

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  
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**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   
Non-accelerated filer  (Do not check if a smaller reporting company) Smaller reporting company   
Emerging growth company

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	37,795,948	\$ 1.22	\$ 46,111,057	\$ 5,740.83

- (1) Represents 37,795,948 shares of common stock that may be issued upon conversion of 250,000 outstanding shares of our Series A Convertible Preferred Stock, par value \$0.01 per share. 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 December 28, 2017.

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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 JANUARY 2, 2018**

**37,795,948 Shares**



**Common Stock**

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This prospectus relates to the disposition from time to time of up to 37,795,948 shares of our common stock, which reflects shares of our common stock issuable upon the conversion of 250,000 shares of our Series A Convertible Preferred Stock held by GMS Tenshi Holdings Pte. Limited, or GMS Tenshi, the selling stockholder named in this prospectus. We are not selling any common stock under this prospectus and will not receive any of the proceeds from the sale of shares by the selling stockholder.

The selling stockholder identified in this prospectus, or its 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, may offer the shares from time to time through public or private transactions at fixed prices, at prevailing market prices, at varying prices determined at the time of sale, or at privately negotiated prices. We provide more information about how the selling stockholder may sell its shares of common stock in the section entitled "Plan of Distribution" beginning on page 8 of this prospectus. We will not be paying any underwriting discounts or commissions in connection with any offering of common stock under this prospectus.

Our common stock is traded on the NASDAQ Global Market under the symbol "ONS." On December 28, 2017, the closing sale price of our common stock on the NASDAQ Global Market was \$1.26 per share. 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.

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***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.***

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**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.**

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

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## TABLE OF CONTENTS

<a href="#">ABOUT THIS PROSPECTUS</a>	<a href="#">i</a>
<a href="#">PROSPECTUS SUMMARY</a>	<a href="#">1</a>
<a href="#">RISK FACTORS</a>	<a href="#">3</a>
<a href="#">SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS</a>	<a href="#">3</a>
<a href="#">USE OF PROCEEDS</a>	<a href="#">4</a>
<a href="#">SELLING STOCKHOLDER</a>	<a href="#">5</a>
<a href="#">PLAN OF DISTRIBUTION</a>	<a href="#">8</a>
<a href="#">LEGAL MATTERS</a>	<a href="#">10</a>
<a href="#">EXPERTS</a>	<a href="#">10</a>
<a href="#">WHERE YOU CAN FIND MORE INFORMATION</a>	<a href="#">10</a>
<a href="#">INCORPORATION BY REFERENCE</a>	<a href="#">10</a>

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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 stockholder may from time to time, in one or more offerings, sell the common stock 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 stockholder is 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 biosimilar 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 stockholder named in this prospectus may offer and sell up to 37,795,948 shares of our common stock, which represents shares of our common stock issuable upon conversion of 250,000 outstanding shares of our Series A Convertible Preferred Stock. The shares issuable upon conversion of the Series A Convertible Preferred Stock will become eligible for sale by the selling stockholder under this prospectus only as the Series A Convertible Preferred Stock is converted.

Our common stock is currently listed on The NASDAQ Global Market under the symbol "ONS." Shares of common stock that may be offered under this prospectus, when issued upon conversion of the outstanding Series A Convertible Preferred Stock, will be fully paid and non-assessable. We will not receive any of the proceeds of sales by the selling stockholder of any of the common stock covered by this prospectus. Throughout this prospectus, when we refer to the shares of our common stock being registered on behalf of the selling stockholder, we are referring to the shares underlying the Series A Convertible Preferred Stock issued to the selling stockholder pursuant to the purchase agreement we entered into with the selling stockholder on September 7, 2017, and when we refer to the selling stockholder in this prospectus, we are referring to GMS Tenshi, the purchaser under the purchase agreement and, as applicable, its 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 common stock involves a high degree of risk. Before deciding whether to invest in our common stock, 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 documents 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**

The selling stockholder will receive all of the net proceeds from sales of the common stock sold pursuant to this prospectus.

## SELLING STOCKHOLDER

On September 7, 2017, we entered into a purchase agreement with the selling stockholder pursuant to which we issued and sold in a private placement an aggregate of 250,000 shares of our Series A Convertible Preferred Stock and warrants to purchase up to 16,750,000 additional shares of our common stock, for an aggregate purchase price of approximately \$25.0 million. We issued 32,628 shares of Series A Convertible Preferred Stock to the selling stockholder for approximately \$3.3 million of cash on September 11, 2017, and in connection therewith, entered into an investor rights agreement with the selling stockholder. We issued the remaining 217,372 shares of Series A Convertible Preferred Stock along with warrants to acquire 16,750,000 additional shares of our common stock to the selling stockholder for approximately \$21.7 million of cash on October 31, 2017.

Pursuant to the investor rights agreement, we agreed to file the registration statement of which this prospectus is a part to cover the resale of the shares underlying the Series A Convertible Preferred Stock and warrants issued to the selling stockholder pursuant to the purchase agreement, and to keep such registration statement effective until earlier of the date on which all of the shares that may be registered for resale have been sold. The number of shares of common stock issuable upon conversion of the Series A Convertible Preferred Stock and upon exercise of the warrants may be adjusted in certain circumstances, including stock splits, stock dividends, reclassifications and the like. The shares issuable upon conversion of the Series A Convertible Preferred Stock will become eligible for sale by the selling stockholder under this prospectus only as the Series A Convertible Preferred Stock is converted. We cannot predict when or whether the selling stockholder will convert its shares of Series A Convertible Preferred Stock.

We are registering the resale of the above-referenced shares to permit GMS Tenshi, the selling stockholder identified below, or its 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, to resell or otherwise dispose of the shares in the manner contemplated under "Plan of Distribution" in this prospectus (as may be supplemented and amended). This prospectus covers the sale or other disposition by the selling stockholder of up to the total number of shares of common stock issuable to the selling stockholder upon exercise of the shares of Series A Convertible Preferred Stock issued to the selling stockholder pursuant to the purchase agreement. This prospectus does not cover the sale or other disposition by the selling stockholder of up to the total number of shares of common stock issuable to the selling stockholder upon exercise of the warrants issued to the selling stockholder pursuant to the purchase agreement. Throughout this prospectus, when we refer to the shares of our common stock being registered on behalf of the selling stockholder, we are referring to the shares underlying the Series A Convertible Preferred Stock issued to the selling stockholder pursuant to the purchase agreement only, and when we refer to the selling stockholder in this prospectus, we are referring to GMS Tenshi, the purchaser under the purchase agreement and, as applicable, its 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.

The selling stockholder may sell some, all or none of its shares. We do not know how long the selling stockholder will hold the shares before selling them, and we currently have no agreements, arrangements or understandings with the selling stockholder regarding the sale or other disposition of any of the shares. The shares covered hereby may be offered from time to time by the selling stockholder.

The following table sets forth the number and percentage of our common stock beneficially owned by the selling stockholder as of September 30, 2017, taking into account the issuance of the remaining shares of Series A Preferred Stock and warrants, which occurred on October 31, 2017, the number of shares that may be offered under this prospectus, and the number and percentage of our common stock beneficially owned by the selling stockholder assuming all of the shares covered hereby are sold. Beneficial ownership is determined in accordance with the rules of the SEC and includes voting or investment power with respect to our common stock. Generally, a person "beneficially owns" shares of our common stock if the person has or shares with others the right to vote those shares or to dispose of them, or if the person has the right to acquire voting or disposition rights within 60 days. The number of shares in the column "Number of Shares Offered" represents all of the shares that the selling stockholder may offer and sell from time to time under this prospectus.

The information in the table below and the footnotes thereto regarding shares of common stock to be beneficially owned after the offering assumes that the selling stockholder has converted the Series A Convertible Preferred Stock in full and further assumes the sale of all shares being offered by the selling stockholder under this prospectus.

All information contained in the table below and the footnotes thereto is based upon information provided to us by the selling stockholder. The information in the table below and the footnotes thereto regarding shares of common stock to be beneficially owned after the offering assumes that the selling stockholder has converted the Series A Convertible Preferred Stock in full and further assumes the sale of all shares being offered by the selling stockholder under this prospectus. The percentage of shares owned prior to and after the offering is based on 24,933,944 shares of common stock outstanding as of September 30, 2017 and, with respect to the percentage of shares owned after the offering, on the assumption that the selling stockholder has converted the Series A Convertible Preferred Stock in full and therefore that all shares of common stock issuable upon conversion of the Series A Convertible Preferred Stock were outstanding as of that date. Unless otherwise indicated in the footnotes to this table, we believe that the selling stockholder has sole voting and investment power with respect to the shares of common stock indicated as beneficially owned.

Name and Address	Prior to Offering		Number of Shares Offered	After Offering	
	Number of Shares Beneficially Owned	Percentage of Shares Beneficially Owned		Number of Shares Beneficially Owned	Percentage of Shares Beneficially Owned
<b>GMS Tenshi Holdings Pte. Limited</b> 36 Robinson Road, #13-01, City House Singapore 068877	54,545,948(1)	68.6%	37,795,948	16,750,000	21.1%

(1) Includes (a) 37,795,948 shares of common stock issuable upon conversion of 250,000 shares of Series A Convertible Preferred Stock and (b) 16,750,000 shares of common stock issuable upon exercise of warrants. The Series A Convertible Preferred Stock and warrants are held directly by GMS Tenshi Holdings Pte. Limited (“GMS Tenshi”). Tenshi Life Sciences Private Limited (“Tenshi”), a private investment vehicle controlled by Arun Kumar Pillai (“Kumar”), and GMS Pharma (Singapore) Pte. Limited (“GMS Pharma”), a private investment company and wholly-owned subsidiary of GMS Holdings, a private investment company (“GMS Holdings”), are the 50:50 beneficial owners of GMS Tenshi, in which each of Tenshi and GMS Pharma owns 50% of the outstanding voting shares. Kumar, a natural person, is the holder of a controlling interest in Tenshi. Ghiath M. Sukhtian (“Sukhtian”), a natural person, is the holder of a controlling interest in GMS Holdings, which is the holder of a controlling interest in GMS Pharma. The principal office address of Kumar is #30, “Galaxy”, 1st Main, J.P. Nagar, 3rd Phase, Bangalore, India 560078. The principal office address of Sukhtian is Zahran Street, 7th Circle Zahran Plaza Building, 4th Floor P.O. Box 142904, Amman, Jordan 11844.

#### Relationships with the Selling Stockholder

On September 11, 2017, we issued 32,628 shares of Series A Convertible Preferred Stock to the selling stockholder for approximately \$3.3 million of cash pursuant to the purchase agreement dated September 7, 2017, and entered into the investor rights agreement with the selling stockholder in connection therewith. Effective as of September 11, 2017, we appointed Faisal G. Sukhtian and Joe Thomas, each of whom was designated by the selling stockholder, to our Board of Directors. Faisal G. Sukhtian is a Director of GMS Tenshi, the selling stockholder, and is both an Executive Director and member of the Board of Directors of GMS Holdings, a private investment company, which is a 50% beneficial owner of GMS Tenshi, the selling stockholder. Mr. Sukhtian is also the son of Mr. Ghiath Sukhtian, the holder of a controlling interest in GMS Holdings. Joe Thomas is an executive director of Stelis Biopharma Private Limited, or Stelis. Stelis is affiliated with, the selling stockholder, as well as an affiliate of Strides Pharma Global (UK) Ltd., one of our significant stockholders.

On October 31, 2017, we issued the remaining 217,372 share of Series A Convertible Preferred Stock and the warrants to acquire 16,750,000 shares of our common stock to the selling stockholder for approximately \$21.7 million of cash. In connection therewith, effective as of such date, we appointed Claudio Albrecht and Yezan M. Haddadin, each of who was designated by the selling stockholder, to our Board of Directors. Claudio Albrecht serves on the board of directors of GMS Holdings, which is a 50% beneficial owner of the selling stockholder, GMS Tenshi. Yezan M. Haddadin is an executive officer of GMS Holdings.

On September 7, 2017, we also entered into a joint development and license agreement with the selling stockholder, GMS Tenshi, providing for the development and commercialization of our ONS-3010 and ONS-1045 biosimilar product candidates in emerging markets but specifically excluding major developed markets, such as the United States, Canada, Europe, Japan, Australia and New Zealand, and smaller markets where we have existing licensing arrangements, such as Mexico, greater China and India. In exchange for granting the selling stockholder a perpetual, irrevocable, exclusive, sublicensable license in the agreed territory for the research, development, manufacture, use or sale of the ONS-3010 and ONS-1045 biosimilar product candidates in the agreed territory, the selling stockholder made a signing payment of \$50,000, and an additional payment of \$2.45 million upon the initial sale of the Series A Convertible Preferred Stock under the purchase agreement. We may receive up to an additional \$2.5 million milestone payments under the agreement for each licensed product upon achievement of certain net profit thresholds. We agreed with the selling stockholder to share net profits based on sales of licensed products in the agreed territory, in proportions weighed in the selling stockholder's favor, subject to adjustment as provided in the agreement. The agreement superseded and replaced a strategic licensing agreement dated July 25, 2017 by and between our company and the selling stockholder pursuant to which we received an aggregate \$2.5 million in payments.

Except with respect to the foregoing and the transactions contemplated by the September 7, 2017 purchase agreement as described above, none of the selling stockholder (or its control persons) has, or within the past three years has had, any position, office or other material relationship with us or any of our affiliates.

## PLAN OF DISTRIBUTION

We are registering the shares of common stock issuable to the selling stockholder upon conversion of the 250,000 shares of Series A Convertible Preferred Stock issued to the selling stockholder pursuant to that securities purchase agreement dated September 7, 2017 to permit the resale of these shares of common stock by the selling stockholder from time to time from after the date of this prospectus. We will not receive any of the proceeds from the sale by the selling stockholder of the shares of common stock. We will bear all fees and expenses incident to our obligation to register the shares of common stock.

The selling stockholder may, from time to time, sell any or all of its shares of common stock covered hereby on The NASDAQ Global Market or any other stock exchange, market or trading facility on which the shares are traded or in private transactions. These sales may be at fixed prices, at prevailing market prices at the time of the sale, at varying prices determined at the time of sale, or privately negotiated prices. The selling stockholder may use any one or more of the following methods when selling shares:

- 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;
- settlement of short sales, to the extent permitted by law;
- in transactions through broker-dealers that agree with the selling stockholder to sell a specified number of such shares at a stipulated price per share;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;
- a combination of any such methods of sale; or
- any other method permitted pursuant to applicable law.

The selling stockholder may also sell the shares of common stock under Rule 144 under the Securities Act of 1933, as amended, or the Securities Act, if available, rather than under this prospectus.

Broker-dealers engaged by the selling stockholder may arrange for other brokers-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the selling stockholder (or, if any broker-dealer acts as agent for the purchaser of shares, from the purchaser) in amounts to be negotiated, but, except as set forth in a supplement to this prospectus, in the case of an agency transaction not in excess of a customary brokerage commission in compliance with FINRA Rule 2440; and in the case of a principal transaction a markup or markdown in compliance with FINRA IM-2440-1.

In connection with the sale of the shares of common stock or interests therein, the selling stockholder may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the shares of common stock in the course of hedging the positions they assume. The selling stockholder may also sell the shares of common stock short and deliver these securities to close out their short positions or to return borrowed shares in connection with such short sales, or loan or pledge the shares of common stock to broker-dealers that in turn may sell these securities. The selling stockholder may also enter into options or other transactions with broker-dealers or other financial institutions or create one or more derivative securities that require the delivery to such broker-dealer or other financial institution of shares of common stock offered by this prospectus, which shares such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

The selling stockholder and any broker-dealers or agents that are involved in selling the shares of common stock may be deemed to be “underwriters” within the meaning of the Securities Act in connection with such sales. In such event, any commissions received by such selling stockholder, broker-dealers or agents and any profit on the resale of the shares purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act.

If the selling stockholder is an “underwriter” within the meaning of Section 2(a)(11) of the Securities Act, it will be subject to the prospectus delivery requirements of the Securities Act and may be subject to certain statutory liabilities of, including but not limited to, Sections 11, 12 and 17 of the Securities Act and Rule 10b-5 under the Securities Exchange Act of 1934, as amended, or the Exchange Act. The selling stockholder has informed us that it is not a registered broker-dealer or an affiliate of a registered broker-dealer. In no event shall any broker-dealer receive fees, commissions and markups which, in the aggregate, would exceed eight percent (8%).

We are required to pay certain fees and expenses incurred by us incident to the registration of the shares. We have agreed to indemnify the selling stockholder against certain losses, claims, damages and liabilities, including liabilities under the Securities Act, and the selling stockholder may be entitled to contribution. We may be indemnified by the selling stockholder against certain losses, claims, damages and liabilities, including liabilities under the Securities Act that may arise from any written information furnished to us by the selling stockholder specifically for use in this prospectus, or we may be entitled to contribution.

The selling stockholder will be subject to the prospectus delivery requirements of the Securities Act including Rule 172 thereunder unless an exemption therefrom is available.

We agreed to cause the registration statement of which this prospectus is a part to remain effective until the date on which all of the shares registered for resale under the registration statement have been sold. The shares of common stock will be sold only through registered or licensed brokers or dealers if required under applicable state securities laws. In addition, in certain states, the shares of common stock covered hereby may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

Under applicable rules and regulations under the Exchange Act, any person engaged in the distribution of the shares of common stock may not simultaneously engage in market making activities with respect to the shares of common stock for the applicable restricted period, as defined in Regulation M, prior to the commencement of the distribution. In addition, the selling stockholder will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including Regulation M, which may limit the timing of purchases and sales of shares of common stock by the selling stockholder or any other person. We will make copies of this prospectus available to the selling stockholder and have informed it of the need to deliver a copy of this prospectus at or prior to the time of the sale (including by compliance with Rule 172 under the Securities Act).

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

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

## LEGAL MATTERS

The validity of the common 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 stockholder is 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 stockholder 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;
- our Current Reports on Form 8-K, filed with the SEC on October 3, 2017 and October 31, 2017; 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	\$ 5,740
Accounting fees and expenses	12,500
Legal fees and expenses	1,500,000
Printing and miscellaneous fees and expenses	4,500
Total	<u>\$ 1,522,740</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, that 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.

The purchase agreement that the registrant entered into with the selling stockholder identified in the prospectus included in this registration statement provides for cross-indemnification in connection with registration of the registrant's common stock on behalf of such selling stockholder, including for some liabilities arising under the Securities Act.

#### **Item 16. Exhibits**

<b>Exhibit No.</b>	<b>Description</b>
<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="#">4.1</a>	<a href="#">Investor Rights Agreement by and between Oncobiologics, Inc. and the Investor named therein, dated September 11, 2017 (incorporated by reference to Exhibit 10.3 to the Registrant's current report on Form 8-K filed on September 11, 2017)</a>
<a href="#">5.1</a>	<a href="#">Opinion of Cooley LLP</a>
<a href="#">10.1</a>	<a href="#">Purchase Agreement by and between Oncobiologics, Inc. and the Investor named therein, dated September 7, 2017 (incorporated by reference to Exhibit 10.1 to the Registrant's current report on Form 8-K filed 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:
  - (i) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and
  - (ii) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by Section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof. *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 effective date, 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 effective date.
- (5) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser, if the registrant is subject to Rule 430C, 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.

- (6) 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 January 2, 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>	January 2, 2018
<u>/s/ LAWRENCE A. KENYON</u> Lawrence A. Kenyon	Chief Financial Officer and Secretary <i>(Principal Accounting and Financial Officer)</i>	January 2, 2018
<u>/s/ CLAUDIO ALBRECHT</u> Claudio Albrecht	Director	January 2, 2018
<u>/s/ SCOTT A. CANUTE</u> Scott A. Canute	Director	January 2, 2018
<u>/s/ YEZAN M. HADDADIN</u> Yezan M. Haddadin	Director	January 2, 2018
<u>/s/ KURT J. HILZINGER</u> Kurt J. Hilzinger	Director	January 2, 2018
<u>/s/ FAISAL G. SUKHTIAN</u> Faisal G. Sukhtian	Director	January 2, 2018
<u>/s/ JOE THOMAS</u> Joe Thomas	Director	January 2, 2018



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

January 2, 2018

Oncobiologics, Inc.  
7 Clarke Drive  
Cranbury, New Jersey 08512

Ladies and Gentlemen:

We have acted as counsel to Oncobiologics, Inc., a Delaware corporation (the "*Company*"), with respect to certain matters 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 that forms a part of the Registration Statement (the "*Prospectus*"), covering the registration for resale of 37,795,948 shares of the Company's common stock, par value \$0.01 per share (the "*Common Shares*"), issuable upon conversion of 250,000 shares of the Company's Series A Convertible Preferred Stock, par value \$0.01 per share (the "*Preferred Shares*"), held by the selling stockholder identified in the Prospectus.

In connection with this opinion, we have examined and relied upon (a) the Registration Statement and the Prospectus, (b) the Company's Certificate of Incorporation and Bylaws, each as currently in effect and in effect at the time of the issuance of the Preferred Shares, and (c) originals, or copies certified to our satisfaction, of such records, documents, certificates, opinions, memoranda and other instruments as in our judgment are necessary or appropriate to enable us to render the opinion expressed below. 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. We have assumed the genuineness and authenticity of all signatures on original documents; the authenticity of all documents submitted to us as originals; the conformity to originals of all documents submitted to us as copies thereof; and the accuracy, completeness and authenticity of certificates of public officials.

We express no opinion to the extent that, notwithstanding its current reservation of the Common Shares, future issuances of securities of the Company, including the Common Shares, and/or adjustments to outstanding securities of the Company, including the Preferred Shares, may cause the Preferred Shares to be exercisable for more shares of common stock of the Company than the number that remains authorized but unissued.

Our opinion herein is expressed solely with respect to the General Corporation Law of the State of Delaware. We express no opinion to the extent that any other laws are applicable to the subject matter hereof and express no opinion and provide no assurance as to compliance with any federal or state securities law, rule or regulation.

On the basis of the foregoing, and in reliance thereon, we are of the opinion that, the Common Shares, when issued upon conversion of the Preferred Shares, will be validly issued, fully paid and nonassessable.

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Page | 2  
January 2, 2018

We hereby consent to the reference to our firm under the caption "Legal Matters" in the Prospectus and to the filing of this opinion as an exhibit to the Registration Statement.

Very truly yours,

Cooley LLP

By: /s/ Yvan-Claude Pierre  
Yvan-Claude Pierre

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**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  
January 2, 2018

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