

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-1
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)

2834
(Primary Standard Industrial
Classification Code Number)

22-3627252
(I.R.S. Employer
Identification Number)

375 Pheasant Run
Newtown, PA 18940
(267) 759-3680

(Address, Including Zip Code, and Telephone Number, Including Area Code, of Registrant's Principal Executive Offices)

copies to:

David S. Rosenthal, Esq.
James J. Marino, Esq.
Dechert LLP
1095 Avenue of the Americas
New York, New York 10036
(212) 698-3500

Andrew S. Williamson, Esq.
Brent B. Siler, Esq.
Brian F. Leaf, Esq.
Cooley LLP
11951 Freedom Drive
Reston, Virginia 20190
(703) 456-8000

Approximate date of commencement of proposed sale to the public: As soon as practicable after this Registration Statement becomes effective.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box. If this Form is filed to register additional securities for an offering pursuant Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. 333-189358If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

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. (Check one):

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 each class of securities to be registered	Amount to be registered (1)(2)	Proposed maximum offering price per share	Proposed maximum aggregate offering price (3)	Amount of registration fee
Common Stock, \$0.01 par value per share	633,975 shares	\$ 15.00	\$ 9,509,625	\$ 1,298

(1) Includes 82,693 shares which the Underwriters have the option to purchase from the Company to cover over-allotments, if any.

(2) The Registrant is registering 633,975 shares pursuant to this Registration Statement, which shares are in addition to the 5,307,692 shares registered pursuant to the Form S-1 Registration Statement (Registration No. 333-189358).

This Registration Statement shall become effective upon filing in accordance with Rule 462(b) under the Securities Act of 1933, as amended.

EXPLANATORY NOTE AND INCORPORATION BY REFERENCE

This Registration Statement on Form S-1 relating to the public offering of common stock of Onconova Therapeutics, Inc. contemplated by the Registration Statement on Form S-1 (File No. 333-189358), as amended (the "Prior Registration Statement") is filed pursuant to Rule 462(b) promulgated under the Securities Act of 1933, as amended, solely to increase the number of shares to be offered in the public offering by 633,975 shares, including 82,693 shares that may be sold pursuant to an over-allotment option granted to the underwriters. The contents of the Prior Registration Statement, including all exhibits thereto, which was declared effective by the Securities and Exchange Commission on July 24, 2013, are hereby incorporated by reference.

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SIGNATURES

Pursuant to the requirements of the Securities Act, the Registrant 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 24th day of July, 2013.

ONCONOVA THERAPEUTICS, INC.

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

Pursuant to the requirements of the Securities Act, 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 (Principal Executive Officer)	July 24, 2013
<u>/s/ AJAY BANSAL</u> Ajay Bansal	Director and Chief Financial Officer (Principal Financial Officer)	July 24, 2013
<u>/s/ JAMES R. ALTLAND</u> James R. Altland	Senior Vice President, Finance & Corporate Development (Principal Accounting Officer)	July 24, 2013
<u>*</u> Michael B. Hoffman	Chairman, Board of Directors	July 24, 2013
<u>*</u> Henry S. Bienen, Ph.D.	Director	July 24, 2013
<u>*</u> Viren Mehta	Director	July 24, 2013

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Signature	Title	Date
<u>*</u> Sarath Naru	Director	July 24, 2013
<u>*</u> Pankaj R. Patel	Director	July 24, 2013
<u>*</u> E. Premkumar Reddy, Ph.D.	Director	July 24, 2013
<u>*</u> Alan R. Williamson, Ph.D.	Director	July 24, 2013

*By: /s/ RAMESH KUMAR PH.D.
Ramesh Kumar Ph.D.
Attorney-in-fact

EXHIBIT INDEX

Exhibit No.	Description
5.1*	Opinion of Dechert LLP regarding the validity of the securities being registered.
23.1	Consent of Ernst & Young LLP.
23.2	Consent of EisnerAmper LLP.
23.3*	Consent of Dechert LLP (included in Exhibit 5.1).
24.1**	Powers of Attorney

* Filed as Exhibit 5.1 to Pre-Effective Amendment No. 3 to the Registrant's Registration Statement on Form S-1 (File No. 333-189358) filed with the Commission on July 23, 2013.

** Filed as Exhibit 24.1 to the Registrant's Registration Statement on Form S-1 (File No. 333-189358) filed with the Commission on June 14, 2013.

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the Registration Statement on Form S-1 filed pursuant to Rule 462(b) of the Securities Act of 1933 of the reference to our firm under the caption "Experts" and our report dated May 3, 2013 (except for the third paragraph of Note 18, as to which the date is July 17, 2013) relating to the consolidated financial statements of Onconova Therapeutics, Inc. included in Amendment No. 2 to the Registration Statement (Form S-1 No. 333-189358) and related Prospectus of Onconova Therapeutics, Inc. for the registration of shares of its common stock.

/s/Ernst & Young LLP

Philadelphia, Pennsylvania
July 24, 2013

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-1 filed pursuant to Rule 462(b) of the Securities Act of 1933 to be filed on or about July 24, 2013 of our report dated May 2, 2013, except for the third paragraph of Note 18, as to which the date is July 17, 2013, on our audit of the financial statements of Onconova Therapeutics, Inc. as of December 31, 2011 and for the year ended December 31, 2011 included in Amendment 2 to the Registration Statement (Form S-1 No 333-189358). We also consent to the reference to our firm under the caption "Experts" in the Registration Statement on Form S-1.

/s/ EISNERAMPER LLP

Iselin, NJ
July 24, 2013
