

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

Pre-effective
Amendment No. 3
to

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
No.)

Onconova Therapeutics, Inc.
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)

Ramesh Kumar, Ph.D.
President and Chief Executive Officer
Onconova Therapeutics, Inc.
375 Pheasant Run
Newtown, PA 18954
(267) 759-3680

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

Copies to:
Jeffery P. Libson
Donald R. Readlinger
Pepper Hamilton LLP
301 Carnegie Center, Suite 400
Princeton, NJ 08540-6227
609-951-4164

Approximate date of commencement of proposed sale to the public:
As soon as practicable after the effective date of this registration statement.

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 to Rule 462(b) under the Securities Act, please 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(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

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant files a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

EXPLANATORY NOTE

This Pre-Effective Amendment No. 3 to Form S-1 Registration Statement (Registration No. 333-211769) of Onconova Therapeutics, Inc. is being filed solely for the purpose of filing Exhibits 4.6, 4.7 and 4.8 to the Registration Statement. No changes or additions are being made hereby to the Prospectus constituting Part I of the Registration Statement (not included herein) or to Part II of the Registration Statement, except for Item 16.

PART II
Information Not Required In Prospectus

Item 13. Other Expenses of Issuance and Distribution.

The following is a statement of estimated expenses in connection with the issuance and distribution of the securities being registered, excluding dealer-manager fees. All expenses incurred with respect to the registration of the common stock will be borne by us. All amounts are estimates except the SEC registration fee and the FINRA filing fee.

	Amount to be Paid
SEC Registration Fee	\$ 5,089
FINRA Filing Fee	3,875
NASDAQ Fee	5,000
Printing Expenses	40,000
Legal Fees and Expenses	200,000
Accounting Fees and Expenses	75,000
Subscription Agent and Warrant Agent Fees and Expenses	100,000
Miscellaneous Expenses	20,000
	<u>\$ 448,964</u>

Item 14. Indemnification of Directors and Officers.

We are incorporated under the laws of the State of Delaware. Section 145 of the Delaware General Corporation Law provides that a Delaware corporation may indemnify any persons who are, or are threatened to be made, parties to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of such corporation), by reason of the fact that such person was an officer, director, employee or agent of such corporation, or is or was serving at the request of such person as an officer, director, employee or agent of another corporation or enterprise. The indemnity may include expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit or proceeding, provided that such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the corporation's best interests and, with respect to any criminal action or proceeding, had no reasonable cause to believe that his or her conduct was illegal.

A Delaware corporation may indemnify any persons who are, or are threatened to be made, a party to any threatened, pending or completed action or suit by or in the right of the corporation by reason of the fact that such person was a director, officer, employee or agent of such corporation, or is or was serving at the request of such corporation as a director, officer, employee or agent of another corporation or enterprise. The indemnity may include expenses (including attorneys' fees) actually and reasonably incurred by such person in connection with the defense or settlement of such action or suit provided that such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the corporation's best interests except that no indemnification is permitted without judicial approval if the officer or director is adjudged to be liable to the corporation. Where an officer or director is successful on the merits or otherwise in the defense of any action referred to above, the corporation must indemnify him or her against the expenses which such officer or director has actually and reasonably incurred. Our certificate of incorporation and bylaws provide for the indemnification of our directors and officers to the fullest extent permitted under the Delaware General Corporation Law.

Section 102(b)(7) of the Delaware General Corporation Law permits a corporation to provide in its certificate of incorporation that a director of the corporation shall not be personally liable to the

corporation or its stockholders for monetary damages for breach of fiduciary duties as a director, except for liability for any:

- transaction from which the director derives an improper personal benefit;
- act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- unlawful payment of dividends or redemption of shares; or
- breach of a director's duty of loyalty to the corporation or its stockholders.

Our certificate of incorporation includes such a provision. Expenses incurred by any officer or director in defending any such action, suit or proceeding in advance of its final disposition shall be paid by us upon delivery to us of an undertaking, by or on behalf of such director or officer, to repay all amounts so advanced if it shall ultimately be determined that such director or officer is not entitled to be indemnified by us.

As permitted by the Delaware General Corporation Law, we have entered into indemnification agreements with our directors and executive officers. These agreements, among other things, require us to indemnify each director and officer to the fullest extent permitted by law and advance expenses to each indemnitee in connection with any proceeding in which indemnification is available.

At present, there is no pending litigation or proceeding involving any of our directors or executive officers as to which indemnification is required or permitted, and we are not aware of any threatened litigation or proceeding that may result in a claim for indemnification.

We have an insurance policy covering our officers and directors with respect to certain liabilities, including liabilities arising under the Securities Act.

Item 15. Recent Sales of Unregistered Securities.

On October 8, 2015, the Company entered into the Purchase Agreement with Lincoln Park, pursuant to which the Company has the right to sell to, and Lincoln Park is obligated to purchase from the Company, up to \$16.5 million in shares of the Company's common stock, subject to certain limitations, from time to time, over the 36-month period commencing on the date that this registration statement is declared effective by the SEC and a final prospectus in connection therewith is filed. On October 8, 2015, Lincoln Park purchased 846,755 shares of the Company's common stock for a total purchase price of \$1,500,000 as an initial purchase under the Purchase Agreement and the Company issued 200,000 shares of common stock pursuant to the terms of the Purchase Agreement as consideration for its commitment to purchase additional shares of common stock under the Purchase Agreement. The sale of such shares to Lincoln Park was not registered under the Securities Act because it was made in a transaction exempt from registration under Section 4(a)(2) of the Securities Act and/or Rule 506 promulgated thereunder.

On January 5, 2016, the Company entered into a Securities Purchase Agreement (the "Purchase Agreement") with an institutional investor (the "Investor") providing for the issuance and sale by the Company of 1,936,842 shares of the Company's common stock at a purchase price of \$0.95 per share and warrants to purchase 968,421 shares of the Company's common stock (the "Private Placement Warrants") for aggregate gross proceeds of \$1,840,000. The shares of the Company's common stock were offered pursuant to an effective shelf registration statement on Form S-3, declared effective by the SEC on November 20, 2014 (File No. 333-199219). The Private Placement Warrants were issued and sold without registration under the Securities Act in reliance on the exemptions provided by Section 4(a)(2) of the Securities Act and/or Regulation D promulgated thereunder and in reliance upon similar exemptions under applicable state laws. Each Private Placement Warrant shall be initially exercisable on the six (6) month anniversary of the issuance date at an exercise price equal to \$1.15 per

share of Common Stock, subject to customary adjustments, and have a term of exercise of five (5) years from the initial exercise date. H.C. Wainwright & Co., LLC acted as the Company's exclusive placement agent for the issuance and sale of the shares of common stock and Private Placement Warrants, and was paid a cash fee equal to 7.5% of the gross proceeds received by the Company from the sale of the securities in the transactions and was reimbursed by the Company for up to \$50,000 in expenses.

Item 16. Exhibits and Financial Statement Schedules.

(a) Exhibits

The exhibits to the registration statement are listed in the Exhibit Index to this registration statement and are incorporated herein by reference.

(b) Financial statement schedules

All schedules have been omitted because either they are not required, are not applicable or the information is otherwise set forth in the financial statements and related notes thereto.

Item 17. Undertakings.

The undersigned registrant hereby undertakes:

- (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:
 - (i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933 (the "Act");
 - (ii) To reflect in the prospectus any facts or events arising after the effective date of this registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and
 - (iii) To include any material information with respect to the plan of distribution not previously disclosed in this registration statement or any material change to such information in this registration statement.

Provided, however, that Paragraphs (1)(i), (1)(ii) and (1)(iii) of this section do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to section 13 or section 15(d) of the Exchange Act that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

- (2) That, for the purpose of determining any liability under the Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

- (3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.
- (5) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:
- If the registrant is subject to Rule 430C (§230.430C of this chapter), each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A (§230.430A of this chapter), shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.
- (6) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities, the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:
- (i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424 (§230.424 of this chapter);
 - (ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;
 - (iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and
 - (iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to section 13(a) or section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director,

officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

The undersigned registrant hereby undertakes that:

- (1) For purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b) (1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.
- (2) For the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

Signature

Title

Date

*

E. Premkumar Reddy, Ph.D.

Director

July 1, 2016

*

Jack E. Stover

Director

July 1, 2016

The undersigned by signing his name hereto signs and executes this Pre-Effective Amendment No. 1 to Registration Statement on Form S-1 pursuant to the Powers of Attorney executed by the above named signatories and previously filed with the Commission on June 1, 2016.

*By: /s/ RAMESH KUMAR, PH.D.

Ramesh Kumar, Ph.D., Attorney-in-Fact

EXHIBIT INDEX

<u>Exhibit Number</u>	<u>Exhibit Description</u>
1.1D	Form of Dealer—Manager Agreement
3.1	Tenth Amended and Restated Certificate of Incorporation of Onconova Therapeutics, Inc. <i>(Incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed on July 30, 2013).</i>
3.2	Amended and Restated Bylaws of Onconova Therapeutics, Inc. <i>(Incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed on July 30, 2013).</i>
3.3	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 Company's Current Report on Form 8-K filed on May 31, 2016).</i>
4.1	Form of Certificate of Common Stock <i>(Incorporated by reference to Exhibit 4.1 to Pre-Effective Amendment No. 1 the Company's Registration Statement on Form S-1 filed on July 11, 2013.)</i>
4.2	Eighth Amended and Restated Stockholders' Agreement, effective as of July 27, 2012, by and among Onconova Therapeutics, Inc. and certain stockholders named therein <i>(Incorporated by reference to Exhibit 4.2 to Pre-Effective Amendment No. 1 to the Company's Registration Statement on Form S-1 filed on July 11, 2013).</i>
4.3	Amendment No. 1 to Eighth Amended and Restated Stockholders' Agreement, effective as of July 9, 2013 <i>(Incorporated by reference to Exhibit 4.2 to Pre-Effective Amendment No. 1 the Company's Registration Statement on Form S-1 filed on July 11, 2013).</i>
4.4	Form of warrant issued January 11, 2016 <i>(Incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed on January 6, 2016).</i>
4.5D	Form of Subscription Rights Statement
4.6	Form of Warrant Certificate for Warrants underlying Units
4.7	Form of Warrant Agreement
4.8	Form of Pre-Funded Warrant
5.1D	Opinion of Pepper Hamilton LLP
10.1*	Development and License Agreement, effective as of September 19, 2012, by and between Onconova Therapeutics, Inc. and Baxter Healthcare SA <i>(Incorporated by reference to Exhibit 10.1 to Pre-Effective Amendment No. 2 the Company's Registration Statement on Form S-1 filed on July 18, 2013).</i>
10.2*	License Agreement, effective as of July 5, 2011, by and between Onconova Therapeutics, Inc. and SymBio Pharmaceuticals Limited <i>(Incorporated by reference to Exhibit 10.2 to Pre-Effective Amendment No. 2 the Company's Registration Statement on Form S-1 filed on July 18, 2013).</i>
10.3*	First Amendment to License Agreement, effective as of September 2, 2011, by and between Onconova Therapeutics, Inc. and SymBio Pharmaceuticals Limited <i>(Incorporated by reference to Exhibit 10.3 to the Company's Registration Statement on Form S-1 filed on June 14, 2013).</i>
10.4*	License Agreement, effective as of January 1, 1999, by and between Onconova Therapeutics, Inc. and Temple University—Of The Commonwealth System of Higher Education <i>(Incorporated by reference to Exhibit 10.4 to the Company's Registration Statement on Form S-1 filed on June 14, 2013).</i>
10.5*	Amendment to License Agreement, effective as of September 1, 2000, by and between Temple University—Of The Commonwealth System of Higher Education and Onconova Therapeutics, Inc. <i>(Incorporated by reference to Exhibit 10.5 to the Company's Registration Statement on Form S-1 filed on June 14, 2013).</i>

- 10.6* Amendments to Exclusive License Agreement, effective as of March 21, 2013, by and between Temple University—Of The Commonwealth System of Higher Education and Onconova Therapeutics, Inc. *(Incorporated by reference to Exhibit 10.6 to the Company's Registration Statement on Form S-1 filed on June 14, 2013).*
- 10.7* Definitive Agreement, effective as of May 12, 2010, by and between Onconova Therapeutics, Inc. and The Leukemia and Lymphoma Society *(Incorporated by reference to Exhibit 10.7 to the Company's Registration Statement on Form S-1 filed on June 14, 2013).*
- 10.8* First Amendment to Definitive Agreement, effective as of June 23, 2011, by and between Onconova Therapeutics, Inc. and The Leukemia and Lymphoma Society *(Incorporated by reference to Exhibit 10.8 to the Company's Registration Statement on Form S-1 filed on June 14, 2013).*
- 10.9* Second Amendment to Definitive Agreement, effective as of May 29, 2012, by and between Onconova Therapeutics, Inc. and The Leukemia and Lymphoma Society *(Incorporated by reference to Exhibit 10.9 to the Company's Registration Statement on Form S-1 filed on June 14, 2013).*
- 10.10* Third Amendment to Definitive Agreement, effective as of January 5, 2013, by and between Onconova Therapeutics, Inc. and The Leukemia and Lymphoma Society *(Incorporated by reference to Exhibit 10.10 to the Company's Registration Statement on Form S-1 filed on June 14, 2013).*
- 10.11* Termination of Agreement, effective as of February 5, 2013, by and between Onconova Therapeutics, Inc. and The Leukemia and Lymphoma Society *(Incorporated by reference to Exhibit 10.11 to the Company's Registration Statement on Form S-1 filed on June 14, 2013).*
- 10.12* Limited Liability Company Agreement of GBO, LLC, dated as of December 12, 2012, by and between Onconova Therapeutics, Inc. and GVK Biosciences Private Limited *(Incorporated by reference to Exhibit 10.12 to the Company's Registration Statement on Form S-1 filed on June 14, 2013).*
- 10.13 Onconova Therapeutics, Inc. 2007 Equity Compensation Plan, and forms of agreement thereunder *(Incorporated by reference to Exhibit 10.13 to Pre-Effective Amendment No. 1 the Company's Registration Statement on Form S-1 filed on July 11, 2013).*
- 10.14 Employment Agreement, effective as of July 1, 2015, by and between Onconova Therapeutics, Inc. and Ramesh Kumar, Ph.D. *(Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on July 8, 2015).*
- 10.15 Letter Agreement, effective as of January 1, 2016, by and between Onconova Therapeutics, Inc. and Ramesh Kumar, Ph.D. *(Incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on February 17, 2016).*
- 10.16 Amended and Restated Employment Agreement, effective as of July 1, 2015, by and between Onconova Therapeutics, Inc. and Thomas McKearn, M.D., Ph.D. *(Incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on July 8, 2015).*
- 10.17 Amended and Restated Employment Agreement, effective as of July 1, 2015, by and between Onconova Therapeutics, Inc. and Ajay Bansal. *(Incorporated by reference to Exhibit 10.4 to the Company's Current Report on Form 8-K filed on July 8, 2015).*
- 10.18 Consulting Agreement, effective as of January 1, 2012, by and between Onconova Therapeutics, Inc. and E. Premkumar Reddy, Ph.D., including Consultant Agreement Renewal, dated February 27, 2013 *(Incorporated by reference to Exhibit 10.23 to the Company's Registration Statement on Form S-1 filed on June 14, 2013)*

Exhibit Number	Exhibit Description
10.19	Form of Indemnification Agreement entered into by and between Onconova Therapeutics, Inc. and each director and executive officer <i>(Incorporated by reference to Exhibit 10.24 to Pre-Effective Amendment No. 1 the Company's Registration Statement on Form S-1 filed on July 11, 2013).</i>
10.20	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 the Company's Registration Statement on Form S-1 filed on July 11, 2013).</i>
10.21	Onconova Therapeutics, Inc. 2013 Performance Bonus Plan <i>(Incorporated by reference to Exhibit 10.26 to Pre-Effective Amendment No. 1 the Company's Registration Statement on Form S-1 filed on July 11, 2013).</i>
10.22	Employment Agreement, effective as of July 1, 2015, by and between Onconova Therapeutics, Inc. and Dr. Manoj Manair <i>(Incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K filed on July 8, 2015).</i>
10.23	Employment Agreement, effective as of July 1, 2015, by and between Onconova Therapeutics, Inc. and Mark Guerin <i>(Incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on February 17, 2016).</i>
10.24	Amended and Restated Employment Agreement between Onconova Therapeutics, Inc. and Steven Fruchtman, M.D. <i>(Incorporated by reference to Exhibit 10.5 to the Company's Quarterly Report on Form 10-Q filed on August 13, 2015).</i>
10.25	Purchase Agreement between Onconova Therapeutics, Inc. and Lincoln Park Capital Fund, LLC, dated October 8, 2015 <i>(Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on October 8, 2015).</i>
10.26	Registration Rights Agreement between Onconova Therapeutics, Inc. and Lincoln Park Capital Fund, LLC, dated October 8, 2015 <i>(Incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on October 8, 2015).</i>
10.27	Form of Securities Purchase Agreement between Onconova Therapeutics and the Investor party thereto, dated January 5, 2016 <i>(Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on January 6, 2016).</i>
21.1	Subsidiaries of Onconova Therapeutics, Inc. <i>(Incorporated by reference to Exhibit 21.1 to the Company's Annual Report on Form 10-K filed on March 28, 2016).</i>
23.1D	Consent of Ernst & Young, LLP.
23.2D	Consent of Pepper Hamilton LLP (included in Exhibit 5.1)
24.1D	Power of Attorney
99.1D	Form of Instructions as to Use of Subscription Rights Statements
99.2D	Form of Letter to Shareholders who are Record Holders
99.3D	Form For Use With Election to Receive Pre-Funded Warrants

D Previously filed.

* Confidential treatment has been requested with respect to certain portions of this exhibit. Omitted portions have been filed separately with the Securities and Exchange Commission.

QuickLinks

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FORM OF WARRANT CERTIFICATE

Number

Warrants

THE WARRANTS SHALL BE VOID IF NOT EXERCISED PRIOR TO THE EXPIRATION OF THE EXERCISE PERIOD PROVIDED FOR IN THE WARRANT AGREEMENT DESCRIBED BELOW ONCONOVA THERAPEUTICS, INC. Incorporated Under the Laws of the State of Delaware

CUSIP: 68232V 116

Warrant Certificate

This Warrant Certificate certifies that [holder], or its registered assigns, is the registered holder of warrant(s) (the "Warrants" and each, a "Warrant") to purchase shares of Common Stock, \$0.01 par value per share ("Common Stock"), of Onconova Therapeutics, Inc., a Delaware corporation (the "Company"). Each Warrant entitles the holder, upon exercise during the period set forth in the Warrant Agreement referred to below, to receive from the Company that number of fully paid and nonassessable shares of Common Stock as set forth below, at the exercise price (the "Exercise Price") as determined pursuant to the Warrant Agreement, payable in lawful money of the United States of America (or through "cashless exercise" as provided for in the Warrant Agreement), subject to the conditions set forth herein and in the Warrant Agreement. Defined terms used in this Warrant Certificate but not defined herein shall have the meanings given to them in the Warrant Agreement (as defined on the reverse hereof).

Each Warrant is initially exercisable for one fully paid and non-assessable share of Common Stock. The number of shares of Common Stock issuable upon exercise of the Warrants is subject to adjustment upon the occurrence of certain events set forth in the Warrant Agreement.

The initial Exercise Price per share of Common Stock for any Warrant is equal to \$ [price] per share. The Exercise Price is subject to adjustment upon the occurrence of certain events set forth in the Warrant Agreement.

Subject to the conditions set forth in the Warrant Agreement, the Warrants may be exercised only during the Exercise Period and to the extent not exercised by the end of such Exercise Period, such Warrants shall become void.

Reference is hereby made to the further provisions of this Warrant Certificate set forth on the reverse hereof and such further provisions shall for all purposes have the same effect as though fully set forth at this place.

This Warrant Certificate shall not be valid unless countersigned by the Warrant Agent, as such term is used in the Warrant Agreement.

This Warrant Certificate shall be governed by and construed in accordance with the internal laws of the State of New York, without regard to conflicts of laws principles thereof.

IN WITNESS WHEREOF, the parties hereto have caused this Warrant Certificate to be duly executed as of the date first above written.

ONCONOVA THERAPEUTICS, INC.

By: [Signature Line] Name: Title:

WELLS FARGO BANK, N.A., as Warrant Agent

By: [Signature Line] Name: Title:

[Signature Page to Warrant Certificate]

The Warrants evidenced by this Warrant Certificate are part of a duly authorized issue of Warrants entitling the holder on exercise to receive shares of Common Stock and are issued or to be issued pursuant to a Warrant Agreement dated as of July _____, 2016 (the "**Warrant Agreement**"), duly executed and delivered by the Company to Wells Fargo Bank, N.A., as warrant agent (the "**Warrant Agent**"), which Warrant Agreement is hereby incorporated by reference in and made a part of this instrument and is hereby referred to for a description of the rights, limitation of rights, obligations, duties and immunities thereunder of the Warrant Agent, the Company and the holders (the words "**holders**" or "**holder**" meaning the Registered Holders or Registered Holder) of the Warrants. A copy of the Warrant Agreement may be obtained by the holder hereof upon written request to the Company. Defined terms used in this Warrant Certificate but not defined herein shall have the meanings given to them in the Warrant Agreement.

Warrants may be exercised at any time during the Exercise Period set forth in Section 3.2 of the Warrant Agreement.

The Warrant Agreement provides that upon the occurrence of certain events the number of shares of Common Stock issuable upon exercise of the Warrants set forth on the face hereof may, subject to certain conditions, be adjusted. If, upon exercise of a Warrant, the holder thereof would be entitled to receive a fractional interest in a share of Common Stock, the Company shall, upon exercise, round down to the nearest whole number of shares of Common Stock to be issued to the holder of the Warrant.

Warrant Certificates, when surrendered at the principal corporate trust office of the Warrant Agent by the Registered Holder thereof in person or by legal representative or attorney duly authorized in writing, may be exchanged, in the manner and subject to the limitations provided in the Warrant Agreement, but without payment of any service charge, for another Warrant Certificate or Warrant Certificates of like tenor evidencing in the aggregate a like number of Warrants.

Upon due presentation for registration of transfer of this Warrant Certificate at the office of the Warrant Agent, a new Warrant Certificate or Warrant Certificates of like tenor and evidencing in the aggregate a like number of Warrants shall be issued to the transferee(s) in exchange for this Warrant Certificate, subject to the limitations provided in the Warrant Agreement, without charge except for any tax or other governmental charge imposed in connection therewith.

The Company and the Warrant Agent may deem and treat the Registered Holder(s) hereof as the absolute owner(s) of this Warrant Certificate (notwithstanding any notation of ownership or other writing hereon made by anyone), for the purpose of any exercise hereof, of any distribution to the holder(s) hereof, and for all other purposes, and neither the Company nor the Warrant Agent shall be affected by any notice to the contrary. Neither the Warrants nor this Warrant Certificate entitles any holder hereof to any rights of a stockholder of the Company.

Election to Purchase

(To Be Executed Upon Exercise of Warrant)

The undersigned hereby irrevocably elects to exercise the right, represented by this Warrant Certificate, to receive shares of Common Stock and herewith tenders payment for such shares to the order of Onconova Therapeutics, Inc. (the "**Company**") in the amount of \$ _____ in accordance with the terms hereof. The undersigned requests that a certificate for such shares be registered in the name of _____, whose address is _____, and that such shares be delivered to _____, whose address is _____. If said number of shares is less than all of the shares of Common Stock purchasable hereunder, the undersigned requests that a new Warrant Certificate representing the remaining balance of such shares be registered in the name of _____, whose address is _____, and that such Warrant Certificate be delivered to _____, whose address is _____.

In the event that the Warrant is to be exercised on a "cashless" basis pursuant to Section 3.3.2 of the Warrant Agreement, the number of shares that the Warrants are exercisable for shall be determined in accordance with Section 3.3.2 of the Warrant Agreement.

a "Cash Exercise" with respect to _____ Warrant Shares; and/or

a "Cashless Exercise" with respect to _____ Warrant Shares, resulting in a delivery obligation by the Company to the Holder of shares of Common Stock representing the applicable Net Number, subject to adjustment.

In the event that the Warrant may be exercised, to the extent allowed by the Warrant Agreement, through cashless exercise (i) the number of shares that the Warrants are exercisable for shall be determined in accordance with the relevant section of the Warrant Agreement which allows for such cashless exercise and (ii) the holder hereof shall complete the following: The undersigned hereby irrevocably elects to exercise the right, represented by this Warrant Certificate, through the cashless exercise provisions of the Warrant Agreement, to receive shares of Common Stock. If said number of shares is less than all of the shares of Common Stock purchasable hereunder (after giving effect to the cashless exercise), the undersigned requests that a new Warrant Certificate representing the remaining balance of such shares be registered in the name of _____, whose address is _____, and that such Warrant Certificate be delivered to _____, whose address is _____.

Date: _____, 20

(Signature)
(Address)
(Tax Identification Number)

FORM OF WARRANT AGREEMENT

THIS WARRANT AGREEMENT (this “**Agreement**”), dated as of July _____, 2016, is by and between Onconova Therapeutics, Inc., a Delaware corporation (the “**Company**”), and Wells Fargo Bank, N.A., as the Warrant Agent (the “**Warrant Agent**”).

WHEREAS, the Company is engaged in an offering (the “**Offering**”) of shares of common stock of the Company, par value \$0.01 per share (“**Common Stock**”), and warrants to purchase shares of Common Stock of the Company and, in connection therewith, has determined to issue and deliver up to _____ warrants to investors in the Offering, each such warrant evidencing the right of the holder thereof to purchase one share of Common Stock for \$ _____ per share, subject to adjustment as described herein (the “**Warrants**”);

WHEREAS, the Company has filed with the Securities and Exchange Commission (the “**Commission**”) a Registration Statement on Form S-1 (File No. 333-211769) (as the same may be amended from time to time, the “**Registration Statement**”) for the registration, under the Securities Act of 1933, as amended (the “**Securities Act**”), of the shares of Common Stock and the Warrants to be sold to investors in the Offering and the shares of Common Stock underlying the Warrants;

WHEREAS, the Company desires the Warrant Agent to act on behalf of the Company, and the Warrant Agent is willing to so act, in connection with the issuance, registration, transfer, exchange and exercise of the Warrants;

WHEREAS, the Company desires to provide for the form and provisions of the Warrants, the terms upon which they shall be issued and exercised, and the respective rights, limitation of rights, and immunities of the Company, the Warrant Agent, and the holders of the Warrants, or if the Warrants are held in “street name”, a Participant (as defined below) or a designee appointed by such Participant (each, a “**Holder**” or “**Registered Holder**”); and

WHEREAS, all acts and things have been done and performed which are necessary to make the Warrants, when executed on behalf of the Company and countersigned by or on behalf of the Warrant Agent, as provided herein, the valid, binding and legal obligations of the Company, and to authorize the execution and delivery of this Agreement.

NOW, THEREFORE, in consideration of the mutual agreements herein contained, the parties hereto agree as follows:

1. **Appointment of Warrant Agent.** The Company hereby appoints the Warrant Agent to act as agent for the Company for the Warrants, and the Warrant Agent hereby accepts such appointment and agrees to perform the same in accordance with the terms and conditions set forth in this Agreement.

2. **Warrants.**

2.1. **Form of Warrant.** Each Warrant shall be issued in registered form only and shall be in substantially the form of Exhibit A hereto, the provisions of which are incorporated herein. Each Warrant shall be signed by, or bear the facsimile signature of, the President, Chief Executive Officer, Chief Financial Officer, Secretary or other principal officer of the Company. In the event the person whose facsimile signature has been placed upon any Warrant shall have ceased to serve in the capacity in which such person signed the Warrant before such Warrant is issued, it may be issued with the same effect as if he or she had not ceased to be such at the date of issuance. All of the Warrants shall initially be represented by one or more book-entry positions (each, a “**Book-Entry Warrant**”).

2.2. **Effect of Countersignature.** Unless and until countersigned by, or issued bearing the facsimile signature of the Warrant Agent pursuant to this Agreement, a Warrant shall be invalid and of no effect and may not be exercised by the holder thereof.

2.3. **Registration.**

2.3.1. **Warrant Register.** The Warrant Agent shall maintain books (the “**Warrant Register**”) for the registration of the original issuance and the registration of transfer of the Warrants. Upon the initial issuance of the Warrants, the Warrant Agent shall issue and register the Warrants in the names of the respective holders thereof in such denominations and otherwise in accordance with instructions delivered to the Warrant Agent by the Company. To the extent the Warrants are eligible for the book entry and depository services of The Depository Trust Company (“**DTC Eligible**”) as of the date of issuance (the “**Issuance Date**”), all of the Warrants shall be represented by one or more Book-Entry Warrant deposited with The Depository Trust Company (the “**Depository**”) and registered in the name of Cede & Co., a nominee of the Depository. Ownership of beneficial interests in the Book-Entry Warrant shall be shown on, and the transfer of such ownership shall be effected through, records maintained (i) by the Depository or its nominee for each Book-Entry Warrant; (ii) by institutions that have accounts with the Depository (such institution, with respect to a Warrant in its account, a “**Participant**”); or (iii) directly on the book-entry records of the Warrant Agent with respect only to owners of beneficial interests represented by such direct registration. If the Warrants are not DTC Eligible as of the Issuance Date or the Depository subsequently ceases to make its book-entry settlement system available for the Warrants, the Company may instruct the Warrant Agent regarding making other arrangements for book-entry settlement within ten (10) days after the Depository ceases to make its book-entry settlement available. In the event that the Company does not make alternative arrangements for book-entry settlement within ten (10) days or the Warrants are not eligible for, or it is no longer necessary to have the Warrants available in, book-entry form, the Warrant Agent shall provide written instructions to the Depository to deliver to the Warrant Agent for cancellation each Book-Entry Warrant, and the Company shall instruct the Warrant Agent to deliver to the Depository definitive certificates (“**Warrant Certificates**”) in physical

form evidencing such Warrants. Such Warrant Certificates shall be in substantially the form annexed hereto as Exhibit A.

2.3.2. **Beneficial Owner; Registered Holder.** The term “beneficial owner” shall mean any person in whose name ownership of a beneficial interest in the Warrants evidenced by a Book-Entry Warrant is recorded in the records maintained by the Depository or its nominee. Prior to due presentment to the Warrant Agent for registration of transfer of any Warrant, the Company and the Warrant Agent may deem and treat the person in whose

name such Warrant is registered in the Warrant Register as the absolute owner of such Warrant and of each Warrant represented thereby (notwithstanding any notation of ownership or other writing on the Warrant Certificate (as defined below) made by anyone other than the Company or the Warrant Agent), for the purpose of any exercise thereof, and for all other purposes, and neither the Company nor the Warrant Agent shall be affected by any notice to the contrary.

2.4. Uncertificated Warrants. Notwithstanding the foregoing and anything else herein to the contrary, the Warrants may be issued in uncertificated form.

3. Terms and Exercise of Warrants.

3.1. Exercise Price. Each Warrant shall, when countersigned by the Warrant Agent, entitle the Registered Holder thereof, subject to the provisions of such Warrant and of this Agreement, to purchase from the Company the number of shares of Common Stock stated therein, at the price of \$ _____ per share, subject to the adjustments provided herein. The term "**Exercise Price**" as used in this Agreement shall mean the price per share at which shares of Common Stock may be purchased at the time a Warrant is exercised.

3.2. Duration of Warrants. A Warrant may be exercised only during the period (the "**Exercise Period**") commencing on the Date of Issuance and ending on _____, 20____ (the "**Expiration Date**"). Each Warrant not exercised on or before the Expiration Date shall become void, and all rights thereunder and all rights in respect thereof under this Agreement shall cease at 5:00 PM Eastern Time on the Expiration Date.

3.3. Exercise of Warrants.

3.3.1. Payment. Subject to the provisions of the Warrant and this Agreement, a Warrant, when countersigned by the Warrant Agent, may be exercised by the Registered Holder thereof by submitting a duly executed Election to Purchase attached to the applicable Warrant, at the office of the Warrant Agent or at the office of its successor as Warrant Agent, which may be done by fax or email delivery, and by paying, within two trading days of the date of exercise, in full the Exercise Price for each full share of Common Stock as to which the Warrant is exercised (the "**Aggregate Exercise Price**"), in lawful money of the United States, by cashier's check payable to the order of the Company or by Cashless Exercise, if permitted under, and in

accordance with, Section 3.3.2. The Election to Purchase shall be required, along with a medallion guarantee (or other type of guarantee) of any Election to Purchase form that may be required; *provided, however*, that if the Company's transfer agent is not participating in the Depository's Fast Automated Securities Transfer Program and the Registered Holder requests that the shares of Common Stock be issued or registered to a holder other than the Registered Holder, then an ink-original Election to Purchase and a medallion guarantee shall be required. The Registered Holder may be required to deliver the original Warrant in order to effect an exercise hereunder.

3.3.2. Cashless Exercise. Notwithstanding anything contained herein to the contrary, if and only if an effective registration statement covering the issuance of the shares of Common Stock that are subject to the Election to Purchase is not available for the issuance of such shares of Common Stock, the Registered Holder may exercise a Warrant in whole or in part and, in lieu of making the cash payment otherwise contemplated to be made to the Company upon such exercise in payment of the aggregate Exercise Price, elect instead to receive upon such exercise the "**Net Number**" of shares of Common Stock determined according to the following formula (a "**Cashless Exercise**"):

$$\text{Net Number} = \frac{(A \times B) - (A \times C)}{B}$$

For purposes of the foregoing formula:

A = the total number of shares with respect to which a Warrant is then being exercised.

B = the arithmetic average of the Closing Sale Prices (as defined below) of the Common Stock for the five (5) consecutive trading days ending on the date immediately preceding the date the Warrant Agent receives the duly executed Election to Purchase.

C = the Exercise Price then in effect for the applicable shares of Common Stock at the time of such exercise.

The term "**Closing Sale Price**" means, for any security as of any date, the last closing bid price and last closing trade price, respectively, for such security on the Nasdaq Capital Market, as reported by Bloomberg, or, if the Nasdaq Capital Market begins to operate on an extended hours basis and does not designate the closing bid price or the closing trade price, as the case may be, then the last bid price or the last trade price, respectively, of such security prior to 4:00:00 PM Eastern Time, as reported by Bloomberg, or, if the Nasdaq Capital Market is not the principal securities exchange or trading market for such security, the last closing bid price or last trade price, respectively, of such security on the principal securities exchange or trading market where such security is listed or traded as reported by Bloomberg, or if the foregoing do not apply, the last closing bid price or last trade price, respectively, of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg, or, if no closing bid price or last trade price, respectively, is reported for such security by Bloomberg, the average of the bid prices, or the ask prices, respectively, of any market makers for such security as reported in the OTC Link or "pink sheets" by OTC Markets Group Inc. (formerly Pink OTC Markets Inc.). If the Closing Sale Price cannot be calculated for a security on a particular date on

any of the foregoing bases, the Closing Sale Price of such security on such date shall be the fair market value as mutually determined by the Company and the Registered Holder. If the Company and the Registered Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved pursuant to Section 8.3. All such determinations to be appropriately adjusted for any stock dividend, stock split, stock combination or other similar transaction during the applicable calculation period.

In connection with any Cashless Exercise pursuant to this Section 3.3.2., the Warrant Agent will promptly deliver a copy of the Election to Purchase to the Company to confirm the Net Number of shares of Common Stock issuable in connection with the Cashless Exercise. The Company shall calculate and transmit to the Warrant Agent, and the Warrant Agent shall have no obligation under this Section 3.3.2 to calculate, the Net Number of shares of Common Stock.

For purposes of Rule 144(d) promulgated under the Securities Act, as in effect on the date hereof, assuming the Registered Holder is not an affiliate of the Company, the shares of Common Stock issued in a Cashless Exercise shall be deemed to have been acquired by the Registered Holder, and the holding period for the shares of Common Stock shall be deemed to have commenced, on the date the Warrant was originally issued. Also, the shares of Common Stock issued in a Cashless Exercise shall take on the registered characteristics of the Warrant being exercised.

3.3.3. Issuance of Common Stock on Exercise. Assuming funds for exercise are paid on or before the second trading day following the date of receipt by the Company of an Election to Purchase, then on or before the third trading day following the date upon which the Company has received a duly executed Election to Purchase for a Warrant, the Company shall cause its transfer agent to (i) *provided* that the transfer agent is participating in the Depository's Fast Automated Securities Transfer Program, credit such aggregate number of shares of Common Stock to which the Holder is entitled pursuant to such exercise to the Holder's or its designee's balance account with the Depository through its Deposit/Withdrawal at Custodian System, or (ii) if the transfer agent is not participating in the Depository's Fast Automated Securities Transfer Program, issue and deliver to the Holder, or at the Holder's instruction pursuant to the delivered Election to Purchase, the Holder's agent or designee, in each case pursuant to this clause (ii), sent by reputable overnight courier to the address specified in the applicable Election to Purchase, a certificate, registered in the Company's share register in the name of the Holder or its designee (as indicated in the applicable Election to Purchase), for the number of shares of Common Stock to which the Holder is entitled pursuant to such exercise. While any Warrants remain outstanding, the Company shall maintain a transfer agent that participates in the Depository's Fast Automated Securities Transfer Program.

3.3.4. Valid Issuance. All Common Stock issued or issuable upon the proper exercise of a Warrant in conformity with this Agreement shall be validly issued, fully paid and nonassessable.

3.3.5. Date of Issuance. Each person in whose name any certificate for the Common Stock is issued or to whom shares of Common Stock are credited to such person's account at the Depository shall for all purposes be deemed to have become the holder of record of such Common Stock as of the time that a duly executed Election to Purchase is delivered in

accordance with Section 3.3.1, assuming, in the case of a Cash Exercise, payment of the Aggregate Exercise Price is made within two (2) trading days after the delivery of the Election to Purchase, and if the payment of the Aggregate Exercise Price is not made within two (2) trading days after the delivery of the Election to Purchase, the Holder shall be deemed to have become the holder of record of such Common Stock on the first trading day after the date on which the Aggregate Exercise Price has been paid, irrespective of the date of delivery of such certificate or the date the shares of Common Stock are credited to such person's account at the Depository, except that, if the date of such delivery and/or payment is a date when the stock transfer books of the Company are closed, such person shall be deemed to have become the holder of such shares at the close of business on the next succeeding date on which the stock transfer books are open.

3.3.6. Share Delivery Failure. If the Company shall fail, for any reason or for no reason, to issue to the Holder within three (3) trading days after receipt of the applicable Election to Purchase (the "**Share Delivery Deadline**"), a certificate for the number of shares of Common Stock to which the Holder is entitled upon the Holder's exercise of a Warrant or credit the Holder's balance account with the Depository for such number of shares of Common Stock to which the Holder is entitled upon the Holder's exercise of the Warrants (as the case may be, but in each case without a restrictive legend) (a "**Delivery Failure**"), and if on or after such Share Delivery Deadline the Holder purchases (in an open market transaction or otherwise) shares of Common Stock to deliver in satisfaction of a sale by the Holder of all or any portion of the number of shares of Common Stock issuable upon such exercise that the Holder so anticipated receiving from the Company, then, in addition to all other remedies available to it, the Company shall, within three (3) Business Days (as defined below) after the Holder's request and in the Holder's discretion, either (i) pay cash to the Holder in an amount equal to 100% of the Holder's total purchase price (including brokerage commissions and other out-of-pocket expenses, if any) for the shares of Common Stock so purchased (including, without limitation, by any other person in respect, or on behalf, of the Holder) (the "**Buy-In Price**"), at which point the Company's obligation to so issue and deliver such certificate or credit the Holder's balance account with the Depository for the number of shares of Common Stock to which the Holder is entitled upon the Holder's exercise hereunder (as the case may be) (and to issue such shares of Common Stock) shall terminate, or (ii) promptly honor its obligation to so issue and deliver to the Holder a certificate or certificates representing such shares of Common Stock or credit the Holder's balance account with the Depository for the number of shares of Common Stock to which the Holder is entitled upon the Holder's exercise hereunder (as the case may be) and pay cash to the Holder in an amount equal to the excess (if any) of the Buy-In Price over the product of (A) such number of shares of Common Stock multiplied by (B) the lowest Closing Sale Price of the shares of Common Stock on any trading day during the period commencing on the date of the applicable Election to Purchase and ending on the date immediately preceding the date of such issuance and payment under this clause (ii). The term "**Business Day**" as used in this Agreement shall mean any day except a Saturday, a Sunday or any other day on which commercial banks are required or authorized to close in the City of New York, State of New York. If the Company fails for any reason to deliver to the Holder the Common Stock subject to an Election to Purchase by the Share Delivery Deadline, the Company shall pay to the Holder, in cash, as liquidated damages and not as a penalty, for each \$1,000 of Common Stock subject to such exercise (based on the VWAP of the Common Stock on the date of the applicable Election to Purchase), \$10 per trading day (increasing to \$20 per trading day on the fifth trading day after such liquidated damages begin to accrue) for each trading day after such Share Delivery

Deadline until such shares of Common Stock are delivered or Holder rescinds such exercise. For the purposes of this provision "VWAP" means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on the Nasdaq Capital Market, the daily volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the Nasdaq Capital Market on which the Common Stock is then listed or quoted as reported by Bloomberg L.P. (based on a trading day from 9:30 AM (Eastern Time) to 4:00 PM (Eastern Time)), (b) if the Common Stock is listed or quoted on the OTCQB or OTCQX, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on OTCQB or OTCQX as applicable, (c) if the Common Stock is not then listed or quoted for trading on OTCQB or OTCQX and if prices for the Common Stock are then reported in the "Pink Sheets" published by OTC Markets Group, Inc. (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the Holders of a majority in interest of the Warrants then outstanding and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

3.4. Beneficial Ownership Limitation on Exercises. The Company shall not affect the exercise of any portion of a Warrant, and the Registered Holder of such Warrant shall not have the right to exercise any portion of such Warrant, to the extent that after giving effect to such exercise, the Registered Holder (together with the Registered Holder's affiliates, and any persons acting as a group together with the Registered Holder or any Registered Holder's

affiliates) would beneficially own in excess of 4.99% (the “**Maximum Percentage**”) of the Common Stock outstanding immediately after giving effect to such exercise, *provided, however*, that the foregoing limitation on exercise shall not apply to any Registered Holder who, together with such Registered Holder’s affiliates, and any persons acting as a group together with such Registered Holder and such Registered Holder’s affiliates, owns in excess of the Maximum Percentage immediately prior to the closing of the Offering. For purposes of the foregoing sentence, the aggregate number of shares of Common Stock beneficially owned by such Registered Holder and its affiliates, and any persons acting as a group together with such Registered Holder and such Registered Holder’s affiliates, shall include the number of shares of Common Stock issuable upon exercise of the Warrant with respect to which the determination of such sentence is being made, but shall exclude shares of Common Stock which would be issuable upon (i) exercise of the remaining, unexercised portion of the Warrant beneficially owned by the Registered Holder and its affiliates, and any persons acting as a group together with such Registered Holder and such Registered Holder’s affiliates, and (ii) exercise or conversion of the unexercised or unconverted portion of any other securities of the Company beneficially owned by the Registered Holder and its affiliates, and any persons acting as a group together with such Registered Holder and such Registered Holder’s affiliates (including, without limitation, any convertible notes or convertible preferred stock or warrants) subject to a limitation on conversion or exercise analogous to the limitation contained herein. Except as set forth in the preceding sentence, for purposes of this paragraph, beneficial ownership shall be calculated in accordance with Section 13(d) of the Securities Exchange Act of 1934, as amended (the “**Exchange Act**”). The Warrant Agent shall not be responsible for calculating beneficial ownership in accordance with the provisions of this Section 3.4. To the extent that the limitation contained in this Section 3.4 applies, the Registered Holder’s submission of an Election to Purchase shall be deemed to be the Registered Holder’s determination of whether a Warrant is

exercisable (in relation to any other securities owned by the Registered Holder together with any affiliates, and any persons acting as a group together with such Registered Holder and such Registered Holder’s affiliates) and of which portion of a Warrant is exercisable, in each case subject to the Maximum Percentage, and the Company shall have no obligation to verify or confirm the accuracy of such determination. In addition, a determination as to any group status as contemplated above shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. For purposes of the Warrants, in determining the number of outstanding shares of Common Stock, the Registered Holder may rely on the number of outstanding shares of Common Stock as reflected in the most recent of (1) the Company’s most recent Form 10-K, Form 10-Q, Current Report on Form 8-K or other public filing with the Commission, as the case may be, (2) a more recent written public announcement by the Company, or (3) any other notice by the Company or its transfer agent setting forth the number of shares of Common Stock outstanding. For any reason at any time, upon the written or oral request of the Registered Holder, the Company shall within three (3) trading days confirm to the Registered Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including any Warrant, by the Registered Holder and its affiliates, and any persons acting as a group together with such Registered Holder and such Registered Holder’s affiliates, since the date as of which such number of outstanding shares of Common Stock was reported. By written notice to the Company, the Registered Holder may from time to time increase or decrease the Maximum Percentage to 9.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock upon exercise of a Warrant and the provisions of this Section 3.4 shall continue to apply; *provided that* (y) any such increase will not be effective until the sixty-first (61st) day after such notice is delivered to the Company, and (z) any such increase or decrease will apply only to that Registered Holder. For purposes of clarity, the Common Stock underlying any Warrant in excess of the Maximum Percentage for a Registered Holder shall not be deemed to be beneficially owned by that Registered Holder for any purpose including for purposes of Section 13(d) or Rule 16a-1(a)(1) of the Exchange Act. The provisions set forth herein shall be construed and implemented in a manner otherwise than in strict conformity with the other terms of this Section 3.4 to the extent necessary to correct any such provision which may be defective or inconsistent with the intended beneficial ownership limitation herein contained or to make changes or supplements necessary or desirable to properly give effect to such limitation.

3.5. Call Provision. Subject to the provisions of Section 3.5, if, after the Date of Issuance, the VWAP (as defined in Section 3.3.6) for each of 10 consecutive trading days (the “**Measurement Period**”) exceeds \$ (subject to adjustment for forward and reverse stock splits, recapitalizations, stock dividends and the like after the Issuance Date), then the Company may, within one trading day of the end of such Measurement Period, call for cancellation of all or any portion of the Warrants for which an Election to Purchase has not yet been delivered (such right, a “**Call**”) for consideration equal to \$0.001 per share of Common Stock issuable on exercise of each Warrant. To exercise this right, the Company must deliver to the Holder an irrevocable written notice (a “**Call Notice**”), indicating therein the portion of unexercised portion of the Warrants to which such notice applies. If the conditions set forth below for such Call are satisfied from the period from the date of the Call Notice through and including the Call Date (as defined below), then any portion of the Warrants subject to such Call Notice for which an Election to Purchase shall not have been received by the Call Date will be cancelled at 6:30 PM

(Eastern Time) on the tenth trading day after the date the Call Notice is received by the Registered Holder (such date and time, the “**Call Date**”) for consideration equal to \$0.001 per share of Common Stock issuable upon exercise of such Warrants. Any unexercised portion of the Warrants to which the Call Notice does not pertain will be unaffected by such Call Notice. In furtherance thereof, the Company covenants and agrees that it will honor all Elections to Purchase with respect to Warrants subject to a Call Notice that are tendered through 6:30 PM (Eastern Time) on the Call Date. The parties agree that any Election to Purchase delivered following a Call Notice which calls less than all the Warrants shall first reduce to zero the number of shares of Common Stock issuable on exercise of the Warrants subject to such Call Notice prior to reducing the remaining shares of Common Stock available for purchase under the Warrants. For example, if (A) certain Warrants then permit the Registered Holder to purchase 100 shares of Common Stock, (B) a Call Notice pertains to 75 shares of Common Stock issuable on exercise of the Warrants, and (C) prior to 6:30 PM (Eastern Time) on the Call Date the Registered Holder tenders an Election to Purchase in respect of 50 shares of Common Stock, then (x) on the Call Date the right under the Warrants to purchase 25 shares of Common Stock will be automatically cancelled, (y) the Company, in the time and manner required under this Warrant Agreement, will have issued and delivered to the Registered Holder 50 shares of Common Stock in respect of the exercises following receipt of the Call Notice, and (z) the Holder may, until the Termination Date, exercise the Warrants for 25 shares of Common Stock (subject to adjustment as herein provided and subject to subsequent Call Notices). Subject again to the provisions of this Section 3.5, the Company may deliver subsequent Call Notices for any portion of the Warrants for which the Holder shall not have delivered an Election to Purchase. Notwithstanding anything to the contrary set forth in the Warrants, the Company may not deliver a Call Notice or require the cancellation of the Warrants (and any such Call Notice shall be void), unless, from the beginning of the Measurement Period through the Call Date, (1) the Company shall have honored in accordance with the terms of the Warrants all Elections to Purchase delivered by 6:30 PM (Eastern Time) on the Call Date, (2) the Common Stock shall be listed or quoted for trading on a principal securities exchange or trading market, and (3) there is a sufficient number of authorized shares of Common Stock for issuance of all shares of Common Stock issuable on exercise of the Warrants. The Company’s right to call the Warrants under this Section 3.5 shall be exercised ratably among the Registered Holders.

4. Adjustments.

4.1. Stock Dividends.

4.1.1 Split Ups. If after the date hereof, and subject to the provisions of Section 4.4, the number of outstanding shares of Common Stock is increased by a stock dividend payable in Common Stock, or by a split-up of Common Stock or other similar event, then, on the effective date of such stock dividend, split-up or similar event, the number of shares of Common Stock issuable on exercise of each Warrant shall be increased in proportion to such increase in the outstanding shares of Common Stock and the Exercise Price shall be proportionally decreased such that the aggregate Exercise Price, after such adjustments, remains the same for each Warrant.

4.1.2 Dividends and Other Distributions. If the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property or options by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction), except to the extent an adjustment was already made pursuant to Section 4.1.1 or Section 4.2 (a “**Distribution**”), at any time after the issuance of a Warrant, then, in each such case, the Company shall reserve and put aside the maximum Distribution amount the Holder would have been entitled to receive if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of the Warrant (without regard to any limitations on exercise hereof, including without limitation, the Maximum Percentage) immediately before the date on which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of Common Stock are to be determined for the participation in such Distribution. Upon exercise of a Warrant, in whole or in part, the Company shall, contemporaneously with the delivery of the shares of Common Stock issuable upon such exercise, distribute to the Holder a pro rata portion of such Distribution based on the portion of the Warrant that has been exercised (*provided, however*, to the extent that the Holder’s right to participate in any such Distributions would result in the Holder exceeding the Maximum Percentage, then the Holder shall not be entitled to participate in such Distribution at such time and to such extent (or the beneficial ownership of any such Common Stock as a result of such Distribution to such extent) and such Distribution to such extent shall be held in abeyance for the benefit of the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Maximum Percentage, at which time or times the Holder shall be granted such Distribution (and any Distributions declared or made on such initial Distribution or on any subsequent Distribution to be held similarly in abeyance) to the same extent as if there had been no such limitation).

4.2. Aggregation of Shares. If after the date hereof, and subject to the provisions of Section 4.5, the number of outstanding shares of Common Stock is decreased by a consolidation, combination, reverse stock split or reclassification of Common Stock or other similar event, then, on the effective date of such consolidation, combination, reverse stock split, reclassification or

similar event, the number of shares of Common Stock issuable on exercise of each Warrant shall be decreased in proportion to such decrease in outstanding shares of Common Stock and the Exercise Price shall be proportionally increased such that the aggregate Exercise Price, after such adjustments, remains the same for each Warrant.

4.3 Subsequent Rights Offerings. In addition to any adjustments stated herein, if at any time the Company grants, issues or sells any Common Stock equivalents or rights to purchase stock, warrants, securities or other property pro rata to all the record holders of any class of shares of Common Stock (the “**Purchase Rights**”), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof, including without limitation on the Maximum Percentage immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights (*provided, however*, to the extent that the Holder’s right to participate in any such Purchase Right would result in the Holder exceeding the Maximum Percentage, then the Holder shall not be entitled to participate in such Purchase Right to such extent (or beneficial ownership of such shares of Common Stock as a result of such Purchase Right to such extent) and such Purchase Right to such extent shall be held in abeyance for the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Maximum Percentage, at which time or times the Holder shall be granted such right (and any Purchase Right granted, issued or sold on such initial Purchase Right or on any subsequent Purchase Right to be held similarly in abeyance) to the same extent as if there had been no such limitation).

4.4 Fundamental Transactions. If, at any time while the Warrants are outstanding, (i) the Company, directly or indirectly, in one or more related transactions effects any merger or consolidation of the Company with or into another person, (ii) the Company, directly or indirectly, effects any sale, lease, license, assignment, transfer, conveyance or other disposition of all or substantially all of its assets in one or a series of related transactions, (iii) any, direct or indirect, purchase offer, tender offer or exchange offer (whether by the Company or another person) is completed pursuant to which holders of Common Stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of 50% or more of the outstanding Common Stock, (iv) the Company, directly or indirectly, in one or more related transactions effects any reclassification, reorganization or recapitalization of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property, (v) the Company, directly or indirectly, in one or more related transactions consummates a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another person or group of persons whereby such other person or group acquires more than 50% of the outstanding shares of Common Stock (not including any shares of Common Stock held by the other person or other persons making or party to, or associated or affiliated with the other persons making or party to, such stock or share purchase agreement or other business combination) (each a “**Fundamental Transaction**”), then, upon any subsequent exercise of a Warrant, the Holder of each Warrant shall have the right to receive, for each share of Common Stock that would have been issuable upon such exercise immediately prior to the occurrence of such Fundamental Transaction, at the option of the Holder (without regard to any limitation in Section 3.4 on the exercise of the Warrants), the number of shares of Common Stock of the successor or acquiring corporation or of the Company, if it is the surviving corporation, and any additional consideration (the “**Alternate Consideration**”) receivable as a result of such Fundamental Transaction by a holder of the number of shares of Common Stock for which a Warrant is exercisable immediately prior to such Fundamental Transaction (without regard to any limitation in Section 3.4 on the exercise of the Warrants). For purposes of any such exercise, the determination of the Exercise Price shall be appropriately adjusted to apply to such Alternate Consideration based on the amount of Alternate Consideration issuable in respect of one share of Common Stock in such Fundamental Transaction, and the Company shall apportion the Exercise Price among the Alternate Consideration in a reasonable manner reflecting the relative value of any different components of the Alternate Consideration. The Company shall cause any successor entity in a Fundamental Transaction in which the Company is not the survivor (the “**Successor Entity**”) and for which stockholders of the Company received any equity securities of the Successor Entity to assume in writing all obligations of the Company under each Warrant in accordance with the provisions of this Section 4.3 pursuant to agreements in form and substance reasonably satisfactory to the Holders and approved by the Holders holding Warrants to purchase at least a majority of the shares of Common Stock underlying the then outstanding Warrants (without unreasonable delay) prior to such Fundamental Transaction and shall, at the option of each Holder, deliver to such Holder in exchange for such Holder’s Warrant a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to such Holder’s Warrant which is exercisable for a corresponding number of shares of capital stock of such Successor Entity

(or its parent entity) equivalent to the shares of Common Stock acquirable and receivable upon exercise of such Warrant (without regard to the limitations on exercise set forth in Section 3.4) prior to such Fundamental Transaction, and with an exercise price which applies the Exercise Price hereunder to such shares of capital stock (but taking into account the relative value of the shares of Common Stock pursuant to such Fundamental Transaction and the value of such shares of capital stock, such number of shares of capital stock and such exercise price being for the purpose of protecting the economic value of such Warrant immediately prior to the consummation of such Fundamental Transaction). Upon the occurrence of any such Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for (so that from and after the date of such Fundamental Transaction, the provisions of this Agreement and each Warrant referring to the “**Company**” shall refer instead to the Successor Entity), and may exercise every right and power of the Company and shall assume all of the obligations of the Company under this Agreement and each Warrant with the same effect as if such Successor Entity had been named as the Company herein.

4.5. Calculations. All calculations under this Section 4 shall be made to the nearest cent or the nearest whole share, as the case may be. For purposes of this Section 4, any calculation of the number of shares of Common Stock deemed to be issued and outstanding as of a given date shall not include treasury shares, if any. Notwithstanding anything to the contrary in this Section 4, no adjustment in the Exercise Price shall be required unless such adjustment would require an increase or decrease of at least 1% in such price; *provided, however*, that any adjustments which by reason of the immediately preceding sentence are not required to be made shall be carried forward and taken into account in any subsequent adjustment. In any case in which this Section 4 shall require that an adjustment in the Exercise Price be made effective as of a record date for a specified event, if the Registered Holder exercises a Warrant after such record date, the Company may elect to defer, until the occurrence of such event, the issuance of the shares of Common Stock and other capital stock of the Company in excess of the shares of Common Stock and other capital stock of the Company, if any, issuable upon such exercise on the basis of the Exercise Price in effect prior to such adjustment; *provided, however*, that in such case the Company or the Warrant Agent shall deliver to the Registered Holder a due bill or other appropriate instrument evidencing the Registered Holder’s right to receive such additional shares and/or other capital securities upon the occurrence of the event requiring such adjustment.

4.6. Notices of Changes in Warrant. Upon every adjustment of the Exercise Price or the number of shares issuable upon exercise of a Warrant, the Company shall give written notice thereof to the Warrant Agent, which notice shall state the Exercise Price resulting from such adjustment and the increase or decrease, if any, in the number of shares purchasable at such price upon the exercise of a Warrant, setting forth in reasonable detail the method of calculation and the facts upon which such calculation is based. Upon the occurrence of any event specified in Sections 4.1, 4.2 or 4.3, the Company shall give written notice of the occurrence of such event to each Warrant holder, at the last address set forth for such holder in the Warrant Register, of the record date or the effective date of the event. Failure to give such notice, or any defect therein, shall not affect the legality or validity of such event.

4.7. No Fractional Shares. Notwithstanding any provision contained in this Agreement to the contrary, the Company shall not issue fractional shares upon exercise of Warrants. If, by reason of any adjustment made pursuant to this Section 4, the holder of any Warrant would be entitled, upon the exercise of such Warrant, to receive a fractional interest in a share, the Company shall, upon such exercise, round down to the nearest whole number the number of shares of Common Stock to be issued to such Holder. If fewer than all the Warrants evidenced by a Book-Entry Warrant are exercised, a notation shall be made to the records maintained by the Depository, its nominee for each Book-Entry Warrant, or a Participant, as appropriate, evidencing the balance of the Warrants remaining after such exercise.

4.8. Form of Warrant. The form of Warrant need not be changed because of any adjustment pursuant to this Section 4, and Warrants issued after such adjustment may state the

same Exercise Price and the same number of shares as is stated in the Warrants initially issued pursuant to this Agreement.

5. Transfer and Exchange of Warrants.

5.1. Registration of Transfer. The Warrant Agent shall register the transfer, from time to time, of any outstanding Warrant upon the Warrant Register, upon surrender of such Warrant for transfer, properly endorsed with signatures properly guaranteed and accompanied by appropriate instructions for transfer. Upon any such transfer, a new Warrant representing an equal aggregate number of Warrants shall be issued and the old Warrant shall be cancelled by the Warrant Agent. The Warrants so cancelled shall be delivered by the Warrant Agent to the Company from time to time upon request.

5.2. Procedure for Surrender of Warrants. Warrants may be surrendered to the Warrant Agent, together with a written request for exchange or transfer, duly executed by the Registered Holder thereof, or by a duly authorized attorney, and thereupon the Warrant Agent shall issue in exchange therefor one or more new Warrants as requested by the Registered Holder of the Warrants so surrendered, representing an equal aggregate number of Warrants; *provided, however*, that except as otherwise provided herein or in any Book-Entry Warrant, each Book-Entry Warrant may be transferred only in whole and only to the Depository, to another nominee of the Depository, to a successor depository, or to a nominee of a successor depository.

5.3. Fractional Warrants. The Warrant Agent shall not be required to effect any registration of transfer or exchange which shall result in the issuance of a Book-Entry Warrant or Warrant Certificate for a fraction of a Warrant.

5.4. Warrant Execution and Countersignature. The Warrant Agent is hereby authorized to countersign and to deliver, in accordance with the terms of this Agreement, the Warrants required to be issued pursuant to the provisions of this Section 5.

6. Other Provisions Relating to Rights of Holders of Warrants.

6.1. No Rights as Stockholder. Except as otherwise specifically provided herein, a Registered Holder, solely in its capacity as a holder of a Warrant, shall not be entitled to vote or receive dividends or be deemed the holder of share capital of the Company for any purpose, nor shall anything contained in this Agreement be construed to confer upon a Registered Holder, solely in its capacity as the Registered Holder of a Warrant, any of the rights of a stockholder of the Company or any right to vote, give or withhold consent to any corporate action (whether any reorganization, issue of stock, reclassification of stock, consolidation, merger, conveyance or otherwise), receive notice of meetings, receive dividends or subscription rights, or otherwise, prior to the issuance to the Registered Holder of the shares of Common Stock which it is then entitled to receive upon the due exercise of a Warrant. A Warrant does not entitle the Registered Holder thereof to any of the rights of a stockholder.

6.2. Lost, Stolen, Mutilated, or Destroyed Warrants. If any Warrant is lost, stolen, mutilated, or destroyed, the Company or the Warrant Agent may require the Holder to furnish a bond of indemnity and/or an affidavit of loss in form satisfactory to the Warrant Agent and the Company before issuing a

new Warrant to the Holder. Subject to the preceding sentence, and any

other condition which the Warrant Agent or the Company may otherwise impose at their discretion (which shall, in the case of a mutilated Warrant, include the surrender thereof), the Company and the Warrant Agent may issue a new Warrant of like denomination, tenor, and date as the Warrant so lost, stolen, mutilated, or destroyed. Any such new Warrant shall constitute a substitute contractual obligation of the Company, whether or not the allegedly lost, stolen, mutilated, or destroyed Warrant shall be at any time enforceable by anyone.

6.3. Reservation of Common Stock. The Company shall at all times reserve and keep available a number of its authorized but unissued shares of Common Stock that shall be sufficient to permit the exercise in full of all outstanding Warrants issued pursuant to this Agreement.

7. Concerning the Warrant Agent and Other Matters.

7.1. Payment of Taxes. The Company shall from time to time promptly pay all taxes and charges that may be imposed upon the Company or the Warrant Agent in respect of the issuance or delivery of shares of Common Stock upon the exercise of the Warrants, but the Company shall not be obligated to pay any income taxes of the Holder in respect of the Warrants or such shares.

7.2. Resignation, Consolidation, or Merger of Warrant Agent.

7.2.1. Appointment of Successor Warrant Agent. The Warrant Agent, or any successor hereafter appointed, may resign its duties and be discharged from all further duties and liabilities hereunder after giving thirty (30) days' notice in writing to the Company. If the office of the Warrant Agent becomes vacant by resignation or incapacity to act or otherwise, the Company shall appoint in writing a successor Warrant Agent in place of the Warrant Agent. If the Company shall fail to make such appointment within a period of thirty (30) days after it has been notified in writing of such resignation or incapacity by the Warrant Agent or by the holder of a Warrant (who shall, with such notice, submit his Warrant for inspection by the Company), then the holder of any Warrant may apply to the Supreme Court of the State of New York for the County of New York for the appointment of a successor Warrant Agent at the Company's cost. Any successor Warrant Agent, whether appointed by the Company or by such court, shall be a corporation in good standing in the State of New York and having its principal office in the City and State of New York, and authorized under such laws to exercise corporate trust powers and subject to supervision or examination by federal or state authority. After appointment, any successor Warrant Agent shall be vested with all the authority, powers, rights, immunities, duties, and obligations of its predecessor Warrant Agent with like effect as if originally named as the Warrant Agent hereunder, without any further act or deed; but if for any reason it becomes necessary or appropriate, the predecessor Warrant Agent shall execute and deliver, at the expense of the Company, an instrument transferring to such successor Warrant Agent all the authority, powers, and rights of such predecessor Warrant Agent hereunder; and upon request of any successor Warrant Agent the Company shall make, execute, acknowledge, and deliver any and all instruments in writing for more fully and effectually vesting in and confirming to such successor Warrant Agent all such authority, powers, rights, immunities, duties, and obligations.

7.2.2. Notice of Successor Warrant Agent. In the event a successor Warrant Agent shall be appointed, the Company shall give notice thereof to the predecessor Warrant Agent and the transfer agent for the Common Stock not later than the effective date of any such appointment.

7.2.3. Merger or Consolidation of Warrant Agent. Any company into which the Warrant Agent may be merged or with which it may be consolidated or any corporation resulting from any merger or consolidation to which the Warrant Agent shall be a party shall be the successor Warrant Agent under this Agreement without any further act.

7.3. Fees and Expenses of Warrant Agent. The Company will pay or cause to be paid to the Warrant Agent fees for the Warrant Agent's services hereunder as set forth in Exhibit B attached hereto, in each case payable upon the Warrant Agent's invoice to the Company. The Company agrees to pay the Warrant Agent any transfer agent fees which are in addition to the Warrant Agent fees and shall, pursuant to its obligations under this Agreement, reimburse the Warrant Agent upon demand for all expenditures that the Warrant Agent may reasonably incur in the execution of its duties hereunder.

7.3.1. Further Assurances. The Company agrees to perform, execute, acknowledge, and deliver or cause to be performed, executed, acknowledged, and delivered all such further and other acts, instruments, and assurances as may reasonably be required by the Warrant Agent for the carrying out or performing of the provisions of this Agreement.

7.4. Liability of Warrant Agent.

7.4.1. Reliance on Company Statement. Whenever in the performance of its duties under this Agreement, the Warrant Agent shall deem it necessary or desirable that any fact or matter be proved or established by the Company prior to taking or suffering any action hereunder, such fact or matter (unless other evidence in respect thereof be herein specifically prescribed) may be deemed to be conclusively proved and established by a statement signed by the President, Chief Executive Officer, Chief Financial Officer, Secretary or other principal officer of the Company and delivered to the Warrant Agent. The Warrant Agent may rely upon such statement for any action taken or suffered in good faith by it pursuant to the provisions of this Agreement.

7.4.2. Indemnity. The Company will indemnify, defend, protect and hold harmless the Warrant Agent from and against any and all losses, liabilities, costs, damages or expenses, including, without limitation, reasonable attorneys' fees and expenses, incurred or made, arising out of or in connection with the performance of the Warrant Agent's obligations under the provisions of this Agreement, including but not limited to, acting, or refusing to act, in reliance upon any signature, endorsement, assignment, certificate, order, request, notice, report, record, instructions or other instrument or document believed by the Warrant Agent in good faith to be valid, genuine and sufficient; provided, however, such indemnification shall not apply to any losses, liabilities, costs, damages or expenses caused by the willful misconduct, bad faith or gross negligence of the Warrant Agent. The Warrant Agent shall be under no obligation to institute or defend any action, suit, or legal proceeding in connection herewith or to incur any expense related to any such action, suit or legal proceeding, unless first indemnified to the

Warrant Agent's satisfaction. The indemnities provided by this paragraph shall survive the resignation or discharge of the Warrant Agent or the termination of this Agreement. Anything in this Agreement to the contrary notwithstanding, in no event shall the Warrant Agent or the Company be liable under or in connection with this Agreement for indirect, special, incidental, punitive or consequential losses or damages of any kind whatsoever, including but not limited to lost profits, whether or not foreseeable, even if the Warrant Agent or the Company have been advised of the possibility thereof and regardless of the form of action in which such damages are sought. The Warrant Agent's aggregate liability to the Company, or any of the Company's representatives or agents, under this Section 7.4.2 or under any other term or provision of this Agreement, whether in contract, tort, or otherwise, is expressly limited to, and shall not exceed in any circumstances, the fees received by the Warrant Agent as fees and charges under this Agreement, but not including reimbursable expenses previously reimbursed to the Warrant Agent by the Company hereunder.

7.4.3. Exclusions. The Warrant Agent shall have no responsibility with respect to the validity of this Agreement or with respect to the validity or execution of any Warrant (except its countersignature thereof). The Warrant Agent shall not be responsible for any breach by the Company of any covenant or condition contained in this Agreement or in any Warrant. The Warrant Agent shall not be responsible to make any adjustments required under the provisions of Section 4 or responsible for the manner, method, or amount of any such adjustment or the ascertaining of the existence of facts that would require any such adjustment; nor shall it by any act hereunder be deemed to make any representation or warranty as to the authorization or reservation of any shares of Common Stock to be issued pursuant to this Agreement or any Warrant or as to whether any shares of Common Stock shall, when issued, be valid and fully paid and nonassessable.

7.5. Acceptance of Agency. The Warrant Agent hereby accepts the agency established by this Agreement and agrees to perform the same upon the terms and conditions herein set forth and among other things, shall account promptly to the Company with respect to Warrants exercised and concurrently account for, and pay to the Company, all monies received by the Warrant Agent for the purchase of shares of Common Stock through the exercise of the Warrants.

8. Miscellaneous Provisions.

8.1. Successors. All the covenants and provisions of this Agreement by or for the benefit of the Company or the Warrant Agent shall bind and inure to the benefit of their respective successors and assigns.

8.2. Notices. Any notice, statement or demand authorized by this Agreement to be given or made by the Warrant Agent or by the holder of any Warrant to or on the Company shall be sufficiently given (i) when so delivered if by hand or overnight delivery, (ii) when sent, if delivered by facsimile (*provided* that confirmation of transmission is mechanically or electronically generated and kept on file by the sending party) or by electronic mail, or (iii) if sent by certified mail or private courier service, within five (5) days after deposit of such notice, postage prepaid, addressed (until another address is filed in writing by the Company with the Warrant Agent), as follows:

Onconova Therapeutics, Inc.
375 Pheasant Run
Newtown, PA 18954
Attention: Mark Guerin
By Telefax (which constitutes notice): (267) 759-3681
By Email (which constitutes notice): MGuerin@onconova.us

Any notice, statement or demand authorized by this Agreement to be given or made by the holder of any Warrant or by the Company to or on the Warrant Agent shall be sufficiently given (a) upon receipt if by hand or overnight delivery, (b) when sent, if delivered by facsimile (*provided* that confirmation of transmission is mechanically or electronically generated and kept on file by the sending party) or by electronic mail, or (c) if sent by certified mail or private courier service, within five (5) days after deposit of such notice, postage prepaid, addressed (until another address is filed in writing by the Warrant Agent with the Company), as follows:

Wells Fargo Shareowner Services
Attention: Relationship Management Team S
1110 Mendota Heights Curve Suite 101
By Email (which constitutes notice): wfssrelationshipmanagement@wellsfargo.com

8.3. Applicable Law. The validity, interpretation, and performance of this Agreement and of the Warrants shall be governed in all respects by the laws of the State of New York, without giving effect to conflicts of law principles that would result in the application of the substantive laws of another jurisdiction.

8.4. Persons Having Rights under this Agreement. Nothing in this Agreement shall be construed to confer upon, or give to, any person or corporation other than the parties hereto and the Registered Holders of the Warrants any right, remedy, or claim under or by reason of this Agreement or of any covenant, condition, stipulation, promise, or agreement hereof. All covenants, conditions, stipulations, promises, and agreements contained in this Agreement shall be for the sole and exclusive benefit of the parties hereto and their successors and assigns and of the Registered Holders of the Warrants.

8.5. Examination of the Warrant Agreement. A copy of this Agreement shall be available at all reasonable times at the office of the Warrant Agent in the City of New York and State of New York, for inspection by the Registered Holder of any Warrant. The Warrant Agent may require any such Registered Holder to submit his Warrant for inspection by it.

8.6. Counterparts. This Agreement may be executed in any number of original or facsimile counterparts and each of such counterparts shall for all purposes be deemed to be an original, and all such counterparts shall together constitute but one and the same instrument. A signature to this Agreement transmitted electronically shall have the same authority, effect and enforceability as an original signature.

8.7. Effect of Headings. The section headings herein are for convenience only and are not part of this Agreement and shall not affect the interpretation thereof.

8.8. Amendments. This Agreement may be amended by the parties hereto with the written consent of the Company, the Warrant Agent and the Registered Holders holding Warrants to purchase at least a majority of the shares of Common Stock underlying the then outstanding Warrants. No consideration shall be offered by the Company to any Registered Holder in connection with a modification, amendment or waiver of this Agreement or any Warrant without also offering the same consideration to all Registered Holders.

8.9. Severability. This Agreement shall be deemed severable, and the invalidity or unenforceability of any term or provision hereof shall not affect the validity or enforceability of this Agreement or of any other term or provision hereof. Furthermore, in lieu of any such invalid or unenforceable term or provision, the parties hereto intend that there shall be added as a part of this Agreement a provision as similar in terms to such invalid or unenforceable provision as may be possible and be valid and enforceable.

[Signature Page Follows]

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed as of the date first above written.

ONCONOVA THERAPEUTICS, INC.

By: _____
Name:
Title:

WELLS FARGO BANK, N.A.,
as Warrant Agent

By: _____
Name:
Title:

ONCONOVA THERAPEUTICS, INC.

WARRANT TO PURCHASE COMMON STOCK

Number of Shares:
(subject to adjustment)

Warrant No. _____ Original Issue Date: _____, 2016

Onconova Therapeutics, Inc., a Delaware corporation (the “Company”), hereby certifies that, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, _____ or its permitted registered assigns (the “Holder”), is entitled, subject to the terms set forth below, to purchase from the Company up to a total of _____ shares of common stock, \$0.01 par value per share (the “Common Stock”), of the Company (each such share, a “Warrant Share” and all such shares, the “Warrant Shares”) at an exercise price per share equal to \$0.01 per share (as adjusted from time to time as provided in Section 9 herein, the “Exercise Price”), upon surrender of this warrant to purchase Common Stock (including any warrants to purchase Common Stock issued in exchange, transfer or replacement hereof, the “Warrant”) at any time and from time to time on or after the date hereof (the “Original Issue Date”) and through and including 5:00 PM Eastern Time on the date that is _____ years following the Original Issue Date (the “Expiration Date”), and subject to the following terms and conditions:

1. Definitions. For purposes of this Warrant, the following terms shall have the following meanings:

(a) “Affiliate” of any Person means any other Person directly or indirectly controlling, controlled by or under common control with such Person.

(b) “Commission” means the United States Securities and Exchange Commission and any successor entity thereto.

(c) “Closing Sale Price” means, for any security as of any date, the last trade price for such security on the Principal Trading Market for such security, as reported by Bloomberg Financial Markets, or, if such Principal Trading Market begins to operate on an extended hours basis and does not designate the last trade price, then the last trade price of such security immediately prior to 4:00 P.M., New York City time, as reported by Bloomberg Financial Markets, or if the foregoing do not apply, the last trade price of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg Financial Markets, or, if no last trade price is reported for such security by Bloomberg Financial Markets, the average of the bid and ask prices, of any market makers for such security as reported in the “pink sheets” by Pink Sheets LLC. If the Closing Sale Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Closing Sale Price of such security on such date shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then the Board of Directors of the Company shall use its good faith judgment to determine the fair market value of such security on such date. The Board of Directors’

determination shall be binding upon all parties absent demonstrable error. All such determinations shall be appropriately adjusted for any stock dividend, stock split, stock combination or other similar transaction during the applicable calculation period.

(d) “Person” means any natural person, corporation, firm, joint venture, partnership, limited liability company, association, enterprise, trust or other entity or organization, or any government or political subdivision or any agency, department or instrumentality thereof.

(e) “Principal Trading Market” means the trading market on which the Common Stock is primarily listed on and quoted for trading, and which, as of the Original Issue Date shall be The NASDAQ Capital Market.

(f) “Securities Act” means the Securities Act of 1933, as amended.

(g) “Trading Day” means a day on which the Principal Trading Market is open for trading.

2. Registration of Warrants. The Company shall register this Warrant, upon records to be maintained by the Company for that purpose (the “Warrant Register”), in the name of the record Holder (which shall include the initial Holder or, as the case may be, any registered assignee to which this Warrant is permissibly assigned hereunder) from time to time. The Company may deem and treat the registered Holder of this Warrant as the absolute owner hereof for the purpose of any exercise hereof or any distribution to the Holder, and for all other purposes, absent actual notice to the contrary.

3. Registration of Transfers. Subject to compliance with all applicable securities laws, the Company shall register the transfer of all or any portion of this Warrant in the Warrant Register, upon surrender of this Warrant, and payment of all applicable transfer taxes. Upon any such registration of transfer, a new warrant to purchase Common Stock in substantially the form of this Warrant (any such new warrant, a “New Warrant”) evidencing the portion of this Warrant so transferred shall be issued to the transferee, and a New Warrant evidencing the remaining portion of this Warrant not so transferred, if any, shall be issued to the transferring Holder. The acceptance of the New Warrant by the transferee thereof shall be deemed the acceptance by such transferee of all of the rights and obligations in respect of the New Warrant that the Holder had in respect of this Warrant. The Company shall prepare, issue and deliver at the Company’s own expense any New Warrant under this Section 3. Until due presentment for registration of transfer, the Company may treat the registered Holder hereof as the owner and holder of this Warrant for all purposes, and the Company shall not be affected by any notice to the contrary.

4. Exercise and Duration of Warrants.

(a) All or any part of this Warrant shall be exercisable by the registered Holder in any manner permitted by this Warrant at any time and from time to time on or after the Original Issue Date and through and including 5:00 PM Eastern Time on the Expiration Date.

At 5:00 PM Eastern Time on the Expiration Date, the portion of this Warrant not exercised prior thereto shall be void and of no value and this Warrant shall terminate and no longer be outstanding.

(b) The Holder may exercise this Warrant by delivering to the Company (i) an exercise notice, in the form attached as Schedule 1 hereto (the “*Exercise Notice*”), completed and duly signed, and (ii) payment of the Exercise Price for the number of Warrant Shares as to which this Warrant is being exercised (which may take the form of a “net share exercise” if so indicated in the Exercise Notice pursuant to Section 10 below), and the date on which the last of such items is delivered to the Company (as determined in accordance with the notice provisions hereof) is an “*Exercise Date*.” If held in certificated form, the Holder shall be required to deliver the original Warrant in order to effect an exercise hereunder. Execution and delivery of the Exercise Notice shall have the same effect as cancellation of the original Warrant and issuance of a New Warrant to the Holder evidencing its right to purchase the remaining number of Warrant Shares. For the avoidance of doubt, the Company may not substitute, and the Holder may not request, a cash payment in satisfaction of the Company’s obligation to issue and deliver Warrant Shares pursuant to an Exercise Notice.

5. Delivery of Warrant Shares.

(a) Upon exercise of this Warrant, the Company shall promptly (but in no event later than three (3) Trading Days after the Exercise Date), upon the request of the Holder, credit such aggregate number of shares of Common Stock to which the Holder is entitled pursuant to such exercise to the Holder’s or its designee’s balance account with The Depository Trust Company (“*DTC*”) through its Deposit Withdrawal Agent Commission system, or if the Company’s transfer agent is not participating in the Fast Automated Securities Transfer Program (the “*FAST Program*”) or if the certificates are required to bear a legend regarding restriction on transferability, issue and dispatch by overnight courier to the address as specified in the Exercise Notice, a certificate, registered in the Company’s share register in the name of the Holder or its designee, for the number of shares of Common Stock to which the Holder is entitled pursuant to such exercise. The Holder, or any Person permissibly so designated by the Holder to receive Warrant Shares, shall be deemed to have become the holder of record of such Warrant Shares as of the Exercise Date, irrespective of the date such Warrant Shares are credited to the Holder’s DTC account or the date of delivery of the certificates evidencing such Warrant Shares, as the case may be.

(b) To the extent permitted by law, the Company’s obligations to issue and deliver Warrant Shares in accordance with and subject to the terms hereof (including the limitations set forth in Section 11 below) are absolute and unconditional, irrespective of any action or inaction by the Holder to enforce the same, any waiver or consent with respect to any provision hereof, the recovery of any judgment against any Person or any action to enforce the same, or any setoff, counterclaim, recoupment, limitation or termination, or any breach or alleged breach by the Holder or any other Person of any obligation to the Company or any violation or alleged violation of law by the Holder or any other Person, and irrespective of any other circumstance that might otherwise limit such obligation of the Company to the Holder in connection with the issuance of Warrant Shares. Nothing herein shall limit the Holder’s right to pursue any other

remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company’s failure to timely deliver certificates representing shares of Common Stock upon exercise of the Warrant as required pursuant to the terms hereof.

6. Charges, Taxes and Expenses. Issuance and delivery of certificates for shares of Common Stock upon exercise of this Warrant shall be made without charge to the Holder for any issue or transfer tax, transfer agent fee or other incidental tax or expense in respect of the issuance of such certificates, all of which taxes and expenses shall be paid by the Company; *provided, however*, that the Company shall not be required to pay any tax that may be payable in respect of any transfer involved in the registration of any certificates for Warrant Shares or the Warrants in a name other than that of the Holder or an Affiliate thereof. The Holder shall be responsible for all other tax liability that may arise as a result of holding or transferring this Warrant or receiving Warrant Shares upon exercise hereof.

7. Replacement of Warrant. If this Warrant is mutilated, lost, stolen or destroyed, the Company shall issue or cause to be issued in exchange and substitution for and upon cancellation hereof, or in lieu of and substitution for this Warrant, a New Warrant, but only upon receipt of evidence reasonably satisfactory to the Company of such loss, theft or destruction (in such case) and, in each case, a customary and reasonable indemnity and surety bond, if requested by the Company. Applicants for a New Warrant under such circumstances shall also comply with such other reasonable regulations and procedures and pay such other reasonable third-party costs as the Company may prescribe. If a New Warrant is requested as a result of a mutilation of this Warrant, then the Holder shall deliver such mutilated Warrant to the Company as a condition precedent to the Company’s obligation to issue the New Warrant.

8. Reservation of Warrant Shares. The Company covenants that it will at all times while this Warrant is outstanding reserve and keep available out of the aggregate of its authorized but unissued and otherwise unreserved Common Stock, solely for the purpose of enabling it to issue Warrant Shares upon exercise of this Warrant as herein provided, the number of Warrant Shares that are initially issuable and deliverable upon the exercise of this entire Warrant, free from preemptive rights or any other contingent purchase rights of persons other than the Holder (taking into account the adjustments and restrictions of Section 9). The Company covenants that all Warrant Shares so issuable and deliverable shall, upon issuance and the payment of the applicable Exercise Price in accordance with the terms hereof, be duly and validly authorized and issued, and fully paid and nonassessable. The Company will take all such action as may be reasonably necessary to assure that such shares of Common Stock may be issued as provided herein without violation of any applicable law or regulation, or of any requirements of any securities exchange or automated quotation system upon which the Common Stock may be listed.

9. Certain Adjustments. The Exercise Price and number of Warrant Shares issuable upon exercise of this Warrant are subject to adjustment from time to time as set forth in this Section 9.

(a) Stock Dividends and Splits. If the Company, at any time while this Warrant is outstanding, (i) pays a stock dividend on its Common Stock or otherwise makes a distribution on any class of capital stock that is payable in shares of Common Stock, (ii) subdivides its outstanding shares of Common Stock into a larger number of shares of Common Stock, (iii) combines its outstanding shares of Common Stock into a smaller number of shares of Common Stock or (iv) issues by reclassification of shares of capital stock any additional shares of Common Stock of the Company, then in each such case the Exercise Price shall be multiplied by a fraction, the numerator of which shall be the number of shares of Common Stock outstanding immediately before such event and the denominator of which shall be the number of shares of Common Stock outstanding immediately after such event. Any adjustment made pursuant to clause (i) of this paragraph shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution, *provided, however*, that if such record date shall have been fixed and such dividend is not fully paid on the date fixed therefor, the Exercise Price shall be recomputed accordingly as of the close of business on such record date and thereafter the Exercise Price shall be adjusted pursuant to

this paragraph as of the time of actual payment of such dividends. Any adjustment pursuant to clause (ii) or (iii) of this paragraph shall become effective immediately after the effective date of such subdivision or combination.

(b) Pro Rata Distributions. If the Company, at any time while this Warrant is outstanding, distributes to all holders of Common Stock for no consideration (i) evidences of its indebtedness, (ii) any security (other than a distribution of Common Stock covered by the preceding paragraph) or (iii) rights or warrants to subscribe for or purchase any security, or (iv) any other asset (in each case, “*Distributed Property*”), then, upon any exercise of this Warrant that occurs after the record date fixed for determination of stockholders entitled to receive such distribution, the Holder shall be entitled to receive, in addition to the Warrant Shares otherwise issuable upon such exercise (if applicable), the Distributed Property that such Holder would have been entitled to receive in respect of such number of Warrant Shares had the Holder been the record holder of such Warrant Shares immediately prior to such record date without regard to any limitation on exercise contained therein.

(c) Fundamental Transactions. If, at any time while this Warrant is outstanding (i) the Company effects any merger or consolidation of the Company with or into another Person, in which the Company is not the surviving entity or the stockholders of the Company immediately prior to such merger or consolidation do not own, directly or indirectly, at least 50% of the voting power of the surviving entity

immediately after such merger or consolidation, (ii) the Company effects any sale to another Person of all or substantially all of its assets in one or a series of related transactions, (iii) pursuant to any tender offer or exchange offer (whether by the Company or another Person), holders of capital stock who tender shares representing more than 50% of the voting power of the capital stock of the Company and the Company or such other Person, as applicable, accepts such tender for payment, (iv) the Company consummates a stock purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another Person whereby such other Person acquires more than the 50% of the voting power of the capital stock of the Company or (v) the Company effects any reclassification of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property (other than as a result of a subdivision or combination of shares of Common Stock covered by Section 9(a) above) (in any such case, a “*Fundamental Transaction*”), then following such Fundamental Transaction the Holder shall have the right to receive, upon exercise of this Warrant, the same amount and kind of securities, cash or property as it would have been entitled to receive upon the occurrence of such Fundamental Transaction if it had been, immediately prior to such Fundamental Transaction, the holder of the number of Warrant Shares then issuable upon exercise in full of this Warrant without regard to any limitations on exercise contained herein (the “*Alternate Consideration*”). The Company shall not effect any Fundamental Transaction in which the Company is not the surviving entity or the Alternate Consideration includes securities of another Person unless prior to or simultaneously with the consummation thereof, any successor to the Company, surviving entity or other Person (including any purchaser of assets of the Company) shall assume the obligation to deliver to the Holder, such Alternate Consideration as, in accordance with the foregoing provisions, the Holder may be entitled to receive, and the other obligations under this Warrant.

(d) Number of Warrant Shares. Simultaneously with any adjustment to the Exercise Price pursuant to paragraph (a) of this Section 9, the number of Warrant Shares that may be purchased upon exercise of this Warrant shall be increased or decreased proportionately, so that after such adjustment the aggregate Exercise Price payable hereunder for the increased or decreased number of Warrant Shares shall be the same as the aggregate Exercise Price in effect immediately prior to such adjustment.

(e) Calculations. All calculations under this Section 9 shall be made to the nearest cent or the nearest whole share, as the case may be. For purposes of this Section 9, any calculation of the number of shares of Common Stock deemed to be issued and outstanding as of a given date shall not include treasury shares, if any. Notwithstanding anything to the contrary in this Section 9, no adjustment in the Exercise Price shall be required unless such adjustment would require an increase or decrease of at least 1% in such price; provided, however, that any adjustments which by reason of the immediately preceding sentence are not required to be made shall be carried forward and taken into account in any subsequent adjustment.

(f) Notice of Adjustments. Upon the occurrence of each adjustment pursuant to this Section 9, the Company at its expense will, at the written request of the Holder, promptly compute such adjustment, in good faith, in accordance with the terms of this Warrant and prepare a certificate setting forth such adjustment, including a statement of the adjusted Exercise Price and adjusted number or type of Warrant Shares or other securities issuable upon exercise of this Warrant (as applicable), describing the transactions giving rise to such adjustments and showing in detail the facts upon which such adjustment is based. Upon written request, the Company will promptly deliver a copy of each such certificate to the Holder.

(g) Notice of Corporate Events. If, while this Warrant is outstanding, the Company (i) declares a dividend or any other distribution of cash, securities or other property in respect of its Common Stock, including, without limitation, any granting of rights or warrants to subscribe for or purchase any capital stock of the Company or any subsidiary, (ii) authorizes or approves, enters into any material definitive agreement contemplating or solicits stockholder approval for any Fundamental Transaction or (iii) authorizes the voluntary dissolution, liquidation or winding up of the affairs of the Company, then, except if such notice and the contents thereof shall be deemed to constitute material non-public information, the Company shall deliver to the Holder a notice of such transaction at least ten (10) days prior to the applicable record or effective date on which a Person would need to hold Common Stock in order to participate in or vote with respect to such transaction; *provided, however*, that the failure to deliver such notice or any defect therein shall not affect the validity of the corporate action required to be described in such notice. In addition, if while this Warrant is outstanding, if the Company enters into any material definitive agreement contemplating or solicits stockholder approval for any Fundamental Transaction contemplated by Section 9(c), other than a Fundamental Transaction under clause (iii) of Section 9(c), the Company shall deliver to the Holder a notice of such Fundamental Transaction at least fifteen (15) days prior to the date such Fundamental Transaction is consummated. To the extent that any notice provided hereunder constitutes, or contains, material, non-public

information regarding the Company or any of its subsidiaries, the Holder shall keep such information confidential until the Company shall file such notice with the Commission pursuant to a Current Report on Form 8-K.

10. Payment of Exercise Price. Notwithstanding anything contained herein to the contrary, the Holder may, in its sole discretion, satisfy its obligation to pay the Exercise Price through a “net share exercise”, in which event the Company shall issue to the Holder the number of Warrant Shares determined as follows:

$$X = Y [(A-B)/A]$$

where:

- “X” equals the number of Warrant Shares to be issued to the Holder;
- “Y” equals the total number of Warrant Shares with respect to which this Warrant is then being exercised;
- “A” equals the average of the Closing Sale Prices of the shares of Common Stock for the five (5) consecutive Trading Days ending on the date immediately preceding the Exercise Date; and
- “B” equals the Exercise Price then in effect for the applicable Warrant Shares at the time of such exercise.

For purposes of Rule 144 promulgated under the Securities Act, it is intended, understood and acknowledged that the Warrant Shares issued in a “cashless exercise” transaction shall be deemed to have been acquired by the Holder, and the holding period for the Warrant Shares shall be deemed to have commenced, on the date this Warrant was originally issued (provided that the Commission continues to take the position that such treatment is proper at the time of such exercise).

11. Limitations on Exercise. The Company shall not affect the exercise of any portion of this Warrant, and the Holder shall not have the right to exercise any portion of this Warrant, to the extent that after giving effect to such exercise, the Holder (together with the Holder’s Affiliates, and any persons acting as a group together with the Holder or any Holder’s Affiliates) would beneficially own in excess of 4.99% (the “Maximum Percentage”) of the Common Stock outstanding immediately after giving effect to such exercise. For purposes of the foregoing sentence, the aggregate number of shares of Common Stock beneficially owned by the Holder and its Affiliates, and any persons acting as a group together with the Holder and the Holder’s Affiliates, shall include the number of Warrant Shares with respect to which the determination of such sentence is being made, but shall exclude Warrant Shares which would be issuable upon (i) exercise of the remaining, unexercised portion of this Warrant beneficially owned by the Holder and its Affiliates, and any persons acting as a group together with the Holder and the Holder’s Affiliates, and (ii) exercise or conversion of the unexercised or unconverted portion of any other securities of the Company beneficially owned by the Holder and its Affiliates, and any persons acting as a group together with the Holder and the Holder’s Affiliates (including, without limitation, any convertible notes or convertible preferred stock or warrants) subject to a limitation on conversion or exercise analogous to the limitation contained herein. Except as set forth in the preceding sentence, for purposes of this paragraph, beneficial ownership shall be calculated in accordance with Section 13(d) of the Securities Exchange Act of

1934, as amended (the “Exchange Act”). The Company shall not be responsible for calculating beneficial ownership in accordance with the provisions of this Section 11. To the extent that the limitation contained in this Section 11 applies, the Holder’s submission of an Exercise Notice shall be deemed to be the Holder’s determination of whether this Warrant is exercisable (in relation to any other securities owned by the Holder together with any Affiliates, and any persons acting as a group together with the Holder and the Holder’s Affiliates) and of which portion of this Warrant is exercisable, in each case subject to the Maximum Percentage, and the Company shall have no obligation to verify or confirm the accuracy of such determination. In addition, a determination as to any group status as contemplated above shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. For purposes of this Warrant, in determining the number of outstanding shares of Common Stock, the Holder may rely on the number of outstanding shares of Common Stock as reflected in the most recent of (1) the Company’s most recent Form 10-K, Form 10-Q, Current Report on Form 8-K or other public filing with the Commission, as the case may be, (2) a more recent written public announcement by the Company, or (3) any other notice by the Company or its transfer agent setting forth the number of shares of Common Stock outstanding. For any reason at any time, upon the written or oral request of the Holder, the Company shall within three (3) Trading Days confirm to the Registered Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder and its Affiliates, and any persons acting as a group together with the Holder and the Holder’s Affiliates, since the date as of which such number of outstanding shares of Common Stock was reported. By written notice to the Company, the Holder may from time to time increase or decrease the Maximum Percentage to 9.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock upon exercise of this Warrant and the provisions of this Section 11 shall continue to apply; provided that (y) any such increase will not be effective until the sixty-first (61st) day after such notice is delivered to the Company, and (z) any such increase or decrease will apply only to the Holder. For purposes of clarity, the Common Stock underlying this Warrant in excess of the Maximum Percentage for the Holder shall not be deemed to be beneficially owned by that Holder for any purpose including for purposes of Section 13(d) or Rule 16a-1(a)(1) of the Exchange Act. The provisions set forth herein shall be construed and implemented in a manner otherwise than in strict conformity with the other terms of this Section 11 to the extent necessary to correct any such provision which may be defective or inconsistent with the intended beneficial ownership limitation herein contained or to make changes or supplements necessary or desirable to properly give effect to such limitation.

12. No Fractional Shares. No fractional Warrant Shares will be issued in connection with any exercise of this Warrant. In lieu of any fractional shares that would otherwise be issuable, the number of Warrant Shares to be issued shall be rounded down to the next whole number.

13. Notices. Any and all notices or other communications or deliveries hereunder (including, without limitation, any Exercise Notice) shall be in writing and shall be deemed given and effective on the earliest of (i) the date of transmission, if such notice or communication is delivered via facsimile or confirmed e-mail at the facsimile number or e-mail address specified in the books and records of the Company prior to 5:00 PM Eastern Time on a

Trading Day, (ii) the next Trading Day after the date of transmission, if such notice or communication is delivered via facsimile or confirmed e-mail at the facsimile number or e-mail address specified in the books and records of the Company on a day that is not a Trading Day or later than 5:00 PM Eastern Time on any Trading Day, (iii) the Trading Day following the date of mailing, if sent by nationally recognized overnight courier service specifying next business day delivery, or (iv) upon actual receipt by the Person to whom such notice is required to be given, if by hand delivery.

14. Warrant Agent. Upon thirty (30) days’ notice to the Holder, the Company may appoint a warrant agent to serve as warrant agent under this Warrant. Any such warrant agent shall promptly cause notice of its appointment as warrant agent to be mailed (by first class mail, postage prepaid) to the Holder at the Holder’s last address as shown on the Warrant Register.

15. Miscellaneous.

(a) No Rights as a Stockholder. The Holder, solely in such Person’s capacity as a holder of this Warrant, shall not be entitled to vote or receive dividends or be deemed the holder of share capital of the Company for any purpose, nor shall anything contained in this Warrant be construed to confer upon the Holder, solely in such Person’s capacity as the Holder of this Warrant, any of the rights of a stockholder of the Company or any right to vote,

give or withhold consent to any corporate action (whether any reorganization, issue of stock, reclassification of stock, consolidation, merger, amalgamation, conveyance or otherwise), receive notice of meetings, receive dividends or subscription rights, or otherwise, prior to the issuance to the Holder of the Warrant Shares which such Person is then entitled to receive upon the due exercise of this Warrant. In addition, nothing contained in this Warrant shall be construed as imposing any liabilities on the Holder to purchase any securities (upon exercise of this Warrant or otherwise) or as a stockholder of the Company, whether such liabilities are asserted by the Company or by creditors of the Company.

(b) Authorized Shares. (i) Except and to the extent as waived or consented to by the Holder, the Company shall not by any action, including, without limitation, amending its articles of incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such actions as may be necessary or appropriate to protect the rights of Holder as set forth in this Warrant against impairment. Without limiting the generality of the foregoing, the Company will (a) not increase the par value of any Warrant Shares above the amount payable therefor upon such exercise immediately prior to such increase in par value, (b) take all such action as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable Warrant Shares upon the exercise of this Warrant, and (c) use commercially reasonable efforts to obtain all such authorizations, exemptions or consents from any public regulatory body having jurisdiction thereof as may be necessary to enable the Company to perform its obligations under this Warrant.

(ii) Before taking any action which would result in an adjustment in the number of Warrant Shares for which this Warrant is exercisable or in the Exercise Price, the Company shall

obtain all such authorizations or exemptions thereof, or consents thereto, as may be necessary from any public regulatory body or bodies having jurisdiction thereof.

(c) Successors and Assigns. Subject to the restrictions on transfer set forth in this Warrant and compliance with applicable securities laws, this Warrant may be assigned by the Holder. This Warrant shall be binding on and inure to the benefit of the Company and the Holder and their respective successors and assigns. Subject to the preceding sentence, nothing in this Warrant shall be construed to give to any Person other than the Company and the Holder any legal or equitable right, remedy or cause of action under this Warrant.

(d) Amendment and Waiver. This Warrant may be modified or amended or the provisions hereof waived with the written consent of the Company and the Holder.

(e) Acceptance. Receipt of this Warrant by the Holder shall constitute acceptance of and agreement to all of the terms and conditions contained herein.

(f) Governing Law; Jurisdiction. ALL QUESTIONS CONCERNING THE CONSTRUCTION, VALIDITY, ENFORCEMENT AND INTERPRETATION OF THIS WARRANT SHALL BE GOVERNED BY AND CONSTRUED AND ENFORCED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK WITHOUT REGARD TO THE PRINCIPLES OF CONFLICTS OF LAW THEREOF. EACH OF THE COMPANY AND THE HOLDER HEREBY IRREVOCABLY SUBMITS TO THE EXCLUSIVE JURISDICTION OF THE STATE AND FEDERAL COURTS SITTING IN THE CITY OF NEW YORK, BOROUGH OF MANHATTAN, FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR IN CONNECTION HERewith OR WITH ANY TRANSACTION CONTEMPLATED HEREBY OR DISCUSSED HEREIN (INCLUDING WITH RESPECT TO THE ENFORCEMENT OF ANY OF THE TRANSACTION DOCUMENTS), AND HEREBY IRREVOCABLY WAIVES, AND AGREES NOT TO ASSERT IN ANY SUIT, ACTION OR PROCEEDING, ANY CLAIM THAT IT IS NOT PERSONALLY SUBJECT TO THE JURISDICTION OF ANY SUCH COURT. NOTHING CONTAINED HEREIN SHALL BE DEEMED TO LIMIT IN ANY WAY ANY RIGHT TO SERVE PROCESS IN ANY MANNER PERMITTED BY LAW. EACH OF THE COMPANY AND THE HOLDER HEREBY WAIVES ALL RIGHTS TO A TRIAL BY JURY.

(g) Headings. The headings herein are for convenience only, do not constitute a part of this Warrant and shall not be deemed to limit or affect any of the provisions hereof.

(h) Severability. In case any one or more of the provisions of this Warrant shall be invalid or unenforceable in any respect, the validity and enforceability of the remaining terms and provisions of this Warrant shall not in any way be affected or impaired thereby, and the Company and the Holder will attempt in good faith to agree upon a valid and enforceable provision which shall be a commercially reasonable substitute therefor, and upon so agreeing, shall incorporate such substitute provision in this Warrant.

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IN WITNESS WHEREOF, the Company has caused this Warrant to be duly executed by its authorized officer as of the date first indicated above.

ONCONOVA THERAPEUTICS, INC.

By: _____

Name: _____

Title: _____

TO: ONCONOVA THERAPEUTICS, INC.

The undersigned Holder hereby exercises the right to purchase _____ shares of Common Stock (“*Warrant Shares*”) of Onconova Therapeutics, Inc., a Delaware corporation (the “*Company*”), evidenced by Warrant No. _____ (the “*Warrant*”). Capitalized terms used herein and not otherwise defined shall have the respective meanings set forth in the Warrant.

1. Form of Exercise Price. The Holder intends that payment of the Exercise Price shall be made as:

a “cash exercise” with respect to _____ Warrant Shares; and/or
a “net share exercise” pursuant to Section 10 of the Warrant with respect to _____ Warrant Shares.

Warrant Shares shall be issued in the name of the undersigned Holder or in such other name as is specified below:

2. Payment of Exercise Price: Cash Exercise. In the event that the Holder has elected a “cash exercise” with respect to some or all of the Warrant Shares, the Holder shall pay the Exercise Price in the sum of \$ _____ to the Company in accordance with the terms of the Warrant.

3. Payment of Exercise Price: Net Share Exercise. In the event that the Holder has elected a net share exercise with respect to some or all of the Warrant Shares, the Holder represents and warrants that the average of the Closing Sale Prices of the shares of Common Stock (as reported by Bloomberg Financial Markets) for the five (5) consecutive Trading Days ending on the date immediately preceding the Exercise Date is \$ _____. The calculation of the number of Warrant Shares to be issued in accordance with Section 10 of the Warrant is as follows:

4. Delivery of Warrant Shares. The Company shall cause the Warrant Agent to deliver to Holder, or its designee or agent as specified above, _____ shares of Common Stock in respect of the exercise contemplated hereby. The Warrant Shares shall be delivered to the following DWAC Account Number or by physical delivery of a certificate to:

Date: _____ ,

Name of Registered Holder

By: _____
Name:
Title:
