

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**Scott R. Jones, Esq.**Pepper Hamilton LLP
3000 Two Logan Square
18th and Arch Streets
Philadelphia, PA 19103-2799
Tel: (215) 981-4562
Fax: (215) 827-5746

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

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

Large accelerated filer ☐Accelerated filer ☐Non-accelerated filer ☐ (Do not check if a smaller reporting company)Smaller reporting company ☐**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	\$ 2.76	\$ 552,000.00	\$ 63.98

- (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, 2017 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 \$2.76, the average of the high and low price of the Common Stock as reported on the NASDAQ Capital Market on January 12, 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 and 333-210694) with the Commission to register an aggregate of 885,323 shares of Common Stock that were authorized for issuance under the Plan. Upon the effectiveness of this Registration Statement, an aggregate of 1,085,323 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 and 333-210694, filed with the Commission on September 13, 2013, February 28, 2014, May 15, 2015 and April 11, 2016, 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 8. EXHIBITS.

EXHIBIT NUMBER	DESCRIPTION
4.1	Tenth Amended and Restated Certificate of Incorporation of Onconova Therapeutics, Inc. <i>(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))</i> .
4.2	Certificate of Amendment to Tenth Amended and Restated Certificate of Incorporation of Onconova Therapeutics, Inc. <i>(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))</i> .
4.3	Amended and Restated Bylaws of Onconova Therapeutics, Inc. <i>(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))</i> .
4.4	Form of Certificate of Common Stock <i>(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))</i> .
5.1*	Opinion of Pepper Hamilton LLP regarding the validity of the securities being registered.
10.1	Onconova Therapeutics, Inc. 2013 Equity Compensation Plan, and forms of agreement thereunder <i>(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))</i> .
23.1*	Consent of Pepper Hamilton LLP (included in Exhibit 5.1).
23.2*	Consent of Ernst & Young LLP.
24.1*	Power of Attorney (included in signature page).

* 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 17th day of January, 2017.

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.

Signature

Title

Date

<u>/s/ Ramesh Kumar, Ph.D.</u> Ramesh Kumar, Ph.D.	Director, President and Chief Executive Officer <i>(Principal Executive Officer)</i>	January 17, 2017
<u>/s/ Mark Guerin</u> Mark Guerin	Vice President, Chief Financial Officer <i>(Principal Financial Officer and Principal Accounting Officer)</i>	January 17, 2017
<u>/s/ Michael B. Hoffman</u> Michael B. Hoffman	Chairman, Board of Directors	January 17, 2017
<u>/s/ Henry S. Bienen, Ph.D.</u> Henry S. Bienen, Ph.D.	Director	January 17, 2017
<u>/s/ Jerome E. Groopman, M.D.</u> Jerome E. Groopman, M.D.	Director	January 17, 2017
<u>/s/ James J. Marino</u> James J. Marino	Director	January 17, 2017
<u>/s/ Viren Mehta</u> Viren Mehta	Director	January 17, 2017
<u>/s/ E. Premkumar Reddy, Ph.D.</u> E. Premkumar Reddy, Ph.D.	Director	January 17, 2017
<u>/s/ Jack E. Stover</u> Jack E. Stover	Director	January 17, 2017

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3000 Two Logan Square
 Eighteenth and Arch Streets
 Philadelphia, PA 19103-2799
 215.981.4000
 Fax 215.981.4750

January 17, 2016

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

Re: Registration Statement on Form S-8

Ladies and Gentlemen:

Reference is made to the registration statement on Form S-8 (the “**Registration Statement**”) of Onconova Therapeutics, Inc., a Delaware corporation (the “**Company**”), filed on the date hereof with the Securities and Exchange Commission (the “**Commission**”), under the Securities Act of 1933, as amended (the “**Act**”). The Registration Statement covers an aggregate of 200,000 shares (the “**Shares**”) of the Company’s common stock, par value \$0.01 per share (the “**Common Stock**”), issuable under the Onconova Therapeutics, Inc. 2013 Equity Compensation Plan (the “**Plan**”).

We have examined the Registration Statement, including the exhibits thereto, the originals or copies, certified or otherwise identified to our satisfaction, of the Tenth Amended and Restated Articles of Incorporation, as amended, and the Amended and Restated Bylaws of the Company, the Plan and such other documents as we have deemed appropriate 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 all signatures, the authenticity of all documents submitted to us, other than by the Company or its officers, as originals and the authenticity of all documents submitted to us as copies of originals. Based on the foregoing, we are of the opinion that the Shares, when issued in accordance with the terms of the Plan, will be legally issued, fully paid and non-assessable. This opinion is being furnished to you solely for submission to the Commission as an exhibit to the Registration Statement and, accordingly, may not be relied upon, quoted in any manner to, or delivered to any other person or entity, without in each instance our prior written consent.

We express no opinion herein as to the law of any state or jurisdiction other than the General Corporation Law of the State of Delaware, including statutory provisions and all applicable provisions of the State of Delaware and reported judicial decisions interpreting such laws of the State of Delaware and the federal laws of the United States of America.

We assume no obligation to supplement this opinion if any applicable law changes after the date hereof or if we become aware of any fact that might change the opinion expressed herein after the date hereof.

We hereby consent to the filing of this opinion as an exhibit to the Registration Statement. In giving such consent, we do not thereby admit that we come within the category of persons whose consent is required under Section 7 of the Act or the rules or regulations of the Commission thereunder.

Very truly yours,

/s/ Pepper Hamilton LLP

PEPPER HAMILTON LLP

Philadelphia	Boston	Washington, D.C.	Los Angeles	New York	Pittsburgh
Detroit	Berwyn	Harrisburg	Orange County	Princeton	Silicon Valley
					Wilmington

www.pepperlaw.com

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the Registration Statement (Form S-8) filed on January 17, 2017 pertaining to the Onconova Therapeutics, Inc. 2013 Equity Compensation Plan of our report dated March 28, 2016 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, 2015, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Philadelphia, Pennsylvania
January 17, 2017
