

**Prospectus Supplement No. 1**  
(To prospectus dated January 13, 2017)



**1,666,664 Shares**  
**416,666 Series A warrants and**  
**416,666 Series B warrants**

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This prospectus supplement supplements the prospectus dated January 13, 2017 related to the resale by the selling stockholder identified in the prospectus of up to 833,332 shares of common stock, par value \$0.01 per share, of Oncobiologics, Inc. (the "Company," "we," "us" or "our"), 416,666 of our Series A warrants and 416,666 of our Series B warrants that we sold to the selling stockholder, as well as an aggregate of 833,332 shares of our common stock that are issuable upon the exercise of the Series A warrants and Series B warrants. The shares of our common stock and Series A warrants and Series B warrants were issued to the selling stockholder in a private placement completed on May 18, 2016. We will not receive any proceeds from the sale of the shares or warrants by the selling stockholder.

We are amending the Series A warrants to extend the expiration date to 5:00 pm New York City time on February 18, 2018. As of the date of this prospectus supplement, each Series A warrant entitles the holder to purchase one share of our common stock at an exercise price of \$6.60 per share, and expires February 18, 2018, and each Series B warrant entitles the holder to purchase one share of our common stock at an exercise price of \$8.50 per share, and expires May 18, 2018.

Our common stock, Series A warrants and Series B warrants are traded on the NASDAQ Global Market under the symbols "ONS," "ONSIW" and "ONSIZ," respectively. On February 6, 2017, the closing sale prices of our common stock, Series A warrants and Series B warrants on the NASDAQ Global Market were \$3.29 per share, \$0.34 per Series A warrant and \$0.48 per Series B warrant, respectively. You are urged to obtain current market quotations for the common stock and the warrants.

This prospectus supplement incorporates into our prospectus the information contained in our attached current reports on Form 8-K, which were filed with the Securities and Exchange Commission on February 3, 2017 and February 6, 2017.

You should read this prospectus supplement in conjunction with the prospectus, including any supplements and amendments thereto.

This prospectus supplement is qualified by reference to the prospectus except to the extent that the information in this prospectus supplement supersedes the information contained in the prospectus. This prospectus supplement is not complete without, and may not be delivered or utilized except in connection with, the prospectus, including any supplements and amendments thereto.

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**Investing in these securities involves a high degree of risk. See "Risk Factors" on page 4 of the prospectus for a discussion of information that should be carefully considered in connection with an investment in these securities.**

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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 supplement is February 7, 2017.

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

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**FORM 8-K**

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**CURRENT REPORT**  
**Pursuant to Section 13 or 15(d) of**  
**The Securities Exchange Act of 1934**  
Date of Report (Date of earliest event reported): **February 3, 2017**

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**Oncobiologics, Inc.**

(Exact name of registrant as specified in its charter)

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**Delaware**  
(State or other jurisdiction  
of incorporation)

**001-37759**  
(Commission File Number)

**38-3982704**  
(IRS Employer Identification No.)

**7 Clarke Drive**  
**Cranbury, New Jersey**  
(Address of principal executive offices)

**08512**  
(Zip Code)

Registrant's telephone number, including area code: **(609) 619-3990**

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(Former name or former address, if changed since last report)

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Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
  - Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
  - Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
  - Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))
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**Item 1.01 Entry into a Material Definitive Agreement**

On February 3, 2017, Oncobiologics, Inc. (the “Company”) entered into a registration rights agreement (the “Agreement”) with the investors party thereto, all of whom are the purchasers of its Senior Secured Notes and Warrants issued pursuant to that certain Note and Warrant Purchase Agreement, dated as of December 22, 2016 (the “NWPA”). Pursuant to the Agreement, the Company agreed, subject to certain exceptions, to: (i) prepare and file with the Securities and Exchange Commission (the “SEC”) no later than February 15, 2017, a registration statement on Form S-1 covering the offer and resale from time to time of all of the shares of the Company’s common stock issuable or issued (such shares, the “Registrable Securities”) pursuant to the terms of the warrants issued to the Investors pursuant to the NWPA; and (ii) promptly (but in no event more than 45 days) after the date on which the Company becomes S-3 eligible, to file with the SEC a registration statement on Form S-3 covering the offer and resale of all the Registrable Securities. The Company has agreed to use commercially reasonable efforts to cause such registration statements to be declared effective under the Securities Act of 1933, as amended, as soon as practicable. Additionally, the Agreement provides for certain monetary penalties if such registration statements are not filed or declared effective prior to certain dates as set forth in the Agreement.

The foregoing summary of the Agreement is qualified in its entirety by reference to the complete text of such document, a copy of which is attached to this Current Report on Form 8-K as Exhibit 10.1.

**Item 9.01 Financial Statements and Exhibits**

(d) Exhibits.

<u>Exhibit No.</u>	<u>Description</u>
10.1	Registration Rights Agreement, dated February 3, 2017, by and among Oncobiologics, Inc. and the Investors named therein

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**SIGNATURE**

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

**Oncobiologics, Inc.**

Date: February 3, 2017

By: /s/ Lawrence A. Kenyon  
Lawrence A. Kenyon  
*Chief Financial Officer*

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

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**FORM 8-K**

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**CURRENT REPORT**

**Pursuant to Section 13 or 15(d) of  
The Securities Exchange Act of 1934**

Date of Report (Date of earliest event reported): **February 6, 2017**

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**Oncobiologics, Inc.**

(Exact name of registrant as specified in its charter)

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**Delaware**  
(State or other jurisdiction  
of incorporation)

**001-37759**  
(Commission File Number)

**38-3982704**  
(IRS Employer Identification No.)

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Registrant's telephone number, including area code: **(609) 619-3990**

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  - Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))
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**Item 3.03 Material Modification to Rights of Security Holders.**

On February 6, 2017, Oncobiologics, Inc. (the “Company”) extended the expiration date of its outstanding Series A warrants (NASDAQ: ONSIW; CUSIP number 68235M 113) (the “Series A Warrants”) to February 18, 2018 by entering into an amendment to that certain Warrant Agreement dated as of May 18, 2016 by and between the Company and the American Stock Transfer & Trust Company, LLC, as warrant agent.

The Series A Warrants to purchase up to an aggregate of 3,333,333 shares of the Company’s common stock, par value \$0.01 per share, were originally issued as part of the units in the Company’s May 2016 initial public offering and concurrent private placement. The Series A Warrants have an exercise price of \$6.60 per share and would otherwise have expired at 5:00 pm New York City time on February 18, 2017. The expiration date has been extended to 5:00 p.m. New York City time on February 18, 2018.

The Series A Warrants and shares of common stock issuable upon exercise of the Series A Warrants are registered on Form S-1, as amended, previously filed with and declared effective by the Securities and Exchange Commission (the “SEC”). A prospectus supplement relating to this expiration date extension for the Series A Warrants will be filed with the SEC, and mailed to the holders of record of the Series A Warrants.

The foregoing summary of the amendment to the Warrant Agreement is qualified in its entirety by reference to the complete text of such amendment, which is filed as Exhibit 10.1 to this Current Report on Form 8-K and is incorporated herein by reference.

**Item 8.01 Other Information.**

On February 6, 2017, the Company issued a press release with respect to the foregoing, which is filed as Exhibit 99.1 hereto.

**Item 9.01 Financial Statements and Exhibits.**

(d) Exhibits.

<u>Exhibit No.</u>	<u>Description</u>
10.1	Amendment to the Warrant Agreement dated May 18, 2016 by and between Oncobiologics, Inc. and American Stock Transfer & Trust Company LLC, as Warrant Agent, dated February 6, 2017
99.1	Press Release dated February 6, 2017

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**SIGNATURE**

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

**Oncobiologics, Inc.**

Date: February 6, 2017

By: /s/ Lawrence A. Kenyon  
Lawrence A. Kenyon  
*Chief Financial Officer*

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