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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

SCHEDULE 14A

Proxy Statement Pursuant to Section 14(a) of
the Securities Exchange Act of 1934 (Amendment No.)

Filed by the Registrant

Filed by a Party other than the Registrant

Check the appropriate box:

- Preliminary Proxy Statement
- Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))**
- Definitive Proxy Statement
- Definitive Additional Materials
- Soliciting Material under §240.14a-12

ONCONOVA THERPEUTICS, INC.

(Name of Registrant as Specified In Its Charter)

NOT APPLICABLE

(Name of Person(s) Filing Proxy Statement, if other than the Registrant)

Payment of Filing Fee (Check the appropriate box):

- No fee required.
- Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.
- (1) Title of each class of securities to which transaction applies: _____
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- (4) Proposed maximum aggregate value of transaction: _____
- (5) Total fee paid: _____
- Fee paid previously with preliminary materials.
- Check box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing for which the offsetting fee was paid previously. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.
- (1) Amount Previously Paid: _____
- (2) Form, Schedule or Registration Statement No.: _____
- (3) Filing Party: _____
- (4) Date Filed: _____

PRELIMINARY COPY—SUBJECT TO COMPLETION

Onconova Therapeutics, Inc.

375 Pheasant Run
Newtown, PA 18940

**NOTICE OF SPECIAL MEETING OF STOCKHOLDERS
To Be Held on Thursday, June 7, 2018**

Dear Stockholders:

You are cordially invited to attend a Special Meeting of Stockholders of Onconova Therapeutics, Inc. (the "Company"), a Delaware corporation. The meeting will be held on Thursday, June 7, 2018 at 9:00 a.m. Eastern Time at the principal executive offices of the Company at 375 Pheasant Run, Newtown, PA 18940.

We are holding the meeting for the following purposes, as more fully described in the accompanying proxy statement:

1. To approve an amendment to the Company's Tenth Amended and Restated Certificate of Incorporation, as amended, to increase the number of authorized shares of capital stock from 105,000,000 shares to 255,000,000 shares in order to increase the number of authorized shares of common stock from 100,000,000 shares to 250,000,000 shares (the "Authorized Shares Increase Proposal");
2. To authorize the adjournment of the meeting, if necessary, to solicit additional proxies if there are insufficient votes in favor of the Authorized Shares Increase Proposal; and
3. To transact such other business as may properly come before the meeting or any adjournment or postponement thereof.

All of our stockholders of record as of May 7, 2018, are entitled to attend and vote at the meeting and at any adjournment or postponement thereof.

Our Board of Directors recommends that you vote **FOR** the Authorized Shares Increase Proposal as provided in Proposal 1 and **FOR** the authorization to adjourn the meeting, if necessary, to solicit additional proxies if there are not sufficient votes in favor of Proposal 1, as provided in Proposal 2.

You are cordially invited to attend the meeting in person. Whether or not you expect to attend the meeting, please vote by proxy pursuant to the instructions set forth herein as promptly as possible in order to ensure your representation at the meeting. Even if you have voted by proxy, you may still vote in person if you attend the meeting. Please note, however, that if your shares are held of record by a broker, bank or other nominee and you wish to vote at the meeting, you must obtain a proxy issued in your name from that record holder.

By Order of the Board of Directors

Ramesh Kumar
President and Chief Executive Officer

Newtown, PA
May , 2018

Onconova Therapeutics, Inc.

375 Pheasant Run
Newtown, PA 18940

**PROXY STATEMENT
FOR A SPECIAL MEETING OF STOCKHOLDERS**

To be held on June 7, 2018

QUESTIONS AND ANSWERS ABOUT THESE PROXY MATERIALS AND VOTING

Why did I receive these proxy materials?

We have sent you this proxy statement and the enclosed proxy card because the Board of Directors (the "Board") of Onconova Therapeutics, Inc. (the "Company," "Onconova," "we" or "us") is soliciting your proxy to vote at a Special Meeting of Stockholders (the "Special Meeting"), including any adjournments or postponements of the Special Meeting. Pursuant to rules adopted by the Securities and Exchange Commission (the "SEC").

We intend to mail these proxy materials on or about May 17, 2018 to all stockholders of record entitled to vote at the Special Meeting.

Who can vote at the Special Meeting?

Only record holders of common stock at the close of business on May 7, 2018 (the "Record Date") will be entitled to vote at the Special Meeting or any adjournment or postponement thereof. On the Record Date, there were 77,607,812 shares of common stock outstanding and entitled to vote. Holders of the Company's Series A Convertible Preferred Stock ("Series A Preferred Stock") or Series B Convertible Preferred Stock ("Series B Preferred Stock") are not entitled to vote on the two proposals at the Special Meeting.

Stockholder of Record: Shares Registered in Your Name

If on the Record Date your shares were registered directly in your name with Onconova's transfer agent, EQ Shareowner Services, then you are a stockholder of record. As a stockholder of record, you may vote in person at the Special Meeting or vote by proxy. Whether or not you plan to attend the Special Meeting, we urge you to vote by proxy pursuant to the instructions set forth below to ensure your vote is counted.

Beneficial Owner: Shares Registered in the Name of a Broker or Bank

If on the Record Date your shares were held, not in your name, but rather in an account at a brokerage firm, bank, dealer, or other similar organization, then you are the beneficial owner of shares held in "street name" and these proxy materials are being forwarded to you by that organization. The organization holding your account is considered to be the stockholder of record for purposes of voting at the Special Meeting. As a beneficial owner, you have the right to direct your broker or other agent on how to vote the shares in your account. You are also invited to attend the Special Meeting. However, because you are not the stockholder of record, you may not vote your shares in person at the Special Meeting unless you request and obtain a valid proxy from your broker or other agent.

What am I voting on?

The Company is presenting two proposals for stockholder vote.

1. To amend Onconova's Tenth Amended and Restated Certificate of Incorporation, as amended (the "Certificate of Incorporation") to increase the number of authorized shares of capital stock from 105,000,000 shares to 255,000,000 shares in order to increase the number of authorized shares of common stock from 100,000,000 shares to 250,000,000 shares (the "Authorized Shares Increase Proposal");
2. To approve the adjournment of the Special Meeting for any purpose, including to solicit additional proxies if there are insufficient votes at the time of the Special Meeting to approve the Authorized Shares Increase Proposal (the "Adjournment Proposal"); and
3. To transact such other business as may properly come before the meeting or any adjournment or postponement thereof.

For each proposal, you may vote "For" such proposal, vote "Against" such proposal or "Abstain" from voting on such proposal.

The Board unanimously recommends a vote FOR each of the foregoing proposals.

What if another matter is properly brought before the Special Meeting?

The Board knows of no other matters that will be presented for consideration at the Special Meeting. If any other matters are properly brought before the Special Meeting, it is the intention of the persons named in the proxy to vote on those matters in accordance with their best judgment.

How do I vote?

Stockholders may submit a proxy by telephone, via the Internet or by completing the enclosed proxy card and mailing it in the envelope provided. To submit a proxy by telephone or via the Internet, follow the instructions set forth on each proxy card you receive. To submit a proxy by mail, sign and date each proxy card you receive, mark the boxes indicating how you wish to vote and return the proxy card in the postage-paid envelope provided. Do not return the proxy card if you submit your proxy via the Internet or by telephone.

How many votes do I have?

On each matter to be voted upon, you have one vote for each share of common stock you owned as of the Record Date.

What if I return a proxy card or otherwise vote by proxy but do not make specific choices?

If you voted by proxy without marking any voting selections, then the proxy holders will vote your shares as recommended by the Board on all matters presented in this Proxy Statement, and as the proxy holders may determine in their discretion with respect to any other matters properly presented for a vote at the Special Meeting

Who is paying for this proxy solicitation?

We will bear the cost of this solicitation, including amounts paid to banks, brokers and other nominees to reimburse them for their expenses in forwarding solicitation materials regarding the Special Meeting to beneficial owners of common stock. The solicitation will be by mail, with the materials being forwarded to stockholders of record and certain other beneficial owners of our common stock, and by our officers and other regular employees (at no additional compensation). Our officers

and employees may also solicit proxies from stockholders by personal contact, by telephone, or by other means if necessary in order to assure sufficient representation at the Special Meeting.

EQ Shareowner Services, our transfer agent, has been retained to act as inspector of elections at the Special Meeting. We expect to pay EQ Shareowner Services approximately \$1,500 for these services.

What does it mean if I receive more than one proxy card?

If you receive more than one proxy card, your shares are registered in more than one name or are registered in different accounts. Please follow the voting instructions with respect to **each** proxy card to ensure that all of your shares are voted.

Can I change my vote after submitting my proxy?

Yes. You can revoke your proxy at any time before the final vote at the Special Meeting. If you are a stockholder of record, you may revoke your proxy at any time before it is exercised by providing written notice to our Secretary at Onconova Therapeutics, Inc., 375 Pheasant Run, Newtown PA 18940, by delivery to us of a properly executed proxy bearing a later date, or by voting in person at the Annual Meeting. Simply attending the Special Meeting will not, by itself, revoke your proxy.

If your shares are held by your broker or bank as a nominee or agent, you should follow the instructions provided by your broker or bank.

What is the quorum requirement?

A quorum of stockholders is necessary to hold a valid Special Meeting. A quorum will be present if at least a majority of the outstanding shares entitled to vote are represented by stockholders present at the Special Meeting or by proxy. On the Record Date, there were 77,607,812 shares outstanding and entitled to vote. Thus, 38,803,906 shares must be represented by stockholders present at the Special Meeting or by proxy to have a quorum.

Your shares will be counted towards the quorum only if you submit a valid proxy (or one is submitted on your behalf by your broker, bank or other nominee) or if you vote in person at the Special Meeting. Abstentions and broker non-votes (see below) will be counted towards the quorum requirement. If there is no quorum, the chairman of the Special Meeting or a majority of the votes present at the Special Meeting may adjourn the meeting to another date.

What are "broker non-votes" and what is their effect on the vote?

Broker non-votes occur when a beneficial owner of shares held in "street name" fails to provide instructions to the broker or nominee holding the shares as to how to vote on matters deemed "non-routine." If the beneficial owner does not provide voting instructions, the broker or nominee cannot vote the shares with respect to "non-routine" matters, but can vote the shares with respect to "routine" matters. Typically, when brokers are able to vote the shares, they vote in favor of the matter. We believe both proposals are "routine" matters and, as a result, we do not expect there to be any broker non-votes.

As long as one of the matters is deemed to be a "routine" matter, proxies reflecting broker non-votes (if any) will be counted towards the quorum requirement.

Whether a matter is "routine" or not is ultimately up to the New York Stock Exchange, and the New York Stock Exchange may make a determination that is different from what we believe to be the case. If that occurs, brokers may be able to vote your shares on matters we believe to be not routine, or not vote your shares on matters that we believe to be routine. Accordingly, we strongly encourage

you to submit your proxy and exercise your right to vote as a stockholder to insure that your shares are voted in the manner in which you want them to be voted.

How are votes counted?

Votes will be counted by the inspector of election appointed for the Special Meeting, who will separately count "For" and "Against" votes, abstentions and, if any, broker non-votes. See below for further explanation on vote requirement for each proposal.

How many votes are needed to approve the Authorized Shares Increase Proposal?

The affirmative vote of the holders of a majority of the outstanding shares of our common stock is required to approve the Authorized Share Increase Proposal. Abstentions will have the same effect as "Against" votes. If you are a stockholder of record and you fail to return your proxy card or to vote at all using the telephone or internet, it will have the same effect as an "Against" vote. If you are a stockholder of record and return a signed and dated proxy card without providing specific voting instructions on the Authorized Share Increase Proposal, or do not specify your vote on the Authorized Share Increase Proposal when voting using the telephone or internet, your shares will be voted "For" the Authorized Share Increase Proposal in accordance with the recommendations of the Board.

We believe that the Authorized Share Increase Proposal is deemed to be a "routine" matter. Therefore, if you are a beneficial owner of shares registered in the name of your broker or other nominee and you fail to provide instructions to your broker or nominee as to how to vote your shares on the Authorized Share Increase Proposal, your broker or nominee will have the discretion to vote your shares on the Authorized Share Increase Proposal. Accordingly, if you fail to provide voting instructions to your broker or nominee, your broker or nominee can vote your shares on the Authorized Share Increase Proposal in a manner that is contrary to what you intend. For example, if you are against the approval of the Authorized Share Increase Proposal but you do not provide any voting instructions to your broker, your broker can nonetheless vote your shares "For" the Authorized Share Increase Proposal. While we do not expect any broker non-votes on the Authorized Share Increase Proposal, if you do not provide voting instructions and your broker or nominee fails to vote your shares, this will have the same effect as an "Against" vote. If you are a beneficial owner of shares registered in the name of your broker or other nominee, we strongly encourage you to provide voting instructions to the broker or nominee that holds your shares to ensure that your shares are voted in the manner in which you want them to be voted.

How many votes are needed to approve the Adjournment Proposal?

The affirmative vote of a majority of the votes cast is required to approve the Adjournment Proposal. Abstentions are not considered to be votes cast and will have no effect on the outcome of the vote. If you are a stockholder of record and you return your signed and dated proxy card without providing specific voting instructions on the Adjournment Proposal, or do not specify your vote on the Adjournment Proposal when voting using the telephone or internet, your shares will be voted "For" the Adjournment Proposal in accordance with the recommendations of the Board. If you are a stockholder of record and you fail to return your proxy card, or to vote at all using the telephone or internet, it will have no effect.

We believe that the Adjournment Proposal is deemed to be a "routine" matter. Therefore, if you are a beneficial owner of shares registered in the name of your broker or other nominee and you fail to provide instructions to your broker or nominee as to how to vote your shares on the Adjournment Proposal, your broker or nominee will have the discretion to vote your shares on the Adjournment Proposal.

How can I find out the results of the voting at the Special Meeting?

Preliminary voting results will be announced at the Special Meeting. Final voting results will be published in a current report on Form 8-K that we expect to file no later than four business days after the conclusion of the Special Meeting. If final voting results are not available to us in time to file a Form 8-K on or before the fourth business day after the Special Meeting, we intend to file a Form 8-K to publish preliminary results and, within four business days after the final results are known to us, file an additional Form 8-K to publish the final results.

When are stockholder proposals due for 2018 Annual Meeting of Stockholders?

Rule 14a-8 under the Securities Exchange Act of 1934, as amended (the "Exchange Act") requires that, in order for a stockholder proposal, including a director nomination, to be considered for inclusion in a public company's annual meeting proxy statement, the proposal must be received at the company's principal executive offices not less than 120 calendar days before the date of the company's proxy statement released to shareholders in connection with the previous year's annual meeting. However, if the company did not hold an annual meeting the previous year, or if the date of this year's annual meeting has been changed by more than 30 days from the date of the previous year's meeting, then the deadline is a reasonable time before the company begins to print and send its proxy materials.

In accordance with Rule 14a-8, in order for a stockholder proposal, including a director nomination, to be considered for inclusion in our proxy statement for the 2018 Annual Meeting of Stockholders, the written proposal must have been received at our principal executive offices on or before December 13, 2017. The proposal should have been addressed to Secretary, Onconova Therapeutics, Inc., 375 Pheasant Run, Newtown PA 18940. The proposal should comply with SEC regulations regarding the inclusion of stockholder proposals in company-sponsored proxy materials.

In addition, in accordance with Section 2.2 of our Amended and Restated Bylaws (the "Bylaws"), a stockholder who wishes to present a proposal for consideration at an annual meeting must deliver a notice of the matter the stockholder wishes to present to our principal executive offices in Newtown, PA, at the address identified in the preceding paragraph, not less than 90 nor more than 120 days prior to the first anniversary of the date of the meeting.

Accordingly, with regard to our 2018 Annual Meeting of Stockholders, any notice given by or on behalf of a stockholder pursuant to these provisions of the Bylaws (and not pursuant to Rule 14a-8) must have been received no earlier than January 17, 2018 and no later than February 16, 2018 (except that in the event that the date of the 2018 Annual Meeting of Stockholders is advanced by more than 30 days, or delayed by more than 60 days, from the first anniversary of the meeting of stockholders, a stockholder's notice must be so received no earlier than the 120th day prior to the 2018 Annual Meeting of Stockholders and not later than the close of business on the later of (A) the 90th day prior to the 2018 Annual Meeting of Stockholders or (B) the tenth day following the day on which public disclosure of the date of the 2018 Annual Meeting of Stockholders was made.

The notice should include a brief description of the business desired to be brought before the 2018 Annual Meeting of Stockholders, the text of the proposal or business (including the text of any resolutions proposed for consideration and in the event that such business includes a proposal to amend the Bylaws, the language of the proposed amendment), the reasons for conducting such business at the meeting and any material interest in such business of such stockholder and the beneficial owner, if any, on whose behalf the proposal is made, and any other information concerning such matter that must be disclosed in proxy solicitations pursuant to Regulation 14A under the Exchange Act as if the matter had been proposed, or intended to be proposed, by the board of directors. As to the stockholder giving the notice and the beneficial owner, if any, on whose behalf the nomination or proposal is made, the notice should include the information required by Section 2.2(A)(3)(c) of the Bylaws.

PROPOSAL 1

APPROVAL OF INCREASE IN NUMBER OF AUTHORIZED SHARES OF COMMON STOCK

General

The Board has determined that an increase in the number of authorized shares of common stock is in the best interest of the Company and the stockholders, and unanimously approved, and recommended to the stockholders to approve an amendment to the Certificate of Incorporation to increase the number of authorized shares of capital stock from 105,000,000 shares to 255,000,000 shares in order to increase the number of authorized shares of common stock from 100,000,000 shares to 250,000,000 shares. The form of amendment is attached to this proxy statement as Appendix A.

As of the Record Date, we had 77,607,812 shares of common stock issued and outstanding, 1,118,849 shares of common stock reserved for issuance upon the exercise of outstanding options, 93,161,558 shares of common stock reserved for issuance upon the exercise of outstanding warrants, and 33,799 shares of common stock reserved for future issuances under our 2013 Equity Compensation Plan. As of the Record Date, we had no shares of Series A Preferred Stock or Series B Preferred Stock issued and outstanding, and 1,044,488 shares of Series A Preferred Stock and 1,796,875 shares of Series B Preferred Stock reserved for issuance upon the exercise of outstanding preferred stock warrants.

If this Proposal 1 is approved and adopted by the stockholders, any additional shares of common stock authorized by the amendment will, when issued have the same rights and privileges under the Certificate of Incorporation as the shares of common stock currently authorized and outstanding. Holders of common stock currently have no preemptive rights and, accordingly, stockholders would not have any preferential rights to purchase any of the additional shares of common stock when such shares are issued.

Adoption of the proposed amendment and issuance of the common stock would not affect the rights of the holders of currently outstanding common stock of the Company, except for, with respect to the issuance of additional shares, effects incidental to increasing the number of shares of our common stock outstanding, such as dilution of the earnings per share, if any, and voting rights of current holders of our common stock.

Reason for the Proposal

The Board recommends the proposed increase in the number of authorized shares of common stock to ensure the Company has sufficient number of shares of common stock to cover the conversion of all outstanding shares of the Company's Series B Preferred Stock, and for future capital raising and general corporate purposes.

Conversion of Series B Convertible Preferred Stock into common stock

On May 1, 2018, the Company completed an underwritten public offering and sold, among other Company securities, preferred stock warrants to purchase 1,691,176.450 shares of Series B Preferred Stock. Each 0.025 of a share of Series B Preferred Stock is convertible into one share of common stock, subject to certain conditions. The Company does not currently have a sufficient number of authorized shares of common stock to cover the 67,647,058 shares of common stock issuable upon the conversion of all outstanding shares of Series B Preferred Stock. As a result, before any shares of Series B Preferred Stock can become convertible, the Company must receive stockholder approval to amend the Certificate of Incorporation to sufficiently increase the Company's authorized shares of common stock to cover the 67,647,058 shares of common stock issuable upon the conversion of all outstanding shares of Series B Preferred Stock.

If this proposal is not approved by the stockholders, the Series B Preferred Stock will not be convertible into common stock and the value of the preferred stock warrants and the Series B Preferred Stock may be negatively affected.

Future Capital Raising and General Corporate Purposes

The Board also desires to ensure that an adequate supply of authorized, unissued shares of common stock is available for future capital raising and general corporate needs and to provide the Board with the necessary flexibility to issue common stock in connection with raising capital, providing equity incentives to employees, officers and directors, establishing strategic relationships with other companies, expanding business or product lines through the acquisition of other businesses or products, and other purposes, in each case without the expense and delay associated with obtaining stockholder approval of an amendment to the Certificate of Incorporation at the time of such action, except as may be required for a particular issuance by applicable law or by the rules of any stock exchange on which our securities may then be listed. Moreover, pursuant to various agreements, the Company has agreed to reserve an amount of common stock issuable upon exercise of options and warrants. The Company expects that it may need to reserve additional shares of common stock in the future for similar purposes.

If this proposal is not approved by our stockholders, our financing alternatives will likely be limited by the lack of sufficient unissued and unreserved authorized shares of common stock, and stockholder value may be harmed by this limitation. In addition, our future success depends upon our ability to attract, retain and motivate highly-skilled scientific, commercial and managerial employees, and if this proposal is not approved by our stockholders, the lack of sufficient unissued and unreserved authorized shares of common stock to provide future equity incentive opportunities as the Board or the Compensation Committee thereof deems appropriate could adversely impact our ability to achieve these goals. In short, if our stockholders do not approve this proposal, we may not be able to access the capital markets, complete corporate collaborations, partnerships or other strategic transactions, attract, retain and motivate employees, and pursue other business opportunities integral to our growth and success.

Except as disclosed above, the Company does not presently have any definitive plans, arrangements or understandings with respect to the issuance of any of the remaining newly authorized shares of common stock.

Possible Anti-Takeover Effects of the Amendment

Although the Board has no present intention of issuing such additional shares for such purposes, the proposed increase in the number of authorized shares of common stock could enable the Board to render more difficult or discourage an attempt by another person or entity to obtain control of the Company. Such additional shares could be issued by the Board in a public or private sale, merger or similar transaction, increasing the number of outstanding shares of the Company's capital stock and thereby diluting the equity interest and voting power of a party attempting to obtain control of the Company. The increase in the number of authorized shares of common stock has not, however, been proposed for an anti-takeover-related purpose and we have no knowledge of any current efforts to obtain control of the Company or to effect large accumulations of common stock. This Proposal 1 is not part of any plan by the Company to adopt a series of amendments to the Certificate of Incorporation or the Bylaws so as to render the takeover of the Company more difficult. Moreover, we are not submitting this Proposal 1 to enable us to frustrate any efforts by another party to acquire a controlling interest or to seek representation on the Board.

Description of the Amendment

Subject to stockholder approval of this Proposal 1, Article IV, Section A, of the Certificate of Incorporation is hereby amended and restated in its entirety as follows:

"A. Classes of Stock. The Corporation is authorized to issue two classes of capital stock to be designated, respectively, "Common Stock" and "Preferred Stock", each of which shall have a par value of \$0.01 per share. The total number of shares which the Corporation is authorized to issue is 255,000,000 shares, of which (i) 250,000,000 shares shall be designated as Common Stock and (ii) 5,000,000 shares shall be designated as Preferred Stock. Such stock may be issued from time to time by the Corporation for such consideration as may be fixed by the board of directors of the Corporation (the "Board of Directors")."

Amendment Effective Date

If the proposed amendment to the Certificate of Incorporation as described in this Proposal 1 is approved by the stockholders, the Company will file the Certificate of Amendment reflecting the adopted amendment with the Secretary of State of the State of Delaware. The Certificate of Amendment will be effective upon its filing. If the stockholders do not approve this Proposal 1, the Certificate of Amendment will not be filed with the Secretary of State of the State of Delaware.

Dissenters' Rights

No dissenters' rights are available under the General Corporation Law of the State of Delaware or under the Certificate of Incorporation or the Bylaws to any stockholder who dissents from this Proposal 1.

Interests of Directors and Executive Officers

Our directors and executive officers do not have substantial interest, directly or indirectly, in the matters set forth in this proposal except to the extent of their ownership of shares of common stock, Series B Preferred Stock (if any) or any other of our securities.

Vote Required

The affirmative vote of the holders of a majority of the outstanding shares of our common stock is required to approve this Proposal 1.

**THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS
A VOTE "FOR" THIS PROPOSAL 1.**

PROPOSAL 2

AUTHORIZATION TO ADJOURN THE SPECIAL MEETING

General

If the Special Meeting is convened and a quorum is present, but there are not sufficient votes to approve Proposal 1, our proxy holders may move to adjourn the Special Meeting at that time in order to enable the Board to solicit additional proxies.

In this proposal, we are asking our stockholders to authorize the holder of any proxy solicited by the Board to vote in favor of granting discretionary authority to the proxy holders, and each of them individually, to adjourn the Special Meeting to another time and place, if necessary, to solicit additional proxies in the event there are not sufficient votes to approve Proposal 1. If our stockholders approve this proposal, we could adjourn the Special Meeting and any adjourned session of the Special Meeting and use the additional time to solicit additional proxies, including the solicitation of proxies from our stockholders that have previously voted. Among other things, approval of this proposal could mean that, even if we had received proxies representing a sufficient number of votes to defeat Proposal 1, we could adjourn the Special Meeting without a vote on such proposal and seek to convince our stockholders to change their votes in favor of such proposal.

If it is necessary to adjourn the Special Meeting, no notice of the adjourned meeting is required to be given to our stockholders, other than an announcement at the Special Meeting of the time and place to which the Special Meeting is adjourned, so long as the meeting is adjourned for 30 days or less and no new Record Date is fixed for the adjourned meeting. At the adjourned meeting, we may transact any business which might have been transacted at the original meeting.

Vote Required

The affirmative vote of a majority of the votes cast is required to approve this Proposal 2.

**THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS
A VOTE "FOR" THIS PROPOSAL 2.**

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth certain information regarding the beneficial ownership of common stock as of the Record Date by (a) each person known by us to be the beneficial owner of more than 5% of the outstanding shares of common stock, (b) each of our named executive officers, (c) each of our directors, and (d) all of our executive officers and directors as a group.

The percentage of common stock outstanding is based on 77,607,812 shares of common stock outstanding on the Record Date. For purposes of the table below, and in accordance with the rules of the SEC, we deem shares of common stock subject to warrants and options that are currently exercisable or exercisable within sixty days of the Record Date to be outstanding and to be beneficially owned by the person holding the warrants and options for the purpose of computing the percentage ownership of that person, but we do not treat them as outstanding for the purpose of computing the percentage ownership of any other person. Except as otherwise noted, each of the persons or entities in this table has sole voting and investing power with respect to all of the shares of common stock beneficially owned by him, her or it, subject to community property laws, where applicable. Except as otherwise noted below, the street address of each beneficial owner is c/o Onconova Therapeutics, Inc., 375 Pheasant Run, Newtown, PA 18940.

Name and Address of Beneficial Owner	Number of Shares Beneficially Owned	Percentage of Shares Beneficially Owned
5% or greater stockholders:		
The Michael and Jane Hoffman 2013 Descendants Trust(1) 712 Fifth Avenue, 51st Fl. New York, NY 10019	5,800,836	7.2%
Michael B. Hoffman(2) (Includes The Michael and Jane Hoffman 2013 Descendants Trust) 712 Fifth Avenue, 51st Fl New York, NY 10019	5,831,116	7.3%
Tyndall Capital Partners, L.P.(3) 405 Park Avenue, Suite 1104 New York, NY 10022	12,244,080	15.8%
683 Capital Partners, LP, 683 Capital Management, LLC, and Ari Zweiman(14) 3 Columbus Circle, Suite 2205 New York, NY 10019	16,503,169	20.6%
Sabby Healthcare Master Fund, Ltd., Sabby Volatility Warrant Master Fund, Ltd., Sabby Management, LLC and Hal Mintz(15)	561,163	5.21%
Sabby Healthcare Master Fund, Ltd. c/o Ogier Fiduciary Services (Cayman) Limited 89 Nexus Way, Camana Bay Grand Cayman KY1-9007 Cayman Islands		

<u>Name and Address of Beneficial Owner</u>	<u>Number of Shares Beneficially Owned</u>	<u>Percentage of Shares Beneficially Owned</u>
Sabby Volatility Warrant Master Fund, Ltd. c/o Ogier Fiduciary Services (Cayman) Limited 89 Nexus Way, Camana Bay Grand Cayman KY1-9007 Cayman Islands		
Sabby Management, LLC 10 Mountainview Road, Suite 205 Upper Saddle River, New Jersey 07458		
Hal Mintz c/o Sabby Management, LLC 10 Mountainview Road, Suite 205 Upper Saddle River, New Jersey 07458		
Armistice Capital, LLC, Armistice Capital Master Fund Ltd., and Steven Boyd(16) Armistice Capital, LLC 510 Madison Avenue, 22nd Floor New York, New York 10022	1,607,500	9.0%
Armistice Capital Master Fund Ltd. c/o dms Corporate Services Ltd. 20 Genesis Close P.O. Box 314 Grand Cayman KY1-1104 Cayman Islands		
Steven Boyd c/o Armistice Capital, LLC 510 Madison Avenue, 22nd Floor New York, New York 10022		
Other Directors, Director Nominees and Named Executive Officers:		
Henry S. Bienen, Ph.D.(5)	27,563	*
Jerome E. Groopman, M.D.(6)	11,110	*
Ramesh Kumar, Ph.D.(7)	379,658	*
Manoj Maniar, Ph.D.(8)	64,800	*
James J. Marino(9)	277,914	*
Steven M. Fruchtman, M.D.(10)	78,076	*
Viren Mehta(11)	20,002	*
E. Premkumar Reddy, Ph.D.(4)	1,057,657	1.4%
Jack E. Stover(12)	98,110	*
All current executive officers, directors and director nominees as a group (11 persons)(13)	7,897,458	9.7%

* Represents a beneficial ownership of less than one percent of our outstanding Common Stock.

(1) Includes 2,608,398 shares of common stock issuable upon the exercise of warrants that are currently exercisable or exercisable within sixty days of the Record Date.

- (2) Includes (i) 5,831,116 shares of common stock beneficially owned by the Michael and Jane Hoffman 2013 Descendants Trust of which Mr. Hoffman is donor, (ii) 8,453 shares of common stock held by the Michael and Jane Hoffman 2013 Descendants Trust (Non-GST Exempt Trust) of which Mr. Hoffman is donor and (iii) 19,951 shares of common stock subject to outstanding options that are exercisable within 60 days of the Record Date. Mr. Hoffman has no voting or dispositive power with regard to any of the shares held by the Michael and Jane Hoffman 2013 Descendants Trust and the Michael and Jane Hoffman 2013 Descendants Trust (Non-GST Exempt Trust). A.J. Agarwal and Jane Hoffman, Mr. Hoffman's spouse, as trustees, have voting and dispositive power with regard to the shares held by the Michael and Jane Hoffman 2013 Descendants Trust and the Michael and Jane Hoffman 2013 Descendants Trust (Non-GST Exempt Trust).
- (3) Based solely on a Form 4 (the "Tyndall Form 4") filed with the SEC on May 1, 2018, except that the 15.8% was calculated using the 12,244,080 shares held as of April 27, 2018 reported in the Tyndall Form 4 divided by 77,607,812 shares of common stock outstanding on the Record Date. The Tyndall Form 4 was filed on behalf of Tyndall Capital Partners, L.P. ("Tyndall Capital"), which is the general partner of Tyndall Partners, L.P. ("Tyndall"), and possesses the sole power to vote and the sole power to direct the disposition of all securities held by Tyndall. Tyndall Capital's interest in the securities reported herein is limited to the extent of its pecuniary interest in such securities, if any.
- (4) Includes 389,475 shares of common stock issuable upon the exercise of warrants and options that are currently exercisable or exercisable within sixty days of the Record Date.
- (5) Includes 14,839 shares of common stock issuable upon the exercise of warrants and options that are currently exercisable or exercisable within sixty days of the Record Date.
- (6) Includes 11,100 shares of common stock issuable upon the exercise of options that are currently exercisable or exercisable within sixty days of the Record Date.
- (7) Includes (i) 37,510 shares of common stock held by the Ramesh Kumar 2012 Trust and (ii) 277,431 shares of common stock subject to outstanding warrants and options that are exercisable within 60 days of the Record Date. Dr. Kumar has voting and dispositive power with regard to the shares held by the Ramesh Kumar 2012 Trust.
- (8) Includes 64,750 shares of common stock issuable upon the exercise of options that are currently exercisable or exercisable within sixty days of the Record Date.
- (9) Includes 132,693 shares of common stock issuable upon the exercise of warrants and options that are currently exercisable or exercisable within sixty days of the Record Date.
- (10) Includes 71,700 shares of common stock issuable upon the exercise of warrants and options that are currently exercisable or exercisable within sixty days of the Record Date.
- (11) Includes (i) 2,844 shares of common stock held jointly with Dr. Mehta's spouse, (ii) 806 shares of common stock held by Mehta Partners, LLC, (iii) 174 shares of common stock held by Mehta Partners, LLC FBO Jean Marie Kiss IRA, (iv) 830 shares of common stock held by Viram Foundation and (v) 5,500 shares of common stock subject to outstanding options that are exercisable within 60 days of the Record Date. Dr. Mehta, as managing member, has voting and dispositive power with regard to the shares held by Mehta Partners, LLC. Dr. Mehta, as trustee, has voting and dispositive power with regard to the shares held by Mehta Partners, LLC FBO Jean Marie Kiss IRA. Dr. Mehta, as trustee has voting and dispositive power with regard to the shares held by Viram Foundation.
- (12) Includes 51,000 shares of common stock issuable upon the exercise of warrants and options that are currently exercisable or exercisable within sixty days of the Record Date.
- (13) Includes 3,693,134 shares of common stock issuable upon the exercise of warrants and options that are currently exercisable or exercisable within sixty days of the Record Date.

- (14) Based on a Schedule 14/A filed with the SEC on May 1, 2018 by (1) 683 Capital Partners, LP, a Delaware limited partnership ("683 Partners"), (2) 683 Capital Management, LLC, a Delaware limited liability company ("683 Management"), and (3) Ari Zweiman. 683 Partners holds the shares of common stock. 683 Capital GP, LLC, a Delaware limited liability company ("683 Capital GP"), serves as the general partner of 683 Partners. 683 Management serves as the investment manager of 683 Partners. Mr. Zweiman is the managing member of each of 683 Management and 683 Capital GP. As a result, 683 Management and Ari Zweiman may be deemed to beneficially own the shares held by 683 Partners. As of May 1, 2018, 683 Partners beneficially owned 16,503,169 shares of common stock, including 2,000,000 shares of common stock issuable upon the exercise of the Series A Warrant to purchase shares of Series A Convertible Preferred Stock and subsequent conversion of the Series A Preferred Stock, excluding 295,955.875 shares of Series B Convertible Preferred Stock of the Issuer (convertible into 11,838,235 shares of common stock) issuable upon exercise of a warrant to purchase such shares of Series B Convertible Preferred Stock of the Company, and based on 78,249,692 shares of common stock outstanding as reported in the Company's prospectus filed with the SEC on April 30, 2018 (assuming the full exercise of the Pre-Funded Warrants (as defined in the prospectus) constituting approximately 20.6% of the shares of common stock outstanding. By virtue of their respective relationships with 683 Partners, each of 683 Management and Mr. Zweiman may be deemed to beneficially own the shares of common stock owned directly by 683 Partners. 683 Management and Ari Zweiman disclaim beneficial ownership of such shares of common stock except to the extent of his or its pecuniary interest therein. 683 Partners has the sole power to vote or direct the vote of, and to dispose or direct the disposition of, the common stock owned by it. Each of 683 Management and Mr. Zweiman share the power to vote or direct the vote of, and to dispose or direct the disposition of, the common stock beneficially owned by 683 Partners.
- (15) Based solely on a Schedule 13G/A filed with the SEC on January 9, 2018. The Schedule 13G/A was filed by Sabby Healthcare Master Fund, Ltd., Sabby Volatility Master Fund, Ltd. and Sabby Management, LLC. According to the Schedule 13G/A, as of December 31, 2017: (i) Sabby Healthcare Master Fund, Ltd. and Sabby Volatility Master Fund, Ltd. beneficially own 440,300 and 120,863 shares of Common Stock, respectively, representing approximately 4.09% and 1.12% of Common Stock, respectively, and (ii) Sabby Management, LLC and Hal Mintz each beneficially own 561,163 shares of Common Stock, representing approximately 5.21% of Common Stock. Sabby Management, LLC and Hal Mintz do not directly own any shares of Common Stock, but each indirectly owns 561,163 shares of Common Stock. Sabby Management, LLC, a Delaware limited liability company, indirectly owns 561,163 shares of common stock because it serves as the investment manager of Sabby Healthcare Master Fund, Ltd. and Sabby Volatility Warrant Master Fund, Ltd., Cayman Islands companies. Mr. Mintz indirectly owns 561,163 shares of common stock in his capacity as manager of Sabby Management, LLC.
- (16) Based solely on a Schedule 13G filed with the SEC on February 20, 2018. The Schedule 13G was filed by Armistice Capital, LLC, Armistice Capital Master Fund Ltd., and Steven Boyd. According to the Schedule 13G, Armistice Capital, LLC, Armistice Capital Master Fund Ltd. and Steven Boyd each had (i) sole power to vote or direct the vote of 0 share, (ii) shares power to vote or direct the vote of 1,607,500 shares of Common Stock, or 9.0% of outstanding shares of Common Stock, (iii) sole power to dispose or to direct the disposition of 0 share and (iv) shared power to dispose or direct the disposition of 1,607,500 shares of Common Stock, or 9.0% of outstanding shares of Common Stock.

HOUSEHOLDING OF PROXY MATERIALS

Certain banks, brokers, broker-dealers and other similar organizations acting as nominee record holders may be participating in the practice of "householding" proxy materials. This means that only one copy of this proxy statement may have been sent to multiple stockholders in your household. If you would prefer to receive separate copies of this proxy statement for other stockholders in your household, either now or in the future, please contact your bank, broker, broker-dealer or other similar organization serving as your nominee. Upon written or oral request to our Secretary at Onconova

Therapeutics, Inc., 375 Pheasant Run, Newtown PA 18940, or via telephone to our Secretary at 267-759-3680, we will promptly provide separate copies of this proxy statement. Stockholders sharing an address who are receiving multiple copies of this proxy statement and who wish to receive a single copy of these materials in the future will need to contact their bank, broker, broker-dealer or other similar organization serving as their nominee to request that only a single copy of each document be mailed to all stockholders at the shared address in the future.

OTHER MATTERS

We do not know of any business other than that described in this Proxy Statement that will be presented for consideration or action by the stockholders at the Special Meeting. If, however, any other business is properly brought before the Special Meeting, shares represented by proxies will be voted in accordance with the best judgment of the persons named in the proxies or their substitutes.

By Order of the Board of Directors

Ramesh Kumar
President and Chief Executive Officer

Newtown, PA
May , 2018

Appendix A

**CERTIFICATE OF AMENDMENT
TO
TENTH AMENDED AND RESTATED
CERTIFICATE OF INCORPORATION
OF
ONCONOVA THERAPEUTICS, INC.**

ONCONOVA THERAPEUTICS, INC., a corporation organized and existing under the General Corporation Law of the State of Delaware (the "Corporation"), does hereby certify as follows:

FIRST: The name of the Corporation is Onconova Therapeutics, Inc. The Tenth Amended and Restated Certificate of Incorporation was originally filed with the Secretary of State of the State of Delaware (the "Secretary of State") on July 30, 2013, and has been amended by a Certificate of Amendment to the Tenth Amended and Restated Certificate of Incorporation filed with the Secretary of State on May 31, 2016, a Certificate of Designation of Preference, Rights and Limitations of Series A Convertible Preferred Stock filed with the Secretary of State on February 8, 2018, a Certificate of Amendment to the Tenth Amended and Restated Certificate of Incorporation, as amended, filed with the Secretary of State on March 21, 2018 and a Certificate of Designation of Preference, Rights and Limitations of Series B Convertible Preferred Stock filed with the Secretary of State on April 27, 2018 (the Tenth Amended and Restated Certificate of Incorporation, as so amended, the "Certificate of Incorporation").

SECOND: Article IV, Section A, of the Certificate of Incorporation is hereby amended and restated in its entirety as follows:

"A. Classes of Stock. The Corporation is authorized to issue two classes of capital stock to be designated, respectively, "Common Stock" and "Preferred Stock", each of which shall have a par value of \$0.01 per share. The total number of shares which the Corporation is authorized to issue is 255,000,000 shares, of which (i) 250,000,000 shares shall be designated as Common Stock and (ii) 5,000,000 shares shall be designated as Preferred Stock. Such stock may be issued from time to time by the Corporation for such consideration as may be fixed by the board of directors of the Corporation (the "Board of Directors")."

THIRD: The stockholders of the Corporation have duly approved the foregoing amendment in accordance with the provisions of Section 242 of the General Corporation Law of the State of Delaware.

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Amendment to be duly adopted and executed in its corporate name and on its behalf by its duly authorized officer as of the day of _____, 2018.

ONCONOVA THERAPEUTICS, INC.


By: _____


Name: Ramesh Kumar, Ph.D.
Title: *President and Chief Executive Officer*




**Vote by Internet, Telephone or Mail
24 Hours a Day, 7 Days a Week**

Your phone or Internet vote authorizes the named proxies to vote your shares in the same manner as if you marked, signed and returned your proxy card.

 **INTERNET/MOBILE** – www.proxypush.com/ontx
Use the Internet to vote your proxy until 11:59 p.m. (CT) on June 6, 2018.

 **PHONE** – 1-866-883-3382
Use a touch-tone telephone to vote your proxy until 11:59 p.m. (CT) on June 6, 2018.

 **MAIL** – Mark, sign and date your proxy card and return it in the postage-paid envelope provided.

If you vote your proxy by Internet or by Telephone, you do NOT need to mail back your Proxy Card.

⬇ Please detach here ⬇

The Board of Directors Recommends a Vote FOR Proposals 1 and 2.

1. To approve an amendment to the Company's Tenth Amended and Restated Certificate of Incorporation, as amended, to increase the number of authorized shares of capital stock from 105,000,000 shares to 255,000,000 shares in order to increase the number of authorized shares of common stock from 100,000,000 shares to 250,000,000 shares.

For Against Abstain

2. To authorize the adjournment of the meeting, if necessary, to solicit additional proxies if there are insufficient votes in favor of Proposal 1.

For Against Abstain

THIS PROXY WHEN PROPERLY EXECUTED WILL BE VOTED AS DIRECTED OR, IF NO DIRECTION IS GIVEN, WILL BE VOTED AS THE BOARD RECOMMENDS.

Address Change? Mark box, sign, and indicate changes below:

Date _____



Signature(s) in Box

Please sign exactly as your name(s) appears on Proxy. If held in joint tenancy, all persons should sign. Trustees, administrators, etc., should include title and authority. Corporations should provide full name of corporation and title of authorized officer signing the Proxy.

ONCONOVA THERAPEUTICS, INC.

SPECIAL MEETING OF STOCKHOLDERS

Thursday, June 7, 2018
9:00 a.m. Eastern Time

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



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

proxy

This proxy is solicited by the Board of Directors for use at the Special Meeting on June 7, 2018.

The undersigned hereby appoints Mark Guerin and Steven M. Fruchtman, and each of them, with full power of substitution, to vote, as designated below, all the shares of Onconova Therapeutics, Inc. common stock held of record by the undersigned at the close of business on May 7, 2018, at the special meeting of shareholders, to be held June 7, 2018, and at any and all adjournments or postponements thereof. The undersigned hereby revokes any and all earlier dated proxies with respect to such special meeting. This proxy, when properly executed, will be voted in the manner directed herein by the undersigned. If no direction is made, this proxy will be voted **FOR** the approval of an amendment to the Company's Tenth Amended and Restated Certificate of Incorporation, as amended, to increase the number of authorized shares of capital stock from 105,000,000 shares to 255,000,000 shares in order to increase the number of authorized shares of common stock from 100,000,000 shares to 250,000,000 shares (the "Authorized Share Increase Proposal"), and **FOR** the authorization of the adjournment of the meeting, if necessary, to solicit additional proxies if there are insufficient votes in favor of the Authorized Shares Increase Proposal.

If any other business is presented at the special meeting, including matters incidental to the conduct of the meeting or otherwise, this proxy will be voted by those named in this proxy in their best judgment. At the present time, the board of directors knows of no other business to be presented at the meeting.

See reverse for voting instructions.

QuickLinks

[PROPOSAL 1 APPROVAL OF INCREASE IN NUMBER OF AUTHORIZED SHARES OF COMMON STOCK](#)

[PROPOSAL 2 AUTHORIZATION TO ADJOURN THE SPECIAL MEETING](#)

[SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT](#)

[HOUSEHOLDING OF PROXY MATERIALS](#)

[OTHER MATTERS](#)

[Appendix A CERTIFICATE OF AMENDMENT TO TENTH AMENDED AND RESTATED CERTIFICATE OF INCORPORATION OF ONCONOVA THERAPEUTICS, INC.](#)