

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

FORM S-3  
REGISTRATION STATEMENT  
UNDER  
THE SECURITIES ACT OF 1933

**Oncobiologics, Inc.**

(Exact name of registrant as specified in its charter)

Delaware  
(State or other jurisdiction of  
incorporation or organization)

38-3982704  
(I.R.S. Employer  
Identification Number)

7 Clarke Drive  
Cranbury, New Jersey 08512  
(609) 619-3990

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Lawrence A. Kenyon  
Chief Financial Officer  
Oncobiologics, Inc.  
7 Clarke Drive  
Cranbury, New Jersey 08512  
(609) 619-3990

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

*Copies to:*

Yvan-Claude J. Pierre  
Marianne C. Sarrazin  
Cooley LLP  
1114 Avenue of the Americas  
New York, New York 10036  
(212) 479-6000

**Approximate date of commencement of proposed sale to the public:** From time to time after the effective date of this Registration Statement.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box:

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, as amended, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box:

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering:

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Accelerated filer

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of Securities Act.

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**CALCULATION OF REGISTRATION FEE**

<b>Title of Each Class of Securities to be Registered</b>	<b>Amount to be Registered(1)</b>	<b>Proposed Maximum Offering Price Per Share(2)</b>	<b>Proposed Maximum Aggregate Offering Price(2)</b>	<b>Amount of Registration Fee</b>
Common Stock, par value \$0.01 per share	3,882,001	\$1.20	\$4,658,401.20	\$579.97

- (1) Represents shares of common stock offered by the selling stockholders. Pursuant to Rule 416 under the Securities Act, the shares of common stock being registered hereunder include such indeterminate number of shares of common stock as may be issuable with respect to the shares of common stock being registered hereunder as a result of stock splits, stock dividends or similar transactions.
- (2) Estimated solely for the purpose of calculating the amount of the registration fee pursuant to Rule 457 promulgated under the Securities Act. The offering price per share and the aggregate offering price are based upon the average of the high and low prices of the Registrant's common stock as reported on The Nasdaq Global Market on February 13, 2018.

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

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**The information in this preliminary prospectus is not complete and may be changed. These securities may not be sold until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell nor does it seek an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.**

**PRELIMINARY PROSPECTUS**

**SUBJECT TO COMPLETION  
DATED FEBRUARY 15, 2018**

**3,882,001 Shares of Common Stock**



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This prospectus relates to the resale by the selling stockholders identified in this prospectus of up to 3,882,001 shares of our common stock that are issuable upon the exercise of the warrants to purchase our common stock, or the warrant shares. The warrants were issued to the selling stockholders pursuant to a note and warrant purchase agreement dated December 22, 2016, as amended by the first amendment to the note and warrant purchase agreement dated April 13, 2017.

We are not selling any shares of common stock and will not receive any proceeds from the sale of the warrant shares. Upon the exercise of the warrants for 3,882,001 shares of our common stock by payment of cash, however, we will receive the exercise price of the warrants, which is \$3.00 per share.

We have agreed to bear all of the expenses incurred in connection with the registration of these shares. The selling stockholders will pay or assume brokerage commissions and similar charges, if any, incurred for the sale of the shares.

The selling stockholders identified in this prospectus, or their pledgees, donees, transferees or other successors-in-interest, may offer the shares or warrants from time to time through public or private transactions at prevailing market prices, at prices related to prevailing market prices or at privately negotiated prices. For additional information on the methods of sale that may be used by the selling stockholders, see the section entitled "Plan of Distribution" beginning on page 7. For information regarding the selling stockholder, see the section entitled "Selling Stockholders" beginning on page 5.

We may amend or supplement this prospectus from time to time by filing amendments or supplements as required. You should read the entire prospectus and any amendments or supplements carefully before you make your investment decision.

Our common stock is traded on the Nasdaq Capital Market under the symbol "ONS". On February 13, 2018, the closing sale price of our common stock on the Nasdaq Global Market was \$1.20 per share. Effective February 15, 2018, we transferred the listing of our securities to the Nasdaq Capital Market. You are urged to obtain current market quotations for the common stock.

We are an "emerging growth company" under the federal securities laws and are subject to reduced public company reporting requirements for this prospectus and future filings.

***Investing in our common stock involves a high degree of risk. You should review carefully the risks and uncertainties incorporated by reference herein under the heading "Risk Factors" on page 3 of this prospectus, and under similar headings in the other documents that are filed after the date hereof and incorporated by reference into this prospectus.***

**Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.**

The date of this prospectus is \_\_\_\_\_, 2018.

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### ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission, or SEC, using the “shelf” registration process. Under this process, the selling stockholders may from time to time, in one or more offerings, sell the warrant shares described in this prospectus.

We are responsible for the information contained in or incorporated by reference into this prospectus. We have not authorized anyone to provide you with different information, and we take no responsibility for any other information others may give you. We are not, and the selling stockholders are not, making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. The information contained in this prospectus (and in any supplement or amendment to this prospectus) is accurate only as of the date on the front of the document, and any information we have incorporated by reference is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus or any sale of our common stock. Our business, financial condition, results of operations and prospects may have changed since those dates.

Persons who come into possession of this prospectus in jurisdictions outside the United States are required to inform themselves about and to observe any restrictions as to this offering and the distribution of this prospectus applicable to that jurisdiction.

Our name “Oncobiologics,” the Oncobiologics logo and other trademarks or service marks of Oncobiologics, Inc. appearing in this prospectus are the property of Oncobiologics, Inc. Other trademarks, service marks or trade names appearing in this prospectus are the property of their respective owners. We do not intend our use or display of other companies’ trade names, trademarks or service marks to imply a relationship with, or endorsement or sponsorship of us by, these other companies.

## PROSPECTUS SUMMARY

*This summary highlights information contained elsewhere in this prospectus or incorporated by reference in this prospectus. This summary provides an overview of selected information and does not contain all of the information you should consider before investing in our securities. You should read this entire prospectus carefully, especially the section titled “Risk Factors” and our consolidated financial statements and related notes included elsewhere in this prospectus, before making an investment decision. Except as otherwise indicated or unless the context otherwise requires, references to “company,” “we,” “us,” “our” or “Oncobiologics,” refer to Oncobiologics, Inc. and its consolidated subsidiary.*

### Overview

We are a clinical-stage biopharmaceutical company focused on identifying, developing, manufacturing and commercializing complex biosimilar therapeutics. Our current focus is on technically challenging and commercially attractive monoclonal antibodies, or mAbs, in the disease areas of immunology and oncology. A mAb is a type of protein that is produced by a single clone of cells or cell line and made to bind to a specific substance in the body. Our strategy is to cost-effectively develop these biosimilars on an accelerated timeline, which is fundamental to our success and we believe positions us to be a leading biosimilar company. We have leveraged our team’s biopharmaceutical expertise to establish fully integrated in-house development and manufacturing capabilities, which we refer to as our BioSymphony Platform. We believe this platform addresses the numerous complex technical and regulatory challenges in developing and commercializing mAb biosimilars and was designed to provide significant pricing flexibility. We have identified a pipeline of product candidates for further development and have advanced two of these product candidates through Phase 1 clinical trials and into preparations for Phase 3 clinical trials: ONS-3010, a biosimilar to adalimumab (Humira®), and ONS-1045, a biosimilar to bevacizumab (Avastin®).

### Implications of Being an Emerging Growth Company

As a company with less than \$1.07 billion in revenues during our last fiscal year, we are an “emerging growth company” as defined in the Jumpstart Our Business Startups Act, or the JOBS Act, enacted in April 2012, and therefore we intend to take advantage of certain exemptions from various public company reporting requirements, including not being required to have our internal control over financial reporting audited by our independent registered public accounting firm pursuant to Section 404(b) of the Sarbanes-Oxley Act of 2002, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and any golden parachute payments not previously approved. We may take advantage of these exemptions for up to five years from our initial public offering or until we are no longer an “emerging growth company.” We would cease to be an “emerging growth company” if we have more than \$1.07 billion in annual revenues, have more than \$700 million in market value of our common stock held by non-affiliates as of the last day of our second fiscal quarter or issue more than \$1.0 billion of non-convertible debt over a three-year period. We may choose to take advantage of some, but not all, of the available benefits under the JOBS Act. We have taken advantage of some reduced reporting burdens in this prospectus. Accordingly, the information contained herein may be different than the information you receive from other public companies in which you hold securities.

In addition, the JOBS Act provides that an “emerging growth company” can take advantage of an extended transition period for complying with new or revised accounting standards. This provision allows an emerging growth company to delay the adoption of some accounting standards until those standards would otherwise apply to private companies. We have irrevocably elected not to avail ourselves of delayed adoption of new or revised accounting standards and, therefore, we will be subject to the same requirements to adopt new or revised accounting standards as other public companies that are not “emerging growth companies.”

### Corporate Information

We initially incorporated in January 2010 in New Jersey as Oncobiologics, Inc., and in October 2015, we reincorporated in Delaware by merging with and into a Delaware corporation. Our headquarters are located at 7 Clarke Drive, Cranbury, New Jersey, 08512, and our telephone number at that location is (609) 619-3990. Our website address is [www.oncobiologics.com](http://www.oncobiologics.com). The information contained on, or that can be accessed through, our website is not part of, and is not incorporated by reference into this prospectus and should not be considered to be part of this prospectus.

**The Offering**

The selling stockholders named in this prospectus may offer and sell up to 3,882,001 shares of our common stock, which represent shares of common stock issuable upon exercise of warrants. The shares issuable upon exercise of the warrants will become eligible for sale for the selling stockholders under this prospectus only if such warrants are exercised.

Our common stock is currently listed on The Nasdaq Capital Market under the symbol "ONS." Shares of common stock that may be offered under this prospectus, when issued upon exercise of the outstanding warrants, will be fully paid and non-assessable. We will not receive any of the proceeds of sales by the selling stockholders of any of the warrant shares covered by this prospectus. When we refer to the selling stockholders in this prospectus, we are referring to the purchasers under the note and warrant purchase agreement dated as of December 22, 2016, as amended by the first amendment to the note and warrant purchase agreement dated April 13, 2017, and their permitted transferees or other successors-in-interest that may be identified in a supplement to this prospectus or, if required, a post-effective amendment to the registration statement of which this prospectus is a part.

## RISK FACTORS

An investment in our securities involves a high degree of risk. Before deciding whether to invest in our securities, you should consider carefully the risks and uncertainties discussed under the heading “Risk Factors” contained in our annual report on Form 10-K for the year ended September 30, 2017 filed with the SEC on December 29, 2017 and incorporated by reference in this prospectus, as the same may be amended, supplemented or superseded by the risks and uncertainties described under similar headings in the other documents that are filed after the date hereof and incorporated by reference into this prospectus. Additional risks not presently known to us or that we currently believe are immaterial may also significantly impair our business operations. Please also read carefully the section below entitled “Special Note Regarding Forward-Looking Statements.”

### SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference contain forward-looking statements about us and our industry that involve substantial risks and uncertainties. All statements other than statements of historical facts contained in this prospectus and the documented incorporated by reference, including statements regarding our future financial condition, business strategy and plans, and objectives of management for future operations, are forward-looking statements. In some cases, you can identify forward-looking statements by terminology such as “aim,” “anticipate,” “assume,” “believe,” “contemplate,” “continue,” “could,” “design,” “due,” “estimate,” “expect,” “goal,” “intend,” “may,” “objective,” “plan,” “predict,” “positioned,” “potential,” “seek,” “should,” “target,” “will,” “would” and other similar expressions that are predictions of or indicate future events and future trends, or the negative of these terms or other comparable terminology.

We have based these forward-looking statements largely on our current expectations and projections about future events and financial trends that we believe may affect our financial condition, results of operations, business strategy and financial needs. These forward-looking statements are subject to a number of known and unknown risks, uncertainties and assumptions, including risks described in the section titled “Risk Factors” contained in our annual report on Form 10-K for the year ended September 30, 2017 filed with the SEC on December 29, 2017 and incorporated by reference in this prospectus, as the same may be amended, supplemented or superseded by the risks and uncertainties described under similar headings in the other documents that are filed after the date hereof and incorporated by reference into this prospectus, regarding, among other things:

- our ability to successfully partner our lead biosimilar product candidate assets or expand our business to provide contract development and manufacturing services;
- the timing and the success of the design of the clinical trials and planned clinical trials of ONS-3010 and ONS-1045;
- whether the results of our clinical trials will be sufficient to support domestic or global regulatory approvals;
- our ability to obtain and maintain regulatory approval of our current and future biosimilar product candidates;
- our expectations regarding the potential market size and the size of the patient populations for our biosimilar product candidates, if approved, for commercial use;
- our ability to fund our working capital requirements;
- the implementation of our business model and strategic plans for our business and biosimilar product candidates;
- the initiation, timing, progress and results of future preclinical studies and clinical trials and our research and development programs;
- developments or disputes concerning our intellectual property or other proprietary rights;
- our ability to maintain and establish collaborations or obtain additional funding;

- the rate and degree of market acceptance of our current and future biosimilar product candidates or our contract development manufacturing services;
- our expectations regarding government and third-party payor coverage and reimbursement;
- our ability to compete in the markets we serve; and
- the factors that may impact our financial results.

These risks are not exhaustive. Other sections of this prospectus or the documents incorporated by reference may include additional factors that could harm our business and financial performance. Moreover, we operate in a very competitive and rapidly changing environment. New risk factors emerge from time to time, and it is not possible for our management to predict all risk factors, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in, or implied by, any forward-looking statements.

You should not rely upon forward-looking statements as predictions of future events. We cannot assure you that the events and circumstances reflected in the forward-looking statements will be achieved or occur. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance or achievements. Except as required by law, we undertake no obligation to update publicly any forward-looking statements for any reason after the date of this prospectus or to conform these statements to actual results or to changes in our expectations.

You should carefully read this prospectus, together with the information incorporated herein by reference as described under the heading “Incorporation by Reference,” and the documents that we reference in this prospectus and have filed as exhibits to the registration statement of which this prospectus is a part with the understanding that our actual future results, levels of activity, performance and achievements may be materially different from what we expect. We qualify all of our forward-looking statements by these cautionary statements.

Except as required by law, we assume no obligation to update these forward-looking statements publicly, or to update the reasons actual results could differ materially from those anticipated in these forward-looking statements, even if new information becomes available in the future.

#### **USE OF PROCEEDS**

We will not receive any proceeds from the resale of any shares offered by this prospectus by the selling stockholders. Upon the exercise of the warrants for 3,882,001 shares of our common stock by payment of cash, however, we will receive the exercise price of the warrants, which is \$3.00 per share. Any proceeds from the exercise of the warrants will be used for working capital and general corporate purposes.



## SELLING STOCKHOLDERS

On December 22, 2016, we entered into a note and warrant purchase agreement with the accredited investors named therein providing for the issuance and sale of up to \$10.0 million of senior secured promissory notes, which bear interest at a rate of 5.0% per year and, as amended, mature December 22, 2018, and warrants to acquire an aggregate 2,300,000 shares of our common stock. The warrants have a five-year term and an exercise price of \$3.00 per share. We closed the initial sale and purchase of the senior secured notes and warrants on December 22, 2016, issuing \$8.35 million aggregate principal amount of notes and warrants to acquire an aggregate 1,920,500 shares of our common stock in exchange for \$6.5 million of cash and an aggregate of \$1.85 million of existing unsecured bridge notes issued by us in October, November and December 2016. In January 2017, we issued the remaining \$1.65 million of senior secured notes and warrants to acquire up to an additional 379,500 shares of our common stock as contemplated by the note and warrant purchase agreement. On April 13, 2017, we entered into that certain first amendment to the note and warrant purchase agreement to increase the aggregate amount of senior secured promissory notes we may issue up to \$15.0 million, and provide for the issuance of warrants to acquire an additional 1,665,000 shares of our common stock. In April and May 2017, we sold the additional \$5.0 million aggregate principal amount of notes and warrants to acquire an additional 1,665,000 shares of our common stock. All of the selling stockholders acquired their warrants pursuant to this agreement, as amended. In September 2017, the holders of the notes agreed to amend the maturity date of the notes to December 22, 2018.

On February 3, 2017, we entered into a registration rights agreement with the investors party thereto, all of whom are the purchasers of the senior secured notes and warrants issued pursuant the note and warrant purchase agreement, as amended, and include all of the selling stockholders. Pursuant to the registration rights agreement, we agreed to prepare and file with the SEC the registration statement of which this prospectus forms a part to register for resale the shares of common stock issuable upon exercise of their warrants, to which we also refer as warrant shares.

The table below sets forth, to our knowledge, information about the selling stockholders as of December 31, 2017. Beneficial ownership is determined in accordance with the rules of the SEC. Unless otherwise indicated below, to our knowledge, the selling stockholders named in the table have sole voting and/or investment power with respect to the securities beneficially owned. Beneficial ownership for the selling stockholders is based on 25,530,727 shares of our common stock issued and outstanding as of December 31, 2017. The inclusion of any securities in this table does not constitute an admission of beneficial ownership by the person named below. Percentage amounts in the table below reflect beneficial ownership of that class of security.

We do not know when or in what amounts the selling stockholders may offer warrant shares for sale. The selling stockholders might not sell any or all of the warrant shares registered pursuant to the registration statement of which this prospectus forms a part. Because the selling stockholders may offer all or some of the warrant shares pursuant to the registration statement of which this prospectus forms a part and because there are currently no agreements or understandings with respect to the sale of any warrant shares, we cannot estimate the number of warrant shares that will be held by the selling stockholders after completion of this offering. However, for purposes of this table, we have assumed that, after completion of this offering, none of the warrant shares covered by this prospectus will be held by the selling stockholders.

Name and Address	Before Offering		Number of Shares Offered	After Offering	
	Number of Shares Beneficially Owned	Percentage of Shares Beneficially Owned		Number of Shares Beneficially Owned(1)	Percentage of Shares Beneficially Owned
Sabby Management, LLC	2,605,902 <sup>(2)</sup>	9.99%	1,189,500	2,605,902	9.99%
PointState Fund LP	1,453,000 <sup>(3)</sup>	5.4%	1,253,000	200,000	*%
venBio Select Advisor LLC	1,500,129 <sup>(4)</sup>	5.7 %	712,500	787,629	3.0%
TruTek Corp.	753,557 <sup>(5)</sup>	2.9 %	499,500	254,057	*%
Nishant Nayan	156,623 <sup>(6)</sup>	* %	89,501	67,122	*%
Scott A. Canute	364,157 <sup>(7)</sup>	1.4 %	80,500	283,657	*%
Dennis O'Donnell	57,745 <sup>(8)</sup>	*%	23,000	34,745	*%
Arunkumar B. Vyas	11,500 <sup>(9)</sup>	*%	11,500	--	--
Albert D. Dymess	18,746 <sup>(10)</sup>	*%	11,500	7,246	*%
Simon Woodhouse	15,075 <sup>(11)</sup>	*%	11,500	3,575	*%

\* Represents beneficial ownership of less than one percent (1%) of our outstanding common stock.

- (1) Assumes all warrant shares of common stock offered by the selling stockholders are sold.
- (2) Before offering includes (i) 1,647,170 shares of common stock held directly by Sabby Healthcare Master Fund, Ltd., a Cayman Islands exempted company, or SHMF, (ii) 168,732 shares of common stock held directly by Sabby Volatility Warrant Master Fund, Ltd., a Cayman Islands exempted company, or SVWMF, (iii) 343,492 aggregate shares of common stock issuable upon exercise of the aggregate Series A warrants and Series B warrants held directly by SHMF and SVWMF and (iv) 446,508 shares of common stock issuable upon the exercise of warrants held by SHMF and SVWMF received in our December 2016 financing. Excludes shares of common stock issuable upon exercise of other warrants as such warrants may not be exercised if such exercise would result in beneficial ownership of more than 9.99% of our common stock. Also does not include shares of common stock issuable upon conversion of 1,500,000 shares of Series B Non-Voting Convertible Preferred Stock as such shares are not currently convertible. After offering assumes conversion of a portion of Series B convertible preferred stock. Sabby Management, LLC, a Delaware limited liability company serves as the investment manager of SHMF and SVWMF. Hal Mintz is manager of Sabby Management. Each of Sabby Management and Mr. Mintz may be deemed to beneficially own the shares held by SHMF and SVWMF by virtue of such relationships, but each disclaims beneficial ownership except to the extent of any pecuniary interest in such shares. The address of each of Sabby Management and Mr. Mintz is c/o Sabby Management, 10 Mountainview Road, Suite 205, Upper Saddle River, New Jersey 07458.
- (3) Before offering includes (i) 1,253,000 warrant shares and (ii) an aggregate of 200,000 Series A and Series B warrants. Zachary J. Schreiber is the Managing Member of PointState Capital GP LLC, the general partner of PointState Capital LP, the investment manager of PointState Fund LP. Mr. Schreiber may be deemed to beneficially own the securities held by PointState Fund LP by virtue of such relationship, but Mr. Schreiber disclaims beneficial ownership of the securities owned by PointState Fund LP. The address of PointState Fund LP is 40 West 57th Street, 25th Floor, New York, NY 10019.
- (4) Before offering includes (i) 651,812 shares held directly by venBio Select Fund LLC, a Delaware limited liability company, or VBSF, (ii) 31,719 shares held in an account managed by venBio Select Advisor, LLC, a Delaware limited liability company, or VBSA, (iii) an aggregate of 484,228 shares issuable upon exercise of warrants held by VBSF, including 379,500 warrant shares, and (iv) an additional 333,000 warrant shares issuable upon exercise to an account managed by VBSA. VBSA is the investment manager for VBSF and other managed accounts. Dr. Behzad Aghazadeh is portfolio manager and a control person of VBSA, and may be deemed to beneficially own the shares held by VBSA by virtue of such relationship, but disclaims beneficial ownership except to the extent of any pecuniary interest in such shares. The address of each of Dr. Aghazadeh, VBSF and VBSA is c/o VBSA, 120 West 45th Street, New York, NY 10036.
- (5) Before offering includes 499,500 warrant shares.
- (6) Before offering includes 89,501 warrant shares.
- (7) Before offering includes warrants to acquire 117,815 shares (including 80,500 warrant shares).
- (8) Before offering includes 20,000 warrant shares.
- (9) Before offering represents 11,500 warrant shares.
- (10) Before offering includes 11,500 warrant shares.
- (11) Before offering includes (i) 325 shares of common stock issuable upon exercise of Series A warrants held jointly by Mr. Woodhouse and his spouse, (ii) 250 shares of common stock issuable upon exercise of Series A warrants held by his spouse, (iii) 3,000 shares of common stock owned by his spouse and (iv) 11,500 warrant shares

When we refer to the shares of our common stock being offered by this prospectus on behalf of the selling stockholders, we are referring to the shares of our common stock underlying the warrants sold in our senior secured note offering.

The selling stockholders may have sold or transferred, in transactions exempt from the registration requirements of the Securities Act, some or all of their shares of common stock since the date on which the information in the table above is presented. Information about the selling stockholders may change over time.

## PLAN OF DISTRIBUTION

We are registering the offer and resale of the shares of common stock underlying the warrants, to which we refer as the warrant shares, to permit the sale of warrant shares, after issuance by us pursuant to the terms of the warrants, by the selling stockholders from time to time after the date of this prospectus. We will not receive any of the proceeds from the sale of the warrant shares by the selling stockholders. We will bear all fees and expenses incident to our obligation to register the warrant shares, except that, if the warrant shares are sold through underwriters or broker-dealers, the selling stockholders will be responsible for any underwriting discounts or commissions or agent's commissions.

The selling stockholders may sell all or a portion of the warrant shares beneficially owned by them and offered hereby from time to time directly or through one or more underwriters, broker-dealers or agents. The warrant shares may be sold in one or more transactions at fixed prices, at prevailing market prices at the time of the sale, at varying prices determined at the time of sale, or at negotiated prices. These sales may be effected in transactions, which may involve crosses or block transactions: on any national securities exchange or quotation service on which the securities may be listed or quoted at the time of sale:

- in the over-the-counter market;
- in transactions otherwise than on these exchanges or systems or in the over-the-counter market;
- through the writing of options, whether such options are listed on an options exchange or otherwise;
- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- short sales;
- sales pursuant to Rule 144 of the Securities Act of 1933, as amended, or the Securities Act;
- broker-dealers may agree with the selling stockholders to sell a specified number of such security at a stipulated price per security;
- a combination of any such methods of sale; or
- any other method permitted pursuant to applicable law.

If the selling stockholders effect such transactions by selling warrant shares to or through underwriters, broker-dealers or agents, such underwriters, broker-dealers or agents may receive commissions in the form of discounts, concessions or commissions from the selling stockholders or commissions from purchasers of the warrant shares for whom they may act as agent or to whom they may sell as principal (which discounts, concessions or commissions as to particular underwriters, broker-dealers or agents may be in excess of those customary in the types of transactions involved). In connection with sales of the warrant shares or otherwise, the selling stockholders may enter into hedging transactions with broker-dealers, which may in turn engage in short sales of our common stock in the course of hedging in positions they assume. The selling stockholders may also sell shares of our common stock short and deliver shares of our common stock covered by this prospectus to close out short positions and to return borrowed shares in connection with such short sales. The selling stockholders may also loan or pledge shares of our common stock to broker-dealers that in turn may sell such shares.

The selling stockholders may pledge or grant a security interest in some or all of the shares of our common stock owned by them and, if they default in the performance of their secured obligations, the pledgees or secured parties may offer and sell the shares of common stock from time to time pursuant to this prospectus or other applicable provisions of the Securities Act, amending, if necessary, the list of selling stockholders to include the pledgee, transferee or other successors in interest as selling stockholders under this prospectus. The selling stockholders also may transfer and donate the shares of our common stock in other circumstances in which case the transferees, donees, pledgees or other successors in interest will be the selling beneficial owners for purposes of this prospectus.

The selling stockholders and any broker-dealer participating in the distribution of the shares of our common stock may be deemed to be "underwriters" within the meaning of the Securities Act, and any commission paid, or any discounts or concessions allowed to, any such broker-dealer may be deemed to be underwriting commissions or discounts under the Securities Act. At the time a particular offering of the shares of our common stock is made, a prospectus supplement, if required, will be distributed which will set forth the aggregate amount of shares of our common stock being offered and the terms of the offering, including the name or names of any broker-dealers or agents, any discounts, commissions and other terms constituting compensation from the selling stockholders and any discounts, commissions or concessions allowed or reallocated or paid to broker-dealers.

Under the securities laws of some states, the shares of our common stock may be sold in such states only through registered or licensed brokers or dealers. In addition, in some states the shares of our common stock may not be sold unless such shares have been registered or qualified for sale in such state or an exemption from registration or qualification is available and is complied with.

There can be no assurance that the selling stockholders will sell any or all of the shares of our common stock registered pursuant to the registration statement of which this prospectus forms a part.

The selling stockholders and any other person participating in such distribution will be subject to applicable provisions of the Exchange Act, and the rules and regulations thereunder, including, without limitation, Regulation M of the Exchange Act, which may limit the timing of purchases and sales of any of the shares of our common stock by the selling stockholders and any other participating person. Regulation M may also restrict the ability of any person engaged in the distribution of the shares of our common stock to engage in market-making activities with respect to the shares of our common stock. All of the foregoing may affect the marketability of the shares of our common stock and the ability of any person or entity to engage in market-making activities with respect to the shares of our common stock.

We will pay all expenses of the registration of the shares of our common stock pursuant to the registration statement of which this prospectus forms a part, including, without limitation, SEC filing fees and expenses of compliance with state securities or “blue sky” laws; provided, however, that the selling stockholders will pay all underwriting discounts and selling commissions, if any. We will indemnify the selling stockholders against liabilities, including some liabilities under the Securities Act, or the selling stockholders will be entitled to contribution. We may be indemnified by the selling stockholders against civil liabilities, including liabilities under the Securities Act, that may arise from any written information furnished to us by the selling stockholders specifically for use in this prospectus or we may be entitled to contribution.

Once sold under the registration statement of which this prospectus forms a part, the shares of our common stock will be freely tradable in the hands of persons other than our affiliates.

## VALIDITY OF SECURITIES

The validity of the securities stock being offered hereby has been passed upon for us by Cooley LLP.

## EXPERTS

The consolidated financial statements of Oncobiologics, Inc. as of September 30, 2017 and 2016 and for the years then ended have been incorporated by reference in this prospectus in reliance upon the report of KPMG LLP, independent registered public accounting firm, incorporated by reference herein, and upon the authority of said firm as experts in accounting and auditing. The audit report covering the September 30, 2017 consolidated financial statements contains an explanatory paragraph that states that the Company has incurred recurring losses and negative cash flows from operations since inception and has an accumulated deficit at September 30, 2017 of \$186.2 million, \$13.5 million of senior secured notes due in December 2018 and \$4.6 million of indebtedness that is due on demand, which raises substantial doubt about the Company's ability to continue as a going concern. The consolidated financial statements do not include any adjustments that might result from the outcome of that uncertainty.

## WHERE YOU CAN FIND MORE INFORMATION

We are a reporting company and file annual, quarterly and current reports, proxy statements and other information with the SEC. We have filed with the SEC a registration statement on Form S-3 under the Securities Act with respect to the resale of the common stock the selling stockholders are offering under this prospectus. This prospectus does not contain all of the information set forth in the registration statement and the exhibits to the registration statement. For further information with respect to us and the common stock offered by the selling stockholders under this prospectus, we refer you to the registration statement and the exhibits filed as a part of the registration statement. You may read and copy the registration statement, as well as our reports, proxy statements and other information, at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for more information about the operation of the public reference room. The SEC also maintains an Internet site that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC, including Oncobiologics. The SEC's Internet site can be found at [www.sec.gov](http://www.sec.gov). We maintain a website at [www.oncobiologics.com](http://www.oncobiologics.com). Information found on, or accessible through, our website is not a part of, and is not incorporated into, this prospectus, and you should not consider it part of this prospectus.

## INCORPORATION BY REFERENCE

The SEC allows us to incorporate by reference the information we file with it, which means that we can disclose important information to you by referring you to another document that we have filed separately with the SEC. You should read the information incorporated by reference because it is an important part of this prospectus. Information in this prospectus supersedes information incorporated by reference that we filed with the SEC prior to the date of this prospectus, while information that we file later with the SEC will automatically update and supersede the information in this prospectus. We incorporate by reference into this prospectus and the registration statement of which this prospectus is a part the information or documents listed below that we have filed with the SEC (Commission File No. 001-37759):

- our Annual Report on Form 10-K for the fiscal year ended September 30, 2017, filed with the SEC on December 29, 2017, as amended on January 29, 2018;
- our Quarterly Report on Form 10-Q filed with the SEC on February 14, 2018;
- our Current Reports on Form 8-K, filed with the SEC on October 3, 2017, October 31, 2017, January 4, 2018, February 7, 2018, February 9, 2018 and February 14, 2018; and
- the description of our common stock set forth in our registration statement on Form 8-A, filed with the SEC on April 29, 2016, as amended on May 11, 2016, including any further amendments thereto or reports filed for the purposes of updating this description.

We also incorporate by reference any future filings (other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items unless such Form 8-K expressly provides to the contrary) made with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, including those made after the date of the initial filing of the registration statement of which this prospectus is a part and prior to effectiveness of such registration statement, until we file a post-effective amendment that indicates the termination of the offering of the common stock made by this prospectus and will become a part of this prospectus from the date that such documents are filed with the SEC. Information in such future filings updates and supplements the information provided in this prospectus. Any statements in any such future filings will automatically be deemed to modify and supersede any information in any document we previously filed with the SEC that is incorporated or deemed to be incorporated herein by reference to the extent that statements in the later filed document modify or replace such earlier statements.

We will furnish without charge to each person, including any beneficial owner, to whom a prospectus is delivered, upon written or oral request, a copy of any or all of the documents incorporated by reference into this prospectus but not delivered with the prospectus, including exhibits that are specifically incorporated by reference into such documents. You should direct any requests for documents to Oncobiologics, Inc., Attention: Corporate Secretary, 7 Clarke Drive, Cranbury, New Jersey 08512. Our phone number is (609) 619-3990.

## PART II

### INFORMATION NOT REQUIRED IN THE PROSPECTUS

#### Item 14. Other Expenses of Issuance and Distribution

The following table sets forth the estimated costs and expenses payable by the registrant in connection with the common stock being registered. The selling stockholders will not bear any portion of such expenses. All the amounts shown are estimates, except for the SEC registration fee.

	<b>Amount</b>
SEC registration fee	\$ 580
Accounting fees and expenses	8,500
Legal fees and expenses	25,000
Printing and miscellaneous fees and expenses	39,420
Total	<u>\$ 73,500</u>

#### Item 15. Indemnification of Directors and Officers

As permitted by Section 102 of the Delaware General Corporation Law, we have adopted provisions in our amended and restated certificate of incorporation and amended and restated bylaws, each as amended, which limit or eliminate the personal liability of our directors for a breach of their fiduciary duty of care as a director. The duty of care generally requires that, when acting on behalf of the corporation, directors exercise an informed business judgment based on all material information reasonably available to them. Consequently, a director will not be personally liable to us or our stockholders for monetary damages for breach of fiduciary duty as a director, except for liability for:

- any breach of the director's duty of loyalty to us or our stockholders;
- any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- any act related to unlawful stock repurchases, redemptions or other distributions or payment of dividends; or
- any transaction from which the director derived an improper personal benefit.

These limitations of liability do not affect the availability of equitable remedies such as injunctive relief or rescission. Our amended and restated certificate of incorporation also authorizes us to indemnify our officers, directors and other agents to the fullest extent permitted under Delaware law.

As permitted by Section 145 of the Delaware General Corporation Law, our amended and restated bylaws, as amended, provide that:

- we may indemnify our directors, officers and employees to the fullest extent permitted by the Delaware General Corporation Law, subject to limited exceptions;
- we may advance expenses to our directors, officers and employees in connection with a legal proceeding to the fullest extent permitted by the Delaware General Corporation Law, subject to limited exceptions; and
- the rights provided in our bylaws are not exclusive.

Our amended and restated certificate of incorporation and bylaws, each as amended, which are filed as Exhibits 3.1 and 3.3, provide for the indemnification provisions described above and elsewhere herein. We have entered into separate indemnification agreements with our directors and officers that may be broader than the specific indemnification provisions contained in the Delaware General Corporation Law. These indemnification agreements generally require us, among other things, to indemnify our officers and directors against liabilities that may arise by reason of their status or service as directors or officers, other than liabilities arising from willful misconduct. These indemnification agreements also generally require us to advance any expenses incurred by the directors or officers as a result of any proceeding against them as to which they could be indemnified. In addition, we have purchased a policy of directors' and officers' liability insurance that insures our directors and officers against the cost of defense, settlement or payment of a judgment in some circumstances. These indemnification provisions and the indemnification agreements may be sufficiently broad to permit indemnification of our officers and directors for liabilities, including reimbursement of expenses incurred, arising under the Securities Act.

We have entered into indemnification agreements with our directors and executive officers, in addition to the indemnification provided for in our amended and restated certificate of incorporation and amended and restated bylaws, and intend to enter into indemnification agreements with any new directors and executive officers in the future.

We have purchased and currently intend to maintain insurance on behalf of each and every person who is or was a director or officer of our company against any loss arising from any claim asserted against him or her and incurred by him or her in any such capacity, subject to certain exclusions.

#### Item 16. Exhibits

<u>Exhibit No.</u>	<u>Description</u>
<a href="#">3.1</a>	<a href="#">Amended and Restated Certificate of Incorporation of Oncobiologics, Inc. (incorporated by reference to Exhibit 3.1 to the Registrant's current report on Form 8-K filed on May 19, 2016)</a>
<a href="#">3.2</a>	<a href="#">Certificate of Designation of Series A Convertible Preferred Stock and of Series B Convertible Preferred Stock of Oncobiologics, Inc. (incorporated by reference to Exhibit 3.1 to the Registrant's current report on Form 8-K filed on September 11, 2017)</a>
<a href="#">3.3</a>	<a href="#">Amended and Restated Bylaws of Oncobiologics, Inc. (incorporated by reference to Exhibit 3.2 to the Registrant's current report on Form 8-K filed on May 19, 2016)</a>
<a href="#">3.4</a>	<a href="#">Amendment to the Amended and Restated Bylaws of Oncobiologics, Inc. (incorporated by reference to Exhibit 3.1 to the Registrant's current report on Form 8-K filed with the SEC on November 29, 2016)</a>
<a href="#">5.1</a>	<a href="#">Opinion of Cooley LLP</a>
<a href="#">10.1</a>	<a href="#">Note and Warrant Purchase Agreement by and between Oncobiologics, Inc. and the Purchasers named therein dated December 22, 2016 (incorporated by reference to Exhibit 10.1 to the Registrant's current report on Form 8-K filed with the SEC on December 23, 2016)</a>
<a href="#">10.2</a>	<a href="#">First Amendment to Note and Warrant Purchase Agreement by and between Oncobiologics, Inc. and the Purchasers named therein dated April 13, 2017 (incorporated by reference to Exhibit 10.1 to the Registrant's current report on Form 8-K filed with the SEC on April 17, 2017)</a>
<a href="#">10.3</a>	<a href="#">Form of Senior Secured Promissory Note (included as Exhibit A to the Note and Warrant Purchase Agreement filed as Exhibit 10.1).</a>
<a href="#">10.4</a>	<a href="#">Form of Warrant (included as Exhibit B to the Note Purchase Agreement filed as Exhibit 10.1)</a>
<a href="#">10.5</a>	<a href="#">Security Agreement by and between Oncobiologics, Inc. and the Secured Parties named therein dated December 22, 2016 (incorporated by reference to Exhibit 10.4 to the Registrant's current report on Form 8-K filed with the SEC on December 23, 2016)</a>
<a href="#">10.6</a>	<a href="#">Intellectual Property Security Agreement by and between Oncobiologics, Inc. and the Secured Parties named therein dated December 22, 2016 (incorporated by reference to Exhibit 10.5 to the Registrant's current report on Form 8-K filed with the SEC on December 23, 2016)</a>
<a href="#">10.7</a>	<a href="#">Registration Rights Agreement by and between Oncobiologics, Inc. and the Investors named therein dated February 3, 2017 (incorporated by reference to Exhibit 10.1 to the Registrant's current report on Form 8-K filed with the SEC on February 3, 2017)</a>
<a href="#">10.7</a>	<a href="#">Note, Warrant and Registration Rights Amendment and Waiver, dated September 7, 2017. (incorporated by reference to Exhibit 10.9 to the Registrant's current report on Form 8-K filed with the SEC on September 11, 2017)</a>
<a href="#">23.1</a>	<a href="#">Consent of independent registered public accounting firm</a>
<a href="#">23.2</a>	<a href="#">Consent of Cooley LLP (included in Exhibit 5.1)</a>
<a href="#">24.1</a>	<a href="#">Power of Attorney (included on signature page)</a>



**Item 17. Undertakings**

The undersigned registrant hereby undertakes:

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

*provided, however*, that paragraphs (1)(i), (1)(ii) and (1)(iii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

- (2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.
- (3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

- (4) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser, each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness. *Provided, however*, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.
- (5) That, for the purpose of determining liability of the registrant under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act of 1933 and will be governed by the final adjudication of such issue.

## SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Cranbury, State of New Jersey, on February 15, 2018.

**ONCOBIOLOGICS, INC.**

By: /s/ PANKAJ MOHAN

Pankaj Mohan, Ph.D.

*Chairman, President and Chief Executive Officer*

## POWER OF ATTORNEY

**KNOW ALL PERSONS BY THESE PRESENTS**, that each person whose signature appears below constitutes and appoints Pankaj Mohan and Lawrence Kenyon, and each of them individually, as true and lawful attorneys-in-fact and agents, with full powers of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to sign any and all amendments (including pre-effective and post-effective amendments) to this registration statement, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, and generally to do all such things in their names and behalf in their capacities as officers and/or directors to enable Oncobiologics, Inc. to comply with the provisions of the Securities Act of 1933, as amended, and all requirements of the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, ratifying and confirming all that said attorneys-in-fact and agents, or any of them, or his substitutes or substitute, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated:

<u>Signatures</u>	<u>Title</u>	<u>Date</u>
<u>/s/ PANKAJ MOHAN</u> Pankaj Mohan, Ph.D.	Chairman, President and Chief Executive Officer <i>(Principal Executive Officer)</i>	February 15, 2018
<u>/s/ LAWRENCE A. KENYON</u> Lawrence A. Kenyon	Chief Financial Officer and Secretary <i>(Principal Accounting and Financial Officer)</i>	February 15, 2018
<u>/s/ CLAUDIO ALBRECHT</u> Claudio Albrecht	Director	February 15, 2018
<u>/s/ SCOTT A. CANUTE</u> Scott A. Canute	Director	February 15, 2018
<u>/s/ YEZAN M. HADDADIN</u> Yezan M. Haddadin	Director	February 15, 2018
<u>/s/ KURT J. HILZINGER</u> Kurt J. Hilzinger	Director	February 15, 2018
<u>/s/ FAISAL G. SUKHTIAN</u> Faisal G. Sukhtian	Director	February 15, 2018
<u>/s/ JOE THOMAS</u> Joe Thomas	Director	February 15, 2018



Yvan-Claude Pierre  
+1 212 479 6721  
ypierre@cooley.com

February 15, 2018

Oncobiologics, Inc.  
7 Clarke Drive  
Cranbury, New Jersey 08512  
Ladies and Gentlemen:

You have requested our opinion, as counsel to Oncobiologics, Inc., a Delaware corporation (the “**Company**”), in connection with the filing by the Company of a Registration Statement on Form S-3 (the “**Registration Statement**”) with the Securities and Exchange Commission, including a related prospectus filed with the Registration Statement (the “**Prospectus**”), covering the registration for the offer and resale of up to 3,882,001 shares (the “**Warrant Shares**”) of common stock, par value \$0.01 per share (the “**Common Stock**”), issuable upon exercise of the warrants (the “**Warrants**”) held by the selling stockholders identified in the Prospectus. The Warrants were issued pursuant to a note and warrant purchase agreement between the Company and the purchasers party thereto, dated as of December 22, 2016, as amended pursuant to the first amendment to note and warrant purchase agreement, dated as of April 13, 2017 (as so amended, the “**NWPA**”).

In connection with this opinion, we have examined and relied upon (a) the Registration Statement and the Prospectus, (b) the Company’s Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws, as amended, each as currently in effect, (c) the NWPA, including the form of the Warrants attached thereto, and (d) originals or copies certified to our satisfaction of such records, documents, certificates, memoranda and other instruments as in our judgment are necessary or appropriate to enable us to render the opinion expressed below. We have undertaken no independent verification with respect to such matters. We have assumed the genuineness and authenticity of all documents submitted to us as originals, the conformity to originals of all documents submitted to us as copies thereof, the accuracy, completeness and authenticity of certificates of public officials and the due execution and delivery of all documents by persons other than the Company where due execution and delivery are a prerequisite to the effectiveness thereof. As to certain factual matters, we have relied upon a certificate of an officer of the Company and have not sought independently to verify such matters.

With regard to our opinion as to the Warrant Shares, (i) we have assumed that the exercise price of the Warrants at the time of exercise is equal to or greater than the par value of the Common Stock, and (ii) we express no opinion to the extent that, notwithstanding its current reservation of shares of Common Stock, future issuances of securities, including the Warrant Shares, of the Company and/or antidilution adjustments to outstanding securities, including the Warrants, of the Company cause the Warrants to be exercisable for more shares of Common Stock than the number that then remain authorized but unissued.

Our opinion is expressed only with respect to the General Corporation Law of the State of Delaware. We express no opinion as to whether the laws of any particular jurisdiction are applicable to the subject matter hereof. We are not rendering any opinion as to compliance with any federal or state antifraud law, rule or regulation relating to securities, or to the sale or issuance thereof.

On the basis of the foregoing, and in reliance thereon, we are of the opinion that the Warrant Shares, when issued and sold by the Company in accordance with the Warrants, will be validly issued, fully paid and nonassessable.



**Consent of Independent Registered Public Accounting Firm**

The Board of Directors  
Oncobiologics, Inc.:

We consent to the use of our report incorporated by reference herein and to the reference to our firm under the heading “Experts” in the prospectus. Our report dated December 29, 2017 contains an explanatory paragraph that states that Oncobiologics, Inc. has incurred recurring losses and negative cash flows from operations since inception and has an accumulated deficit at September 30, 2017 of \$186.2 million, \$13.5 million of senior secured notes due in December 2018 and \$4.6 million of indebtedness that is due on demand, which raises substantial doubt about its ability to continue as a going concern. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

/s/ KPMG LLP

Philadelphia, Pennsylvania

February 15, 2018

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