

**UNITED STATES SECURITIES AND EXCHANGE  
COMMISSION**  
WASHINGTON, DC 20549

**FORM 10-Q**

(Mark One)

**QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended June 30, 2015

Or

**TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

Commission file number: 001-36020

**Onconova Therapeutics, Inc.**

(Exact name of registrant as specified in its charter)

**Delaware**

(State or other jurisdiction of  
incorporation or organization)

**22-3627252**

(I.R.S. Employer  
Identification No.)

**375 Pheasant Run, Newtown, PA**

(Address of principal executive offices)

**18940**

(Zip Code)

Registrant's telephone number, including area code: **(267) 759-3680**

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.  Yes  No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).  Yes  No

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

Smaller reporting company

(Do not check if a smaller reporting company)

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act).  Yes  No

The number of outstanding shares of the registrant's common stock, par value \$0.01 per share, as of July 31, 2015 was 21,793,500.

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### **PART I — FINANCIAL INFORMATION**

#### **Item 1. Financial Statements**

#### **Onconova Therapeutics, Inc. Condensed Consolidated Balance Sheets**

	<u>June 30, 2015</u> (unaudited)	<u>December 31, 2014</u>
<b>Assets</b>		
Current assets:		
Cash and cash equivalents	\$ 25,358,000	\$ 43,582,000
Prepaid expenses and other current assets	2,017,000	3,198,000
Restricted cash	50,000	125,000
Total current assets	<u>27,425,000</u>	<u>46,905,000</u>
Property and equipment, net	300,000	420,000
Other non-current assets	12,000	12,000
Total assets	<u>\$ 27,737,000</u>	<u>\$ 47,337,000</u>
<b>Liabilities and stockholders' equity</b>		
Current liabilities:		
Accounts payable	\$ 4,185,000	\$ 4,027,000
Accrued expenses and other current liabilities	5,295,000	5,777,000
Deferred revenue	455,000	455,000
Total current liabilities	<u>9,935,000</u>	<u>10,259,000</u>
Deferred revenue, non-current	13,227,000	13,455,000
Other	—	1,000
Total liabilities	<u>23,162,000</u>	<u>23,715,000</u>
Commitments and contingencies		
Stockholders' equity:		
Preferred stock, \$0.01 par value, 5,000,000 authorized at June 30, 2015 and December 31, 2014, none issued and outstanding at June 30, 2015 and December 31, 2014	—	—
Common stock, \$0.01 par value, 75,000,000 authorized at June 30, 2015 and December 31, 2014, 21,743,873 and 21,703,173 shares issued and outstanding at June 30, 2015 and December 31, 2014	217,000	217,000
Additional paid-in capital	319,418,000	317,122,000
Accumulated other comprehensive income	(14,000)	(13,000)
Accumulated deficit	(315,876,000)	(294,578,000)
Total Onconova Therapeutics, Inc. stockholders' equity	<u>3,745,000</u>	<u>22,748,000</u>
Non-controlling interest	830,000	874,000
Total stockholders' equity	<u>4,575,000</u>	<u>23,622,000</u>
Total liabilities and stockholders' equity	<u>\$ 27,737,000</u>	<u>\$ 47,337,000</u>

See accompanying notes to condensed consolidated financial statements.

**Onconova Therapeutics, Inc.**  
**Condensed Consolidated Statements of Operations (unaudited)**

	<u>Three Months Ended June 30,</u>		<u>Six Months Ended June 30,</u>	
	2015	2014	2015	2014
Revenue	\$ 123,000	\$ 125,000	\$ 237,000	\$ 572,000
Operating expenses:				
General and administrative	2,568,000	3,985,000	5,533,000	8,917,000
Research and development	6,512,000	12,904,000	16,010,000	27,152,000
Total operating expenses	<u>9,080,000</u>	<u>16,889,000</u>	<u>21,543,000</u>	<u>36,069,000</u>
Loss from operations	(8,957,000)	(16,764,000)	(21,306,000)	(35,497,000)
Change in fair value of warrant liability	—	3,000	—	19,000
Other income (expense), net	(18,000)	(19,000)	(36,000)	(18,000)
Net loss	(8,975,000)	(16,780,000)	(21,342,000)	(35,496,000)
Net loss attributable to non-controlling interest	20,000	27,000	44,000	64,000
Net loss attributable to Onconova Therapeutics, Inc.	<u>\$ (8,955,000)</u>	<u>\$ (16,753,000)</u>	<u>\$ (21,298,000)</u>	<u>\$ (35,432,000)</u>
Net loss per share, basic and diluted	<u>\$ (0.41)</u>	<u>\$ (0.77)</u>	<u>\$ (0.98)</u>	<u>\$ (1.64)</u>
Basic and diluted weighted average shares outstanding	<u>21,709,054</u>	<u>21,658,625</u>	<u>21,706,130</u>	<u>21,613,713</u>

See accompanying notes to condensed consolidated financial statements.

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**Onconova Therapeutics, Inc.**  
**Condensed Consolidated Statements of Comprehensive Loss (unaudited)**

	<u>Three Months Ended June 30,</u>		<u>Six Months Ended June 30,</u>	
	2015	2014	2015	2014
Net loss	\$ (8,975,000)	\$ (16,780,000)	\$ (21,342,000)	\$ (35,496,000)
Other comprehensive income, before tax:				
Foreign currency translation adjustments, net	29,000	—	(1,000)	(1,000)
Other comprehensive (loss) income, net of tax	29,000	—	(1,000)	(1,000)
Comprehensive loss	<u>(8,946,000)</u>	<u>(16,780,000)</u>	<u>(21,343,000)</u>	<u>(35,497,000)</u>
Comprehensive loss attributable to non-controlling interest	20,000	27,000	44,000	64,000
Comprehensive loss attributable to Onconova Therapeutics, Inc.	<u>\$ (8,926,000)</u>	<u>\$ (16,753,000)</u>	<u>\$ (21,299,000)</u>	<u>\$ (35,433,000)</u>

See accompanying notes to condensed consolidated financial statements.

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**Onconova Therapeutics, Inc.**  
**Consolidated Statement of Stockholders' Equity (unaudited)**

	<u>Stockholders' Equity</u>						
	<u>Common Stock</u>		<u>Additional Paid in Capital</u>	<u>Accumulated deficit</u>	<u>Accumulated other comprehensive income</u>	<u>Non-controlling interest</u>	<u>Total</u>
	<u>Shares</u>	<u>Amount</u>					
Balance at December 31, 2014	21,703,173	\$ 217,000	\$ 317,122,000	\$ (294,578,000)	\$ (13,000)	\$ 874,000	\$ 23,622,000
Net loss	—	—	—	(21,298,000)	—	(44,000)	(21,342,000)
Other comprehensive income	—	—	—	—	(1,000)	—	(1,000)
Stock-based compensation	—	—	2,186,000	—	—	—	2,186,000
Issuance of common stock, net	41,600	—	110,000	—	—	—	110,000
Common stock surrendered	(900)	—	—	—	—	—	—
Balance at June 30, 2015	<u>21,743,873</u>	<u>\$ 217,000</u>	<u>\$ 319,418,000</u>	<u>\$ (315,876,000)</u>	<u>\$ (14,000)</u>	<u>\$ 830,000</u>	<u>\$ 4,575,000</u>

See accompanying notes to condensed consolidated financial statements.

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**Onconova Therapeutics, Inc.**  
**Condensed Consolidated Statements of Cash Flows (unaudited)**

Six Months Ended June 30,

	2015	2014
<b>Operating activities:</b>		
Net loss	\$ (21,342,000)	\$ (35,496,000)
Adjustment to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	98,000	239,000
Loss on asset disposal	22,000	—
Change in fair value of warrant liabilities	—	(19,000)
Treasury note discount amortization	—	(3,000)
Stock compensation expense	2,186,000	2,641,000
Changes in assets and liabilities:		
Prepaid expenses and other current assets	1,187,000	1,056,000
Restricted cash	75,000	—
Accounts payable	158,000	1,317,000
Accrued expenses	(482,000)	644,000
Other liabilities	(1,000)	(4,000)
Deferred revenue	(228,000)	(560,000)
Net cash used in operating activities	<u>(18,327,000)</u>	<u>(30,185,000)</u>
<b>Investing activities:</b>		
Payments for purchase of property and equipment	—	(222,000)
Maturities of marketable securities	—	25,000,000
Net cash provided by investing activities	<u>—</u>	<u>24,778,000</u>
<b>Financing activities:</b>		
Proceeds from the sale of common stock, net of costs	104,000	—
Proceeds from the exercise of stock options	—	898,000
Net cash provided by financing activities	<u>104,000</u>	<u>898,000</u>
Effect of foreign currency translation on cash	(1,000)	(1,000)
Net decrease in cash and cash equivalents	<u>(18,224,000)</u>	<u>(4,510,000)</u>
Cash and cash equivalents at beginning of period	43,582,000	60,009,000
Cash and cash equivalents at end of period	<u>\$ 25,358,000</u>	<u>\$ 55,499,000</u>

See accompanying notes to condensed consolidated financial statements.

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**Onconova Therapeutics, Inc.**  
**Notes to Condensed Consolidated Financial Statements**  
**(Unaudited)**

**1. Nature of Business**

**The Company**

Onconova Therapeutics, Inc. (the “Company”) was incorporated in the State of Delaware on December 22, 1998 and commenced operations on January 1, 1999. The Company’s headquarters are located in Newtown, Pennsylvania. The Company is a clinical-stage biopharmaceutical company focused on discovering and developing novel small molecule drug candidates to treat cancer. Using its proprietary chemistry platform, the Company has created an extensive library of targeted anti-cancer agents designed to work against specific cellular pathways that are important to cancer cells. The Company believes that the drug candidates in its pipeline have the potential to be efficacious in a variety of cancers. The Company has three clinical-stage product candidates and several preclinical programs. To accelerate and broaden the development of rigosertib, the Company’s most advanced product candidate, the Company entered into a development and license agreement in 2012 with Baxter Healthcare SA (“BHSA”). Subsequently, Baxter International Inc. (“Baxter”) assigned the development and license agreement from BHSA to Baxalta GmbH (“Baxalta”), in preparation for the anticipated spin-off by Baxter of Baxalta Incorporated. The spin-off was effective on July 1, 2015. The Company understands that Baxalta is an indirect wholly-owned subsidiary of Baxalta Incorporated. The development and license agreement grants Baxalta an exclusive, royalty-bearing license for the research, development, commercialization and manufacture (in specified instances) of rigosertib in all therapeutic indications in Europe (the “Baxalta Territory”). In 2011, the Company entered into a license agreement, as subsequently amended, with Symbio Pharmaceuticals Limited (“Symbio”), which grants Symbio certain rights to commercialize rigosertib in Japan and Korea. The Company has retained development and commercialization rights to rigosertib in the rest of the world, including the United States. During 2012, Onconova Europe GmbH was established as a wholly owned subsidiary of the Company for the purpose of further developing business in Europe. In April 2013, GBO, LLC, a Delaware limited liability company, (“GBO”) was formed pursuant to a collaboration agreement with GVK Biosciences Private Limited, a private limited company located in India, (“GVK BIO”) to collaborate and develop new programs using the Company’s technology platform through filing of an investigational new drug application (“IND”) and /or conducting proof of concept studies using the Company’s technology platform.

**Liquidity**

The Company has incurred recurring operating losses since inception. For the six months ended June 30, 2015, the Company incurred a net loss of \$21,342,000 and as of June 30, 2015, the Company had generated an accumulated deficit of \$315,876,000. The Company anticipates operating losses to continue for the foreseeable future due to, among other things, costs related to research, development of its product candidates and its preclinical programs, strategic alliances and its administrative organization. The Company will require substantial additional financing to fund its operations and to continue to execute its strategy.

From its inception through July 2013, the Company raised significant capital through the issuance of redeemable convertible preferred stock, par value \$0.01 per share, in ten series denominated as Series A through Series J (“Series A Preferred Stock” through “Series J Preferred Stock,” respectively, and collectively the “Preferred Stock”). On July 30, 2013, the Company completed its initial public offering (the “IPO”) of 5,941,667 shares of the Company’s common stock, par value \$0.01 per share (“Common Stock”), at a price of \$15.00 per share, including 775,000 shares of Common Stock issued upon the exercise in full by the underwriters of their option to purchase additional shares at the same price to cover over-allotments. The Company received net proceeds of \$79,811,000 from the sale, net of underwriting discounts and commissions and other estimated offering expenses. Immediately prior to the consummation of the IPO, all outstanding shares of Preferred Stock automatically converted into shares of Common Stock at the applicable conversion ratio then in effect. As a result of the conversion, as of July 30, 2013, the Company had no shares of Preferred Stock outstanding.

In October 2014, the Company entered into a sales agreement (the “Sales Agreement”) with Cantor Fitzgerald & Co. (“Cantor”) to create an at-the-market equity program under which the Company from time to time may offer and sell shares of its Common Stock, having an aggregate offering price of up to \$20,000,000 through Cantor (see Note 10). Net proceeds from sales of Common Stock under this program were \$110,000 during the six months ended June 30, 2015.

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**Onconova Therapeutics, Inc.**  
**Notes to Condensed Consolidated Financial Statements**  
**(Unaudited)**

During 2015, the Company implemented cost-reduction programs to reduce its operating losses. These programs may delay, scale-back, or eliminate certain of the Company’s research and development activities and other aspects of its operations until such time as the Company is successful in securing adequate additional funding. As a result of the cost reduction programs, the Company estimates that its cash and cash equivalents at June 30, 2015 of \$25.4 million will be sufficient to fund operations through 2015 and into the first quarter of 2016. The Company is also exploring various dilutive and non-dilutive sources of funding, including equity and debt financings, strategic alliances, business development and other sources. Such financings would be used to fund future research and development programs, including clinical trials for which the Company does not currently have the resources to fund. There can be no assurance, however, that the Company will be successful in obtaining such financing at the level needed to complete its research and development programs, including its clinical trials, on terms acceptable to the Company, or at all, or that the Company will obtain approvals necessary to market its products or achieve profitability or sustainable, positive cash flow.

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**Onconova Therapeutics, Inc.**  
**Notes to Condensed Consolidated Financial Statements (Continued)**  
**(Unaudited)**

**2. Summary of Significant Accounting Policies**

**Basis of Presentation**

The condensed consolidated financial statements are prepared in conformity with accounting principles generally accepted in the United States (“GAAP”) for interim financial information. Certain information and footnotes normally included in financial statements prepared in accordance with GAAP have been condensed or omitted pursuant to the rules and regulations of the Securities and Exchange Commission (the “SEC”). The financial statements include the consolidated accounts of the Company, its wholly-owned subsidiary, Onconova Europe GmbH, and GBO. All significant intercompany transactions have been eliminated.

**Unaudited Interim Financial Information**

The accompanying condensed consolidated balance sheet as of June 30, 2015, the condensed consolidated statements of operations and comprehensive loss for the three and six months ended June 30, 2015 and 2014, the consolidated statement of stockholders’ equity for the six months ended June 30, 2015 and the condensed consolidated statements of cash flows for the six months ended June 30, 2015 and 2014 are unaudited. The interim unaudited condensed consolidated financial statements have been prepared on the same basis as the annual audited consolidated financial statements and, in the opinion of management, reflect all adjustments, which include only normal recurring adjustments, necessary for the fair statement of the Company’s financial position as of June 30, 2015 and the results of its operations, and its cash flows for the three and six months ended June 30, 2015 and 2014. The financial data and other information disclosed in these notes related to the three and six months ended June 30, 2015 and 2014 are unaudited. The results for the three and six months ended June 30, 2015 are not necessarily indicative of results to be expected for the year ending December 31, 2015, any other interim periods, or any future year or period. These unaudited condensed consolidated financial statements should be read in conjunction with the audited consolidated financial statements and the notes thereto for the year ended December 31, 2014 included in the Company’s annual report on Form 10-K filed with the SEC on March 30, 2015.

**Segment Information**

Operating segments are defined as components of an enterprise about which separate discrete information is available for evaluation by the chief operating decision maker, or decision-making group, in deciding how to allocate resources and in assessing performance. The Company views its operations and manages its business in one segment, which is the identification and development of oncology therapeutics.

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**Onconova Therapeutics, Inc.**  
**Notes to Condensed Consolidated Financial Statements (Continued)**  
**(Unaudited)**

**2. Summary of Significant Accounting Policies (Continued)**

**Significant Accounting Policies**

The Company's significant accounting policies are disclosed in the audited consolidated financial statements for the year ended December 31, 2014 included in the Company's annual report on Form 10-K filed with the SEC on March 30, 2015. Since the date of such financial statements, there have been no changes to the Company's significant accounting policies.

**Fair Value Measurements**

The carrying amounts reported in the accompanying consolidated financial statements for cash and cash equivalents, marketable securities, accounts payable, and accrued liabilities approximate their respective fair values because of the short-term nature of these accounts. There were no significant assets or liabilities requiring adjustment to fair value at June 30, 2015 or December 31, 2014.

**Recent Accounting Pronouncements**

In May 2014, the FASB issued guidance on revenue from contracts with customers that will supersede most current revenue recognition guidance. The underlying principle is that an entity will recognize revenue to depict the transfer of goods or services to customers at an amount that the entity expects to be entitled to in exchange for those goods or services. The guidance is effective for the interim and annual periods beginning on or after December 15, 2017, and early adoption is not permitted. The guidance permits the use of either a retrospective or cumulative effect transition method. The Company has not yet selected a transition method and is currently evaluating the impact of the amended guidance on the Company's consolidated financial position, results of operations and related disclosures.

In August 2014, the FASB issued guidance on determining when and how to disclose going-concern uncertainties in the financial statements. The new standard requires management to perform interim and annual assessments of an entity's ability to continue as a going concern within one year of the date the financial statements are issued. An entity must provide certain disclosures if conditions or events raise substantial doubt about the entity's ability to continue as a going concern. The guidance applies to all entities and is effective for annual periods ending after December 15, 2016, and interim periods thereafter, with early adoption permitted. The Company is evaluating the potential impact of the new guidance on its quarterly reporting process and its consolidated financial position, results of operations and related disclosures.

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**Onconova Therapeutics, Inc.**  
**Notes to Condensed Consolidated Financial Statements (Continued)**  
**(Unaudited)**

**3. Net Loss Per Share of Common Stock**

The following potentially dilutive securities outstanding at June 30, 2015 and 2014 have been excluded from the computation of diluted weighted average shares outstanding, as they would be antidilutive:

	June 30,	
	2015	2014
Warrants	4,597	4,597
Stock options	4,766,602	4,236,439
	4,771,199	4,241,036

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**Onconova Therapeutics, Inc.**  
**Notes to Condensed Consolidated Financial Statements (Continued)**  
**(Unaudited)**

**4. Balance Sheet Detail**

Prepaid expenses and other current assets:

	June 30, 2015	December 31, 2014
Research and development	\$ 1,359,000	\$ 1,782,000
Manufacturing	264,000	451,000
Insurance	116,000	578,000
Other	278,000	387,000
	\$ 2,017,000	\$ 3,198,000

Property and equipment:

	June 30, 2015	December 31, 2014
Property and equipment	\$ 2,551,000	\$ 2,625,000
Accumulated depreciation	(2,251,000)	(2,205,000)
	<u>\$ 300,000</u>	<u>\$ 420,000</u>

Accrued expenses and other current liabilities:

	June 30, 2015	December 31, 2014
Research and development	\$ 3,762,000	\$ 4,482,000
Employee compensation	1,247,000	854,000
Professional fees	286,000	418,000
Taxes	—	18,000
Other	—	5,000
	<u>\$ 5,295,000</u>	<u>\$ 5,777,000</u>

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**Onconova Therapeutics, Inc.**  
**Notes to Condensed Consolidated Financial Statements (Continued)**  
**(Unaudited)**

**5. Stock-Based Compensation**

In January 2008, the board of directors approved the 2007 Equity Compensation Plan (the “2007 Plan”), which amended, restated and renamed the Company’s 1999 Stock Based Compensation Plan (the “1999 Plan”), which provided for the granting of incentive and nonqualified stock options and restricted stock to its employees, directors and consultants at the discretion of the board of directors.

Further, in July 2013, the Company’s board of directors and stockholders approved, effective immediately prior to the listing of the Common Stock on the NASDAQ Global Select Market, the 2013 Equity Compensation Plan (the “2013 Plan”), which amended, restated and renamed the 2007 Plan. Under the 2013 Plan, the Company may grant incentive stock options, non-statutory stock options, stock appreciation rights, restricted stock, restricted stock units, deferred share awards, performance awards and other equity-based awards to employees, directors and consultants. The Company initially reserved 6,107,831 shares of Common Stock for issuance, subject to adjustment as set forth in the 2013 Plan. At June 30, 2015, there were 1,745,133 shares available for future issuance.

Stock-based compensation expense includes stock options granted to employees and non-employees and has been reported in the Company’s statements of operations and comprehensive loss in either research and development expenses or general and administrative expenses depending on the function performed by the optionee. No net tax benefits related to the stock-based compensation costs have been recognized since the Company’s inception. The Company recognized stock-based compensation expense as follows for the three and six months ended June 30, 2015 and 2014:

	Three months ended June 30,		Six months ended June 30,	
	2015	2014	2015	2014
General and Administrative	\$ 383,000	\$ 677,000	\$ 1,142,000	\$ 1,324,000
Research and development	\$ 421,000	\$ 636,000	\$ 1,044,000	\$ 1,317,000
	<u>\$ 804,000</u>	<u>\$ 1,313,000</u>	<u>\$ 2,186,000</u>	<u>\$ 2,641,000</u>

A summary of stock option activity for the six months ended June 30, 2015 is as follows:

	Shares Available for Grant	Number of Shares	Options Outstanding		
			Weighted- Average Exercise Price	Weighted- Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value
Balance, December 31, 2014	1,012,310	4,631,299	\$ 10.04	7.89	\$ 42,923
Authorized	868,126	—			
Granted	(549,500)	549,500	\$ 2.86		
Exercised	—	—			
Forfeited	414,197	(414,197)	\$ 9.61		
Balance, June 30, 2015	1,745,133	4,766,602	\$ 9.25	7.72	\$ 1,341
Vested or expected to vest, June 30, 2015		4,687,184	\$ 9.25	7.72	\$ 1,341
Exercisable, June 30, 2015		2,848,292	\$ 10.34	6.87	\$ 1,341

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**Onconova Therapeutics, Inc.**  
**Notes to Condensed Consolidated Financial Statements (Continued)**  
**(Unaudited)**

**5. Stock-Based Compensation (Continued)**

The intrinsic value of options exercised during the six months ended June 30, 2015 and 2014 was \$0 and \$1,762,000, respectively. The aggregate intrinsic value is calculated as the difference between the exercise price of the underlying awards and the quoted price of the Company's common stock for those awards that have an exercise price currently below the closing price.

Information with respect to stock options outstanding and exercisable at June 30, 2015 is as follows:

Exercise Price	Shares	Exercisable
\$2.32 - \$4.52	1,391,105	282,443
\$5.76 - \$6.00	503,873	503,873
\$6.13 - \$7.53	581,621	509,292
\$13.28 - \$13.48	1,545,322	954,355
\$14.68 - \$15.12	681,181	554,486
\$21.79 - \$29.14	63,500	43,843
	4,766,602	2,848,292

*Options granted after April 23, 2013*

The Company accounts for all stock-based payments made after April 23, 2013 to employees and directors using an option pricing model for estimating fair value. Accordingly, stock-based compensation expense is measured based on the estimated fair value of the awards on the date of grant, net of forfeitures. Compensation expense is recognized for the portion that is ultimately expected to vest over the period during which the recipient renders the required services to the Company using the straight-line single option method. In accordance with authoritative guidance, the fair value of non-employee stock based awards is re-measured as the awards vest, and the resulting increase in fair value, if any, is recognized as expense in the period the related services are rendered.

The Company uses the Black-Scholes option-pricing model to estimate the fair value of stock options at the grant date. The Black-Scholes model requires the Company to make certain estimates and assumptions, including estimating the fair value of the Company's common stock, assumptions related to the expected price volatility of the Company's stock, the period during which the options will be outstanding, the rate of return on risk-free investments and the expected dividend yield for the Company's stock.

As of June 30, 2015, there was \$7,154,000 of unrecognized compensation expense related to the unvested stock options issued from April 24, 2013 through June 30, 2015, which is expected to be recognized over a weighted-average period of approximately 3.00 years.

The weighted-average assumptions underlying the Black-Scholes calculation of grant date fair value include the following:

	Six months ended June 30, 2015
Risk-free interest rate	1.52%
Expected volatility	76.80%
Expected term	6.16 years
Expected dividend yield	0%
Weighted average grant date fair value	\$1.93

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**Onconova Therapeutics, Inc.**  
**Notes to Condensed Consolidated Financial Statements (Continued)**  
**(Unaudited)**

**5. Stock-Based Compensation (Continued)**

The weighted-average valuation assumptions were determined as follows:

- Risk-free interest rate: The Company based the risk-free interest rate on the interest rate payable on U.S. Treasury securities in effect at the time of grant for a period that is commensurate with the assumed expected option term.
- Expected term of options: Due to its lack of sufficient historical data, the Company estimates the expected life of its employee stock options using the "simplified" method, as prescribed in Staff Accounting Bulletin (SAB) No. 107, whereby the expected life equals the arithmetic average of the vesting term and the original contractual term of the option.
- Expected stock price volatility: Due to the Company's limited operating history and a lack of company specific historical and implied volatility data, the Company has based its estimate of expected volatility on the historical volatility of a group of similar companies that are publicly traded. When selecting these public companies on which it has based its expected stock price volatility, the Company selected companies with comparable characteristics to it, including enterprise value, risk profiles, position within the industry, and with historical share price information sufficient to meet the expected life of the stock-based awards. The historical volatility data was computed using the daily closing prices for the selected companies' shares during the equivalent period of the calculated expected term of the stock-based awards. Due to its lack of sufficient historical data, the Company will continue to apply this process until a sufficient amount of historical information regarding the volatility of its own stock price becomes available.

- Expected annual dividend yield: The Company has never paid, and does not expect to pay in the foreseeable future, dividends. Accordingly, the Company assumed an expected dividend yield of 0.0%.
- Estimated forfeiture rate: The Company's estimated annual forfeiture rate on stock option grants was 4.14% in 2015 and 2014 and 1.69% in 2013, based on the historical forfeiture experience.

#### *Options granted through April 23, 2013*

At certain times throughout the Company's history, the chairman of the Company's board of directors, who is also a significant stockholder of the Company (the "Significant Holder"), has afforded option holders the opportunity for liquidity in transactions in which options were exercised and the shares of Common Stock issued in connection therewith were simultaneously purchased by the Significant Holder (each, a "Purchase Transaction"). Because the Company had established a pattern of providing cash settlement alternatives for option holders, the Company has accounted for its stock-based compensation awards as liability awards, the fair value of which is then re-measured at each balance sheet date.

On April 23, 2013, the Company distributed a notification letter to all equity award holders under the Company's 2007 Equity Compensation Plan (the "2007 Plan") advising them that Purchase Transactions would no longer occur, unless, at the time of a Purchase Transaction, the option holder has held the Common Stock issued upon exercise of options for a period of greater than six months prior to selling such Common Stock to the Significant Holder and that any such sale to the Significant Holder would be at the fair value of the Common Stock on the date of such sale. Based on these new criteria for Purchase Transactions, the Company remeasured options outstanding under the 2007 Plan as of April 23, 2013 to their intrinsic value and reclassified such options from liabilities to stockholders' deficit within the Company's consolidated balance sheets, which amounted to \$14,482,000. As of June 30, 2015, there was \$424,000 of unrecognized compensation expense related to these unvested awards, which is expected to be recognized over a weighted-average period of approximately 1.43 years.

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### **Onconova Therapeutics, Inc. Notes to Condensed Consolidated Financial Statements (Continued) (Unaudited)**

#### **6. Research Agreements**

The Company has entered into various licensing and right-to-sublicense agreements with educational institutions for the exclusive use of patents and patent applications, as well as any patents that may develop from research being conducted by such educational institutions in the field of anticancer therapy, genes and proteins. Results from this research have been licensed to the Company pursuant to these agreements. Under one of these agreements with Temple University ("Temple"), the Company is required to make annual maintenance payments to Temple and royalty payments based upon a percentage of sales generated from any products covered by the licensed patents, with minimum specified royalty payments. As no sales had been generated through June 30, 2015 under the licensed patents, the Company has not incurred any royalty expenses related to this agreement. In addition, the Company is required to pay Temple 25% of any sublicensing fees received by the Company. In 2011, the Company recorded \$1,875,000 of expense related to the Temple agreement in connection with the collaboration agreement the Company executed with Symbio. In 2012, the Company recorded \$12,500,000 of expense related to the Temple agreement in connection with the collaboration agreement the Company executed with Baxter. These expenses were recorded in the consolidated statement of operations as research and development expenses.

In May 2010, the Company signed a funding agreement with the Leukemia and Lymphoma Society ("LLS") to fund the development of rigosertib (the "LLS-funded Research Program"). Under the LLS-funded Research Program, the Company was entitled to receive milestone payments of up to \$10,000,000 through 2013 in connection with clinical trials to be conducted. The aggregate milestone payment amount was subsequently reduced to \$8,000,000 pursuant to an amendment signed in January 2013, after which LLS was not obligated to fund any further amounts. During the year ended December 31, 2012, in connection with the execution of the Baxter agreement, the Company paid \$1,000,000 to LLS and recorded this amount in research and development expenses. This payment reduced the maximum milestone and royalty payment obligation under this agreement to \$23,000,000 at June 30, 2015 and December 31, 2014. No further payments are due to LLS if the LLS-funded Research Program does not lead to regulatory approval of rigosertib. If the LLS-funded Research Program leads to approval of rigosertib by the regulatory authorities, the Company must proceed with commercialization of the licensed product or repay the amount funded. LLS is entitled to receive regulatory and commercial milestone payments and royalties from the Company based on the Company's net sales of the licensed product. As a result of the potential obligation to repay the funds under this arrangement, the \$8,000,000 of milestone payments received, have been recorded as deferred revenue at June 30, 2015 and December 31, 2014.

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### **Onconova Therapeutics, Inc. Notes to Condensed Consolidated Financial Statements (Continued) (Unaudited)**

#### **7. License and Collaboration Agreements**

##### **Baxalta Agreement**

In September 2012, the Company entered into a development and license agreement with Baxter Healthcare SA. Subsequently, Baxter International Inc. ("Baxter") assigned the development and license agreement from Baxter Healthcare SA ("BHSA") to Baxalta GmbH ("Baxalta"), in preparation for the anticipated spin-off by Baxter of Baxalta Incorporated. The spin-off was effective on July 1, 2015 and Baxalta Incorporated, became a standalone, publicly traded company traded on the New York Stock Exchange. The Company understands that Baxalta is an indirect wholly-owned subsidiary of Baxalta Incorporated. The development and license agreement grants Baxalta an exclusive, royalty-bearing license for the research, development, commercialization and manufacture (in specified instances) of rigosertib in all therapeutic indications in Europe (the "Baxalta Territory"). In accordance with this agreement,

BHSA made a \$50,000,000 upfront payment to the Company. In July 2012, BHSA purchased \$50,000,000 of the Company's Series J Preferred Stock, which automatically converted to shares of Common Stock immediately prior to the consummation of the IPO. BHSA also invested \$4,950,000 in the Company's IPO. The securities of the Company owned by BHSA have also been transferred to Baxalta as part of the spin-off of Baxalta Incorporated.

Under the terms of the agreement, the Company was initially required to perform research and development to advance three initial rigosertib indications, rigosertib intravenous ("IV") in higher-risk myelodysplastic syndrome ("MDS") patients, rigosertib IV in pancreatic cancer patients and rigosertib oral in lower-risk MDS patients, through Phase 3, Phase 3 and Phase 2 clinical trials, respectively.

In December 2013, a pre-planned interim futility and safety analysis of the pancreatic cancer trial was performed and the trial was discontinued. As a result, at this time the Company is not pursuing a pancreatic cancer indication.

In February 2014, the Company announced top-line analysis of a Phase 3 trial of rigosertib IV in higher-risk MDS patients. Although the results of this study showed numerical improvement in median overall survival in the rigosertib treated patients, the observed improvement in survival of 2.3 months was not sufficient to establish the required level of statistical significance and, therefore did not achieve the primary endpoint of the trial. An additional Phase 3 clinical trial for rigosertib IV in higher-risk MDS patients is required to obtain marketing approval in the Baxalta Territory. The Company could elect to have Baxalta fund fifty percent of the costs of the next phase 3 trial of rigosertib IV in higher-risk MDS, up to \$15.0 million. If the Company chooses to do so, the approval milestone for higher-risk MDS will be reduced by \$15.0 million.

On January 27, 2015, Onconova was notified that BHSA has elected not to pursue additional clinical trials, or the submission of a drug approval application, for rigosertib oral in lower-risk MDS patients. Onconova would have received a milestone payment under its agreement with BHSA if the parties had mutually agreed to progress the development of oral rigosertib in lower-risk MDS patients. The decision by BHSA does not alter the collaboration agreement between the parties. Onconova has the right to continue the development of oral rigosertib in this indication on its own, and Baxalta has the right to commercialize oral rigosertib for lower-risk MDS in its territory, subject to its ongoing compliance with the agreement, including payment of applicable milestones.

The Company and Baxalta may work together for potential future rigosertib indications, beyond the initial indications noted above. Generally, if Baxalta chooses to participate in the development of additional indications, Baxalta will be responsible for a percentage of all research and development costs and expenses and the Company could earn additional milestone payments. Baxalta has full responsibility for all commercialization activities for the product in the Baxalta Territory, at Baxalta's sole cost and expense. To date, Baxalta has not elected to participate in the development of rigosertib oral in combination with azacitidine for patients with higher-risk MDS and AML.

The development and license agreement contemplates that the Company and Baxalta may negotiate a supply agreement under terms satisfactory to both parties whereby the Company will supply Baxalta with Baxalta's required levels of product to support commercialization efforts in the Baxalta Territory. Baxalta also has the right to engage third parties for the manufacture and supply of its requirements for the licensed product.

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**Onconova Therapeutics, Inc.**  
**Notes to Condensed Consolidated Financial Statements (Continued)**  
**(Unaudited)**

**7. License and Collaboration Agreements (Continued)**

The Company is eligible to receive pre-commercial milestone payments if specified development and regulatory milestones are achieved. The potential pre-commercial development milestone payments to the Company include \$25,000,000 for each drug approval application filed for indications specified in the agreement, and up to \$100,000,000 for marketing approval for each of the specified MDS indications.

In addition to these pre-commercial milestones, the Company is eligible to receive up to an aggregate of \$250,000,000 in milestone payments based on Baxalta's achievement of pre-specified threshold levels of annual net sales of rigosertib. The Company will also be entitled to receive royalties at percentage rates ranging from the low-teens to the low-twenties on net sales of rigosertib by Baxalta in the Baxalta Territory.

The agreement with Baxalta will remain in effect until the expiration of all applicable royalty terms and satisfaction of all payment obligations in each licensed country, unless terminated earlier in accordance with the terms of the agreement. Either party may terminate due to the uncured material breach or bankruptcy of the other party, force majeure, or in the event of a specified commercial failure. The Company may terminate the agreement in the event that Baxalta brings a challenge against it in relation to the licensed patents. Baxalta may terminate the agreement without cause upon 180 days' prior written notice.

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**Onconova Therapeutics, Inc.**  
**Notes to Condensed Consolidated Financial Statements (Continued)**  
**(Unaudited)**

**7. License and Collaboration Agreements (Continued)**

**SymBio Agreement**

In July 2011, the Company entered into a license agreement with SymBio, as subsequently amended, granting SymBio an exclusive, royalty-bearing license for the development and commercialization of rigosertib in Japan and Korea (the "Symbio Territory"). Under the SymBio license agreement, SymBio is obligated to use commercially reasonable efforts to develop and obtain market approval for rigosertib inside the licensed territory and the Company has

similar obligations outside of the licensed territory. The Company has also entered into an agreement with SymBio providing for it to supply SymBio with development-stage product. Under the SymBio license agreement, the Company also agreed to supply commercial product to SymBio under specified terms that will be included in a commercial supply agreement to be negotiated prior to the first commercial sale of rigosertib. The supply of development-stage product and the supply of commercial product will be at the Company's cost plus a defined profit margin. Sales of development-stage product have been de minimis. The Company has additionally granted SymBio a right of first negotiation to license or obtain the rights to develop and commercialize compounds having a chemical structure similar to rigosertib in the licensed territory.

Under the terms of the SymBio license agreement, the Company received an upfront payment of \$7,500,000. The Company is eligible to receive milestone payments of up to an aggregate of \$22,000,000 from SymBio upon the achievement of specified development and regulatory milestones for specified indications. Of the regulatory milestones, \$5,000,000 is due upon receipt of marketing approval in the United States for rigosertib IV in higher-risk MDS patients, \$3,000,000 is due upon receipt of marketing approval in Japan for rigosertib IV in higher-risk MDS patients, \$5,000,000 is due upon receipt of marketing approval in the United States for rigosertib oral in lower-risk MDS patients, and \$5,000,000 is due upon receipt of marketing approval in Japan for rigosertib oral in lower-risk MDS patients. Furthermore, upon receipt of marketing approval in the United States and Japan for an additional specified indication of rigosertib, which the Company is currently not pursuing, an aggregate of \$4,000,000 would be due. In addition to these pre-commercial milestones, the Company is eligible to receive tiered milestone payments based upon annual net sales of rigosertib by SymBio of up to an aggregate of \$30,000,000.

Further, under the terms of the SymBio license agreement, SymBio will make royalty payments to the Company at percentage rates ranging from the mid-teens to 20% based on net sales of rigosertib by SymBio.

Royalties will be payable under the SymBio agreement on a country-by-country basis in the licensed territory, until the later of the expiration of marketing exclusivity in those countries, a specified period of time after first commercial sale of rigosertib in such country, or the expiration of all valid claims of the licensed patents covering rigosertib or the manufacture or use of rigosertib in such country. If no valid claim exists covering the composition of matter of rigosertib or the use of or treatment with rigosertib in a particular country before the expiration of the royalty term, and specified competing products achieve a specified market share percentage in such country, SymBio's obligation to pay the Company royalties will continue at a reduced royalty rate until the end of the royalty term. In addition, the applicable royalties payable to the Company may be reduced if SymBio is required to pay royalties to third-parties for licenses to intellectual property rights necessary to develop, use, manufacture or commercialize rigosertib in the licensed territory. The license agreement with SymBio will remain in effect until the expiration of the royalty term. However, the SymBio license agreement may be terminated earlier due to the uncured material breach or bankruptcy of a party, or force majeure. If SymBio terminates the license agreement in these circumstances, its licenses to rigosertib will survive, subject to SymBio's milestone and royalty obligations, which SymBio may elect to defer and offset against any damages that may be determined to be due from the Company. In addition, the Company may terminate the license agreement in the event that SymBio brings a challenge against it in relation to the licensed patents, and SymBio may terminate the license agreement without cause by providing the Company with written notice within a specified period of time in advance of termination.

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**Onconova Therapeutics, Inc.**  
**Notes to Condensed Consolidated Financial Statements (Continued)**  
**(Unaudited)**

**7. License and Collaboration Agreements (Continued)**

The Company determined that the deliverables under the SymBio agreement include the exclusive, royalty-bearing, sublicensable license to rigosertib, the research and development services to be provided by the Company and its obligation to serve on a joint committee. The Company concluded that the license did not have standalone value to SymBio and was not separable from the research and development services, because of the uncertainty of SymBio's ability to develop rigosertib in the SymBio Territory on its own and the uncertainty of SymBio's ability to sublicense rigosertib and recover a substantial portion of the original upfront payment of \$7,500,000 paid by SymBio to the Company.

The supply of rigosertib for SymBio's commercial requirements is contingent upon the receipt of regulatory approvals to commercialize rigosertib in Japan and Korea. Because the Company's commercial supply obligation was contingent upon the receipt of future regulatory approvals, and there were no binding commitments or firm purchase orders pending for commercial supply at or near the execution of the agreement, the commercial supply obligation is deemed to be contingent and is not valued as a deliverable under the SymBio agreement. If SymBio orders the supplies from the Company, the Company expects the pricing for this supply to equal its third-party manufacturing cost plus a pre-negotiated percentage, which will not result in a significant incremental discount to market rates.

Due to the lack of standalone value for the license, research and development services, and joint committee obligation, the upfront payment is being recognized ratably using the straight line method through December 2027, the expected term of the agreement. The Company recognized revenues under this agreement of \$114,000 and \$114,000, for the three months ended June 30, 2015 and 2014, respectively, and \$227,000 and \$227,000, for the six months ended June 30, 2015 and 2014, respectively. The Company recognized revenues related to the supply agreement with SymBio of \$9,000 and \$12,000, for the three months ended June 30, 2015 and 2014, respectively, and \$9,000 and \$12,000, for the six months ended June 30, 2015 and 2014, respectively.

**8. Preclinical Collaboration**

In December 2012, the Company agreed to form GBO, an entity owned by the Company and GVK BIO. The purpose of GBO is to collaborate on and develop two programs through filing of an investigational new drug application ("IND") and/or conducting proof of concept studies using the Company's technology platform. If a program failure occurs for one or both programs, the Company may contribute additional assets to GBO to establish a replacement program or programs.

During 2013, GVK BIO made an initial capital contribution of \$500,000 in exchange for a 10% interest in GBO, and the Company made an initial capital contribution of a sub-license to all the intellectual property controlled by the Company related to the two specified programs in exchange for a 90% interest. Under the terms of the agreement, GVK BIO may make additional capital contributions. The GVK BIO percentage interest in GBO may change from the initial 10% to up to 50%, depending on the amount of its total capital contributions. During November 2014, GVK BIO made an additional capital

contribution of \$500,000 which increased its interest in GBO to 17.5%. The Company evaluates its variable interests in GBO on a quarterly basis and has determined that it is the primary beneficiary.

For thirty days following the 15-month anniversary of the commencement of either of the two programs, the Company will have an option to (i) cancel the license and (ii) purchase all rights in and to that program. There are three of these buy-back scenarios depending on the stage of development of the underlying assets. In addition, upon the occurrence of certain events, namely termination of the Company's participation in the programs either with or without a change in control, GVK BIO will be entitled to purchase or obtain the Company's interest in GBO. GVK BIO will have operational control of GBO and the Company will have strategic and scientific control.

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**Onconova Therapeutics, Inc.**  
**Notes to Condensed Consolidated Financial Statements (Continued)**  
**(Unaudited)**

**9. Related-Party Transactions**

The Company has entered into a research agreement, as subsequently amended, with the Mount Sinai School of Medicine ("Mount Sinai"), with which a member of its board of directors and a significant stockholder is affiliated. Mount Sinai is undertaking research on behalf of the Company on the terms set forth in the agreements. Mount Sinai, in connection with the Company, will prepare applications for patents generated from the research. Results from all projects will belong exclusively to Mount Sinai, but the Company will have an exclusive option to license any inventions. Payments to Mount Sinai under this research agreement for the three months ended June 30, 2015 and 2014 were \$358,000 and \$0, respectively and for the six months ended June 30, 2015 and 2014 were \$715,000 and \$295,000, respectively. At June 30, 2015 and December 31, 2014, the Company had no outstanding amounts payable to Mount Sinai under this agreement.

The Company purchases chemical compounds and sources development services from corporations owned by a former member of its board of directors. The Company's aggregate payments to this supplier for the three months ended June 30, 2015 and 2014 were \$0 and \$353,000, respectively and for the six months ended June 30, 2015 and 2014 were \$0 and \$385,000, respectively. At June 30, 2015 and December 31, 2014, the Company owed this supplier \$8,000 and \$8,000, respectively, which is included in accounts payable on the consolidated balance sheets. Presently, the Company has consolidated its operations to its Newtown, Pennsylvania headquarters. Previously the Company also occupied office space in Pennington, New Jersey pursuant to a lease which ran through May 2015, from a corporation related to this supplier and affiliated with the former member of its board of directors.

The Company has entered into a consulting agreement with a member of its board of directors, who is also a significant stockholder. The board member provides consulting services to the Company on the terms set forth in the agreement. Payments to this board member for the three months ended June 30, 2015 and 2014 were \$50,000 and \$52,000 respectively and for the six months ended June 30, 2015 and 2014 were \$99,000 and \$99,000, respectively. At June 30, 2015 and December 31, 2014, the Company had no outstanding amounts payable under this agreement.

**10. Securities Registration and Sales Agreement**

In October 2014, the Company entered into a Sales Agreement with Cantor Fitzgerald & Co. to create an at-the-market equity program under which the Company from time to time may offer and sell shares of its Common Stock, having an aggregate offering price of up to \$20,000,000 through Cantor. Upon delivery of a placement notice and subject to the terms and conditions of the sales agreement, Cantor will use its commercially reasonable efforts to sell the shares from time to time, based upon the Company's instructions. The Company has provided Cantor with customary indemnification rights, and Cantor will be entitled to a commission of up to 3.0% of the gross proceeds per share sold. Sales of shares under the sales agreement may be made in transactions that are deemed to be "at the market offerings" as defined in Rule 415 under the Securities Act of 1933, as amended, including sales made by means of ordinary brokers' transactions, including on The NASDAQ Global Select Market, at market prices or as otherwise agreed with Cantor. The Company has no obligation to sell any shares under the Sales Agreement, and may at any time suspend offers under the Sales Agreement or terminate the Sales Agreement. A registration statement (Form S-3 No. 333-199219), relating to the shares, which was filed with the SEC became effective on November 20, 2014. During the six months ended June 30, 2015, 41,600 shares were sold under the Sales Agreement for net proceeds of \$110,000. Based on the Company's share price at June 30, 2015, the Company would have been limited to issuing shares having an aggregate offering price of up to \$10,000,000, due to limitations based on the Company's public float. This report shall not constitute an offer to sell or the solicitation of an offer to buy nor shall there be any sale of the shares in any state in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such state.

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**Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations**

*The following Management's Discussion and Analysis of Financial Condition and Results of Operations should be read in conjunction with interim unaudited condensed consolidated financial statements contained in Part I, Item 1 of this quarterly report, and the audited consolidated financial statements and notes thereto for the year ended December 31, 2014 and the related Management's Discussion and Analysis of Financial Condition and Results of Operations, both of which are contained in our annual report on Form 10-K filed with the SEC on March 30, 2015. As used in this report, unless the context suggests otherwise, "we," "us," "our," "the Company" or "Onconova" refer to Onconova Therapeutics, Inc. and its consolidated subsidiaries.*

**Cautionary Note Regarding Forward-Looking Statements**

This quarterly report on Form 10-Q includes forward-looking statements. We may, in some cases, use terms such as "believes," "estimates," "anticipates," "expects," "plans," "intends," "may," "could," "might," "will," "should," "approximately" or other words that convey uncertainty of future events or outcomes to identify these forward-looking statements. Forward-looking statements appear in a number of places throughout this report and include statements regarding our intentions, beliefs, projections, outlook, analyses or current expectations concerning, among other things, our ongoing and planned preclinical development and clinical trials, the timing of and our ability to make regulatory filings and obtain and maintain regulatory approvals for our

product candidates, protection of our intellectual property portfolio, the degree of clinical utility of our products, particularly in specific patient populations, our ability to develop commercial and manufacturing functions, expectations regarding clinical trial data, our results of operations, cash needs, financial condition, liquidity, prospects, growth and strategies, the industry in which we operate and the trends that may affect the industry or us.

By their nature, forward-looking statements involve risks and uncertainties because they relate to events, competitive dynamics and industry change, and depend on the economic circumstances that may or may not occur in the future or may occur on longer or shorter timelines than anticipated. Although we believe that we have a reasonable basis for each forward-looking statement contained in this report, we caution you that forward-looking statements are not guarantees of future performance and that our actual results of operations, financial condition and liquidity, and the development of the industry in which we operate may differ materially from the forward-looking statements contained in this report. In addition, even if our results of operations, financial condition and liquidity, and events in the industry in which we operate are consistent with the forward-looking statements contained in this report, they may not be predictive of results or developments in future periods.

Actual results could differ materially from our forward-looking statements due to a number of factors, including risks related to:

- our need for additional financing and our ability to obtain sufficient funds on acceptable terms when needed, and our current plans and future needs to scale back operations if adequate financing is not obtained;
- our estimates regarding expenses, future revenues, capital requirements and needs for additional financing;
- the success and timing of our preclinical studies and clinical trials and regulatory approval of protocols for future clinical trials;
- the difficulties in obtaining and maintaining regulatory approval of our product candidates, and the labeling under any approval we may obtain;
- our plans and ability to develop, manufacture and commercialize our product candidates;
- our failure to recruit or retain key scientific or management personnel or to retain our executive officers;

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- the size and growth of the potential markets for our product candidates and our ability to serve those markets;
- regulatory developments in the United States and foreign countries;
- the rate and degree of market acceptance of any of our product candidates;
- obtaining and maintaining intellectual property protection for our product candidates and our proprietary technology;
- the successful development of our commercialization capabilities, including sales and marketing capabilities;
- recently enacted and future legislation and regulation regarding the healthcare system;
- the success of competing therapies and products that are or become available;
- our dependence on collaboration agreements with other pharmaceutical companies, such as Baxalta and SymBio, for commercialization of our products and our ability to achieve certain milestones under those agreements; and
- the performance of third parties, including contract research organizations, or CROs and third-party manufacturers.

Any forward-looking statements that we make in this Annual Report speak only as of the date of such statement, and we undertake no obligation to update such statements to reflect events or circumstances after the date of this Annual Report or to reflect the occurrence of unanticipated events. Comparisons of results for current and any prior periods are not intended to express any future trends or indications of future performance, unless expressed as such, and should only be viewed as historical data.

You should also read carefully the factors described in the “Risk Factors” in our annual report on Form 10-K filed with the SEC on March 30, 2015, to better understand significant risks and uncertainties inherent in our business and underlying any forward-looking statements. As a result of these factors, actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements in this report and you should not place undue reliance on any forward-looking statements.

## **Overview**

We are a clinical-stage biopharmaceutical company focused on discovering and developing novel small molecule drug candidates to treat cancer. Using our proprietary chemistry platform, we have created an extensive library of targeted anti-cancer agents designed to work against cellular pathways important to cancer cells. We believe that the drug candidates in our pipeline have the potential to be efficacious in a variety of cancers. We have three clinical-stage product candidates (one of which is being developed for treatment of acute radiation syndromes) and several preclinical programs, and the majority of our current effort is focused on our lead product candidate, rigosertib. Rigosertib is being tested in both intravenous and oral formulations as a single agent, and the oral formulation also in combination with azacitidine, in clinical trials for patients with myelodysplastic syndromes, or MDS, and related cancers.

After discussions with the U.S. Food and Drug Administration, or FDA, and European Medicines Agency, or EMA, we have completed the design of a randomized controlled Phase 3 trial of rigosertib IV in a population of patients with higher-risk MDS after failure of hypomethylating agent therapy. We are finalizing our Investigational New Drug

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Application, or IND, for submission to the FDA. A Clinical Trial Authorization Application is also being prepared for submission to the EMA. We anticipate initiation of the Phase 3 trial during the second half of 2015. We are continuing enrollment in the Phase 2 portion of a clinical trial of rigosertib oral in combination with azacitidine for patients with higher-risk MDS and acute myelogenous leukemia, or AML, and anticipate completing enrollment in the second half of 2015. We are assessing the utility of bone marrow genomic methylation patterns and testing for the identification of patients more likely to respond to treatment with rigosertib oral as a single agent for patients with lower-risk MDS.

At June 30, 2015, we had approximately \$25.4 million in cash and cash equivalents. We have taken significant actions to conserve cash, including headcount and expenditure reductions. We believe that our current cash balance will be sufficient to fund our ongoing trials and current operations into the first quarter of 2016. We are exploring various sources of funding for continued development of rigosertib in MDS and AML. If we are unable to successfully raise sufficient additional capital, through future debt or equity financings or through strategic and collaborative ventures with third parties, we will not have sufficient cash to fund our planned business operations. In that event, we may be forced to limit many, if not all, of our programs and consider other means of creating value for our stockholders or we may be forced to curtail all of our activities and, ultimately, potentially cease operations. Additional financings may only be available on unattractive terms, and could result in significant dilution of stockholders' interests.

### **Rigosertib**

Rigosertib is a small molecule that inhibits cellular signaling in cancer cells by acting as a Ras mimetic. This is believed to be mediated by the binding of rigosertib to the Ras-binding domain, or RBD, found in many Ras effector proteins, including the Raf and PI3K kinases. This mechanism of action exemplifies a new approach to block the interactions between Ras and its targets containing RBD sites. Rigosertib is being tested as a single agent and in combination with azacitidine, in clinical trials of patients with MDS and related cancers. We have enrolled more than 1,000 patients in rigosertib clinical trials. We are a party to collaboration agreements with Baxalta GmbH, or Baxalta (successor in interest of Baxter Healthcare SA), which grant Baxalta certain rights to commercialize rigosertib in Europe, and with Symbio Pharmaceuticals Limited, or Symbio, which grant Symbio certain rights to commercialize rigosertib in Japan and Korea. We have retained development and commercialization rights to rigosertib in the rest of the world, including in the United States.

#### *Rigosertib IV for higher-risk MDS*

In early 2014, we announced topline survival results from our multi-center Phase 3 clinical trial of rigosertib IV as a single agent (the "ONTIME" trial). While the ONTIME trial did not meet its primary endpoint in the intent-to-treat population, improvements in median overall survival were observed in various pre-specified and exploratory subgroups of patients.

During 2014 and 2015, we held meetings with the FDA, EMA, and several European national regulatory agencies to discuss and seek guidance on a path for approval of rigosertib IV in higher-risk MDS patients whose disease had failed hypomethylating agent, or HMA, therapy. We discussed with both FDA and EMA refining the clinical indication in the trial patient population by defining a more homogenous target population that appeared to derive a greater benefit from rigosertib treatment in the ONTIME trial. After obtaining FDA and EMA feedback, input from key opinion leaders in the U.S. and Europe and based on learnings from the ONTIME study, we have completed the design of a new randomized controlled Phase 3 trial, referred to as 04-30, with overall survival as a primary endpoint. We are finalizing our IND for submission to the FDA. A Clinical Trial Authorization Application is also being prepared for submission to the EMA. We plan to enroll patients in the trial who (i) are under 80 years of age, (ii) had progressed on or failed to respond to previous treatment with an HMA within the first nine months of HMA treatment and (iii) had HMA therapy discontinued within six months prior to enrollment in the 04-30 trial. We expect this Phase 3 clinical trial to be conducted at approximately 100 sites in more than ten countries and to enroll a sufficient number of patients for the trial to be well-powered. We have initiated enabling activities and expect to enroll patients later this year, but our ability to conduct the trial as planned will require us to obtain additional financing.

#### *Rigosertib oral in combination with azacitidine in MDS and AML*

We are currently enrolling patients in the Phase 2 portion of an open label clinical trial testing oral rigosertib in combination with the approved dose of injectable azacitidine for patients with higher-risk MDS and AML. This study is based on previously published preclinical data demonstrating synergistic activity of this combination. We presented Phase 1 results from this trial at the Annual American Society of Hematology, or ASH, Meeting in December 2014 and at the MDS Symposium in April 2015. The Phase 2 portion of the trial has been designed to assess whether treatment with rigosertib, in

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combination with azacitidine, reduces the number of bone marrow blasts, improves peripheral blood counts and delays signs of disease progression in patients with MDS and AML. Patients can be entered into the trial after failing azacitidine and then having oral rigosertib added to azacitidine, or patients can be started de novo on the doublet. Patient enrollment in the Phase 2 portion of this trial is projected to be completed in the second half of this year and data from this study are expected to be presented at a scientific conference in the fourth quarter of 2015.

A Phase 1/2 trial with a combination of oral rigosertib and azacitidine is nearing completion. Forty-five patients with MDS, AML or chronic myelomonocytic leukemia (or CMML) have been enrolled in this study. Phase 1 study results, presented previously, showed encouraging activity in MDS and AML patients in terms of bone marrow and hematological responses. Patients were treated at the full standard dose of azacitidine. The drug combination has been well tolerated in repetitive cycles.

A total of 33 patients have received the recommended Phase 2 dose of the combination drug therapy, including 5 patients treated in the Phase 1 stage. Only MDS patients are included in Phase 2 and to date 28 MDS patients have received the recommended Phase 2 dose. The Phase 2 Study included de novo patients (i.e. not previously treated with hypomethylating agents, HMAs) and those who failed treatment with a previous HMA. Consistent with reported Phase 1 results, Bone Marrow Complete Responses (or BMCR), assessed by the International Working Group (or IWG) and Bone Marrow Blast (or BMBL) criteria, have been observed in a majority of the 15 currently evaluable MDS patients. Data from additional patients yet to be evaluated may modify these interim results; we anticipate that updated data will be presented at a scientific conference later in 2015.

Higher-risk MDS patients suffer from a shortfall in normal circulating blood cells, or cytopenias, as well as elevated levels of cancer cells, or blasts in their bone marrow and peripheral blood, whereas lower-risk MDS patients suffer mainly from cytopenias, that is low levels of red blood cells, white blood cells or platelets. Thus, lower-risk MDS patients depend on transfusions and growth factors or other therapies to improve their low blood counts.

We are evaluating single agent rigosertib oral as a treatment for lower-risk MDS in two Phase 2 clinical trials, 09-05 and 09-07. In December 2013, we presented data at the Annual ASH Meeting from the 09-05 Phase 2 trial. To date, Phase 2 clinical data have shown encouraging signs of efficacy of single agent oral rigosertib in transfusion-dependent, lower-risk MDS patients. Rigosertib has been generally well tolerated, except for urinary side effects previously reported at the higher dose levels. We plan to further evaluate dosing and schedule with respect to efficacy and toxicity of oral rigosertib in lower-risk MDS patients.

Data presented from the 09-05 trial also suggested the potential of a genomic methylation assessment to prospectively identify patients likely to respond to oral rigosertib. We previously expanded the 09-05 trial to add an additional cohort of 20 patients in order to advance the development of this genomic methylation test. Enrollment in this expansion cohort has been completed. We are collaborating with a methylation genomics company to refine the test and expect to present these findings later this year.

### **Briciclib**

Our second clinical-stage product candidate is briciclib, a small molecule targeting an important intracellular regulatory protein, cyclin D1, which is often found at elevated levels in cancer cells. Cyclin D1 expression is regulated through a process termed cap-dependent translation, which requires the function of eukaryotic initiation factor 4E protein, or eIF4E. In vitro evidence indicates briciclib binds to eIF4E, blocking cap-dependent translation of Cyclin D1 and other cancer proteins, such as c-MYC, leading to tumor cell death. We are conducting a Phase 1 multisite dose-escalation trial of briciclib in patients with advanced solid tumors refractory to current therapies. Safety and efficacy assessments have been completed in six of the seven dose-escalation cohorts of patients in this trial. Enrollment in the next cohort of patients will begin upon completion of quality control testing required for the release of the drug product to the study sites. Upon completion of the final dose-escalation cohort, we will assess potential further development for briciclib.

### **Recilisib**

Our third clinical-stage product candidate, recilisib, is being developed in collaboration with the U.S. Department of Defense for acute radiation syndromes. We have conducted animal studies and clinical trials of recilisib under the FDA's

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Animal Efficacy Rule, which permits marketing approval for new medical countermeasures for which conventional human efficacy studies are not feasible or ethical, by relying on evidence from studies in appropriate animal models to support efficacy in humans. We have completed four Phase 1 trials to evaluate the safety and pharmacokinetics of recilisib in healthy human adult subjects using both subcutaneous and oral formulations. Ongoing studies of recilisib, focusing on animal models and biomarker development to assess the efficacy of recilisib are being conducted by third parties with government funding. We anticipate that any future development of recilisib beyond these ongoing studies would be conducted solely with government funding or in collaborations.

### **Preclinical Product Candidates**

In addition to our three clinical-stage product candidates, we have several product candidates that target kinases, cellular metabolism or cell division in preclinical development. We may explore additional collaborations to further the development of these product candidates as we focus internally on our more advanced programs.

### **Critical Accounting Policies and Significant Judgments and Estimates**

This management's discussion and analysis of our financial condition and results of operations is based on our interim unaudited consolidated financial statements, which have been prepared in accordance with GAAP. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses and the disclosure of contingent assets and liabilities in our consolidated financial statements. On an ongoing basis, we evaluate our estimates and judgments, including those related to accrued expenses, revenue recognition, deferred revenue and stock-based compensation. We base our estimates on historical experience, known trends and events and various other factors that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. We believe there have been no significant changes in our critical accounting policies as discussed in our annual report on Form 10-K filed with the SEC on March 30, 2015.

### **Results of Operations**

#### **Comparison of the Three Months Ended June 30, 2015 and 2014**

	Three Months Ended June 30,		Change
	2015	2014	
Revenue	\$ 123,000	\$ 125,000	\$ (2,000)
Operating expenses:			
General and administrative	2,568,000	3,985,000	1,417,000
Research and development	6,512,000	12,904,000	6,392,000
Total operating expenses	9,080,000	16,889,000	7,809,000
Loss from operations	(8,957,000)	(16,764,000)	7,807,000
Change in fair value of warrant liability	—	3,000	(3,000)
Other income (expense), net	(18,000)	(19,000)	1,000
Net loss	\$ (8,975,000)	\$ (16,780,000)	\$ 7,805,000

## Revenues

Revenues decreased by \$2,000 for the three months ended June 30, 2015 when compared to the same period in 2014 primarily as a result of less clinical supply revenue under our supply agreement with Symbio.

### General and administrative expenses

General and administrative expenses decreased by \$1.4 million, or 36%, to \$2.6 million for the three months ended June 30, 2015 from \$4.0 million for the three months ended June 30, 2014. The decrease was attributable to a decrease in pre-

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commercialization and business development consulting of \$0.4 million, as we were conducting health economics studies and market research relating to higher risk MDS in the 2014 period. The decrease was also caused by a \$0.4 million decrease in facilities, personnel and related costs resulting from a reduction in general and administrative headcount from 18 at June 30, 2014 to 13 at June 30, 2015. Stock-based compensation expense was \$0.3 million lower in the 2015 period as a result of fewer outstanding options following the reductions in workforce. Meetings and sponsorship expenses were \$0.3 million lower in the 2015 period as the company attended and presented at fewer conferences.

### Research and development expenses

Research and development expenses decreased by \$6.4 million, or 50%, to \$6.5 million for the three months ended June 30, 2015 from \$12.9 million for the three months ended June 30, 2014. This decrease was caused primarily by a \$3.5 million decrease in pre-clinical and clinical development costs in the 2015 period, due to higher ONTIME study expenses, pancreatic clinical trial expenses, and more institutional research during the second quarter of 2014. The decrease from the 2014 period to the 2015 period was also caused by a reduction of \$0.4 million in manufacturing and formulation costs related to validation activities and a reduction of \$1.7 million in consulting expenses related to analyzing clinical trial results and preparing for meetings with regulatory authorities. Personnel and related costs were \$0.6 million lower as research and development headcount was down from 42 at June 30, 2014 to 23 at June 30, 2015. Stock-based compensation expense was \$0.2 million lower in the 2015 period as a result of fewer outstanding options following the reductions in workforce.

### Change in fair value of warrant liability

The change in fair value of the warrant liability was \$0 for the three months ended June 30, 2015 compared to a decrease of \$3,000 for the three months ended June 30, 2014. The change in the fair value of the warrant liability in 2014 was related to the revaluation of the outstanding warrants to fair value.

### Other income (expense), net

Other income (expense), net, decreased by \$1,000 for the three months ended June 30, 2015 compared to the three months ended June 30, 2014, due primarily to the loss on disposal of office furniture of \$15,000 related to closing of one office location, partially offset by a decrease in exchange loss in the 2015 period.

### Comparison of the Six Months Ended June 30, 2015 and 2014

	Six months ended June 30,		Change
	2015	2014	
Revenue	\$ 237,000	\$ 572,000	\$ (335,000)
Operating expenses:			
General and administrative	5,533,000	8,917,000	3,384,000
Research and development	16,010,000	27,152,000	11,142,000
Total operating expenses	21,543,000	36,069,000	14,526,000
Loss from operations	(21,306,000)	(35,497,000)	14,191,000
Change in fair value of warrant liability	—	19,000	(19,000)
Other income (expense), net	(36,000)	(18,000)	(18,000)
Net loss	\$ (21,342,000)	\$ (35,496,000)	\$ 14,154,000

## Revenues

Revenues decreased by \$0.3 million for the six months ended June 30, 2015 when compared to the same period in 2014 primarily as a result of research and development revenue under the Baxter agreement being recognized on a proportional performance basis which was completed during the first quarter of 2014.

### General and administrative expenses

General and administrative expenses decreased by \$3.4 million, or 38%, to \$5.5 million for the six months ended June 30, 2015 from \$8.9 million for the six months ended June 30, 2014. The decrease was primarily caused by a decrease in

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professional fees and consulting fees of \$1.9 million as a result of higher pre-commercialization consulting during the 2014 period. The decrease was also caused by a \$0.9 million decrease in facilities, personnel & related costs from a reduction in general and administrative headcount from 18 at June 30, 2014 to

13 at June 30, 2015. Stock-based compensation expense was \$0.2 million lower in the 2015 period as a result of fewer outstanding options following the reduction in workforce. Meetings and sponsorship expenses were \$0.4 million lower in the 2015 period as the company attended & presented at fewer conferences.

#### *Research and development expenses*

Research and development expenses decreased by \$11.1 million, or 41%, to \$16.0 million for the six months ended June 30, 2015 from \$27.2 million for the six months ended June 30, 2014. This decrease was caused primarily by a \$6.2 million decrease in pre-clinical and clinical development costs in the 2015 period due to higher ONTIME study expenses, pancreatic clinical trial expenses, and more institutional research during the six month period in 2014. The decrease from the 2014 period to the 2015 period was also caused by a reduction of \$1.3 million in manufacturing and formulation costs related to validation activities and \$2.3 million in consulting expenses related to analyzing clinical trial results and preparing for meetings with regulatory authorities. Personnel & related costs were \$1.0 million lower as research and development headcount was down from 42 at June 30, 2014 to 23 at June 30, 2015. Stock-based compensation expense was \$0.3 million lower in the 2015 period as a result of fewer outstanding options following the reduction in workforce.

#### *Change in fair value of warrant liability*

The change in fair value of the warrant liability was \$0 for the six months ended June 30, 2015 compared to a decreased of \$19,000 for the six months ended June 30, 2014. The change in the fair value of the warrant liability in 2014 was related to the revaluation of the outstanding warrants to fair value.

#### *Other income (expense), net*

Other income (expense), net, decreased by \$18,000 for the six months ended June 30, 2015 compared to the six months ended June 30, 2014, primarily to the loss on disposal of office furniture of \$15,000 related to closing of one office location and less interest income as a result of lower cash balances, partially offset by a decrease in exchange loss in the 2015 period.

#### **Financial Condition**

Total assets decreased \$19.6 million, or approximately 41%, from \$47.3 million at December 31, 2014 to \$27.7 million at June 30, 2015. The decrease in total assets was due primarily to decreases in cash and cash equivalents, as well as prepaid expenses and other current assets. Total liabilities decreased from \$23.7 million at December 31, 2014 to \$23.2 million at June 30, 2015, a decrease of approximately \$0.5 million, or 2%. Total stockholders' equity decreased from \$23.6 million at December 31, 2014 to \$4.6 million at June 30, 2015, a decrease of \$19.0 million, or approximately 81%, primarily due to a net loss of \$21.3 million for the six months ended June 30, 2015.

#### **Liquidity and Capital Resources**

We were incorporated in Delaware in December 1998 and commenced operations in January 1999. Our operations to date have included our organization and staffing, business planning, raising capital, in-licensing technology from research institutions, identifying potential product candidates, developing product candidates and building strategic alliances, as well as undertaking preclinical studies and clinical trials of our product candidates.

Since commencing operations we have dedicated a significant portion of our resources to our development efforts for our clinical-stage product candidates, particularly rigosertib. In July 2013, we completed our initial public offering, or IPO, from which we received net proceeds of \$79.8 million. Prior to the consummation of the IPO, we funded our operations primarily through the sale of preferred stock amounting to \$144.7 million, including \$50.0 million that Baxter invested in our Preferred Stock in 2012, as well as proceeds from the issuance of convertible debt and a stockholder loan amounting to \$26.8 million in the aggregate, all of which was later converted into shares of our Preferred Stock, and upfront payments of \$7.5 million from Symbio and \$50.0 million from Baxter in connection with our collaboration agreements. We have also received an aggregate of \$8.0 million from The Leukemia and Lymphoma Society, or LLS, under a funding agreement.

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Under our collaboration agreements with Baxter and Symbio, we are also eligible to receive various milestone payments upon the achievement of specified development and regulatory milestones and up to \$280.0 million upon the achievement of specified commercialization milestones, as well as tiered royalties, at percentage rates ranging from the low-teens to low-twenties, on any future net sales of products resulting from these collaborations. In October 2014, the Company entered into a sales agreement, or Sales Agreement, with Cantor Fitzgerald & Co., or Cantor to create an at-the-market equity program under which the Company from time to time may offer and sell shares of its Common Stock, having an aggregate offering price of up to \$20,000,000 through Cantor. During the six months ended June 30, 2015, 41,600 shares were sold under the Sales Agreement for net proceeds of \$110,000.

We expect to incur significant expenses and operating losses for the foreseeable future as we continue the development and clinical trials of, and seek regulatory approval for, our product candidates, even as milestones under our license and collaboration agreements may be met. If we obtain regulatory approval for any of our product candidates, we expect to incur significant commercialization expenses. We do not currently have an organization for the sales, marketing and distribution of pharmaceutical products. We may rely on licensing and co-promotion agreements with strategic or collaborative partners for the commercialization of our products in the United States and other territories. If we choose to build a commercial infrastructure to support marketing in the United States for any of our product candidates that achieve regulatory approval, such commercial infrastructure could be expected to include a targeted, oncology sales force supported by sales management, internal sales support, an internal marketing group and distribution support. To develop the appropriate commercial infrastructure internally, we would have to invest financial and management resources, some of which would have to be deployed prior to having any certainty about marketing approval. Furthermore, we have and expect to continue to incur additional costs associated with operating as a public company.

We do not have the funding resources necessary to carry out all of our proposed operating activities. We will need to obtain substantial additional financing in the future in order to fully fund rigosertib or any other product candidates through the regulatory approval process. Accordingly, we may delay our planned clinical trials, including the planned new Phase 3 clinical trial of rigosertib IV in higher-risk MDS, 04-30, until we secure adequate additional funding. During the first quarter of this year, we implemented a plan to scale down our operations in order to reduce spending on general and administrative functions, research and development, and other clinical trials. We expect this plan to result in further reductions in spending through the end of 2015, but such reductions may begin to be offset by enabling activities for enrollment of patients in our 04-30 clinical trial. We are exploring various dilutive and non-dilutive sources of funding, including equity and debt financings, strategic alliances, business development and other sources. If we are unable to secure

adequate additional funding, we will continue to delay, scale-back or eliminate certain of our planned research, drug discovery and development activities and certain other aspects of our operations and our business until such time as we are successful in securing adequate additional funding. As a result, our business, operating results, financial condition and cash flows may be materially and adversely affected. We will incur substantial costs beyond the present and planned clinical trials in order to file a New Drug Application (NDA) for rigosertib. The nature, design, size and cost of further studies will depend in large part on the outcome of preceding studies and discussions with regulators.

Since our inception, we have incurred net losses and experienced negative cash flows from our operations. We incurred net losses of \$21.3 million and \$35.5 million for the six months ended June 30, 2015 and 2014, respectively. Our operating activities used \$18.3 million and \$30.2 million of net cash during the six months ended June 30, 2015 and 2014, respectively. At June 30, 2015, we had an accumulated deficit of \$315.9 million, working capital of \$17.5 million, and cash and cash equivalents of \$25.4 million.

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**Cash Flows**

The following table summarizes our cash flows for the six months ended June 30, 2015 and 2014:

	<b>Six Months Ended June 30,</b>	
	<b>2015</b>	<b>2014</b>
Net cash (used in) provided by:		
Operating activities	\$ (18,327,000)	\$ (30,185,000)
Investing activities	—	24,778,000
Financing activities	104,000	898,000
Effect of foreign currency translation	(1,000)	(1,000)
Net (decrease) increase in cash and cash equivalents	<u>\$ (18,224,000)</u>	<u>\$ (4,510,000)</u>

*Net cash used in operating activities*

Net cash used in operating activities was \$18.3 million for the six months ended June 30, 2015 and consisted primarily of a net loss of \$21.3 million, partially offset by \$2.2 million of noncash stock-based compensation expense. Changes in operating assets and liabilities resulted in a net increase in cash of \$0.7 million. Significant changes in operating assets and liabilities included a decrease in deferred revenue as a result of \$0.2 million of the unamortized portion of the upfront payment under our collaboration agreement with SymBio. Accrued expenses decreased \$0.5 million, which was partially offset by an increase in accounts payable of \$0.2 million. The decrease in accrued expenses was caused by the timing of invoices for clinical trial and manufacturing development costs related to the ongoing trials and development of our product candidates at June 30, 2015. The increase in accounts payable was caused by the timing of payments to our vendors. Prepaid expenses and other current assets decreased \$1.2 million as a result of the recognition of expense for clinical and manufacturing activities, as well as insurance expense. Restricted cash decreased \$0.1 million due to the expiration of a letter of credit related to an office lease which was terminated during the first quarter of 2015.

*Net cash provided by investing activities*

There was no net cash provided by or used in investing activities for the six months ended June 30, 2015. Net cash provided by investing activities for the six months ended June 30, 2014 was \$24.8 million, and consisted of \$25 million in maturities of marketable securities partially offset by \$0.2 million due to the purchases of fixed assets.

*Net cash provided by financing activities*

Net cash provided by financing activities for the six months ending June 30, 2015 consisted of sales of common stock of \$0.1 million. Net cash provided by financing activities for the six months ended June 30, 2014 was \$0.9 million, which resulted from the proceeds received from the exercise of stock options in the 2014 period.

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**Operating and Capital Expenditure Requirements**

We have not achieved profitability since our inception and we expect to continue to incur net losses for the foreseeable future. During the first quarter of this year, we implemented a plan to scale down our operations in order to reduce spending on general and administrative functions, research and development, and other clinical trials. We expect this plan to result in further reductions in spending through the end of 2015, but such reductions may begin to be offset by enabling activities for enrollment of patients in our 04-30 clinical trial.

We do not have the funding resources necessary to carry out all of our proposed operating activities. We will need to obtain additional financing in the future in order to fully fund rigosertib or any other product candidates through the regulatory approval process. Accordingly, we may delay our planned clinical trials, including the planned new Phase 3 clinical trial of rigosertib IV in higher-risk MDS patients, until we secure adequate additional funding. We are exploring various dilutive and non-dilutive sources of funding, including equity and debt financings, strategic alliances, business development and other sources. However, we may not be able to obtain additional funding on favorable terms, if at all. If we are unable to secure adequate additional funding, we will continue to delay, scale-back or eliminate certain of our planned research, drug discovery and development activities and certain other aspects of our operations and our business until such time as we are successful in securing adequate additional funding. As a result, our business, operating results, financial condition and cash flows may be materially and adversely affected. We will incur substantial costs beyond the present and planned clinical trials in order to file a New Drug Application (NDA) for rigosertib. The nature, design, size and cost of further studies will depend in large part on the outcome of preceding studies and discussions with regulators.

Our future capital requirements will depend on many factors, including:

- timing and success of our clinical trials for rigosertib, including commencement of 04-30 and related enabling activities;
- continued progress of and increased spending related to our research and development activities;
- conditions in the capital markets and the biopharmaceutical industry, particularly with respect to raising capital or entering into strategic arrangements;
- progress with preclinical experiments and clinical trials, including regulatory approvals necessary for advancement and continuation of our development programs;
- changes in regulatory requirements and guidance of the FDA and other regulatory authorities, which may require additional clinical trials to evaluate safety and/or efficacy, and thus have significant impacts on our timelines, cost projections, and financial requirements;
- ongoing general and administrative expenses related to our reporting obligations under the Exchange Act;
- cost, timing, and results of regulatory reviews and approvals;
- costs of pending or future legal proceedings, claims, lawsuits and investigations;
- success, timing, and financial consequences of any existing or future collaborative, licensing and other arrangements that we may establish, including potential granting of licenses to one or more of our programs in

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- various territories, or otherwise monetizing one or more of our programs;
- cost of filing, prosecuting, defending and enforcing any patent claims and other intellectual property rights;
- costs of commercializing any of our other product candidates;
- technological and market developments;
- cost of manufacturing development; and
- timing and volume of sales of products for which we obtain marketing approval.

If we are unable to successfully raise sufficient additional capital, through future debt or equity financings, product sales, or through strategic and collaborative ventures with third parties, we will not have sufficient cash flows and liquidity to fund our planned business operations. In that event, we may be forced to limit many, if not all, of our programs and consider other means of creating value for our stockholders, such as licensing to others the development and commercialization of products that we consider valuable and would otherwise likely develop ourselves. If we are unable to raise the necessary capital, we may be forced to curtail all of our activities and, ultimately, potentially cease operations. Even if we are able to raise additional capital, such financings may only be available on unattractive terms, or could result in significant dilution of stockholders' interests. The consolidated financial statements do not include any adjustments relating to recoverability and classification of recorded asset amounts or the amounts and classification of liabilities that might be necessary should we be unable to continue in existence.

For additional risks associated with our substantial capital requirements, please see "Risk Factors" previously disclosed in our annual report on Form 10-K filed with the SEC on March 30, 2015.

### **Item 3. Quantitative and Qualitative Disclosures About Market Risk**

As a smaller reporting company, the Company is not required to provide the information otherwise required by this Item.

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### **Item 4. Controls and Procedures**

#### **Managements' Evaluation of our Disclosure Controls and Procedures**

Our management, with the participation of our Chief Executive Officer and our Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures as of June 30, 2015. The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) promulgated under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company's management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. Based on the evaluation of our disclosure controls and procedures as of June 30, 2015, our Chief Executive Officer and Chief Financial Officer concluded that, as of such date, disclosure controls and procedures were effective.

## Changes in Internal Control Over Financial Reporting

Our management, with the participation of our Chief Executive Officer and our Chief Financial Officer, conducted an evaluation of any changes in our internal control over financial reporting (as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that occurred during our most recently completed fiscal quarter. Based on that evaluation, our principal executive officer and principal financial officer concluded that no change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) occurred during the fiscal quarter ended June 30, 2015 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

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## PART II — OTHER INFORMATION

### Item 1. Legal Proceedings

We are not party to any pending material legal proceedings and are not aware of any such proceedings contemplated by governmental authorities.

### Item 1A. Risk Factors

There have been no material changes from our risk factors as previously reported in our annual report on Form 10-K filed with the SEC on March 30, 2015.

### Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

None.

### Item 3. Defaults Upon Senior Securities

Not applicable.

### Item 4. Mine Safety Disclosures

Not applicable.

### Item 5. Other Information

None.

### Item 6. Exhibits

A list of the exhibits filed as part of this Quarterly Report on Form 10-Q is set forth on the Exhibit Index, which is incorporated herein by reference.

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## SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

**ONCONOVA THERAPEUTICS, INC.**

Dated: August 13, 2015

/s/ RAMESH KUMAR, Ph.D.

Ramesh Kumar, Ph.D.  
President and Chief Executive Officer  
(Principal Executive Officer)

Dated: August 13, 2015

/s/ AJAY BANSAL

Ajay Bansal  
Chief Financial Officer  
(Principal Financial Officer)

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## EXHIBIT INDEX

Exhibit Number	Description
10.1	Employment Agreement between Onconova Therapeutics, Inc. and Ramesh Kumar, Ph.D ( <i>Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on July 8, 2015</i> ).
10.2	Amended and Restated Employment Agreement between Onconova Therapeutics, Inc. and Thomas McKearn, M.D., Ph.D ( <i>Incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on July 8, 2015</i> ).
10.3	Employment Agreement between Onconova Therapeutics, Inc. and Manoj Maniar, Ph.D ( <i>Incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K filed on July 8, 2015</i> ).
10.4	Amended and Restated Employment Agreement between Onconova Therapeutics, Inc. and Ajay Bansal ( <i>Incorporated by reference to Exhibit 10.4 to the Company's Current Report on Form 8-K filed on July 8, 2015</i> ).
10.5	Amended and Restated Employment Agreement between Onconova Therapeutics, Inc. and Steven Fruchtman, M.D.
31.1	Rule 13a-14(a)/15d-14(a) Certifications of Principal Executive Officer
31.2	Rule 13a-14(a)/15d-14(a) Certifications of Principal Financial Officer
32.1	Section 1350 Certifications of Principal Executive Officer
32.2	Section 1350 Certifications of Principal Financial Officer
101.INS	XBRL Instance
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Calculation Linkbase Document
101.LAB	XBRL Taxonomy Extension Labels Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

## AMENDED AND RESTATED EMPLOYMENT AGREEMENT

This Amended and Restated Employment Agreement (the "Agreement") is effective as of **July 1, 2015** (the "Effective Date") between Onconova Therapeutics, Inc., a Delaware corporation (the "Company") and **Steven Fruchtmann, M.D.** ("Employee").

WHEREAS, Employee is currently employed by the Company pursuant to the terms of an Employment Agreement dated January 12, 2015 (the "Original Agreement"); and

WHEREAS, the Company desires to continue to employ Employee and Employee desires to continue to be so employed by the Company upon the terms and conditions hereinafter set forth.

NOW, THEREFORE, in consideration of the mutual promises and undertakings herein contained, and intending to be legally bound hereby, the parties hereto agree as follows:

1. Duration of Agreement. This Agreement is effective on the date set forth above and has no specific expiration date. Unless terminated or amended in writing by the parties, this Agreement will govern Employee's continued employment by the Company until that employment ceases in accordance with Section 4 hereof.

2. Duties. Subject to all the terms and conditions hereof, the Company shall employ Employee, and Employee shall serve the Company as, Chief Medical Officer and Senior Vice President, Research and Development. Employee shall report directly to the President, Research and Development of the Company. As Employee's position is a full-time position, Employee agrees to devote Employee's effort of 100% from our Newtown, Pennsylvania office or from offsite, to this position and to the promotion of the business and interests of the Company. Employee will not render any professional services or engage in any activity which might be competitive with, adverse to the best interest of, or create the appearance of a conflict of interest with the Company. Employee agrees to abide by the policies, rules and regulations of the Company as they may be amended from time to time. Employee may not engage in outside employment or consulting without first obtaining prior express permission of the Company.

3. Compensation and Other Benefits.

(a) Salary. For all services rendered by Employee under this Agreement, the Company agrees to pay Employee at an initial annualized rate of **Four Hundred Twenty Thousand Dollars (\$420,000)** (the "Base Salary"), in bi-weekly installments in accordance with the Company's normal payroll cycle, less customary and legally required withholdings.

(b) Annual Bonus. In addition to his other remuneration, Employee shall be eligible to receive an annual bonus (the "Bonus"), based on the performance of Employee and the Company. The determination of such performance and the amount of the Bonus, if any, shall be at the sole discretion of the Compensation Committee but shall not exceed **forty percent (40%)** of Employee's Base Salary (the "Target Bonus"). In the event that Employee has earned a Bonus for a particular year, such Bonus shall be paid to Employee in the

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form of cash, stock options, shares of the Company's stock, or a combination thereof, at the Compensation Committee's discretion within sixty (60) days of the end of such year.

(c) Annual Option Award. In addition to his other remuneration, Employee shall be eligible to receive an annual option award, based on the performance of Employee and the Company. The determination of such performance and the number of options, if any, shall be at the sole discretion of the Compensation Committee.

(d) Advance Against Bonus. Employee has received a on-time advance against his Annual Bonus in the amount of twenty-five thousand dollars (\$25,000).

(e) Employee Benefits. During the term of this Agreement, Employee shall be entitled to participate in any employee benefit plans or programs of the Company that are made generally available from time to time by the Company to similarly situated employees, including but not limited to health insurance, a flexible spending account, and 401(k) participation.

(f) Vacation and Holidays. The Employee shall be entitled each year to **four (4)** weeks of vacation, and to those holidays observed by the Company. Vacation shall be taken by the Employee at such time or times as are mutually convenient to the Employee and the Company.

(g) Reimbursement of Expenses. The Company shall provide or reimburse the Employee a smart phone to use for Company business. In addition, the Company shall reimburse the Employee for all reasonable expenses incurred by Employee in connection with his employment hereunder provided, however, that such expenses were incurred in conformance with the policies of the Company, as established from time to time, and that Employee submits detailed vouchers and other records reasonably required by the Company in support of the amount and nature of such expense. Expenses for a car service from and to the Princeton Junction train station to the Onconova Office will be reimbursed or provided.

(h) Taxes and Withholding. All compensation payable and other benefits provided under this Agreement shall be subject to customary and legally required withholding for income, F.I.C.A., and other employment taxes.

4. Termination of Employment.

(a) Death of Employee. If Employee dies during the term of this Agreement, this Agreement shall terminate immediately and the Company shall pay to Employee's then-current spouse, if she survives him, or if not, to his estate, the balance of his accrued and unpaid salary, unreimbursed expenses, and his unused accrued vacation time through the termination date.

(b) Disability of Employee. If Employee is unable to perform his full-time regular duties by reason of incapacity, either physical or mental, for a period of twelve (12) consecutive weeks or ninety (90) days within any twelve (12) month period, the Company shall have the right

to terminate Employee's employment upon written notice to the Employee. If the Company decides to terminate Employee's employment under this Section 4(b), the Company

shall pay to Employee only the balance of his accrued and unpaid salary, unreimbursed expenses, and his unused, accrued vacation time through the termination date. If the Company decides not to terminate Employee's employment as allowed under this Section, the Company shall have the option of reducing the salary thereafter payable to Employee by the amount of payment the Employee receives pursuant to any disability insurance policy or program.

(c) Termination for Cause. If Employee's employment is terminated by the Company for "Cause," as defined below, the Company shall pay Employee only the balance of his accrued, but unpaid salary, unreimbursed expenses, and his unused, accrued vacation time through the termination date. The Company shall have the right to set off any amounts due to Employee by any amounts owed by Employee to the Company at the time Employee's employment terminates, and Employee hereby authorizes the Company to make this setoff.

Employee's employment may be terminated for "Cause" at any time upon delivery of written notice to Employee. "Cause" means the occurrence of any of the following events: (i) any gross failure on the part of Employee (other than by reason of disability as provided in Section 4(b)) to faithfully and professionally carry out his duties or to comply with any other material provision of this Agreement, which failure continues after written notice thereof by the Company, provided that the Company shall not be required to provide such notice in the event that such failure (A) is not susceptible to remedy or (B) relates to the same type of acts or omissions as to which such notice has been given on a prior occasion; (ii) Employee's dishonesty (which shall include without limitation any misuse or misappropriation of the Company's assets), or other willful misconduct (including without limitation any conduct on the part of Employee intended to or likely to injure the business of the Company); (iii) Employee's conviction for any felony or for any other crime involving moral turpitude, whether or not relating to his employment; (iv) in accordance with applicable federal, state or local laws, Employee's insobriety or use of illegal drugs, chemicals or controlled substances either (A) in the course of performing his duties and responsibilities under this Agreement, or (B) otherwise affecting the ability of Employee to perform the same; (v) Employee's failure to comply with a lawful written direction of the Company; or (vi) any wanton and willful dereliction of duties by Employee. The existence of any of the foregoing events or conditions shall be determined by the Company in the exercise of its reasonable judgment.

(d) Termination by the Company without Cause or by Employee for Good Reason. If Employee's employment by the Company ceases due to a termination by the Company without Cause (as defined above) or a resignation by Employee for Good Reason (as defined below), the Company shall:

(1) pay to Employee all accrued and unpaid Base Salary through the date of such cessation of employment at the time such Base Salary would otherwise be paid according to the Company's usual payroll practices;

(2) to the extent then unpaid, pay to Employee the annual Bonus (if any) with respect to the fiscal year ended immediately prior to the cessation of Employee's employment, which such Bonus shall be paid at the time such Bonus would have otherwise been paid absent Employee's cessation of employment;

(3) pay to Employee,

(a) in the event Employee's employment by the Company ceases due to a termination by the Company without Cause or by Employee for Good Reason other than during the Change in Control Protection Period (as defined below), monthly severance payments equal to one-twelfth of the sum of (i) Employee's then current Base Salary, and (ii) an amount equal to the Target Bonus for the fiscal year during which Employee's employment by the Company ceases, which severance payments shall be paid for the duration of the Severance Period (as defined below) in accordance with the Company's usual payroll practices; or

(b) in the event Employee's employment by the Company ceases due to a termination by the Company without Cause or by Employee for Good Reason during the Change in Control Protection Period, a severance payment amount equal to (i) the sum of the Employee's then current Base Salary plus (ii) an amount equal to the Target Bonus for the fiscal year during which Employee's employment by the Company ceases, in a lump sum payment less all applicable withholding taxes, within seventy-five (75) days following the later of the date of his termination of employment or the Change in Control;

(4) cause any outstanding unvested options to purchase shares of stock of the Company previously awarded to Employee to become fully vested as of the date of his termination of employment pursuant to this Section 4(d); and

(5) if Employee validly elects to receive continuation coverage under the Company's group health plan pursuant to the Consolidated Omnibus Budget Reconciliation Act of 1985 ("COBRA"), reimburse Employee for a portion of the applicable premium payable for such COBRA continuation coverage for the duration of the Severance Period in an amount equal to the employer's portion of such premiums at the rate in effect on Employee's termination date; *provided, however*, that if the Company determines that it cannot continue to provide Employee with such benefit (either pursuant to the terms of the applicable group health plan, as a result of applicable law, or otherwise), the Company shall make supplemental monthly severance payments to Employee in an amount equal to the monthly amount the Company would have otherwise reimbursed to Employee for his participation in such group health plan for the duration of the Severance Period.

Except as otherwise provided in this Section 4, all compensation and benefits will cease at the time of the Employee's cessation of employment and the Company will have no further liability or obligation by reason of such cessation of employment.

For purposes of this Agreement:

"Change in Control" has the same meaning ascribed to it in the Onconova Therapeutics, Inc. 2013 Equity Incentive Plan.

“Change in Control Protection Period” shall mean the twelve (12) month period following a Change in Control.

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“Good Reason” shall mean: (i) the breach by the Company of any material provision of this Agreement (provided, however, that a reduction in Employee’s Base Salary by less than twenty percent (20%) in and for any twelve month period shall not be a material breach by the Company if it is made in connection with a reduction in base salaries imposed on a majority of other senior executives of the Company and Employee’s Base Salary is not reduced by a percentage that is greater than the percentage by which the base salary of a majority of other senior executives of the Company is reduced in and for that same twelve month period); (ii) the breach by the Company of any material provision of this Agreement; (iii) a relocation of Employee’s principal business location to a location more than fifty (50) miles from Employee’s then-current business location; or (iv) at any time there occurs any of the following which results in a material adverse change in Employee’s duties, position, or compensation without the express prior written consent of Employee: (1) the sale or transfer, whether in one transaction or in a series of transactions, of substantially all of the assets of the Company; (2) the merger or consolidation of the Company with or into any other person or entity under circumstances where the Company is not the surviving entity in such merger or where persons having control of the Company immediately prior to the transaction are not in control of the Company immediately after the transaction. None of the foregoing events or conditions will constitute Good Reason unless Employee provides the Company with written objection to the event or condition within 30 days following the occurrence thereof, the Company does not cure the event or condition within 30 days of receiving that written objection, and Employee resigns his employment within 30 days following the expiration of that cure period.

“Severance Period” shall mean the nine month period immediately following the date Employee’s employment with the Company ceases due to a termination by the Company without Cause or by Employee for Good Reason; provided however, that in the event Employee’s employment by the Company ceases due to a termination by the Company without Cause or by Employee for Good Reason during the Change in Control Protection Period, the Severance Period will equal twelve (12) months.

It is the intention of Employee and of the Company that no payments by the Company to or for the benefit of Employee under this Agreement or any other agreement or plan, if any, pursuant to which Employee is entitled to receive payments or benefits shall be nondeductible to the Company by reason of the operation of Section 280G of the Internal Revenue Code of 1986, as amended (the “Code”) relating to parachute payments or any like statutory or regulatory provision. Accordingly, and notwithstanding any other provision of this Agreement or any such agreement or plan, if by reason of the operation of said Section 280G or any like statutory or regulatory provision, any such payments exceed the amount which can be deducted by the Company, such payments shall be reduced to the maximum amount which can be deducted by the Company. The Company shall make all reasonable efforts to avoid rendering such payments or benefits nondeductible, including, without limitation, securing approval of the payments or benefits from the appropriate stockholders of the Company as required by Section 280G of the Code; provided that the necessity of seeking the foregoing stockholder approval is subject to a determination by the Board of Directors of the Company, after consulting with its accountants and other advisors, that there will be no adverse effect on the Company. To the extent that payments exceeding such maximum deductible amount have been made to or for the benefit of Employee, such excess payments shall be refunded to the Company with interest thereon at the applicable Federal rate determined under Section 1274(d) of the Code, compounded annually, or

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at such other rate as may be required in order that no such payments shall be nondeductible to the Company by reason of the operation of said Section 280G or any like statutory or regulatory provision. To the extent any such reduction in payments is necessary, any amounts subject to Section 409A of the Code will be reduced first, then to the extent any remaining reduction is necessary such further reduction shall occur to the payments or benefits in the order that results in the greatest economic present value of all payments actually made to Employee.

(e) Voluntary Resignation. Employee may voluntarily resign from his employment with the Company at any time. In the event Employee voluntarily resigns from his employment with the Company, Employee shall provide the Company with thirty (30) days’ notice of his intent to resign. The Company shall pay Employee only the balance of his accrued, but unpaid salary, unreimbursed expenses, and his unused, accrued vacation time through Employee’s last day of work.

5. Non-Competition.

(a) For purposes of this Agreement, “Competitor” shall mean any person, company, or entity whose primary business at the time is, or whose then-current business plan contemplates engaging in activities which may be, competitive with products and services that were or were being designed, conceived, marketed, sold, distributed and/or developed by the Company during Employee’s employment by the Company or at the time of termination of Employee’s employment by the Company.

(b) Employee agrees that so long as he is employed by the Company, and for a period of twelve (12) months after the termination of his employment pursuant to section 4(e), he will not, directly or indirectly, whether for compensation or not, own, manage, operate, join, control, work for, or participate in, or be connected as a stockholder, officer, employee, partner, creditor, guarantor, advisor or otherwise, with a Competitor. The foregoing shall not be construed, however, as preventing Employee from investing his assets in such form or manner as will not require services on the part of Employee in the operations of the businesses in which such investments are made, provided that any such business is publicly owned and the interest of Employee therein is solely that of an investor owning not more than five percent (5%) of the outstanding equity securities of any such business. Should Employee breach the provisions of this Paragraph, the Company shall, in addition to any equitable or legal relief to which it is otherwise entitled, be entitled to cease all payments and benefits under the terms of this Agreement and shall be entitled to pursue all remedies it might have including, but not limited to, those contained in this Agreement.

(c) For the period of twelve (12) months after the termination of this Agreement for any reason whatsoever, Employee shall not hire, retain or engage as a director, officer, employee, agent or in any other capacity any person or persons who are employed by the Company or who were at any time (within a period of six (6) months immediately prior to the date of Employee’s termination) employed by the Company or otherwise interfere with the relationship between such persons and the Company.

(d) If the period of time or area herein specified should be adjudged unreasonable in any court proceeding, then the period of time shall be reduced by such number

of months or the area shall be reduced by elimination of such portion thereof as deemed unreasonable, so that this covenant may be enforced during such period of time and in such area as is adjudged to be reasonable.

6. Confidential Information.

(a) At all times during Employee's employment and thereafter, Employee will hold in strictest confidence and will not disclose, use, lecture upon or publish any of the Company's Proprietary Information (defined below), except as such use may be required in connection with Employee's work for the Company, or unless an officer of the Company expressly authorizes such disclosure in writing. Employee will obtain Company's written approval before publishing or submitting for publication any material (written, verbal, or otherwise) that relates to Employee's work for Company and/or incorporates any Proprietary Information. Employee hereby assigns to the Company any rights Employee may have or acquire in such Proprietary Information and recognizes that all Proprietary Information shall be the sole property of the Company and its assigns.

(b) The term "Proprietary Information" shall mean any and all confidential and/or proprietary knowledge, data or information of the Company, whether acquired by Employee while employed by the Company, during Employee's prior service as a consultant to the Company, or otherwise. By way of illustration but not limitation, "Proprietary Information" includes but is not limited to (i) trade secrets, inventions, mask works, ideas, methods, processes, formulas, chemical structures and methods for chemical synthesis, structure-activity relationships, assay methodologies, characteristics, equipment and equipment designs, results, formulations and biological, pharmacological, toxicological and clinical data, physical, chemical or biological materials, source and object codes, data, programs, other works of authorship, know-how, improvements, discoveries, developments, compilations, shop practices, supplier lists, designs and techniques (hereinafter collectively referred to as "Inventions"); and (ii) information regarding plans for research, development, new products, marketing and selling, business plans, budgets and unpublished financial statements, licenses, prices and costs, suppliers and customers; and (iii) information regarding the skills and compensation of other employees of the Company. Notwithstanding the foregoing, it is understood that, at all times, Employee is free to use information which is generally known in the trade or industry, which is not gained as a result of a breach of this Agreement, and which is acquired as a result of Employee's own skill, knowledge, know-how and experience.

(c) Employee understands, in addition, that the Company has received and in the future will receive from third parties confidential or proprietary information ("Third Party Information") subject to a duty on the Company's part to maintain the confidentiality of such information and to use it only for certain limited purposes. During the period of Employee's employment and thereafter, Employee will hold Third Party Information in the strictest confidence and will not disclose to anyone (other than Company personnel who need to know such information in connection with their work for the Company) or use, except in connection with Employee's work for the Company, Third Party Information unless expressly authorized by an officer of the Company in writing.

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(d) During Employee's employment by the Company, Employee will not improperly use or disclose any confidential information or trade secrets, if any, of any of his former employers or any other person to whom Employee has an obligation of confidentiality, and Employee will not bring onto the premises of the Company any unpublished documents or any property belonging to any former employer or any other person to whom Employee has an obligation of confidentiality, unless such action is consented to in writing by all persons to whom the relevant obligation of confidentiality is owed. Employee shall not work on Company projects on the grounds of, or using the equipment of, any third party, unless such work is agreed to by the Company in writing.

(e) Upon termination of his employment, Employee shall return to the Company all Proprietary Information in any tangible form in his possession, including copies thereof.

7. Company Right to Inventions.

(a) Inventions, if any, patented or unpatented, which Employee made prior to the commencement of Employee's employment with the Company are excluded from the scope of this Agreement. To preclude any possible uncertainty, Employee has provided on Appendix A (Previous Inventions) attached hereto a complete list of all Inventions that Employee has, alone or jointly with others, conceived, developed or reduced to practice or caused to be conceived, developed or reduced to practice prior to the commencement of Employee's employment with the Company, that Employee considers to be Employee's property or the property of third parties, and that Employee wishes to have excluded from the scope of this Agreement (collectively referred to as "Prior Inventions"). If disclosure of any such Prior Invention would cause Employee to violate any prior confidentiality agreement, Employee understands that Employee shall not list such Prior Inventions in Appendix A but shall only disclose a cursory name for each such invention (bearing in mind that where necessary the naming shall not be so specific as to violate the confidentiality obligation), a listing of the party(ies) to whom the invention belongs, and the fact that full disclosure as to such invention has not been made for that reason. Space is provided on Appendix A for this purpose. If, in the course of Employee's employment with the Company, Employee incorporates a Prior Invention into a Company product, process or machine, the Company is hereby granted and shall have, to the extent of Employee's right to make such grant, a nonexclusive, royalty-free, irrevocable, perpetual, worldwide license (with rights to sublicense through multiple tiers of sublicensees) to make, have made, modify, use, import, sell and offer to sell such Prior Invention. Notwithstanding the foregoing, Employee agrees that Employee will not incorporate, or permit to be incorporated, Prior Inventions in any Company Inventions without the Company's prior written consent.

(b) Subject to Section 7(d), Employee hereby assigns and agrees to assign in the future (when any such Inventions are first reduced to practice or a description thereof first fixed in a tangible medium, as applicable) to the Company all of Employee's right, title and interest in and to any and all Inventions, whether or not patentable or registerable under patent, intellectual property, copyright or similar statutes, made or conceived or reduced to practice or learned by Employee, either alone or jointly with others, during the period of Employee's employment with the Company. Inventions assigned to the Company, or to a third

party as directed by the Company pursuant to this Section 7(b), are hereinafter referred to as "Company Inventions."

(c) During the period of Employee's employment, Employee will promptly disclose to the Company fully and in writing all Inventions authored, conceived or reduced to practice by Employee, either alone or jointly with others. In addition, Employee will promptly disclose to the Company all patent applications filed by Employee or on Employee's behalf during Employee's employment and within one (1) year after termination of employment. At the time of each such disclosure, Employee will advise the Company in writing of any Inventions that Employee believes qualify for exclusion from Employee's obligation to assign hereunder; and Employee will at that time provide to the Company in writing all evidence necessary to substantiate that belief.

(d) As directed by the Company, Employee agrees to assign all Employee's right, title and interest in and to any particular Company Invention to a third party, including without limitation the United States.

(e) Employee acknowledges that all original works of authorship which are made by Employee (solely or jointly with others) within the scope of Employee's employment and which are protectable by copyright are "works made for hire," pursuant to United States Copyright Act (17 U.S.C. § 101).

(f) Employee will assist the Company in every proper way to obtain, and from time to time enforce, United States and foreign trade secret, patent, copyright, mask work and other intellectual property rights ("Proprietary Rights") relating to Company Inventions in any and all countries. To that end, Employee will execute, verify and deliver such documents and perform such other acts (including appearances as a witness) as the Company may reasonably request for use in applying for, obtaining, perfecting, evidencing, sustaining and enforcing such Proprietary Rights and the assignment thereof. In addition, Employee will execute, verify and deliver assignments of such Proprietary Rights to the Company, its successor in interest, or its designee. Employee's obligation to assist the Company with respect to Proprietary Rights relating to such Company Inventions in any and all countries shall continue beyond the termination of Employee's employment.

In the event the Company is unable for any reason, after reasonable effort, to secure Employee's signature on any document needed in connection with the actions specified in this Section 7(f), Employee hereby irrevocably designates and appoints the Company and its duly authorized officers and agents as Employee's agent and attorney-in-fact, which appointment is coupled with an interest, to act for and on Employee's behalf to execute, verify and file any such documents and to do all other lawfully permitted acts to further the purposes of the preceding paragraph with the same legal force and effect as if executed by Employee.

(g) Employee agrees to keep and maintain adequate and current records (in the form of notes, sketches, drawings and in any other form that may be required by the Company) of all Proprietary Information developed by Employee and all Inventions made by Employee during the period of Employee's employment at the Company, which records shall be available to and remain the sole property of the Company at all times.

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(h) Employee represents that Employee's performance of all the terms of this Agreement and as an employee of the Company does not and will not breach any agreement to keep in confidence information acquired by Employee in confidence or in trust prior to Employee's employment by the Company. Employee has not entered into, and Employee agrees that he will not enter into, any agreement either written or oral in conflict herewith.

8. Remedies. Because Employee's services are personal and unique and because Employee may have access to and become acquainted with the Proprietary Information of the Company, the Company shall have the right to enforce this Agreement and any of its provisions by injunction, or other equitable relief, without bond (if allowed by applicable law), and without prejudice to any other rights and remedies that the Company may have for a breach of this Agreement. In the event that Employee performs services for other entities while employed by the Company or leaves the employ of the Company, Employee hereby consents to the notification of Employee's new employer of Employee's rights and obligations under this Agreement.

9. Arbitration. Any and all disputes between the parties (except actions to enforce the provisions of Sections 5, 6 or 7 of this Agreement), arising under or relating to this Agreement or any other dispute arising between the parties, including claims arising under any employment discrimination laws, shall be adjudicated and resolved exclusively through binding arbitration before the American Arbitration Association pursuant to the American Arbitration Association's then-in-effect National Rules for the Resolution of Employment Disputes (hereafter "Rules"). The initiation and conduct of any arbitration hereunder shall be in accordance with the Rules and each side shall bear its own costs and counsel fees in such arbitration. Any arbitration hereunder shall be conducted in Philadelphia, Pennsylvania, and any arbitration award shall be final and binding on the Parties. The arbitrator shall have no authority to depart from, modify, or add to the written terms of this Agreement. The arbitration provisions of this Section 9 shall be interpreted according to, and governed by, the Federal Arbitration Act, 9 U.S.C. § 1 *et seq.*, and any action pursuant to such Act to enforce any rights hereunder shall be brought exclusively in the United States District Court for the Eastern District of Pennsylvania. The parties consent to the jurisdiction of (and the laying of venue in) such court.

10. General Indemnification. The Company shall indemnify the Employee against any and all demands, claims, damages and suits, actions and legal proceedings brought against the Employee, in his individual capacity or in his official capacity, as agent and/or Employee of the Company for claims arising during his employment. In addition, the Company shall advance to the Employee reasonable attorney's fees in connection with the foregoing.

11. Severability. The terms of this Agreement and each Paragraph thereof shall be considered severable and the invalidity or unenforceability of any part thereof shall not affect the validity or enforceability of the remaining portions or provisions hereof.

12. Notices. Any notice required or permitted to be given under this Agreement shall be sufficient, if in writing and delivered by registered or certified mail or overnight delivery service to his residence in the case of Employee, or to its principal office in the case of the Company.

13. Assignment. The rights and obligations of the Company under this Agreement shall inure to the benefit of and be binding upon its successors and assigns. Neither this Agreement nor any rights or interests herein or created hereby may be assigned or otherwise transferred voluntarily or involuntarily by Employee.

14. Waiver. The waiver by the Company or Employee of a breach of any provision of this Agreement by the other shall not operate or be construed as a waiver of any subsequent breach.

15. Applicable Law. This Agreement shall be interpreted and construed under the laws of the Commonwealth of Pennsylvania.

16. Entire Agreement; Prior Agreements. This instrument contains the entire agreement of the parties with respect to the subject matter hereof and supersedes any and all prior or contemporaneous agreements, oral or written, concerning the subject matter contained herein, including without limitation any prior agreements between the Company and Employee (including without limitation the Original Agreement). It may not be changed or altered, except by an agreement in writing signed by the party against whom enforcement of any waiver, change, modification, extension or discharge is sought.

17. Code Section 409A.

(a) Notwithstanding anything herein to the contrary, this Agreement is intended to be interpreted and applied so that the payments and benefits set forth herein shall either be exempt from the requirements of Section 409A of the Code or shall comply with the requirements of Code Section 409A and, accordingly, to the maximum extent permitted, this Agreement shall be interpreted to be exempt from or in compliance with Code Section 409A. The parties hereto agree that the payments and benefits set forth herein comply with or are exempt from the requirements of Code Section 409A and agree not to take any position, and to cause their affiliates, successors and assigns not to take any position, inconsistent with such interpretation for any reporting purposes, whether internal or external.

(b) Notwithstanding anything in this Agreement or elsewhere to the contrary, a termination of employment shall not be deemed to have occurred for purposes of any provision of this Agreement providing for the payment of any amounts or benefits that constitute "non-qualified deferred compensation" within the meaning of Code Section 409A upon or following a termination of the Employee's employment unless such termination is also a "separation from service" within the meaning of Code Section 409A and, for purposes of any such provision of this Agreement, references to a "termination," "termination of employment" or like terms shall mean "separation from service" and the date of such separation from service shall be treated as the date of termination for purposes of any such payment or benefits. Notwithstanding any other provision of this Agreement to the contrary, if the Employee is a "specified employee" within the meaning of Code Section 409A and the regulations issued thereunder, and a payment or benefit provided for in this Agreement would be subject to additional tax under Code Section 409A if such payment or benefit is paid within six (6) months after the Employee's "separation from service" (within the meaning of Code Section 409A), then such payment or benefit required under this Agreement shall not be paid (or commence) during

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the six-month period immediately following the Employee's separation from service except as provided in the immediately following sentence. In such an event, any payments or benefits that would otherwise have been made or provided during such six-month period and which would have incurred such additional tax under Code Section 409A shall instead be paid to the Employee in a lump-sum cash payment on the earlier of (i) the first regular payroll date of the seventh month following the Employee's separation from service or (ii) the 10th business day following the Employee's death.

(c) It is intended that each installment of any severance payments and benefits provided under this Agreement shall be treated as a separate "payment" for purposes of Code Section 409A. Neither the Employee nor the Company shall have the right to accelerate or defer the delivery of any such payments or benefits except to the extent specifically permitted or required by Code Section 409A. All reimbursements and in-kind benefits provided under this Agreement shall be made or provided in accordance with the requirements of Code Section 409A to the extent that such reimbursements or in-kind benefits are subject to Code Section 409A, including, where applicable, the requirements that (i) the amount of expenses eligible for reimbursement during a calendar year may not affect the expenses eligible for reimbursement in any other calendar year, (ii) the reimbursement of an eligible expense shall be made promptly and in all cases on or before the last day of the calendar year following the year in which the expense is incurred and (iii) the right to reimbursement is not subject to set off or liquidation or exchange for any other benefit. Notwithstanding anything contained herein to the contrary, if the period in which any general waiver and release of claims may be executed overlaps two calendar years (regardless of when such release is actually executed), then, to the extent required by Code Section 409A, any payments that are subject to such general waiver and release of claims that would otherwise be made in such first calendar year shall instead be withheld and paid on the first normal payment date in the second calendar year with all remaining payments to be paid as if such delay had not occurred.

18. Counterparts. This Amendment may be executed in one or more counterparts, each of which shall for all purposes be deemed to be an original and all of which shall constitute the same instrument. Any and all counterparts may be executed by facsimile.

*[signature page follows]*

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IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

ONCONOVA THERAPEUTICS, INC.

By: /s/ Ramesh Kumar Ph.D.  
Ramesh Kumar, Ph.D., President & CEO

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APPENDIX A

TO: Ramesh Kumar, Ph.D.  
FROM: Steven Fruchtman, M.D.  
DATE: July 1, 2015  
SUBJECT: PREVIOUS INVENTIONS

1. Except as listed in Section 2 below, the following is a complete list of all inventions or improvements relevant to the subject matter of my employment by Onconova Therapeutics, Inc. (the "Company") that have been made or conceived or first reduced to practice by me alone or jointly with others prior to my engagement by the Company:

- No inventions or improvements.
- See below:
- Additional sheet(s) attached.

2. Due to a prior confidentiality agreement, I cannot complete the disclosure under Section 1 above with respect to inventions or improvements generally listed below, the proprietary rights and duty of confidentiality with respect to which I owe to the following party(ies):

<u>INVENTION OR IMPROVEMENT</u>	<u>PARTY(IES)</u>	<u>RELATIONSHIP</u>
1.		
2.		
3.		
4.		
5.		
6.		

- Additional sheet(s) attached.
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**CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER PURSUANT TO  
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Ramesh Kumar, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Onconova Therapeutics, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
  - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: August 13, 2015

/s/ Ramesh Kumar, Ph.D.  
Ramesh Kumar, Ph.D.  
President and Chief Executive Officer  
(Principal Executive Officer)

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**CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER PURSUANT TO  
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Ajay Bansal, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Onconova Therapeutics, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
  - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: August 13, 2015

/s/ Ajay Bansal  
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Ajay Bansal  
Chief Financial Officer  
(Principal Financial Officer)

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**CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER  
PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO  
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Quarterly Report of Onconova Therapeutics, Inc. (the "Company") on Form 10-Q for the period ended June 30, 2015, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Ramesh Kumar, President and Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. That information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: August 13, 2015

/s/ Ramesh Kumar, Ph.D

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Ramesh Kumar, Ph.D.

President and Chief Executive Officer

*The foregoing certification is being furnished solely to accompany the Report pursuant to 18 U.S.C. § 1350, and is not being filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and is not to be incorporated by reference into any filing of the Company, whether made before or after the date hereof, regardless of any general incorporation language in such filing.*

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**CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER  
PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO  
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Quarterly Report of Onconova Therapeutics, Inc. (the "Company") on Form 10-Q for the period ended June 30, 2015, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Ajay Bansal, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. That information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: August 13, 2015

/s/ Ajay Bansal  
\_\_\_\_\_  
Ajay Bansal  
Chief Financial Officer

*The foregoing certification is being furnished solely to accompany the Report pursuant to 18 U.S.C. § 1350, and is not being filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and is not to be incorporated by reference into any filing of the Company, whether made before or after the date hereof, regardless of any general incorporation language in such filing.*

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