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 x

Filed by a Party other than the Registrant o

Check the appropriate box:

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

ONCONOVA THERAPEUTICS, INC.

(Name of Registrant as Specified In Its Charter)

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

Payment of Filing Fee (Check the appropriate box):

- x No fee required.
- o 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:
 - (2) Aggregate number of securities to which transaction applies:
 - (3) Per unit price or other underlying value of transaction computed pursuant to Exchange Act Rule 0-11 (set forth the amount on which the filing fee is calculated and state how it was determined):
 - (4) Proposed maximum aggregate value of transaction:
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- o 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:

Onconova Therapeutics, Inc., a Delaware corporation ("Onconova" or the "Company"), is filing materials contained in this Schedule 14A with the U.S. Securities and Exchange Commission (the "SEC") as definitive additional materials pursuant to Rule 14a-6(b) under the Securities Exchange Act of 1934, as amended, in connection with the solicitation of proxies by the Board of Directors for the Company's 2020 Annual Meeting of Stockholders (the "Annual Meeting"). On April 23, 2020, Onconova filed a definitive proxy statement (the "2020 Proxy Statement") and a definitive form of proxy card with the SEC in connection with the Annual Meeting.

These definitive additional materials were first sent or made available to stockholders on or about April 23, 2020.

Letter to Stockholders Issued on May 11, 2020

Attached hereto is a letter to the Company's stockholders that Onconova issued on May 11, 2020, recommending that the Company's stockholders vote "for" each of the proposals to be voted on at the Annual Meeting, including (i) a proposal to amend the Company's Tenth Amended and Restated Certificate of Incorporation, as amended, to combine the Company's outstanding shares of common stock into a lesser number of outstanding shares by a ratio of not less than one-for-five and not more than one-for-twenty-five, with the exact ratio to be set within this range by the Board of Directors in its sole discretion; and (ii) a proposal to adopt and approve the amendment and restatement of Onconova's 2018 Omnibus Incentive Compensation Plan.



YOUR VOTE IS VERY IMPORTANT — VOTE TODAY

May 11, 2020

Dear Fellow Onconova Stockholder:

You should have received proxy materials in connection with Onconova Therapeutics, Inc.'s (the "Company") annual meeting of stockholders being held on Wednesday, May 27, 2020 (the "Annual Meeting"). No matter how many shares you own your vote is very important. Please cast your vote now using the enclosed proxy card or voting instruction form to vote by internet, phone or mail following the instructions printed on the card.

THE COMPANY'S 2020 PROXY STATEMENT CONTAINS IMPORTANT INFORMATION AND THIS LETTER SHOULD BE READ IN CONJUNCTION WITH THE 2020 PROXY STATEMENT. THE 2020 PROXY STATEMENT AND OTHER RELEVANT MATERIALS ARE AVAILABLE FOR FREE AT THE U.S. SECURITY & EXCHANGE COMMISSION'S WEBSITE (www.sec.gov) AND AT THE COMPANY'S WEBSITE (www.onconova.com).

At the Annual Meeting, stockholders will be asked to consider and vote upon: (1) the election of eight directors to serve on our Board of Directors until the 2021 annual meeting of stockholders; (2) a proposal to amend our Tenth Amended and Restated Certificate of Incorporation, as amended (the "Certificate of Incorporation"), to combine outstanding shares of our common stock into a lesser number of outstanding shares, or a "reverse stock split", by a ratio of not less than one-for-five and not more than one-for-twenty-five, with the exact ratio to be set within this range by our Board of Directors in its sole discretion; (3) a proposal to adopt and approve the amendment and restatement of our 2018 Omnibus Incentive Compensation Plan (the "2018 Plan"), or "the incentive compensation plan amendment"; (4) a proposal to approve, on an advisory basis, the compensation of our named executive officers; (5) the ratification of the selection of Ernst & Young LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2020; (6) a proposal to adjourn the Annual Meeting, if necessary, to solicit additional proxies in the event that there are not sufficient votes at the time of the Annual Meeting to approve the reverse stock split; and (7) such other business as may properly come before the Annual Meeting or any adjournments or postponements thereof.

THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS A VOTE "FOR" EACH OF THESE PROPOSALS

In particular, we are asking stockholders to consider a proposal for a reverse stock split (Proposal 2) in order to maintain our listing on the Nasdaq Capital Market, and an incentive compensation plan amendment (Proposal 3) to further align employee and stockholder interests and attract, motivate and retain experienced personnel.

The reverse stock split proposal is intended primarily to increase our per share bid price and satisfy the Nasdaq Capital Market continued listing requirement. If our stockholders approve the reverse stock split and the Board of Directors effects the reverse stock split by filing an amendment to our Certificate of Incorporation with the Delaware Secretary of State, the number of shares of our common stock issued and outstanding following the effectiveness of the reverse stock split will be reduced in accordance with the specific ratio determined by the Board of Directors (as described in Proposal 2 above). The reverse stock split will affect all holders of our common stock uniformly and will not affect any stockholder's percentage ownership interest in the

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Company (subject to the treatment of fractional shares). In addition, the reverse stock split will not affect any stockholder's proportionate voting power (subject to the treatment of fractional shares).

The Board of Directors believes that the low market price of our common stock impairs its acceptability to important segments of the institutional investor community and the investing public. Enabling the Board of Directors to set the exact reverse split ratio within the range of not less than one-for-five and not more than one-for-twenty-five will provide us with the much-needed flexibility to implement the reverse stock split in a manner intended to maximize the anticipated benefits for our stockholders. We respectfully urge you to consider the foregoing context, as well as the reasons articulated in our 2020 Proxy Statement, in voting FOR Proposal 2 ahead of our 2020 Annual Meeting.

BASED ON THE FOREGOING, THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS A VOTE "FOR" THE REVERSE STOCK SPLIT PROPOSAL (PROPOSAL 2)

The incentive compensation plan amendment is important to further align employee and stockholder interests and attract, motivate and retain experienced personnel. The Board of Directors believes that the current number of shares that may be issued under the 2018 Plan is not sufficient in light of our compensation structure and strategy. The principal changes made to the 2018 Plan pursuant to the incentive compensation plan amendment are to (i) increase the number of shares of common stock reserved for issuance under the 2018 Plan by an additional 25,000,000 shares and (ii) extend the term of the 2018 Plan until May 26, 2030.

The additional shares requested under the incentive compensation plan amendment (i) are critical for attracting and retaining key personnel, (ii) are intended to cover multiple years under the 2018 Plan and (iii) would be impacted proportionately by the reverse stock split. Over the last three years, the Company used an annual average of 5.00% of the weighted average shares outstanding for awards granted over the past three years under its plans. The Company has designed its compensation programs (i) based on the review, expertise, and recommendations of an independent compensation consultant, who advises many pubic companies on such matters, and (ii) with the intention to obtain supportive recommendations from the shareholder services firms.

The incentive compensation plan amendment will enable the Company to continue its compensation program that is intended to attract, motivate and retain experienced, highly-qualified directors, employees, consultants and advisors of the Company who will contribute to the Company's success, and will align the interests of the directors, employees, consultants and advisors of the Company with those of its stockholders through the ability to grant a variety of stock-based awards. If the stockholders approve the incentive compensation plan amendment, awards granted under the incentive compensation plan amendment will be governed thereunder.

We respectfully urge you to consider the foregoing context, as well as the reasons articulated in our 2020 Proxy Statement, in voting FOR Proposal 3 ahead of the Annual Meeting.

BASED ON THE FOREGOING, THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS A VOTE "FOR" THE AMENDED AND RESTATED ONCONOVA THERAPEUTICS, INC. 2018 OMNIBUS INCENTIVE COMPENSATION PLAN (PROPOSAL 3)

If you have any questions, or need assistance in voting, please contact our proxy solicitor MacKenzie Partners, Inc. toll-free at (800) 322-2885. If you have recently voted, please disregard this reminder and thank you for your attention to this important matter.

We appreciate your continued support of Onconova Therapeutics, and we wish you all the best during these challenging times.

For the Board of Directors,

/s/ Steven M. Fruchtman, M.D.
Steven M. Fruchtman, M.D.
President and Chief Executive Officer

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