

**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)

**James J. Marino, Esq.**  
**Ella DeTrizio, Esq.**  
Dechert LLP  
902 Carnegie Center, Suite 500  
Princeton, NJ 08540-6531  
(609) 955 3200

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	858,699 shares	\$ 9.08	\$ 7,796,986.92	\$ 1,004.25

(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, 2014 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) 2,000,000 shares of Common Stock 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 \$9.08, the average of the high and low price of the Common Stock as reported on the NASDAQ Global Market on February 25, 2014.

**INCORPORATION BY REFERENCE OF CONTENTS OF REGISTRATION  
STATEMENT ON FORM S-8**

This Registration Statement is being filed for the purpose of increasing the number of securities of the same class as other securities for which a Registration Statement of the Registrant on Form S-8 relating to the same employee benefit plan is effective.

The Registrant's Registration Statement on Form S-8 previously filed with the Securities and Exchange Commission, or SEC, on September 13, 2013 (File No. 333-191161) is incorporated by reference in this Registration Statement, pursuant to General Instruction E to Form S-8.

**ITEM 8. EXHIBITS.**

The Exhibit Index immediately preceding the signature page is incorporated herein by reference.

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**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 28<sup>th</sup> day of February, 2014.

**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 Ajay Bansal, 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>	February 28, 2014
<u>/s/ Ajay Bansal</u> Ajay Bansal	Chief Financial Officer <i>(Principal Financial Officer)</i>	February 28, 2014
<u>/s/ James R. Altland</u> James R. Altland	Senior Vice President, Finance & Corporate Development <i>(Principal Accounting Officer)</i>	February 28, 2014
<u>/s/ Michael B. Hoffman</u> Michael B. Hoffman	Chairman, Board of Directors	February 28, 2014
<u>/s/ Henry S. Bienen, Ph.D.</u> Henry S. Bienen, Ph.D.	Director	February 28, 2014
<u>/s/ Jerome E. Groopman, M.D.</u> Jerome E. Groopman, M.D.	Director	February 28, 2014

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<u>/s/ Viren Mehta</u> Viren Mehta	Director	February 28, 2014
<u>/s/ E. Premkumar Reddy, Ph.D.</u> E. Premkumar Reddy, Ph.D.	Director	February 28, 2014
<u>/s/ Anne M. VanLent</u> Anne M. VanLent	Director	February 28, 2014

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## EXHIBITS INDEX

<b>EXHIBIT NUMBER</b>	<b>DESCRIPTION</b>
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	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> .
4.3	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> .
4.4	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> .
5.1	Opinion of Dechert LLP regarding the validity of the securities being registered.
23.1	Consent of Dechert LLP (included in Exhibit 5.1).
23.2	Consent of Ernst & Young LLP.
23.3	Consent of EisnerAmper LLP.
24.1	Power of Attorney (included in signature page).



Suite 500  
 902 Carnegie Center  
 Princeton, NJ 08540-6531  
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 +1 609 955 3259 Fax  
 www.dechert.com

February 28, 2014

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

Re: REGISTRATION STATEMENT ON FORM S-8

Ladies and Gentlemen:

We have acted as counsel to Onconova Therapeutics, Inc., a Delaware corporation (the "Company"), in connection with the filing with the Securities and Exchange Commission (the "Commission") of a Registration Statement on Form S-8 (the "Registration Statement") for the purpose of registering under the Securities Act of 1933, as amended (the "Securities Act"), 858,699 shares of its common stock, par value \$0.01 per share (the "Shares"), issuable under the Onconova Therapeutics, Inc. 2013 Equity Compensation Plan (the "Plan"). This opinion is being furnished to the Company in connection with the requirements of Item 601(b)(5) of Regulation S-K under the Securities Act, and no opinion is expressed herein as to any matter pertaining to the contents of the Registration Statement other than as expressly stated herein with respect to the Shares.

As your counsel, we have examined such documents and such matters of fact and law that we have deemed necessary for the purpose of rendering the opinion expressed herein.

In our examination, we have assumed the genuineness of all signatures, the authenticity of all documents submitted to us as original documents, and the conformity to original documents of all documents submitted to us as copies, the legal capacity of natural persons who are signatories to the documents examined by us and the legal power and authority of all persons signing on behalf of parties (other than the Company) to all documents.

Subject to the foregoing and the other matters set forth herein, it is our opinion that, as of the date hereof, when the Shares shall have been duly registered on the books of the transfer agent and registrar therefor in the name or on behalf of the holders and have been issued by the Company against payment therefor (not less than par value) in the circumstances contemplated by the Plan, assuming in each case that the individual issuances, grants or awards under the Plan are duly authorized by all necessary corporate action and duly issued, granted or awarded and exercised in accordance with the requirements of law and the Plan (and the agreements and awards duly adopted thereunder and in accordance therewith), the issue and sale of the Shares will have been

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duly authorized by all necessary corporate action of the Company, and the Shares will be validly issued, fully paid and non-assessable.

We are opining herein only as to the General Corporation Law of the State of Delaware, and we express no opinion with respect to the applicability thereto, or the effect thereon, of any other laws.

We hereby consent to the filing of this opinion as an exhibit to the Registration Statement. In giving this 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 of the Commission thereunder

Very truly yours,

/s/ DECHERT LLP

**Consent of Independent Registered Public Accounting Firm**

We consent to the incorporation by reference in the Registration Statement (Form S-8) filed on February 28, 2014 pertaining to the Onconova Therapeutics, Inc. 2013 Equity Compensation Plan of our report dated May 3, 2013 (except for the third paragraph of Note 18, as to which the date is July 17, 2013), with respect to the consolidated financial statements of Onconova Therapeutics, Inc., included in the Registration Statement (No. 333-189358) and related Prospectus, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Philadelphia, Pennsylvania  
February 28, 2014

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**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We consent to the incorporation by reference in the Registration Statement of Onconova Therapeutics, Inc. on Form S-8 to be filed on or about February 28, 2014 of our report dated May 2, 2013, except for the third paragraph of Note 18, for which the date is July 17, 2013, on our audit of the financial statements as of December 31, 2011 and for the year ended December 31, 2011. We also consent to the reference to our firm under the caption "Experts" in the Registration Statement on Form S-8.

/s/ EISNERAMPER LLP

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Iselin, New Jersey  
February 28, 2014

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