416 of the Securities Act of 1933, as amended (the "Securities Act"), this registration statement shall also cover any additional shares of Common Stock which become issuable under the Plan by reason of any stock dividend, stock split, recapitalization or other similar transaction effected without the receipt of consideration which results in an increase in the number of the outstanding shares of the Registrant.
- (2) Estimated solely for the purpose of calculating the registration fee pursuant to Rules 457(c) and 457(h) of the Securities Act. The price per share and aggregate offering price are calculated on the basis of \$1.49, the average of the high and low price of the Common Stock as reported on the NASDAQ Capital Market on December 28, 2017.

## EXPLANATORY NOTE

This Registration Statement is being filed for the purpose of registering an additional 200,000 shares of common stock, \$0.01 par value per share (the “Common Stock”), of Onconova Therapeutics, Inc. (the “Registrant”) that were added to the shares authorized for issuance under the Onconova Therapeutics, Inc. 2013 Equity Compensation Plan (the “Plan”) for which Registration Statements on Form S-8 relating to the same employee benefit plan are effective. All share figures in this Explanatory Note reflect the Registrant’s one-for-ten reverse stock split, which was effective May 31, 2016.

The Registrant previously filed Registration Statements on Form S-8 (File Nos. 333-191161, 333-194228, 333-204210, 333-210694 and 333-215575) with the Commission to register an aggregate of 1,085,323 shares of Common Stock that were authorized for issuance under the Plan. Upon the effectiveness of this Registration Statement, an aggregate of 1,285,323 shares of Common Stock will be registered for issuance from time to time under the Plan. Pursuant to General Instruction E to Form S-8, the contents of the Registration Statements on Form S-8, File Nos. 333-191161, 333-194228, 333-204210, 333-210694 and 333-215575, filed with the Commission on September 13, 2013, February 28, 2014, May 15, 2015, April 11, 2016 and January 17, 2017, respectively, are incorporated herein by reference except to the extent supplemented, amended or superseded by the information set forth herein. Only those items of Form S-8 containing new information not contained in the earlier Registration Statements are presented herein.

### ITEM 5. INTERESTS OF NAMED EXPERTS AND COUNSEL.

Not Applicable.

### ITEM 8. EXHIBITS.

<u>EXHIBIT NUMBER</u>	<u>DESCRIPTION</u>
4.1	<u><a href="#">Tenth Amended and Restated Certificate of Incorporation of Onconova Therapeutics, Inc. (incorporated by reference to Exhibit 3.1 to the Registrant’s Current Report on Form 8-K, filed with the Commission on July 30, 2013 (File No. 001-36020)).</a></u>
4.2	<u><a href="#">Certificate of Amendment to Tenth Amended and Restated Certificate of Incorporation of Onconova Therapeutics, Inc. (incorporated by reference to Exhibit 3.1 to the Registrant’s Current Report on Form 8-K, filed with the Commission on May 31, 2016 (File No. 001-36020)).</a></u>
4.3	<u><a href="#">Amended and Restated Bylaws of Onconova Therapeutics, Inc. (incorporated by reference to Exhibit 3.2 to the Registrant’s Current Report on Form 8-K, filed with the Commission on July 30, 2013 (File No. 001-36020)).</a></u>
4.4	<u><a href="#">Form of Certificate of Common Stock (incorporated by reference to Exhibit 4.1 to Pre-Effective Amendment No. 1 to the Registrant’s Registration Statement on Form S-1, filed with the Commission on July 11, 2013 (File No. 333-189358)).</a></u>
5.1*	<u><a href="#">Opinion of Morgan, Lewis &amp; Bockius LLP regarding the validity of the securities being registered.</a></u>
10.1	<u><a href="#">Onconova Therapeutics, Inc. 2013 Equity Compensation Plan, and forms of agreement thereunder (incorporated by reference to Exhibit 10.25 to Pre-Effective Amendment No. 1 to the Registrant’s Registration Statement on Form S-1, filed with the Commission on July 11, 2013 (File No. 333-189358)).</a></u>
23.1*	<u><a href="#">Consent of Morgan, Lewis &amp; Bockius LLP (included in Exhibit 5.1).</a></u>
23.2*	<u><a href="#">Consent of Ernst &amp; Young LLP.</a></u>
24.1*	<u><a href="#">Power of Attorney (included in signature page).</a></u>

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\* Filed herewith.

## SIGNATURES

Pursuant to the requirements of the Securities Act, 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 Newtown, Commonwealth of Pennsylvania, on the 3rd day of January, 2018.

### ONCONOVA THERAPEUTICS, INC.

By: /s/ Ramesh Kumar, Ph.D.  
Ramesh Kumar, Ph.D.  
President and Chief Executive Officer

### POWER OF ATTORNEY

We, the undersigned officers and directors of Onconova Therapeutics, Inc., hereby severally constitute and appoint Ramesh Kumar, Ph.D. and Mark Guerin, and each of them singly, our true and lawful attorneys with full power to them, and each of them singly, to sign for us and in our names in the capacities indicated below, the registration statement on Form S-8 filed herewith and any and all subsequent amendments to said registration statement, and generally to do all such things in our names and on our behalf in our capacities as officers and directors to enable Onconova 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 our signatures as they may be signed by our said attorneys, or any of them, to said registration statement and any and all amendments thereto.

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>Title</u>	<u>Date</u>
<u>/s/ Ramesh Kumar, Ph.D.</u> Ramesh Kumar, Ph.D.	Director, President and Chief Executive Officer <i>(Principal Executive Officer)</i>	January 3, 2018
<u>/s/ Mark Guerin</u> Mark Guerin	Vice President, Chief Financial Officer <i>(Principal Financial Officer and Principal Accounting Officer)</i>	January 3, 2018
<u>/s/ Michael B. Hoffman</u> Michael B. Hoffman	Chairman, Board of Directors	January 3, 2018
<u>/s/ Henry S. Bienen, Ph.D.</u> Henry S. Bienen, Ph.D.	Director	January 3, 2018
<u>/s/ Jerome E. Groopman, M.D.</u> Jerome E. Groopman, M.D.	Director	January 3, 2018
<u>/s/ James J. Marino</u> James J. Marino	Director	January 3, 2018
<u>/s/ Viren Mehta</u> Viren Mehta	Director	January 3, 2018
<u>/s/ E. Premkumar Reddy, Ph.D.</u> E. Premkumar Reddy, Ph.D.	Director	January 3, 2018
<u>/s/ Jack E. Stover</u> Jack E. Stover	Director	January 3, 2018

# Morgan Lewis

January 3, 2018

Onconova Therapeutics, Inc.  
375 Pheasant Run  
Newtown, PA 18940

Re: Onconova Therapeutics, Inc.  
Registration Statement on Form S-8 — Onconova Therapeutics, Inc. 2013 Equity Compensation Plan

Ladies and Gentlemen:

We have acted as counsel to Onconova Therapeutics, Inc., a Delaware corporation (the “Company”), in connection with the preparation of a registration statement on Form S-8 (the “Registration Statement”) for filing with the Securities and Exchange Commission pursuant to the Securities Act of 1933, as amended (the “Act”), for the registration by the Company of 200,000 shares (the “Shares”) of the Company’s common stock, par value \$0.01 per share (the “Common Stock”), which may be issued under the Onconova Therapeutics, Inc. 2013 Equity Compensation Plan (the “Plan”). We have examined the Plan, the Certificate of Incorporation of the Company, as amended to date, the Bylaws of the Company, as amended to date, and such certificates, records, statutes and other documents as we have deemed relevant in rendering this opinion. As to matters of fact, we have relied on representations of officers of the Company. In our examination, we have assumed the genuineness of documents submitted to us as originals and the genuineness of, and conformity with, the original of all documents submitted to us as copies thereof.

Based upon the foregoing, we are of the opinion that the Shares, when issued by the Company in accordance with the terms and conditions of the Plan, will be validly issued, fully paid and non-assessable.

The opinion set forth above is limited to the laws of Delaware General Corporation Law.

We hereby consent to the use of this opinion as Exhibit 5.1 to the Registration Statement. In giving such opinion, we do not thereby admit that we are acting within the category of persons whose consent is required under Section 7 of the Act or the rules or regulations of the Securities and Exchange Commission thereunder.

Very truly yours,

/s/ Morgan, Lewis & Bockius LLP

**Morgan, Lewis & Bockius LLP**

1701 Market Street  
Philadelphia, PA 19103-2921  
United States

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**Consent of Independent Registered Public Accounting Firm**

We consent to the incorporation by reference in the Registration Statement (Form S-8) pertaining to the 2013 Equity Compensation Plan of Onconova Therapeutics, Inc. of our report dated March 29, 2017 with respect to the consolidated financial statements of Onconova Therapeutics, Inc., included in its Annual Report (Form 10-K) for the year ended December 31, 2016, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Philadelphia, Pennsylvania  
January 3, 2018

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