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

FORM 10-Q

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

FOR THE QUARTERLY PERIOD ENDED March 31, 2017

OR

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

FOR THE TRANSITION PERIOD FROM ____ TO ____.

COMMISSION FILE NUMBER: 0-31265

MABVAX THERAPEUTICS HOLDINGS, INC.
(EXACT NAME OF REGISTRANT AS SPECIFIED IN ITS CHARTER)

DELAWARE	**93-0987903**
(STATE OR OTHER JURISDICTION OF INCORPORATION OR ORGANIZATION)	**(I.R.S. EMPLOYER IDENTIFICATION NO.)**

11535 Sorrento Valley Road, Suite 400, San Diego, CA 92121
(ADDRESS OF PRINCIPAL EXECUTIVE OFFICES INCLUDING ZIP CODE)

(858) 259-9405
(REGISTRANT'S TELEPHONE NUMBER, INCLUDING AREA CODE)

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

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, 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 13(a) of the Exchange Act. ☐
Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

The number of shares of common stock outstanding as of May 22, 2017 was 8,708,542.

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PART I. FINANCIAL INFORMATION

Item 1. Financial Statements

MABVAX THERAPEUTICS HOLDINGS, INC.
Condensed Consolidated Balance Sheets

	March 31, 2017 (Unaudited)	December 31, 2016 (Note 1)
Assets		
Current assets:		
Cash and cash equivalents	$ 596,761	$ 3,979,290
Prepaid expenses	198,756	281,858
Other current assets	10,000	32,830
Total current assets	805,517	4,293,978
Property and equipment, net	686,284	731,712
Goodwill	6,826,003	6,826,003
Other long-term assets	337,240	168,597
Total assets	$ 8,655,044	$ 12,020,290
Liabilities and Stockholders' (Deficit) Equity		
Current liabilities:		
Accounts payable	$ 1,724,443	$ 1,137,903
Accrued compensation	704,322	770,592
Accrued clinical operations and site costs	1,596,836	1,218,641
Accrued lease contingency fee	590,504	590,504
Other accrued expenses	403,340	315,034
Interest payable	50,562	51,295
Current portion of notes payable	1,666,667	1,589,661
Current portion of capital lease payable	17,361	17,004
Total current liabilities	6,754,035	5,690,634
Long-term liabilities:		
Long-term portion of notes payable, net	2,603,176	2,774,627
Long-term portion of capital lease payable	63,636	68,113
Other long-term liabilities	157,118	144,394
Total long-term liabilities	2,823,930	2,987,134
Total liabilities	9,577,965	8,677,768
Commitments and contingencies		
Stockholders' (Deficit) Equity:		
Series D convertible preferred stock, $0.01 par value, 1,000,000 shares authorized, 132,489 shares issued and outstanding with liquidation preference of $1,325	1,325	1,325
Series E convertible preferred stock, $0.01 par value, 100,000 shares authorized, 33,333 shares issued and outstanding with a liquidation preference of $333	333	333
Series F convertible preferred stock, $0.01 par value, 1,559,252 shares authorized, 665,281 shares issued and outstanding with a liquidation preference of $6,653	6,653	6,653
Common stock, $0.01 par value; 150,000,000 shares authorized, 6,316,110 and 6,296,110 shares issued and outstanding as of March 31, 2017 and December 31, 2016, respectively	63,161	62,961
Additional paid-in capital	82,622,722	81,533,511
Accumulated deficit	(83,617,115)	(78,262,261)
Total stockholders' (deficit) equity	(922,921)	3,342,522
Total liabilities and stockholders' (deficit) equity	$ 8,655,044	$ 12,020,290

See Accompanying Notes to Condensed Consolidated Financial Statements

MABVAX THERAPEUTICS HOLDINGS, INC.
Condensed Consolidated Statements of Operations
(Unaudited)

	Three Months Ended March 31,	
	2017	**2016**
Revenues:		
Grants	$ —	$ 148,054
Total revenues	—	148,054
Operating costs and expenses:		
Research and development	2,818,363	1,700,512
General and administrative	2,273,951	2,651,837
Total operating costs and expenses	5,092,314	4,352,349
Loss from operations	(5,092,314)	(4,204,295)
Interest and other income (expense)	(262,540)	(200,475)
Net loss allocable to common stockholders	$ (5,354,854)	$ (4,404,770)
Basic and diluted net loss per share	$ (0.85)	$ (1.12)
Shares used to calculate basic and diluted net loss per share	6,301,666	3,947,053

See Accompanying Notes to Condensed Consolidated Financial Statements

MABVAX THERAPEUTICS HOLDINGS, INC.
Condensed Consolidated Statements of Stockholders' (Deficit) Equity
For the Three Months Ended March 31, 2017
(Unaudited)

	Series D, E and F Convertible Preferred Stock		Common Stock		Additional Paid-in Capital	Accumulated Deficit	Total Stockholders' (Deficit) Equity
	Shares	Amount	Shares	Amount			
Balance at December 31, 2016	**831,103**	**$ 8,311**	**6,296,110**	**$ 62,961**	**$1,533,511**	**$(78,262,261)**	**$ 3,342,522**
Stock issued for services	—	—	20,000	200	56,400	—	56,600
Stock-based compensation	—	—	—	—	1,032,811	—	1,032,811
Net loss	—	—	—	—	—	(5,354,854)	(5,354,854)
Balance at March 31, 2017	**831,103**	**$ 8,311**	**6,316,110**	**$ 63,161**	**$2,622,722**	**$(83,617,115)**	**$ (922,921)**

See Accompanying Notes to Condensed Consolidated Financial Statements

MABVAX THERAPEUTICS HOLDINGS, INC.
Condensed Consolidated Statements of Cash Flows
(Unaudited)

	For the Three Months Ended March 31,	
	2017	**2016**
Operating activities		
Net loss	$ (5,354,854)	$ (4,404,770)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	41,823	8,340
Stock-based compensation	1,032,811	1,533,888
Issuance of restricted stock for services	56,600	64,000
Amortization and accretion related to notes payable	111,775	71,547
Increase (decrease) in operating assets and liabilities:		
Grant receivable	—	483,924
Other receivables	22,831	—
Prepaid expenses and other	(810)	69,650
Accounts payable	540,413	(1,060,796)
Accrued clinical operations and site costs	378,195	81,949
Accrued compensation	(66,270)	(98,927)
Other accrued expenses	59,849	339,565
Net cash used in operating activities	(3,177,637)	(2,911,630)
Investing activities		
Purchases of property and equipment	—	(153,899)
Net cash used in investing activities	—	(153,899)
Financing activities		
Cash received from issuance of note payable, net of financing costs	—	4,610,324
Principal payments on note payable	(138,889)	—
Principal payments of financed insurance policies	(61,883)	—
Principal payments on capital lease	(4,120)	—
Net cash (used in) provided by financing activities	(204,892)	4,610,324
Net change in cash and cash equivalents	(3,382,529)	1,544,795
Cash and cash equivalents at beginning of period	3,979,290	4,084,085
Cash and cash equivalents at end of period	$ 596,761	$ 5,628,880
Supplemental disclosures of non-cash investing and financing information:		
Capital lease in connection with purchases of equipment	$ —	$ 95,656
Purchase of equipment in accounts payable	$ —	$ 109,471
Fair value of warrants issued	$ —	$ 607,338

See Accompanying Notes to Condensed Consolidated Financial Statements

MABVAX THERAPEUTICS HOLDINGS, INC.
Notes to Unaudited Condensed Consolidated Financial Statements

1. Basis of Presentation

We are a Delaware corporation, originally incorporated in 1988 under the name Terrapin Diagnostics, Inc. in the State of Delaware, and subsequently renamed "Telik, Inc." in 1998, and thereafter renamed MabVax Therapeutics Holdings, Inc. ("MabVax") in September 2014. Our principal corporate office is located at 11535 Sorrento Valley Road, Suite 400, San Diego, CA 92121 telephone: (858) 259-9405. On July 8, 2014, we consummated a merger with MabVax Therapeutics, Inc. ("MabVax Therapeutics"), pursuant to which our subsidiary Tacoma Acquisition Corp. merged with and into MabVax Therapeutics, with MabVax Therapeutics surviving as our wholly owned subsidiary. This transaction is referred to as the "Merger." Unless the context otherwise requires, references to "we," "our," "us," or the "Company" in this Quarterly Report mean MabVax Therapeutics Holdings, Inc. on a condensed consolidated financial statement basis with our wholly-owned subsidiary following the Merger, MabVax Therapeutics, as applicable. Beginning October 10, 2014, our common stock was quoted on the OTCQB under the symbol "MBVX." Since August 17, 2016, our common stock has been trading on The NASDAQ Capital Market under the symbol "MBVX."

The balance sheet data at December 31, 2016, has been derived from audited financial statements at that date. It does not include, however, all the information and notes required by accounting principles generally accepted in the United States of America ("GAAP") for complete financial statements. The consolidated financial statements as presented reflect certain reclassifications from previously issued financial statements to conform to the current year presentation.

On August 16, 2016, we filed a certificate of amendment to our Amended and Restated Certificate of Incorporation with the Secretary of State of the State of Delaware in order to effectuate a reverse stock split of our issued and outstanding common stock on a 1 for 7.4 basis, effective on August 16, 2016 (the "Reverse Stock Split"). The Reverse Stock Split was effective with The Financial Industry Regulatory Authority (FINRA) and the Company's common stock began trading on The NASDAQ Capital Market at the open of business on August 17, 2016. All share and per share amounts, and number of shares of common stock into which each share of preferred stock will convert, in the financial statements and notes thereto have been retroactively adjusted for all periods presented to give effect to the Reverse Stock Split, including reclassifying an amount equal to the reduction in par value of common stock to additional paid-in capital.

MabVax is a clinical stage biopharmaceutical company engaged in the discovery, development and commercialization of proprietary human monoclonal antibody products for the treatment of a variety of cancers. We have discovered a pipeline of human monoclonal antibody products based on the protective immune responses generated by patients who have been vaccinated against targeted cancers with our proprietary vaccines. We have the exclusive license to the vaccines from Memorial Sloan Kettering Cancer Center ("MSK"). We operate in only one business segment.

We have incurred net losses since inception and expect to incur substantial losses for the foreseeable future as we continue our research, development and clinical activities. To date, we have funded operations primarily through government grants, proceeds from the sale of common and preferred stock, the issuance of debt, the issuance of common stock in lieu of cash for services, payments from collaborators, and interest income. The process of developing products will require significant additional research and development, preclinical testing and clinical trials, as well as regulatory approvals. We expect these activities, together with general and administrative expenses, to result in substantial operating losses for the foreseeable future. We will not receive substantial revenue unless we or our collaborative partners complete clinical trials, obtain regulatory approvals and successfully commercialize one or more products; or we license our technology after achieving one or more milestones of interest to a potential partner.

The accompanying unaudited condensed consolidated financial statements were prepared using GAAP for interim financial information and the instructions to Regulation S-X. While these statements reflect all normal recurring adjustments, which are, in the opinion of management, necessary for a fair presentation of the results of the interim period, they do not include all information or notes required by GAAP for annual financial statements and should be read in conjunction with the Audited Financial Statements of MabVax Therapeutics Holdings, Inc. for the year ended December 31, 2016, filed in our Annual Report on Form 10-K on March 1, 2017.

The preparation of condensed consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the condensed consolidated financial statements and the reported amounts of expenses during the reporting period. Management believes that these estimates are reasonable; however, actual results may differ from these estimates.

Recent Accounting Pronouncements

In February 2016, the FASB issued ASU 2016-2, "Leases (Topic 842)." This update will increase transparency and comparability by recognizing lease assets and lease liabilities on the balance sheet and disclosing key information about leasing arrangements. Under the new guidance, lessees will be required to recognize the following for all leases (with the exception of short-term leases) at the commencement date (i) a lease liability, which is a lessee's obligation to make lease payments arising from a lease, measured on a discounted basis; and (ii) a right-of-use asset, which is an asset that represents the lessee's right to use, or control the use of, a specified asset for the lease term. Under the new guidance, lessor accounting is largely unchanged, and it simplified the accounting for sale and leaseback transactions. Lessees will no longer be provided with a source of off-balance sheet financing. Lessees (for capital and operating leases) and lessors (for sales-type, direct financing, and operating leases) must apply a modified retrospective transition approach for leases existing at, or entered into after, the beginning of the earliest comparative period presented in the financial statements. The modified retrospective approach would not require any transition accounting for leases that expired before the earliest comparative period presented. Lessees and lessors may not apply a full retrospective transition approach. The standard is effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. We are currently in the process of assessing what impact this new standard may have on our consolidated financial statements.

In March 2016, the FASB issued ASU 2016-09, "Compensation—Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting." This update includes multiple provisions intended to simplify various aspects of the accounting for share-based payment transactions including accounting for excess tax benefits and tax deficiencies, classification of excess tax benefits in the statement of cash flows and accounting for award forfeitures. This update is effective for annual and interim reporting periods of public entities beginning after December 15, 2016, with early adoption permitted. The adoption of this new standard did not have a material impact on our consolidated financial statements.

In August 2016, the FASB issued ASU No. 2016-15 ("ASU 2016-15"), "Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments." The standard provides guidance on eight (8) cash flow issues: (1) debt prepayment or debt extinguishment costs; (2) settlement of zero-coupon bonds; (3) contingent consideration payments after a business combination; (4) proceeds from the settlement of insurance claims; (5) proceeds from the settlement of corporate-owned life insurance policies; (6) distributions received from equity method investees; (7) beneficial interests in securitization transactions; and (8) separately identifiable cash flows and application of the predominance principle. ASU 2016-15 addresses how certain cash receipts and cash payments are presented and classified in the statement of cash flows. ASU 2016-15 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2017 with early adoption permitted. We expect the adoption of this new standard will not have a material impact on our condensed consolidated financial statements.

Management believes that any other recently issued, but not yet effective, accounting standards if currently adopted would not have a material effect on the accompanying condensed consolidated financial statements.

2. Liquidity and Going Concern

The accompanying condensed consolidated financial statements have been prepared on the going concern basis, which assumes that the Company will continue to operate as a going concern and which contemplates the realization of assets and the satisfaction of liabilities and commitments in the normal course of business. As reflected in the accompanying condensed consolidated financial statements, the Company had a net loss of $5,354,854, net cash used in operating activities of $3,177,637, net cash used in investing activities of $0, and net cash used by financing activities of $204,892 for the three months ended March 31, 2017. As of March 31, 2017, the Company had $596,761 in cash and cash equivalents, a working capital deficit of $5,948,518, an accumulated deficit of $83,617,115, and a stockholders' deficit of $922,921.

On January 15, 2016, we and Oxford Finance LLC, as collateral agent and lender, entered into a Loan and Security Agreement providing for senior secured term loans to the Company in an aggregate principal amount of up to $10,000,000, subject to the terms and conditions set forth in the Loan Agreement (the "January 2016 Term Loan"). On January 15, 2016, the Company received an initial loan of $5,000,000 under the Loan Agreement, before fees and issuance costs of approximately $390,000. The option to draw the second $5,000,000 expired on September 30, 2016.

On March 31, 2017, we and Oxford Finance LLC, signed a First Amendment to Loan and Security Agreement ("Amendment"), providing that the payment of principal of $138,889 on the January 2016 Term Loan that otherwise would have been due on the Amortization Date of April 1, 2017, will be due and payable on May 1, 2017 along with any other payment of principal due on May 1, 2017. We are obligated to pay a fully earned and non-refundable amendment fee of $15,000 to the Collateral Agent. On May 1, 2017, we paid the principal that was due on May 1, 2017, along with the $15,000 amendment fee.

On August 22, 2016, we closed a public offering of 1,297,038 shares of common stock and 665,281 shares of Series F Preferred Stock, and warrants to purchase 1,962,319 shares of common stock at $5.55 per share and warrants to purchase 1,962,319 shares of common stock at $6.29 per share, at an offering price of $4.81 per share (the "August 2016 Public Offering"). For every one share of common stock or Series F Preferred Stock sold, we issued one warrant to purchase one share of common stock at $5.55 per share and one warrant to purchase one share of common stock at $6.29 per share. We received $9,438,753 in gross proceeds, before underwriting discounts and commissions and offering expenses totaling $871,305. The gross proceeds include the underwriters' over-allotment option, which they exercised on the closing date.

On May 3, 2017, we sold 850 shares of 0% Series H Convertible Preferred Stock, or the Series H Preferred Stock, at a stated value of $1,000 per share, representing an aggregate of $850,000 in a private placement (the "May 3rd Private Placement"), to certain existing investors. The shares of Series H Preferred Stock are convertible into shares of common stock based on a conversion calculation equal to the stated value of the Series H Preferred Stock, plus all accrued and unpaid dividends (the "Base Amount"), if any, on such Series H Preferred Stock, as of such date of determination, divided by the conversion price. The stated value of each share of Series H Preferred Stock is $1,000 and the initial conversion price is $1.75 per share, each subject to adjustment for stock splits, stock dividends, recapitalizations, combinations, subdivisions or other similar events. This financing is discussed in further detail in Note 12, Subsequent Events.

On May 19, 2017, we closed a public offering of 1,342,858 shares of common stock and 1,000,000 shares of newly designated 0% Series G Convertible Preferred Stock (the "Series G Preferred Stock"), at $1.75 per share of common stock and Series G Preferred Stock (the "May 2017 Public Offering"). The Series G Preferred Stock is initially convertible into 1,000,000 shares of common stock, subject to adjustment for stock splits, stock dividends, recapitalizations, combinations, subdivisions or other similar events, to certain existing investors in the offering who, as a result of their purchases of common stock, would hold in excess of 4.99% of our issued and outstanding common stock, and elect to receive shares of our Series G Preferred Stock. We received $4,100,000 in gross proceeds, before underwriting discounts and commissions and offering expenses totaling $667,875. The May 2017 Public Offering is described in more detail in Note 12, Subsequent Events.

We anticipate that the Company will continue to incur net losses into the foreseeable future as we: (i) continue our Phase I clinical trial for our standalone therapeutic HuMab 5B1, designated as MVT-5873 that was initiated in the first quarter of 2016; (ii) continue our Positron Emission Tomography ("PET") imaging agent 89Zr-HuMab-5B1, designated as MVT-2163 that was initiated in July 2016; (iii) initiate our clinical trial for the development of our HuMab-based radioimmunotherapy, or RIT, product, designated as MVT-1075; (iv) continue preclinical work on follow-on antibody programs; and (iv) continue operations as a public company. Based on receipt of $850,000 from our May 3rd Private Placement, closing of the May 2017 Public Offering for $4.1 million, and management's plans for continuing to develop our existing pipeline of products, and without any other additional funding or receipt of payments from potential licensing agreements, we expect we will have sufficient funds to meet our obligations through August 2017. These conditions give rise to substantial doubt as to the Company's ability to continue as a going concern. The accompanying consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

We plan to continue to fund the Company's losses from operations and capital funding needs through equity or debt financings, strategic collaborations, licensing arrangements, government grants or other arrangements. However, we cannot be sure that such additional funds will be available on reasonable terms, or at all. If we are unable to secure adequate additional funding, we may be forced to make reductions in spending, extend payment terms with suppliers, liquidate assets where possible, and/or suspend or curtail planned programs. In addition, if the Company does not meet its payment obligations to third parties as they come due, it may be subject to litigation claims. Even if we are successful in defending against these claims, litigation could result in substantial costs and be a distraction to management. Any of these actions could materially harm the Company's business, results of operations, and prospects.

If the Company raises additional funds by issuing equity securities, substantial dilution to existing stockholders would result. If the Company raises additional funds by incurring debt financing, the terms of the debt may involve significant cash payment obligations as well as covenants and specific financial ratios that may restrict the Company's ability to operate its business.

3. Cash and Cash Equivalents

We consider all highly liquid investments purchased with original maturities of three months or less to be cash equivalents. The Company limits its exposure to credit loss by holding cash in U.S. dollars or, from time to time, placing cash and investments in U.S. government, agency and government-sponsored enterprise obligations.

4. Fair value of financial instruments

Our financial instruments consist of cash and cash equivalents, grants receivable and accounts payable, all of which are generally considered to be representative of their respective fair values because of the short-term nature of those instruments.

5. Convertible Preferred Stock, Common Stock and Warrants

Dividends on Preferred Stock

We immediately recognize the changes in the redemption value on preferred stock as they occur and the carrying value of the security is adjusted to equal what the redemption amount would be as if redemption were to occur at the end of the reporting date based on the conditions that exist as of that date.

No dividends were ever declared by our Board of Directors since our inception on any series of convertible preferred stock.

Series D Preferred Stock

As of March 31, 2017, and December 31, 2016, there were 132,489 shares of Series D convertible preferred stock ("Series D Preferred Stock") issued and outstanding that are convertible into an aggregate of 1,790,392 shares of common stock. The Series D Preferred Stock had been issued on March 25, 2015, to certain holders of the Company's Series A-1 Preferred Stock and Merger warrants (the "Series A-1 Exchange Securities") and holders of the Company's Series B Preferred Stock and Series B warrants (the "Series B Exchange Securities" and, collectively with the Series A-1 Exchange Securities, the "Exchange Securities"), all previously issued by the Company. Pursuant to the exchange agreements, the holders exchanged the Exchange Securities and relinquished any and all other rights they may have had pursuant to the Exchange Securities, their respective governing agreements and certificates of designation, including any related registration rights, in exchange for an aggregate of 342,906 shares of the Company's common stock and an aggregate of 238,156 shares of the Company's newly designated Series D Preferred Stock, convertible into 3,218,325 shares of common stock.

As contemplated by the exchange agreements and as approved by the Company's Board of Directors, the Company filed with the Secretary of State of the State of Delaware a Certificate of Designation of Preferences, Rights and Limitations of Series D Convertible Preferred Stock (the "Series D Certificate of Designations"), on March 25, 2015. Pursuant to the Series D Certificate of Designations, the Company designated 1,000,000 shares of its blank check preferred stock as Series D Preferred Stock. Each share of Series D Preferred Stock has a stated value of $0.01 per share. In the event of a liquidation, dissolution or winding up of the Company, each share of Series D Preferred Stock will be entitled to a per share preferential payment equal to the stated value. Each share of Series D Preferred Stock is convertible into 13.5135 shares of common stock. The conversion ratio is subject to adjustment in the event of stock splits, stock dividends, combination of shares and similar recapitalization transactions. The Company is prohibited from effecting the conversion of the Series D Preferred Stock to the extent that, as a result of such conversion, the holder beneficially would own more than 4.99% (provided that certain investors elected to block their beneficial ownership initially at 2.49% in the Exchange Agreements), in the aggregate, of the issued and outstanding shares of the Company's common stock calculated immediately after giving effect to the issuance of shares of common stock upon the conversion of the Series D Preferred Stock. Each share of Series D Preferred Stock entitles the holder to vote on all matters voted on by holders of common stock. With respect to any such vote, each share of Series D Preferred Stock entitles the holder to cast such number of votes equal to the number of shares of common stock such shares of Series D Preferred Stock are convertible into at such time, but not in excess of the beneficial ownership limitations.

Series E Preferred Stock

As of March 31, 2017, and December 31, 2016, there were 33,333 shares of Series E convertible preferred stock ("Series E Preferred Stock") issued and outstanding, convertible into 519,751 shares of common stock.

On March 30, 2015, the Company filed with the Secretary of State of the State of Delaware a Certificate of Designation of Preferences, Rights and Limitations of Series E Convertible Preferred Stock (the "Series E Certificate of Designations") to designate 100,000 shares of its blank check preferred stock as Series E Preferred Stock.

The shares of Series E Preferred Stock are convertible into shares of common stock based on a conversion calculation equal to the stated value of such preferred share, plus all accrued and unpaid dividends, if any, on such share of Series E Preferred Stock, as of such date of determination, divided by the conversion price. The stated value of each share of Series E Preferred Stock is $75 and the initial conversion price is $5.55 per share, each subject to adjustment for stock splits, stock dividends, recapitalizations, combinations, subdivisions or other similar events. In addition, during the period proscribed for in the Series E Certificate of Designations, in the event the Company issues or sells, or is deemed to issue or sell, shares of common stock at a per share price that is less than the conversion price then in effect, the conversion price shall be reduced to such lower price, subject to certain exceptions. The Company is prohibited from effecting a conversion of the share of Series E Preferred Stock to the extent that, as a result of such conversion, such holder would beneficially own more than 4.99% of the number of shares of common stock outstanding immediately after giving effect to the issuance of shares of common stock upon conversion of the Series E Preferred Stock, which beneficial ownership limitation may be increased by the holder up to, but not exceeding, 9.99%. Each holder is entitled to vote on all matters submitted to stockholders of the Company, and shall have the number of votes equal to the number of shares of common stock issuable upon conversion of such holder's share of Series E Preferred Stock, but not in excess of beneficial ownership limitations. The shares of Series E Preferred Stock bear no interest.

On August 22, 2016, when the Company closed on the August 2016 Public Offering, the current Series E Preferred Stock conversion price of $5.55 per share was reduced to $4.81 per share under the terms of the Series E Certificate of Designations, resulting in an increase in the number of shares of common stock to 519,751 that the Series E Preferred Stock may be converted into. There is no further adjustment required by the Series E Certificate of Designations in the event of an offering of shares below $4.81 per share by the Company.

Series F Preferred Stock

As of March 31, 2017, and December 31, 2016, there were 665,281 shares of Series F Preferred Stock issued and outstanding, convertible into 665,281 shares of common stock. In the event of a liquidation, dissolution or winding up of the Company, each share of Series F Preferred Stock will be entitled to a per share preferential payment equal to the par value.

On August 16, 2016, we filed a Certificate of Designations, Preferences and Rights of the 0% Series F Convertible Preferred Stock with the Delaware Secretary of State, designating 1,559,252 shares of preferred stock as 0% Series F Preferred Stock.

The shares of Series F Preferred Stock are convertible into shares of common stock based on a conversion calculation equal to the stated value of such Series F Preferred Stock, plus all accrued and unpaid dividends, if any, on such Series F Preferred Stock, as of such date of determination, divided by the conversion price. The stated value of each share of Series F Preferred Stock is $4.81 and the initial conversion price is $4.81 per share, each subject to adjustment for stock splits, stock dividends, recapitalizations, combinations, subdivisions or other similar events. In the event of a liquidation, dissolution or winding up of the Company, each share of Series F Preferred Stock will be entitled to a per share preferential payment equal to the par value. All shares of the Company's capital stock will be junior in rank to Series F Preferred Stock with respect to the preferences as to dividends, distributions and payments upon the liquidation, dissolution and winding-up of the Company, except for the Company's Series D Preferred Stock and Series E Preferred Stock.

The holders of Series F Preferred Stock will be entitled to receive dividends if and when declared by our board of directors. The Series F Preferred Stock shall participate on an "as converted" basis, with all dividends declared on the Company's common stock. In addition, if we grant, issue or sell any rights to purchase our securities pro rata to all our record holders of our common stock, each holder will be entitled to acquire such securities applicable to the granted purchase rights as if the holder had held the number of shares of common stock acquirable upon complete conversion of all Series F Preferred Stock then held.

We are prohibited from effecting a conversion of the Series F Preferred Stock to the extent that, as a result of such conversion, the holder would beneficially own more than 4.99% of the number of shares of common stock outstanding immediately after giving effect to the issuance of shares of common stock upon conversion of the Series F Preferred Stock, which beneficial ownership limitation may be increased by the holder up to, but not exceeding, 9.99%. Each holder is entitled to vote on all matters submitted to stockholders of the Company, and shall have the number of votes equal to the number of shares of common stock issuable upon conversion of such holder's Series F Preferred Stock, but not in excess of the beneficial ownership limitations.

Warrants Issued in Connection with April 2015 Private Placement

As of March 31, 2017, and December 31, 2016, there were warrants to purchase 805,361 shares of common stock that were outstanding that were remaining from our private offering in March and April 2015 (the "April 2015 Private Placement) in which we sold $8,546,348 worth of units (the "Units"), net of $668,150 in issuance costs, of which $2,500,000 of the Units consisted of Series E Preferred Stock and the balance consisted of 1,660,271 shares of common stock, together with warrants to all investors to purchase 1,055,361 shares of common stock at $11.10 per share. Each Unit was sold at a purchase price of $5.55 per Unit. OPKO Health, Inc., the lead investor in the April 2015 Private Placement, purchased $2,500,000 worth of Units consisting of all of the shares of the Series E Preferred Stock. The warrants are exercisable upon issuance and expire October 10, 2017, and may be exercised for cash or on a cashless basis. The warrant exercise price is subject to certain adjustments including stock splits, dividends and reverse-splits. The Company is prohibited from effecting the exercise of the warrants to the extent that, as a result of such exercise, the holder beneficially would own more than 4.99% in the aggregate, of the issued and outstanding shares of the Company's common stock calculated immediately after giving effect to the issuance of shares of common stock upon the exercise of the warrants. Investor rights of participation in future financings by the Company expired on April 10, 2017. The warrants are not listed on any securities exchange or other trading market.

Warrants Issued in Connection with October 2015 Public Offering

As of March 31, 2017, and December 31, 2016, there were warrants to purchase 168,919 shares of common stock that were outstanding that we issued in connection with our public offering on October 5, 2015, which consisted of 337,838 shares of common stock and warrants to purchase 168,919 shares of common stock, at an offering price of $8.14 per share. For every two shares of common stock sold, the Company issued one warrant to purchase one share of common stock. We received $2,750,000 in gross proceeds, before underwriting discounts and commissions and offering expenses totaling approximately $586,608. The shares and warrants were separately issued and sold in equal proportions. The warrants are immediately exercisable, expire September 30, 2018, and have an exercise price of $9.77 per share. The warrants are not listed on any securities exchange or other trading market.

August 2016 Public Offering

On August 22, 2016, we closed a public offering of 1,297,038 shares of common stock and 665,281 shares of Series F preferred stock, and warrants to purchase 1,962,319 shares of common stock at $5.55 per share and warrants to purchase 1,962,319 shares of common stock at $6.29 per share, at an offering price of $4.81 per share. For every one share of common stock or Series F preferred stock sold, we issued one warrant to purchase one share of common stock at $5.55 per share and one warrant to purchase one share of common stock at $6.29 per share. We received $9,438,753 in gross proceeds, before underwriting discounts and commissions and offering expenses totaling $871,305. The gross proceeds include the underwriter's over-allotment option, which it exercised on the closing date.

Consultant Grants

On January 13, 2016, the Board of Directors approved the issuance of 13,514 shares of restricted stock valued at $64,000 to a consultant for advisory services to the Company.

On February 10, 2017, the Company entered into a consulting agreement with MDM Worldwide, pursuant to which MDM Worldwide shall provide investor relations services to the Company in consideration for an immediate grant of 20,000 shares of the Company's common stock and a monthly cash retainer of $10,000 a month for ongoing services for a period of one year. As the shares granted were fully vested upon grant and the Company has no legal recourse to recover the shares in the event of nonperformance, the Company recognized the grant date fair value of the 20,000 shares or $56,600, as investor relations expense upon grant during the first quarter of 2017.

On March 7, 2017, the Company entered into a consulting agreement with Jenene Thomas Communications, pursuant to which Jenene Thomas Communications shall provide investor relations services to the Company. In consideration for the services, which begin on April 1, 2017, we will pay a monthly cash retainer of $12,500. Additionally, we issued 20,000 restricted shares of common stock on April 1, 2017, to be vested at 5,000 per quarter over the four quarters of services under the agreement beginning April 1, 2017. The shares granted vest over a one-year period over which the services are performed and, as such, will be amortized over the same period beginning in April 1, 2017.

6. Notes Payable

On January 15, 2016, we entered into a loan and security agreement with Oxford Finance, LLC pursuant to which we had the option to borrow $10,000,000 in two equal tranches of $5,000,000 each (the "Loan Agreement"). The first tranche of $5,000,000 was funded at close on January 15, 2016 (the "Term A Loan"). The option to fund the second tranche of $5,000,000 (the "Term B Loan") was upon the Company achieving positive interim data on the Phase 1 HuMab-5B1 antibody trial in pancreatic cancer and successfully uplisting to either the NASDAQ Stock Market or NYSE MKT on or before September 30, 2016. The option for the Term B Loan expired on September 30, 2016. The Company is not pursuing completion of any additional debt financing with Oxford Finance, LLC at the present time. The interest rate for the Term A Loan is set on a monthly basis at the index rate plus 11.29%, where the index rate is the greater of the 30-day LIBOR rate or 0.21%. Interest is due on the first day of each month, in arrears, calculated based on a 360-day year. The loan is interest only for the first year after funding, and the principal amount of the loan is amortized in equal principal payments, plus period interest, over the next 36 months. A facility fee of 1.0% or $100,000 was due at closing of the transaction, and was earned and paid by the Company on January 15, 2016. The Company is obligated to pay a $150,000 final payment upon completion of the term of the loan, and this amount is being accreted using the effective interest rate method over the term of the loan. Each of the term loans can be prepaid subject to a graduated prepayment fee, depending on the timing of the prepayment.

Concurrent with the closing of the transaction, the Company issued 225,226 common stock purchase warrants to Oxford Finance, LLC with an exercise price of $5.55 per share. The warrants are exercisable for five years and may be exercised on a cashless basis, and expire on January 15, 2021. The Company recorded $607,338 for the fair value of the warrants as a debt discount within notes payable and an increase to additional paid-in capital on the Company's balance sheet. We used the Black-Scholes-Merton valuation method to calculate the value of the warrants. The debt discount is being amortized as interest expense over the term of the loan using the effective interest method.

We granted Oxford Finance, LLC a perfected first priority lien on all of the Company's assets with a negative pledge on intellectual property. The Company paid Oxford Finance, LLC a good faith deposit of $50,000, which was applied towards the facility fee at closing. The Company agreed to pay all costs, fees and expenses incurred by Oxford Finance, LLC in the initiation and administration of the facilities including the cost of loan documentation.

At the initial funding, the Company received net proceeds of approximately $4,610,000 after fees and expenses. These fees and expenses are being accounted for as a debt discount and classified within notes payable on the Company's condensed consolidated balance sheet. The Company's transaction costs of approximately $390,000 are presented in the condensed consolidated balance sheet as a direct deduction from the carrying amount of the notes payable, consistent with debt discounts. Debt discounts, issuance costs and the final payment are being amortized or accreted as interest expense over the term of the loan using the effective interest method.

The Loan Agreement also contains customary indemnification obligations and customary events of default, including, among other things, our failure to fulfill certain of the Company's obligations under the Loan Agreement, the occurrence of a material adverse change, which is defined as a material adverse change in the Company's business, operations, or condition (financial or otherwise), a material impairment of the prospect of repayment of any portion of the loan, or a material impairment in the perfection or priority of the Lenders' lien in the collateral or in the value of such collateral. In the event of default by the Company under the Loan Agreement, the Lenders would be entitled to exercise their remedies thereunder, including the right to accelerate payment of the debt, upon which we may be required to repay all amounts then outstanding under the Loan Agreement, which could harm the Company's financial condition.

On March 31, 2017, we and Oxford Finance, LLC signed a First Amendment to Loan and Security Agreement ("Amendment"), providing that the payment of principal on the January 2016 Term Loan that otherwise would have been due on the Amortization Date will be due and payable on May 1, 2017 along with any other payment of principal due on May 1, 2017. We are obligated to pay a fully earned and non-refundable amendment fee of $15,000 to the Collateral Agent. On May 1, 2017, we paid the principal due on May 1, 2017, along with the $15,000 amendment fee.

The Company was in compliance with all applicable covenants set forth in the Loan Agreement as of March 31, 2017.

The Company recorded interest expense related to the Loan Agreement of $156,657 and $128,929 for the three months ended March 31, 2017 and March 31, 2016, respectively. The annual effective interest rate on the note payable, including the amortization of the debt discounts and accretion of the final payment, but excluding the warrant amortization, is approximately 13.5% as of March 31, 2017 and 2016.

Future principal payments under the Loan Agreement as of March 31, 2017 are as follows:

Years ending December 31:	
2017 (remaining)	$ 1,388,887
2018	1,666,667
2019	1,666,667
2020	138,889
Notes payable, balance as of March 31, 2017	4,861,110
Unamortized discount on notes payable	(591,267)
Notes payable, balance as of March 31, 2017	4,269,843
Current portion of notes payable	(1,666,667)
Non-current portion of notes payable	$ 2,603,176

7. Related Party Transactions

On April 1, 2016, the Company entered into a two-year consulting agreement with Jeffrey Ravetch, M.D., Ph.D., a Board member, for work beginning January 1, 2016 through December 31, 2017, at a rate of $100,000 a year, in support of scientific and technical advice on the discovery and development of technology and products for the Company primarily related to monoclonal antibodies, corporate development, and corporate partnering efforts. In April 2016, the Company paid Dr. Ravetch $100,000 for services to be performed in 2016, and will pay quarterly thereafter beginning January 1, 2017. During the three months ended March 31, 2017, the Company recorded $25,000 in consulting expenses, as part of general and administration expenses, related to this agreement.

On November 3, 2016, the Company granted 17,500 stock options to Jeffrey Ravetch, M.D., Ph.D., a member of the board of directors, for his ongoing consulting services to the Company. The option award vests over a three-year period. During the three months ended March 31, 2017, the Company recognized $3,826 of stock-based compensation expense, as part of general and administration expenses, related to this option grant.

8. Stock-based Activity

Amendment of Equity Incentive Plan

On March 31, 2015, the Company approved a Second Amended and Restated 2014 Employee, Director and Consultant Equity Incentive Plan (the "Plan") to increase the number of shares reserved for issuance under the Plan from 21,362 to 1,129,837 shares of common stock. Additional changes to the Plan include:

- An "evergreen" provision to reserve additional shares for issuance under the Plan on an annual basis commencing on the first day of fiscal 2016 and ending on the second day of fiscal 2024, such that the number of shares that may be issued under the Plan shall be increased by an amount equal to the lesser of: (i) 1,081,081 or the equivalent of such number of shares after the administrator, in its sole discretion, has interpreted the effect of any stock split, stock dividend, combination, recapitalization or similar transaction in accordance with the Plan; (ii) the number of shares necessary such that the total shares reserved under the Plan equals (x) 15% of the number of outstanding shares of common stock on such date (assuming the conversion of all outstanding shares of Preferred Stock (as defined in the Plan) and other outstanding convertible securities and exercise of all outstanding warrants to purchase common stock) plus (y) 30,946; and (iii) an amount determined by the Board.
- Provisions that no more than 405,406 shares may be granted to any participant in any fiscal year.
- Provisions to allow for performance based equity awards to be issued by the Company in accordance with Section 162(m) of the Internal Revenue Code.
- On September 22, 2016, the Board of Directors ratified an automatic increase in the number of shares reserved for issuance under the Plan, increasing the total shares reserved from 1,129,837 to 1,208,307 shares of common stock, under the annual evergreen provision for the Plan, plus a fixed amount of 30,946.
- On January 1, 2017, the Board of Directors ratified an automatic increase in the number of shares reserved for issuance under the Plan, effective January 1, 2017, increasing the total shares reserved from 1,208,307 to 2,159,352 shares of common stock, under the annual evergreen provision for the Plan , plus a fixed amount of 30,946.
- On April 30, 2017, the Board of Directors approved a proposal to increase in the number of shares reserved for issuance under the Plan, subject to approval by the Company's stockholders at its annual meeting to be held on June 12, 2017, increasing the total shares reserved under the Plan from 2,128,406 (including the fixed amount of 30,946) to 4,128,406, and increasing the number of shares that may be granted to any participant in any fiscal year to 900,000, from 405,406.

Stock-based Compensation

We measure stock-based compensation expense for equity-classified awards, principally related to stock options and restricted stock units, or RSUs, based on the estimated fair value of the award on the date of grant. We recognize the value of the portion of the award that we ultimately expect to vest as stock-based compensation expense over the requisite service period in our condensed consolidated statements of operations. Due to limited activity in 2016 and 2015, we assumed a forfeiture rate of zero.

We use the Black-Scholes model to estimate the fair value of stock options granted. The expected term of stock options granted represents the period of time that we expect them to be outstanding. For the three months ended March 31, 2017 and 2016, the following valuation assumptions were used:

	2017	2016
Risk-free interest rate	1.5 to 2.0 %	1.2 to 1.4 %
Dividend yield	0 %	0 %
Expected volatility	85 to 73 %	82 to 84 %
Expected life of options, in years	1.4 to 6.0	1.0 to 6.0
Weighted average grant date fair value	$ 2.2	$ 2.97

Total estimated stock-based compensation expense, related to all the Company's stock-based payment awards recognized under ASC 718, *"Compensation—Stock Compensation"* was comprised of the following:

	Three Months Ended March 31,	
	2017	2016
Research and development	$ 320,675	$ 303,624
General and administrative	712,136	1,230,264
Total stock-based compensation expense	$ 1,032,811	$ 1,533,888

Stock-based Award Activity

The following table summarizes the Company's stock option activity during the three months ended March 31, 2017:

	Options Outstanding	Weighted-Average Exercise Price
Outstanding at December 31, 2016	851,375	$ 10.94
Granted	746,690	3.09
Exercised	—	—
Forfeited/cancelled/expired	—	—
Outstanding and expected to vest at March 31, 2017	1,598,065	$ 7.27
Vested and exercisable at March 31, 2017	228,606	$ 14.35

The total unrecognized compensation cost related to unvested stock option grants as of March 31, 2017, was $4,009,153 and the weighted average period over which these grants are expected to vest is 2.32 years. The weighted average remaining contractual life of stock options outstanding at March 31, 2017 and 2016 is 9.15 and 9.19 years, respectively.

During the first three months of 2017, the Company granted 746,690 options to officers and employees with a weighted average exercise price of $3.09 and vesting over a three-year period with vesting starting at the one-year anniversary of the grant date. During the first three months of 2016, the Company granted 181,892 options to officers and employees with a weighted average exercise price of $5.62.

Stock options granted to employees generally vest over a three-year period with one third of the grants vesting at each one-year anniversary of the grant date.

Because the Company had a net operating loss carryforward as of March 31, 2017, no tax benefits for the tax deductions related to stock-based compensation expense were recognized in the Company's condensed consolidated statements of operations. Additionally, no stock options were exercised in the three months ended March 31, 2017 and 2016.

A summary of activity related to restricted stock grants under the Plan for the quarter ended March 31, 2017 is presented below:

	Shares	Weighted Average Grant-Date Fair Value
Non-vested at December 31, 2016	205,478	$ 16.84
Granted	—	—
Vested	—	—
Forfeited	—	—
Non-vested at March 31, 2017	205,478	$ 16.84

As of March 31, 2017, there were 205,478 nonvested restricted stock units remaining outstanding.

As of March 31, 2017, and 2016, unamortized compensation expense related to restricted stock grants granted in 2015 amounted to $1,696,332 and $3,415,151, respectively, which is expected to be recognized over a weighted average period of 1.02 and 2.02 years, respectively.

Management Bonus Plan

On February 16, 2016, our Compensation Committee approved a 2016 Management Bonus Plan (the "2016 Management Plan") outlining maximum target bonuses of the base salaries of certain of our executive officers. Under the terms of the 2016 Management Plan, the Company's Chief Executive Officer shall receive a maximum target bonus of up to 50% of his annual base salary, and the Chief Financial Officer and each of the Company's Vice Presidents shall receive a maximum target bonus of up to 30% of their annual base salary.

On February 16, 2016, the Compensation Committee of the Board of Directors of the Company approved the following amendments to Company's policy for compensating non-employee members of the Board:

- The initial equity grant upon first appointment (or election) of future non-employee directors to the Board shall be a 10-year option to purchase 6,757 shares of the Company's common stock, under the Company's Second Amended and Restated 2014 Equity Incentive Plan with 3-year annual vesting and a strike price equal the closing price of the Company's common stock on the effective date of the appointment (or election);

- The annual cash retainer for each non-employee director, paid quarterly, is increased by $1,000 per calendar quarter to a total of $7,000 per quarter, effective April 1, 2016; and

- The additional annual cash retainer for the chairperson of each of the Audit, Compensation, and Nominating and Governance Committees, paid quarterly, is increased by $1,000 per calendar year, such that each chairperson retainer shall be as follows, effective April 1, 2016: Audit Committee: $13,000; Compensation Committee: $9,000; Nominating and Governance Committee: $6,000.

On August 25, 2016, the Compensation Committee of the Board of Directors of the Company approved the following amendments to Company's policy for compensating non-employee members of the Board:

- The initial equity grant upon first appointment (or election) of future non-employee directors to the Board shall be a 10-year option to purchase 25,000 shares of the Company's common stock, under the Company's Second Amended and Restated 2014 Equity Incentive Plan with 3-year annual vesting and a strike price equal to the closing price of the Company's common stock on the effective date of the appointment (or election); and

- The additional automatic annual option grant to each non-employee director on the date of the Company's annual meeting shall be a 10-year option to purchase 17,500 shares of the Company's common stock, under the Company's Second Amended and Restated 2014 Equity Incentive Plan with 1-year vesting and a strike price equal to the closing price of the Company's common stock on the date of the annual meeting.

On February 6, 2017, the Compensation Committee of the Board of Directors of the Company approved the following amendments to Company's policy for compensating non-employee members of the Board:

- The initial equity grant upon first appointment (or election) of future non-employee directors to the Board shall be a 10-year option to purchase 30,000 shares of the Company's Common Stock, under the Company's Second Amended and Restated 2014 Equity Incentive Plan with 3-year annual vesting and a strike price equal to the closing price of the Company's common stock on the effective date of the appointment (or election);

- The additional automatic annual option grant to each non-employee director on the date of the Company's annual meeting shall be a 10-year option to purchase 20,000 shares of the Company's Common Stock, under the Company's Second Amended and Restated 2014 Equity Incentive Plan with 1-year vesting and a strike price equal the closing price of the Company's common stock on the date of the annual meeting.

Common stock reserved for future issuance

Common stock reserved for future issuance consists of the following at March 31, 2017:

Common stock reserved for conversion of preferred stock and warrants	8,099,568
Common stock options outstanding	1,598,066
Authorized for future grant or issuance under the Stock Plan	271,048
Unvested restricted stock	205,478
Total	10,174,160

9. Net Loss per Share

The Company calculates basic and diluted net loss per share using the weighted-average number of shares of common stock outstanding during the period.

When the Company is in a net loss position, it excludes from the calculation of diluted net loss per share all potentially dilutive stock options, preferred stock and warrants, and the diluted net loss per share is the same as the basic net loss per share for such periods. If the Company was to be in a net income position, the weighted average number of shares used to calculate the diluted net income per share would include the potential dilutive effect of in-the-money securities, as determined using the treasury stock method.

The table below presents the potentially dilutive securities that would have been included in the calculation of diluted net loss per share if they were not antidilutive for the periods presented.

	As of March 31,	
	2017	**2016**
Stock options	1,598,066	607,528
Preferred stock	2,975,424	2,927,325
Unvested restricted stock	205,478	310,926
Warrants to purchase common stock	5,124,144	1,199,505
Total	9,903,112	5,045,284

10. Contracts and Agreements

Memorial Sloan Kettering Cancer Center, or MSK

Since 2008 the Company has engaged in various research agreements and collaborations with MSK including licensed rights to cancer vaccines and the blood samples from patients who have been vaccinated with MSK's cancer vaccines. Total sponsored research contracts outstanding in 2016 amounting to approximately $800,000 in 2016 were 100% complete as of the year ended December 31, 2016. Such sponsored research agreements provide support for preclinical work on the Company's product development programs. The work includes preparing radioimmunoconjugates of the Company's antibodies and performing *in vitro* and *in vivo* pharmacology studies for our therapeutic antibody product, imaging agent product and radioimmunotherapy product programs. For the three months ended March 31, 2017, there were no expenses incurred related to these contracts.

Life Technologies Licensing Agreement

On September 24, 2015, the Company entered into a licensing agreement with Life Technologies Corporation, a subsidiary of ThermoFisher Scientific. Under the agreement MabVax agreed to license certain cell lines from Life Technologies Corporation to be used in the production of recombinant proteins for the Company's clinical trials. The amount of the contract is for $450,000 and was fully expensed during 2015. This agreement was fully paid as of December 31, 2016. For the three months ended March 31, 2017, and 2016, the Company recorded no expenses associated with the agreement.

Rockefeller University Collaboration

In July 2015, the Company entered into a research collaboration agreement with Rockefeller University's Laboratory of Molecular Genetics and Immunology. The Company provided antibody material to Rockefeller University, which is exploring the mechanism of action of constant region (Fc) variants of the HuMab 5B1 in the role of tumor clearance. The Company may supply additional research materials if requested by the University, which is evaluating ways to optimize the function. For the three months ended March 31, 2017, and 2016, the Company recorded no expenses associated with the agreement.

Patheon Biologics LLC Agreement

On April 14, 2014, the Company entered into a development and manufacturing services agreement with Patheon (f.k.a. Gallus Biopharmaceuticals) to provide a full range of manufacturing and bioprocessing services, including cell line development, process development, protein production, cell culture, protein purification, bio-analytical chemistry and QC testing. Total amount of the contract is estimated at approximately $3.0 million. For the three months ended March 31, 2017 and 2016, the Company recorded no expenses associated with the agreement.

NCI PET Imaging Agent Grant

In September 2013, the NCI awarded the Company a SBIR Program Contract to support the Company's program to develop a PET imaging agent for pancreatic cancer using a fragment of the Company's 5B1 antibody (the "NCI PET Imaging Agent Grant"). The project period for Phase I of the grant award of approximately $250,000 covered a nine-month period, which commenced in September 2013 and ended in June 2014.

On August 25, 2014, the Company was awarded a $1.5 million contract for the Phase II portion of the NCI PET Imaging Agent Grant. The contract is intended to support a major portion of the preclinical work being conducted by the Company, together with its collaboration partner, MSK, to develop a novel Positron Emission Tomography ("PET") imaging agent for detection and assessment of pancreatic cancer. The total contract amount for Phase I and Phase II was approximately $1,749,000. The Company recorded revenue associated with the NCI PET Imaging Agent Grant as the related costs and expenses were incurred. For the three-month periods ended March 31, 2017 and 2016, the Company recorded $0 and $148,054 of revenue associated with the NCI PET Imaging Agent Grant, respectively.

11. Commitments and contingencies

Capital Leases

On March 21, 2016, the Company entered into a lease agreement with ThermoFisher Scientific ("Lessor"). Under the terms of the agreement, the Company agreed to lease two pieces of equipment from the Lessor, a liquid chromatography system and an incubator, totaling in cost of $95,656. The term of the lease is five years (60 months), and the monthly lease payment is $1,942. In addition, there is a $1.00 buyout option at the end of the lease term.

Minimum future annual capital lease obligations are as follows as of March 31, 2017:

2017 (remaining)	$ 17,480
2018	23,306
2019	23,306
2020	23,306
2021	7,769
Less interest	(14,170)
Principal	80,997
Less current portion	(17,361)
Noncurrent portion	$ 63,636

Operating Leases

In connection with the Merger, the Company recorded a $590,504 contingent lease termination fee, in connection with the termination by MabVax (f.k.a. Telik, Inc.) of the master lease and sublease of 3165 Porter Drive in Palo Alto, California, which is payable to ARE-San Francisco No. 24, if the Company receives $15 million or more in additional financing in the aggregate. The additional financing was achieved in 2015 and the termination fee is reflected on the condensed consolidated balance sheet as an accrued lease contingency fee.

On September 2, 2015, the Company entered into a lease (the "Lease") with AGP Sorrento Business Complex, L.P., for certain premises of office and laboratory space in buildings located at 11535 Sorrento Valley Rd., San Diego, California, to serve as the Company's corporate offices and laboratories (the "New Premises"). Because certain tenant improvements needed to be made to the New Premises before the Company could take occupancy, the term of the Lease did not commence until the New Premises were ready for occupancy, which was on February 4, 2016. The Lease terminates six years after such term commencement date, unless earlier terminated in accordance with the Lease. Pursuant to the terms of the Lease, the monthly base rent is $35,631, subject to annual increases as set forth in the Lease.

The Company has an option to extend the Lease term for a single, five-year period. If the Lease term is extended for the optional five-year period, the monthly base rent will be adjusted based on fair market rental value. In addition to rent, the Company agreed to pay a portion of the taxes and utility, maintenance and other operating costs paid or accrued in connection with the ownership and operation of the property.

The Company previously leased its corporate office and laboratory space under an operating lease that, as amended on August 1, 2010, expired on July 31, 2015.

The Company recognized rent expense on a straight-line basis over the term of the lease. Rent expense was $115,238 and $87,683 during the quarters ended March 31, 2017 and 2016, respectively.

Minimum future annual operating lease obligations are as follows as of March 31, 2017:

2017 (remaining)	$ 330,299
2018	451,409
2019	464,951
2020	478,900
2021	493,267
Thereafter	82,612
Total	$ 2,301,438

12. Subsequent Events

May 2017 Private Placement – On May 3, 2017, we entered into separate subscription agreements with accredited investors pursuant to which we sold an aggregate of $850,000, or 850 shares, of Series H Preferred Stock, at a stated value of $1,000 per share. The shares of Series H Preferred Stock are convertible into shares of common stock based on a conversion calculation equal to the stated value of the Series H Preferred Stock, plus all accrued and unpaid dividends (the "Base Amount"), if any, on such Series H Preferred Stock, as of such date of determination, divided by the conversion price. The initial conversion price is $1.75 per share, each subject to adjustment for stock splits, stock dividends, recapitalizations, combinations, subdivisions or other similar events.

In the event of a liquidation, dissolution or winding up of the Company, each share of Series H Preferred Stock will be entitled to a per share preferential payment equal to the Base Amount. All shares of our capital stock will be junior in rank to Series H Preferred Stock with respect to the preferences as to dividends, distributions and payments upon the liquidation, dissolution and winding-up of the Company other than Series A through G Preferred Stock. The holders of Series H Preferred Stock will be entitled to receive dividends if and when declared by our board of directors. The Series H Preferred Stock shall participate on an "as converted" basis, with all dividends declared on our common stock. In addition, if we grant, issue or sell any rights to purchase our securities pro rata to all our record holders of our common stock, each holder will be entitled to acquire such securities applicable to the granted purchase rights as if the holder had held the number of shares of common stock acquirable upon complete conversion of all Series H Preferred Stock then held.

We are prohibited from effecting a conversion of the Series H Preferred Stock to the extent that, as a result of such conversion, the holder would beneficially own more than 4.99% of the number of shares of common stock outstanding immediately after giving effect to the issuance of shares of common stock upon conversion of the Series H Preferred Stock, which beneficial ownership limitation may be increased by the holder up to, but not exceeding, 9.99%. Each holder is entitled to vote on all matters submitted to stockholders of the Company, and shall have the number of votes equal to the number of shares of common stock issuable upon conversion of such holder's Series H Preferred Stock, but not in excess of the beneficial ownership limitations.

The shares were offered and sold solely to "accredited investors" in reliance on the exemption from registration afforded by Rule 506 of Regulation D and Section 4(a)(2) of the Securities Act of 1933, as amended (the "Securities Act"). On the closing date, we entered into registration rights agreements with each of the investors, pursuant to which we agreed to undertake to file a registration statement to register the resale of the shares within thirty (30) days following the closing date, to cause such registration statement to be declared effective by the Securities and Exchange Commission within sixty (60) days of the closing date and to maintain the effectiveness of the registration statement until all of such shares have been sold or are otherwise able to be sold pursuant to Rule 144 under the Securities Act, without any restrictions.

On May 10, 2017, we entered into exchange agreements (the "Exchange Agreements") with each of the holders (the "Holders") of our Series H Preferred Stock representing an aggregate of $850,000 of our Series H Preferred Stock (the "Exchange Securities") with such exchange to be effective on the closing of our May 2017 Public Offering. Prior to the closing of the May 2017 Public Offering, we and the holders rescinded and cancelled the Exchange Agreements and they have no force and effect and no transaction contemplated by the Exchange Agreements was consummated.

Series G Preferred Stock – On May 15, 2017, the Company filed a Certificate of Designations, Preferences and Rights of the 0% Series G Convertible Preferred Stock (the "Certificate of Designations") with the Delaware Secretary of State, designating 5,000,000 shares of preferred stock as 0% Series G Convertible Preferred Stock (the "Series G Preferred Stock").

The shares of Series G Preferred Stock are convertible into shares of common stock based on a conversion calculation equal to the stated value of the of such Series G Preferred Stock, plus all accrued and unpaid dividends, if any, on such Series G Preferred Stock, as of such date of determination, divided by the conversion price. The stated value of each share of Series G Preferred Stock is $1.75 and the initial conversion price is $1.75 per share, each subject to adjustment for stock splits, stock dividends, recapitalizations, combinations, subdivisions or other similar events. In the event of a liquidation, dissolution or winding up of the Company, each share of Series G Preferred Stock will be entitled to a per share preferential payment equal to the par value. All shares the Company's capital stock will be junior in rank to Series G Preferred Stock with respect to the preferences as to dividends, distributions and payments upon the liquidation, dissolution and winding-up of the Company, except for the Company's Series D Preferred Stock, Series E Preferred Stock, and Series H Preferred Stock.

The holders of Series G Preferred Stock will be entitled to receive dividends if and when declared by the Company's board of directors. The Series G Preferred Stock shall participate on an "as converted" basis, with all dividends declared on the Company's common

stock. In addition, if the Company grants, issues or sells any rights to purchase its securities pro rata to all its record holders of its common stock, each holder will be entitled to acquire such securities applicable to the granted purchase rights as if the holder had held the number of shares of common stock acquirable upon complete conversion of all Series G Preferred Stock then held.

The Company is prohibited from effecting a conversion of the Series G Preferred Stock to the extent that, as a result of such conversion, the holder would beneficially own more than 4.99% of the number of shares of common stock outstanding immediately after giving effect to the issuance of shares of common stock upon conversion of the Series G Preferred Stock, which beneficial ownership limitation may be increased by the holder up to, but not exceeding, 9.99%. Each holder is entitled to vote on all matters submitted to stockholders of the Company, and shall have the number of votes equal to the number of shares of common stock issuable upon conversion of such holder's Series G Preferred Stock, but not in excess of the beneficial ownership limitations.

May 2017 Public Offering – On May 19, 2017, we closed a public offering of 1,342,858 shares of common stock and 1,000,000 shares of newly designated 0% Series G Convertible Preferred Stock, or Series G Preferred Stock, at $1.75 per share of common stock and Series G Preferred Stock. The Series G Preferred Stock is initially convertible into 1,000,000 shares of common stock, subject to adjustment for stock splits, stock dividends, recapitalizations, combinations, subdivisions or other similar events and was purchased by certain existing investors of the Company who, as a result of their purchases of common stock, would hold in excess of 4.99% of our issued and outstanding common stock. We received $4,100,000 in gross proceeds, before underwriting discounts and commissions and offering expenses totaling $667,875.

The May 2017 Public Offering was consummated pursuant to an underwriting agreement (the "Underwriting Agreement") that we signed on May 15, 2017, with Laidlaw & Company (UK) Ltd. ("Laidlaw"), as underwriter (the "Underwriter") pursuant to which, among other things, we agreed to issue and sell to the Underwriter, and the Underwriter agreed to purchase from us, in an underwritten public offering, an aggregate of 1,342,858 shares of common stock and 1,000,000 shares of Series G Preferred Stock. We have granted the Underwriters an option for a period of up to 45 days from the date of our prospectus to purchase up to an aggregate of 201,428 additional shares of our common stock at the public offering price of $1.75 per share, less the underwriting discount, solely to cover overallotments.

In connection with the May 2017 Public Offering, we agreed with the lead investor of the August 2016 Public Offering (the "Lead Investor") pursuant to a Letter Agreement, dated May 18, 2017, to issue 2,900,000 shares of common stock (the "Inducement Shares") to the investors in the August 2016 Public Offering (the "August 2016 Investors"), as incentive shares to those investors to make a minimum required investment in this public offering of at least 50% of their investment in the $9.4 million August 2016 Public Offering, or the Minimum Required Investment, and who still hold 100% of the shares of common stock previously acquired. Such August 2016 Investors shall be entitled to receive their pro rata share of 2,900,000 shares, after the Lead Investor in this offering receives the first 10%. For the August 2016 Investors who purchased Series F Preferred Stock and made the Minimum Required Investment and who still held 100% of the shares of Series F Preferred Stock at the closing of the May 2017 Public Offering, they may, instead of receiving a pro rata share of the 2,610,000 shares remaining after the Lead Investor receives the first 290,000 shares, elect to receive their Inducement Shares in the form of a new series I convertible preferred Stock (the "Series I Preferred Stock") to be created with similar rights as currently exist in the Series G Preferred Stock. The stated value of each share of Series I Preferred Stock will be $1.75 and the initial conversion price will be $1.75 per share, each subject to adjustment for stock splits, stock dividends, recapitalizations, combinations, subdivisions or other similar events. In the event of a liquidation, dissolution or winding up of the Company, each share of Series I Preferred Stock will be entitled to a per share preferential payment equal to the par value, or $0.01 per share. All shares of the Company's capital stock will be junior in rank to the Series I Preferred Stock at the time of creation, with respect to the preferences as to dividends, distributions and payments upon the liquidation, dissolution and winding-up of the Company, except for the Company's Series D Preferred Stock, Series E Preferred Stock, Series G Preferred Stock, and Series H Preferred Stock.

Also in connection with the May 2017 Public Offering, for these August 2016 Investors to receive the Inducement Shares, each of them must also agree to the cancellation of the warrants issued to them in the August 2016 Public Offering. Investors in the Company's 2015 private offering that invest at least 25% of their original investment from such private financing in the May 2017 Public Offering and still hold 100% of their common stock or Series E preferred stock from the private 2015 financing also must agree to amend the terms of their outstanding warrants that currently have an exercise price of $11.10 per share, such that the amended warrants shall have an exercise price of $2.00 per share and no cashless exercise feature (as amended, the "Inducement Amended Warrants"). The Company agreed with the Lead Investor to register for resale on a registration statement all the Inducement Shares and shares of common stock underlying the Inducement Amended Warrants, and to issue the Inducement Shares to each investor meeting the investment and ownership terms described above.

Based on the closing of the Offering, and election of certain prior investors who made the Minimum Required Investment and elect to take Series I Preferred Stock upon its creation, 931,336 Inducement Shares of common stock were reserved for issuance and 1,968,664 Inducement Shares were reserved for issuance in the form of Series I Preferred Stock that will be created following the closing of the May 2017 Public Offering and will be issued following verification with each investors that the terms of the Inducement Shares have been met.

Letter Agreement Dated May 15, 2017 – As a condition to the Lead Investor leading an investment in the May 2017 Public Offering, including the requirement that we offer incentive shares to August 2016 Investors who participate in making the Minimum Required Investment in the May 2017 Public Offering, we have agreed to the following:

Board Nomination	The Company shall nominate one candidate to the Board of Directors of the Company acceptable to the holder of a majority of the Series G Preferred Stock by December 31, 2017, and two current Board members will resign.
Executive Hire	The Company shall hire a new C-level executive in a leadership role by July 15, 2017.
Board Compensation	The Company is obligated to issue an aggregate of 1,050,000 options to certain employees and members of the Board, at a price not less than $2.00 per share, and 50,000 options to each other Board member at the current market price in connection with this offering. The options shall be issued pursuant to the Company's option plan and are subject to the requisite approvals and subject to availability under the plan. To the extent we need to increase the number of shares available under such plan, we will need the approval of our board and stockholders. All board fees will be waived for 2017.
Funds Held in Escrow	$500,000 of the funds from this offering will be held in escrow and released to one or more investor relations services acceptable to the Company following the closing of

this offering.

Additionally we granted the Lead Investor in the May 2017 Public Offering certain rights to approve future (i) issuances of our securities, (ii) equity or debt financings and (iii) sales of any development product assets currently held by us, subject to certain exceptions, if such securities are sold at price below $2.50 per share and for as long as the Lead Investor in the offering holds 50% or more of the shares of Series G Preferred Stock purchased by the Lead Investor in this offering (the "May 2017 Consent Right"). All other prior consent rights of the Lead Investor have been superseded by the May 2017 Consent Right.

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

FORWARD LOOKING STATEMENTS

The following discussion should be read in conjunction with our condensed consolidated financial statements and other financial information appearing elsewhere in this quarterly report. In addition to historical information, the following discussion and other parts of this quarterly report contain forward-looking statements. You can identify these statements by forward-looking words such as "plan," "may," "will," "expect," "intend," "anticipate," believe," "estimate" and "continue" or similar words. Forward-looking statements include information concerning possible or assumed future business success or financial results. You should read statements that contain these words carefully because they discuss future expectations and plans, which contain projections of future results of operations or financial condition or state other forward-looking information. We believe that it is important to communicate future expectations to investors. However, there may be events in the future that we are not able to accurately predict or control. Accordingly, we do not undertake any obligation to update any forward-looking statements for any reason, even if new information becomes available or other events occur in the future and thus you should not unduly rely on these statements.

The forward-looking statements included herein are based on current expectations that involve several risks and uncertainties set forth under "Risk Factors" in our Annual Report on Form 10-K as of and for the year ended December 31, 2016, Part II, Section 1A, herein, and other periodic reports filed with the United States Securities and Exchange Commission ("SEC"). Accordingly, to the extent that this Report contains forward-looking statements regarding the financial condition, operating results, business prospects or any other aspect of the Company, please be advised that the Company's actual financial condition, operating results and business performance may differ materially from that projected or estimated by the Company in forward-looking statements and thus you should not unduly rely on these statements.

Overview

We have been engaged in the discovery and development of proprietary human monoclonal antibody products for the diagnosis and treatment of a variety of cancers. We have discovered a pipeline of human monoclonal antibody products based on the protective immune responses generated by patients who have been vaccinated against targeted cancers. Therapeutic vaccines under development were discovered at Memorial Sloan Kettering Cancer Center, or MSK, and are exclusively licensed to MabVax Therapeutics. We operate in only one business segment. We have incurred substantial losses since inception, and we expect to incur additional substantial losses for the foreseeable future as we continue our research and development activities. To date, we have funded our operations primarily through government grants, proceeds from the sale of common and preferred stock, the issuance of debt, the issuance of common stock in lieu of cash for services, payments from collaborators and interest income. The process of developing our product candidates will require significant additional research and development, preclinical testing and clinical trials, as well as regulatory approval. We expect these activities, together with general and administrative expenses, to result in substantial operating losses for the foreseeable future. We will not receive product revenue unless we, or our collaborative partners, complete clinical trials, obtain regulatory approval and successfully commercialize one or more of our products. We cannot provide assurance that we will ever generate revenues or achieve and sustain profitability in the future or obtain the necessary working capital for our operations.

During the three months ended March 31, 2017, our loss from operations was $5,092,314 and our net loss was $5,354,854. Net cash used in operating activities for the three months ended March 31, 2017 was $3,177,637, cash and cash equivalents and working capital deficit as of March 31, 2017 were $596,761 and $5,948,518, respectively. As of March 31, 2017, we had an accumulated deficit of $83,617,115 and a stockholders' deficit of $922,921.

We are subject to risks common to biopharmaceutical companies, including the need for capital, risks inherent in our research, development and commercialization efforts, preclinical testing, clinical trials, uncertainty of regulatory and marketing approvals, enforcement of patent and proprietary rights, potential competition and retention of key employees. In order for a product to be commercialized, it will be necessary for us to conduct preclinical tests and clinical trials, demonstrate efficacy and safety of our product candidates to the satisfaction of regulatory authorities, obtain marketing approval, enter into manufacturing, distribution and marketing arrangements, obtain market acceptance and, in many cases, obtain adequate reimbursement from government and private insurers. We cannot provide assurance that we will ever generate revenues or achieve and sustain profitability in the future or obtain the necessary working capital for our operations.

Reverse Stock Split and Listing on NASDAQ

On August 16, 2016, we filed a certificate of amendment to our Amended and Restated Certificate of Incorporation with the Secretary of State of the State of Delaware in order to effectuate a reverse stock split of our issued and outstanding common stock on a 1 for 7.4 basis, effective on August 16, 2016. The reverse split was effective with The Financial Industry Regulatory Authority (FINRA), and the Company's common stock began trading on The NASDAQ Capital Market at the open of business on August 17, 2016. All share and per share amounts, and number of shares of common stock into which each share of preferred stock will convert, in the financial statements and notes thereto have been retroactively adjusted for all periods presented to give effect to the Listing Reverse Split, including reclassifying an amount equal to the reduction in par value of common stock to additional paid-in capital.

Our Clinical Development Programs and Plans for 2017

MVT-5873 – for the Treatment of Pancreatic Cancer

In our progress report released in November 2016, we stated that the safety of our HuMab-5B1 antibody designated as MVT-5873 had been established at three incremental dose levels in our phase I clinical trial. The purpose of this phase I clinical trial, initiated in February 2016, is to establish safety and tolerability, and to determine the recommended phase II dose for patients with locally advanced and metastatic pancreatic cancer or other malignancies expressing the same cancer antigen known as CA19-9. Patients entering this part of the trial were stage three and stage four cancer patients who had failed all previous treatments, and had progressive disease.

Study protocol allows patients to remain on therapy beyond the initial 28-day treatment and safety assessment cycle based on acceptable dose tolerability and investigator assessment of continued benefit from the treatment. Every second treatment cycle the investigator assesses disease status using RECIST 1.1 measurement criteria to evaluate tumor response rate and duration of response.

After establishing the current dosage safety level for MVT-5873 in Part 1 of the trial, we were able to initiate part 2 of our phase I study. Part 2 combines MVT-5873 with a standard of care chemotherapy regimen in newly diagnosed treatment naïve patients. The dosage levels established in our MVT-5873 monotherapy trial also have cleared all subsequent dose levels utilized in our Phase I clinical study of MVT-2163 as an immuno-PET imaging agent as well as the dose levels planned for our clinical study of our radioimmunotherapy product MVT-1075 that combines MVT-5873 with a radioactive substance.

Recent progress – As of April 2017, we had enrolled 29 patients in Part 1 of our phase I trial at three clinical sites. Twenty-five patients are currently evaluable. We have seen an efficacy signal from early study results primarily in patients who enter the trial with CA19-9 levels below 2,500 U/ml. In this group of patients, we observed that the first cycle of treatment with MVT-5873 reduces CA19-9 levels by 95% or more and close to normal levels. We also observed that approximately half of the patients with CA19-9 levels below 2,500 U/ml. convert from progressive disease to stable disease. Further, approximately 30% of this responder set maintained stable disease for four or more months. Patients continue to tolerate the study drug reasonably well with drug infusion reactions being the most common adverse event, which is adequately addressed by slowing the infusion rate and use of routine premedication. Increases in liver function tests are seen early in a minority of patients and appear reversible.

Plan for remainder of 2017 – We plan to conduct a small phase Ib study in the second half of 2017 to evaluate the use of MVT-5873 as a maintenance therapy for pancreatic cancer patients whose chemotherapy treatments no longer provide improvement and are experiencing increasing levels of toxicity. We believe we can demonstrate proof-of-concept for this approach with a small cohort of approximately 10 patients. Results from this study are anticipated around year end 2017.

MVT-2163 –as an Imaging Agent for Pancreatic Cancer

In our progress report released in November 2016, we stated that we had established interim safety, and acceptable pharmacokinetics and biodistribution of our immuno-PET imaging agent that we designate as MVT-2163 in our phase I clinical trial. MVT-2163 is comprised of MVT-5873 conjugated to a radio label. We have completed the initial two cohorts of patients as specified in our protocol. In the first cohort, we administered MVT-2163 alone and in the second cohort we administered MVT-2163 following a blocking dose of MVT-5873. We reported that the initial PET images demonstrated target specificity by correlation with lesions identified by conventional computerized tomography (CT) scans. The biodistribution data obtained in the first two cohorts demonstrated improvement in PET images by pre-administration of MVT-5873, as has been observed with other antibody based PET agents. We initiated the MVT-2163 phase I trial in June 2016 to evaluate a next generation diagnostic PET imaging agent in patients with locally advanced or metastatic adenocarcinoma of the pancreas (PDAC) or other CA19-9 positive malignancies. MVT-2163 (89Zr-HuMab-5B1) combines the well-established PET imaging radiolabel Zirconium [89Zr] with the targeting specificity of MVT-5873. We designed the trial to establish safety, pharmacokinetics, biodistribution, optimal time to obtain the PET image, and the amount of MVT-5873 to be used prior to administration of MVT-2163 to obtain optimized PET scan images. We continue to actively recruit patients and expect to establish the optimal co-administration dose of MVT-5873 early in 2017.

Recent progress – As of April 2017, we had completed enrollments in the phase 1a portion of our study in all three planned cohorts. We have expanded cohort 3 to evaluate not only an increased blocking dose but the impact of expanding the time interval between the administration of a blocking dose and the MVT-2163 PET agent. We have determined that a 47 mg. blocking dose and a time interval of 2 to 4 hours significantly improves the quality of the PET scan image. We observed that the blocking dose helps to reduce the accumulation of labeled antibody in the liver and spleen while also improving accumulation of the labeled antibody on both tumor and metastatic sites. Images seen from use of MVT-2163 appear to be identifying smaller metastatic sites that are below the limit of detection with CT scans.

Plan for remainder of 2017 – In consultation with our clinical investigators, we plan to expand our phase 1 program for the remainder of 2017 to include additional patients who will consent to have the smaller potential metastatic sites being seen with MVT-2163 images biopsied to provide evidence that MVT-2163 is identifying previously unseen disease. Better understanding of the extent and spread of the cancer will significantly improve the clinical decision regarding eligibility for curative surgery. We expect to have results of biopsies later in 2017.

MVT-1075 –as a Radioimmunotherapy for Pancreatic Cancer

We are developing HuMab-5B1 into a third potential product for use as a radioimmunotherapy that we have designated as MVT-1075. MVT-1075 represents a unique product opportunity for MabVax by conjugating MVT-5873 with a low-energy radiation emitter, 177Lu, which has a relatively short tissue penetration range to minimize potential side effects of the radiation. MVT-5873 provides the opportunity for tumor-specific targeting of a more potent analog of MVT-5873. We submitted our IND in late December 2016, and the IND was authorized to proceed on January 27, 2017. We plan to initiate the phase I trial of MVT-1075 in the first half of 2017.

RESULTS OF OPERATIONS

We are providing the following information about our revenues, expenses, and cash and liquidity.

Comparison of the Three-Month Periods Ended March 31, 2017 and 2016

Revenues:

	Three Months Ended March 31,		% Increase/ (Decrease)
	2017	**2016**	
Revenues	$ —	$ 148,054	*

*not meaningful

For the three months ended March 31, 2017, we recognized no revenues, as compared to $148,054 for the same period in the prior year. This decrease was primarily due to the completion of the current phase of our contract with the National Institutes of Health, or NIH (the “NIH Imaging Contract”), during the first quarter of the prior year.

Research and development expenses:

	Three Months Ended March 31,		% Increase/ (Decrease)
	2017	2016	
Research and development	$ 2,818,363	$ 1,700,512	66%

For the three months ended March 31, 2017, the Company incurred research and development expenses of $2,818,363, as compared to $1,700,512 for the same period a year ago. Increased expenses in the three months ended March 31, 2017, compared to the same period in the prior year are primarily due to increased spending on our Phase I clinical trials of MVT-5873 as a therapeutic and MVT-2163 as a diagnostic for pancreatic cancer and other CA 19.9 malignancies, and in-house staffing to support preclinical and clinical development efforts in support of our programs.

Stock-based compensation expense included in research and development expenses for the three months ended March 31, 2017 and 2016 was $320,675 and $303,624, respectively.

General and administrative expenses:

	Three Months Ended March 31,		% Increase/ (Decrease)
	2017	2016	
General and administrative	$ 2,273,951	$ 2,651,837	(14%)

For the three months ended March 31, 2017, the Company incurred general and administrative expenses of $2,273,951, as compared to $2,651,837 for the same period a year ago. The decrease in general and administrative expenses was primarily due to a decrease in business development related expenses of $517,000, a decrease in consulting expenses of $143,000 and a decrease in legal fees of $59,000. The Company also incurred a facility relocation expense of $36,000 in the same period a year ago. The decreases in expenses were partially offset by an increase in salaries and benefits of $142,000 due to increase in headcount primarily related to business development, increase in patent costs of $74,000, and an increase in rent expense of $28,000 for the three months ended March 31, 2017, compared with the same period a year ago.

Stock-based compensation expense included in general and administrative expenses for the three months ended March 31, 2017 and 2016 was $712,136 and $1,230,264, respectively. Stock-based compensation expense for the three months ended March 31, 2016 included $573,425 in restricted stock for services.

Interest income and other income (expense):

	Three Months Ended March 31,		% Increase/ (Decrease)
	2017	2016	
Interest and other income (expense), net	$ (262,540)	$ (200,475)	31%

Interest and other income (expense), net was ($262,540) and ($200,475) for the three months ended March 31, 2017 and 2016, respectively. The amount for the three months ended March 31, 2017, consisted primarily of $156,658 interest expense related to interest on the Company's term loan from Oxford Finance, $47,144 of financing cost amortization, and $59,185 related to warrant amortization, partially offset by other income of $447. The amount for the three months ended March 31, 2016, consisted primarily of $128,929 interest expense related to interest on the Company's term loan from Oxford Finance, $31,725 of financing cost amortization, and $39,825 warrant amortization partially offset by interest income of $4. The fair value of the warrants issued to Oxford Finance related to the term loan was recorded as a discount to the value of the note payable, and is being amortized over the term of the loan. Financing costs incurred related to the term loan are also amortized over the term of the loan.

Critical Accounting Policies and Significant Judgments and Estimates

Our management's discussion and analysis of our financial condition and results of operations are based on our consolidated financial statements, which have been prepared in accordance with generally accepted accounting principles in the United States ("GAAP"). The preparation of these consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the consolidated financial statements as well as the reported revenues and expenses during the reporting periods. On an on-going basis, we evaluate our estimates and judgments related to our operating costs. We base our estimates on historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ significantly from these estimates under different assumptions or conditions.

Our critical accounting policies include:

Revenue recognition. Revenue from grants is based upon internal and subcontractor costs incurred that are specifically covered by the grant, including a facilities and administrative rate that provides funding for overhead expenses. NIH grants are recognized when we incur internal expenses that are specifically related to each grant, in clinical trials at the clinical trial sites, by subcontractors who manage the clinical trials, and provided the grant has been approved for payment. U.S. grant awards are based upon internal research and development costs incurred that are specifically covered by the grant, and revenues are recognized when we incur internal expenses that are related to the approved grant.

Any amounts received by us pursuant to the NIH grants prior to satisfying our revenue recognition criteria are recorded as deferred revenue.

Clinical trial expenses. We accrue clinical trial expenses based on work performed. In determining the amount to accrue, we rely on estimates of total costs incurred based on the enrollment of subjects, the completion of trials and other events defined in contracts. We follow this method because we believe reasonably dependable estimates of the costs applicable to various stages of a clinical trial can be made. However, the actual costs and timing of clinical trials are highly uncertain, subject to risks, and may change depending on several factors. Differences between the actual clinical trial costs and the estimated clinical trial costs that we have accrued in any prior period are recognized in the subsequent period in which the actual costs become known. Historically, these differences have not been material; however, material differences could occur in the future.

Stock-based compensation. Our stock-based compensation programs include grants of stock options and restricted stock to employees, non-employee directors and non-employee consultants. Stock-based compensation cost is measured at the grant date, based on the calculated fair value of the award, and is recognized as an expense, under the straight-line method, over the employee, non-employee director or non-employee consultant's requisite service period (generally the vesting period of the equity grant).

We account for equity instruments, including stock options and restricted stock, issued to employees and non-employees in accordance with authoritative guidance for equity based payments. Stock options issued are accounted for at their estimated fair value determined using the Black-Scholes-Merton option-pricing model, and restricted stock is accounted for using the grant date fair value of our common stock granted. The fair value of options and restricted stock granted to non-employees is re-measured as they vest, and the resulting increase in value, if any, is recognized as expense during the period the related services are rendered.

Income taxes. Significant judgment is required by management to determine our provision for income taxes, our deferred tax assets and liabilities, and the valuation allowance to record against our net deferred tax assets, which are based on complex and evolving tax regulations throughout the world. Our tax calculation is impacted by tax rates in the jurisdictions in which we are subject to tax and the relative amount of income earned in each jurisdiction. Our deferred tax assets and liabilities are determined using the enacted tax rates expected to be in effect for the years in which those tax assets are expected to be realized.

The effect of an uncertain income tax position is recognized as the largest amount that is "more-likely-than-not" to be sustained under audit by the taxing authority. An uncertain income tax position will not be recognized if it has less than a 50% likelihood of being sustained.

The realization of our deferred tax assets is dependent upon our ability to generate sufficient future taxable income. We establish a valuation allowance when it is more-likely-than-not that the future realization of all or some of the deferred tax assets will not be achieved. The evaluation of the need for a valuation allowance is performed on a jurisdiction-by-jurisdiction basis, and includes a review of all available evidence, both positive and negative. As of March 31, 2017, the Company concluded that it was more-likely-than-not that its deferred tax assets would not be realized, and a full valuation allowance has been recorded.

The above listing is not intended to be a comprehensive list of all our accounting policies. In many cases, the accounting treatment of a transaction is specifically dictated by GAAP. See our audited consolidated financial statements and notes thereto included in our 2016 Annual Report on Form 10-K, which contain additional accounting policies and other disclosures required by GAAP.

LIQUIDITY AND CAPITAL RESOURCES

To date, we have funded our operations primarily through government grants, proceeds from the sale of common and preferred stock, the issuance of debt, the issuance of common stock in lieu of cash for services, payments from collaborators and interest income. We have experienced negative cash flow from operations each year since our inception. As of March 31, 2017, we had an accumulated deficit of $83,617,115. We expect to continue to incur increased expenses, resulting in losses, over the next several years due to, among other factors, our continuing and planned clinical trials and anticipated research and development activities, unless we can achieve a major license of one or more of our products under development. There can be no assurance that we will be able to achieve a license and earn revenues large enough to offset our operating expenses. We had cash of $596,761 and a working capital deficit of $5,948,518 as of March 31, 2017.

	March 31, 2017	December 31, 2016
Cash and cash equivalents	$ 596,761	$ 3,979,290
Working capital	$ (5,948,518)	$ (1,396,656)
Current ratio	0.12:1	0.75:1

	Three Months Ended March 31,	
	2017	2016
Cash provided by (used in):		
Operating activities	$ (3,177,637)	$ (2,911,630)
Investing activities	$ —	$ (153,899)
Financing activities	$ (204,892)	$ 4,610,324

Sources and Uses of Net Cash for the Three-Month Period Ended March 31, 2017

Net cash used in operating activities was $3,177,637 for the three months ended March 31, 2017, compared to $2,911,630 for the same period a year ago. The net cash used in both periods was primarily attributable to the net losses, adjusted to exclude certain non-cash items, primarily stock-based compensation and amortization of finance costs related to the term loan. Net cash used in operating activities for the three months ended March 31, 2017 was also impacted by an increase of $540,413 in accounts payable related primarily to research contract services and an increase in accrued clinical operation and site costs of $378,195.

The net cash used in investing activities for the three months ended March 31, 2017 and 2016, amounted to $0 and $153,899, respectively. We purchased lab equipment for the three months ended March 31, 2016.

Net cash used by financing activities for the three months ended March 31, 2017 was $204,892. Net cash provided by financing activities was $4,610,324 for the three months ended March 31, 2016. Net cash used by financing activities for the three-month period ended March 31, 2017 related to principal payments on a note payable, financing arrangements for insurance policies, and a capital lease. Net cash provided by financing activities for the three months ended March 31, 2016 was attributable to the net proceeds from the Loan Agreement.

Future Contractual Obligations

On September 2, 2015, the Company entered into a lease (the “Lease”) with AGP Sorrento Business Complex, L.P., for certain premises consisting of a total of approximately 14,971 square feet of office and laboratory space in buildings located at 11535-11585 Sorrento Valley Rd., San Diego, California, to serve as the Company’s corporate offices and laboratories (the “New Premises”). Because certain tenant improvements needed to be made to the New Premises before the Company could occupy the New Premises, the term of the Lease commenced on February 5, 2015. The Lease terminates six years after such term commencement date, unless earlier terminated in accordance with the Lease. Pursuant to the terms of the Lease, the current monthly base rent paid by the Company is $36,699, subject to annual increases as set forth in the Lease.

The Company has an option to extend the Lease term for a single, five-year period. If the Lease term is extended for the optional five-year period, the monthly base rent will be adjusted based on fair market rental value. In addition to rent, the Company agreed to pay a portion of the taxes and utility, maintenance and other operating costs paid or accrued in connection with the ownership and operation of the property.

Our master lease and sublease of our facility located at 3165 Porter Drive in Palo Alto, California were terminated on February 28, 2013, and we entered into a termination agreement with ARE-San Francisco No. 24 (“ARE”) on February 19, 2013 to voluntarily surrender its premises. Because of the termination agreement, we were relieved of further obligations under the master lease and further rights to rental income under the sublease and paid a termination fee of approximately $700,000. In addition to the termination fee, if we receive $15 million or more in additional financing, in the aggregate, an additional termination fee of $590,504 will be due to ARE. The additional financing was achieved in 2015 and the termination fee is reflected on the condensed consolidated balance sheet as an accrued lease contingency fee.

Financings in May 2017

On May 3, 2017, we sold 850 shares of Series H Preferred Stock at a stated value of $1,000 per share, representing an aggregate of $850,000 in a private placement, or the May 3rd Private Placement, to certain existing investors. The shares of Series H Preferred Stock are convertible into shares of common stock based on a conversion calculation equal to the stated value of the Series H Preferred Stock, plus all accrued and unpaid dividends (the "Base Amount"), if any, on such Series H Preferred Stock, as of such date of determination, divided by the conversion price. The stated value of each share of Series H Preferred Stock is $1,000 and the initial conversion price is $1.75 per share, each subject to adjustment for stock splits, stock dividends, recapitalizations, combinations, subdivisions or other similar events. The May 3rd Private Placement is discussed in further detail in Note 12, Subsequent Events, to the Financial Statements included with this Quarterly Report.

On May 19, 2017, we closed a public offering of 1,342,858 shares of common stock and 1,000,000 shares of newly designated 0% Series G Convertible Preferred Stock (the "Series G Preferred Stock"), at $1.75 per share of common stock and Series G Preferred Stock (the "May 2017 Public Offering"). The Series G Preferred Stock is initially convertible into 1,000,000 shares of common stock, subject to adjustment for stock splits, stock dividends, recapitalizations, combinations, subdivisions or other similar events, and was purchased by certain existing investors in the Company who, as a result of their purchases of common stock, would hold in excess of 4.99% of our issued and outstanding common stock. We received $4,100,000 in gross proceeds, before underwriting discounts and commissions and offering expenses totaling $667,875.

The May 2017 Public Offering is in connection with an underwriting agreement (the "Underwriting Agreement") that we signed on May 15, 2017, with Laidlaw & Company (UK) Ltd. ("Laidlaw"), as underwriter (the "Underwriter") pursuant to which, among other things, we agreed to issue and sell to the Underwriter, and the Underwriter agreed to purchase from us, in an underwritten public offering, an aggregate of 1,342,858 shares of common stock and 1,000,000 shares of Series G Preferred Stock. We have granted the Underwriters an option for a period of up to 45 days from the date of our prospectus to purchase up to an aggregate of 201,428 additional shares of our common stock at the public offering price of $1.75 per share, less the underwriting discount, solely to cover overallotments. The May 2017 Public Offering is discussed in further detail in Note 12, Subsequent Events, to the Financial Statements included with this Quarterly Report.

We anticipate that the Company will continue to incur net losses into the foreseeable future as we: (i) continue our Phase I clinical trial for our standalone therapeutic HuMab 5B1, designated as MVT-5873 that was initiated in the first quarter of 2016; (ii) continue our Positron Emission Tomography ("PET") imaging agent 89Zr-HuMab-5B1, designated as MVT-2163 that was initiated in July 2016; (iii) initiate our clinical trial for the development of our HuMab-based radioimmunotherapy, or RIT, product, designated as MVT-1075; (iv) continue preclinical work on follow-on antibody programs; and (iv) continue operations as a public company. Based on receipt of $850,000 from our May 3rd Private Placement, closing of the May 2017 Public Offering for $4.1 million, and management's plans for continuing to develop our existing pipeline of products, and without any other additional funding or receipt of payments from potential licensing agreements, we expect we will have sufficient funds to meet our obligations through August 2017. These conditions give rise to substantial doubt as to the Company's ability to continue as a going concern. The accompanying consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

We plan to continue to fund our research and development and operating activities through public or private equity financings, debt financings, strategic partnerships or other arrangements with organizations that have capabilities and/or products that are complementary to our own capabilities and/or products, licensing arrangements, government grants, or other arrangements. However, we cannot be sure that such additional funds will be available on reasonable terms, or at all. If we are unable to secure adequate additional funding, we may be forced to reduce spending, extend payment terms with suppliers, liquidate assets where possible, and/or suspend or curtail planned programs. In addition, if we do not meet our payment obligations to third parties as they come due, we may be subject to litigation claims. Even if we are successful in defending against these claims, litigation could result in substantial costs and be a distraction to our management. Any of these actions could materially harm our business, results of operations, and prospects.

If we raise additional funds by issuing equity securities, substantial dilution to our existing stockholders would result. If we raise additional funds by incurring debt financing, the terms of the debt may involve significant cash payment obligations as well as covenants and specific financial ratios that may restrict our ability to operate our business.

Recent Accounting Pronouncements

In February 2016, the FASB issued ASU 2016-2,"Leases (Topic 842)." This update will increase transparency and comparability by recognizing lease assets and lease liabilities on the balance sheet and disclosing key information about leasing arrangements. Under the new guidance, lessees will be required to recognize the following for all leases (except for short-term leases) at the commencement date (i) a lease liability, which is a lessee's obligation to make lease payments arising from a lease, measured on a discounted basis; and (ii) a right-of-use asset, which is an asset that represents the lessee's right to use, or control the use of, a specified asset for the lease term. Under the new guidance, lessor accounting is largely unchanged, and it simplified the accounting for sale and leaseback transactions. Lessees will no longer be provided with a source of off-balance sheet financing. Lessees (for capital and operating leases) and lessors (for sales-type, direct financing, and operating leases) must apply a modified retrospective transition approach for leases existing at, or entered into after, the beginning of the earliest comparative period presented in the financial statements. The modified retrospective approach would not require any transition accounting for leases that expired before the earliest comparative period presented. Lessees and lessors may not apply a full retrospective transition approach. The standard is effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. We are currently in the process of assessing what impact this new standard may have on our consolidated financial statements.

In March 2016, the FASB issued ASU 2016-09, "Compensation—Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting." This update includes multiple provisions intended to simplify various aspects of the accounting for share-based payment transactions including accounting for excess tax benefits and tax deficiencies, classification of excess tax benefits in the statement of cash flows and accounting for award forfeitures. This update is effective for annual and interim reporting periods of public entities beginning after December 15, 2016, with early adoption permitted. The adoption of this new standard did not have a material impact on our consolidated financial statements.

In August 2016, the FASB issued ASU No. 2016-15 ("ASU 2016-15"), "Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments." The standard provides guidance on eight (8) cash flow issues: (1) debt prepayment or debt extinguishment costs; (2) settlement of zero-coupon bonds; (3) contingent consideration payments after a business combination; (4) proceeds from the settlement of insurance claims; (5) proceeds from the settlement of corporate-owned life insurance policies; (6) distributions received from equity method investees; (7) beneficial interests in securitization transactions; and (8) separately identifiable cash flows and application of the predominance principle. ASU 2016-15 addresses how certain cash receipts and cash payments are presented and classified in the statement of cash flows. ASU 2016-15 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2017 with early adoption permitted. We expect the adoption of this new standard will not have a material impact on our condensed consolidated financial statements.

Management believes that any other recently issued, but not yet effective, accounting standards if currently adopted would not have a material effect on the accompanying condensed consolidated financial statements.

Off-Balance Sheet Arrangements

We have no material off-balance sheet arrangements.

Item 3. Quantitative and Qualitative Disclosures About Market Risk.

Interest Rate Sensitivity

Our cash and cash equivalents of $596,761 at March 31, 2017 consisted of cash and money market funds, all of which will be used for working capital purposes. We do not enter into investments for trading or speculative purposes. Our primary exposure to market risk is related to the variability of interest rates on our term loan we entered into with Oxford Finance, LLC in January 2016. Under the loan agreement the interest rate for the term loan is set monthly at an Index Rate plus 11.29%, where the Index Rate is the greater of the 30-day LIBOR rate or 0.21%. Interest is due on the first day of each month, in arrears, calculated based on a 360-day year. In addition, interest income on our deposits are affected by changes in the general level of interest rates in the United States. Because of the short-term nature of our cash and cash equivalents, we do not believe that we have any material exposure to changes in their fair values as a result of changes in interest rates. The continuation of historically low interest rates in the United States will limit our earnings on investments held in U.S. dollars.

We do not hold any derivative financial instruments or commodity-based instruments.

Item 4. Controls and Procedures.

Disclosure Controls and Procedures

As required by Rules 13a-15 and 15d-15 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), the Company has evaluated, with the participation of management, including the Chief Executive Officer and the Chief Financial Officer, the effectiveness of its disclosure controls and procedures (as defined in such rules) as of the end of the period covered by this report. The Chief Executive Officer and Chief Financial Officer concluded that the Company's disclosure controls and procedures are effective as of March 31, 2017.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

Changes in Internal Control over Financial Reporting

As required by Rule 13a-15(d) of the Exchange Act, our management, including our principal executive officer and our principal financial officer, conducted an evaluation of the internal control over financial reporting to determine whether any changes occurred during the period covered by this Quarterly Report on Form 10-Q that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting. Based on that evaluation, our principal executive officer and principal financial officer concluded there were no changes in our internal controls over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act) that could significantly affect internal controls over financial reporting as of March 31, 2017.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings.

None.

Item 1A. Risk Factors.

RISK FACTORS

We will be required to raise additional funds to finance our operations and remain a going concern; we may not be able to do so when necessary, and/or the terms of any financings may not be advantageous to us.

Our operations to date have consumed substantial amounts of cash. Negative cash flows from our operations are expected to continue over at least the next several years. Our cash utilization amount is highly dependent on the progress of our product development programs, particularly, the results of our preclinical and clinical studies and those of our partners, the cost, timing and outcomes of regulatory approval for our product candidates, and the rate of recruitment of patients in our human clinical trials. In addition, the further development of our ongoing clinical trials will depend on upcoming analysis and results of those studies and our financial resources at that time.

We will require future additional capital infusions including public or private financing, strategic partnerships or other arrangements with organizations that have capabilities and/or products that are complementary to our own capabilities and/or products, in order to continue the development of our product candidates. However, there can be no assurances that we will complete any financings, strategic alliances or collaborative development agreements, and the terms of such arrangements may not be advantageous to us. Any additional equity financing will be dilutive to our current stockholders and debt financing, if available, may involve restrictive covenants. If we raise funds through collaborative or licensing arrangements, we may be required to relinquish, on terms that are not favorable to us, rights to some of our technologies or product candidates that we would otherwise seek to develop or commercialize. Our failure to raise capital when needed could materially harm our business, financial condition and results of operations.

In connection with our May 2017 Public Offering, we have agreed with the Lead Investor of our May 2017 Public Offering and August 2016 Public Offering pursuant to a Letter Agreement, dated May 15, 2017, to issue up to 2,900,000 shares of common stock to the August 2016 Investors, as incentive shares to those investors to make a minimum required investment in our May 2017 Public Offering of at least 50% of their investment in the $9.4 million August 2016 Public Offering, or the Minimum Required Investment, and who still hold 100% of the shares of common stock. Such August 2016 Investors shall be entitled to receive their pro rata share of 2,900,000 shares, after the Lead Investor in our May 2017 Public Offering receives the first 10%.

Based on the closing of the Offering, and election of certain prior investors who made the Minimum Required Investment and elect to take Series I Preferred Stock upon its creation, 931,336 Inducement Shares of common stock were reserved for issuance and 1,968,664 Inducement Shares were reserved for issuance in the form of Series I Preferred Stock that will be created following the closing of the May 2017 Public Offering and will be issued following verification with each investors that the terms of the Inducement Shares have been met.

Also upon closing of the 2017 Public Offering, rights to consent under the August 2016 Letter Agreement and the March 2017 Consent (and any restrictions on the Company contained therein) shall terminate and be of no force and effect, provided however, the Lead Investor shall have the right to approve future (i) issuances of the Company's securities, (ii) equity or debt financings and (iii) sales of any development product assets currently held by the Company, subject to certain exceptions, if such securities are sold at price below $2.50 per share and for as long as the Lead Investor holds 50% or more of the shares of Series G Preferred Stock purchased by the Lead Investor in the 2017 Public Offering (the "Consent"). In addition, each of the matters set forth in the May 2017 Letter Agreement, shall be enforceable by the Lead Investor and continue in full force and effect following closing of the 2017 Public Offering.

Should the Consent be required in connection with future offerings, we may be required again to provide additional consideration, including, but not limited to, consideration in the form of cash and/or additional shares of our capital stock and/or securities convertible into or exercisable for shares of our capital stock, in order to obtain the Consent. If we are unable to obtain the Consent when necessary for future offerings, we may be unable to raise additional funds. An inability to raise additional funds could have a material adverse effect on our financial condition, results of operations, ability to conduct our business and on the price of our common stock.

Our ongoing capital requirements will depend on numerous factors, including: the progress and results of preclinical testing and clinical trials of our product candidates under development; the costs of complying with the FDA and other domestic and foreign regulatory agency requirements, the progress of our research and development programs and those of our partners; the time and costs expended and required to obtain any necessary or desired regulatory approvals; the resources that we devote to manufacturing expenditures; our ability to enter into licensing arrangements, including any unanticipated licensing arrangements that may be necessary to enable us to continue our development and clinical trial programs; the costs and expenses of filing, prosecuting and, if necessary, enforcing our patent claims, or defending against possible claims of infringement by third-party patent or other technology rights; the cost of commercialization activities and arrangements, if any, that we undertake; and, if and when approved, the demand for our products, which demand depends in turn on circumstances and uncertainties that cannot be fully known, understood or quantified unless and until the time of approval, including the range of indications for which any product is granted approval.

Our restated certificate of incorporation, our amended and restated by-laws and Delaware law could deter a change of our management which could discourage or delay offers to acquire us; certain restrictions in our agreements with existing stockholders could also discourage or delay offers to acquire us.

Certain provisions of Delaware law and of our restated certificate of incorporation, as amended, and amended and restated by-laws, could discourage or make it more difficult to accomplish a proxy contest or other change in our management or the acquisition of control by a holder of a substantial amount of our voting stock. It is possible that these provisions could make it more difficult to accomplish, or could deter, transactions that stockholders may otherwise consider to be in their best interests or in our best interests. These provisions include:

- establishing a classified board of directors requiring that members of the board be elected in different years, which lengthens the time needed to elect a new majority of the board;
- authorizing the issuance of "blank check" preferred stock that could be issued by our board of directors to increase the number of outstanding shares or change the balance of voting control and thwart a takeover attempt;
- prohibiting cumulative voting in the election of directors, which would otherwise allow for less than a majority of stockholders to elect director candidates;
- limiting the ability of stockholders to call special meetings of the stockholders;
- prohibiting stockholder action by written consent and requiring all stockholder actions to be taken at a meeting of our stockholders; and
- establishing 90 to 120-day advance notice requirements for nominations for election to the board of directors and for proposing matters that can be acted upon by stockholders at stockholder meetings.

In connection with our May 2017 Public Offering, we have agreed with the Lead Investor of our May 2017 Public Offering and August 2016 Public Offering pursuant to a Letter Agreement, dated May 15, 2017, to issue up to 2,900,000 shares of common stock to the August 2016Investors, as incentive shares to those investors to make a minimum required investment in our May 2017 Public Offering of at least 50% of their investment in the $9.4 million August 2016 Public Offering, or the Minimum Required Investment, and who still hold 100% of the shares of common stock. Such August 2016 Investors shall be entitled to receive their pro rata share of 2,900,000 shares, after the Lead Investor in our May 2017 Public Offering receives the first 10%.

Based on the closing of the Offering, and election of certain prior investors who made the Minimum Required Investment and elect to take Series I Preferred Stock upon its creation, 931,336 Inducement Shares of common stock were reserved for issuance and 1,968,664 Inducement Shares were reserved for issuance in the form of Series I Preferred Stock that will be created following the closing of the May 2017 Public Offering and will be issued following verification with each investors that the terms of the Inducement Shares have been met.

Also upon closing of the 2017 Public Offering, rights to consent under the August 2016 Letter Agreement and the March 2017 Consent (and any restrictions on the Company contained therein) shall terminate and be of no force and effect, provided however, the Lead Investor shall have the right to approve future (i) issuances of the Company's securities, (ii) equity or debt financings and (iii) sales of any development product assets currently held by the Company, subject to certain exceptions, if such securities are sold at price below $2.50 per share and for as long as the Lead Investor holds 50% or more of the shares of Series G Preferred Stock purchased by the Lead Investor in the 2017 Public Offering (the "Consent"). In addition, each of the matters set forth in the May 2017 Letter Agreement, shall be enforceable by the Lead Investor and continue in full force and effect following closing of the 2017 Public Offering.

Also part of the Letter Agreement, we have agreed to the following additional conditions:

Board Nomination	The Company shall nominate one candidate to the Board of Directors of the Company acceptable to the holder of a majority of the Series G Preferred Stock by December 31, 2017, and two current Board members will resign.
Executive Hire	The Company shall hire a new C-level executive in a leadership role by July 15, 2017.
Board Compensation	The Company is obligated to issue an aggregate of 1,050,000 options to certain employees and members of the Board, at a price not less than $2.00 per share, and 50,000 options to each other Board member at the current market price in connection with this offering. The options shall be issued pursuant to the Company's option plan and are subject to the requisite approvals and subject to availability under the plan. To the extent we need to increase the number of shares available under such plan, we will need the approval of our board and stockholders. All board fees will be waived for 2017.
Funds Held in Escrow	$500,000 of the funds from this offering will be held in escrow and released to one or more investor relations services acceptable to the Company following the closing of this offering.

Should the Consent be required in connection with future offerings, we may be required again to provide additional consideration, including, but not limited to, consideration in the form of cash and/or additional shares of our capital stock and/or securities convertible into or exercisable for shares of our capital stock, in order to obtain the Consent. If we are unable to obtain the Consent when necessary for future offerings, we may be unable to raise additional funds. An inability to raise additional funds could have a material adverse effect on our financial condition, results of operations, ability to conduct our business and on the price of our common stock.

Unless our common stock is listed on The NASDAQ Capital Market or other national securities exchange, it will be deemed a "penny stock," which would make it more difficult for our investors to sell their shares.

On August 17, 2016, we began trading on The NASDAQ Capital Market. If we fail to maintain our listing on The NASDAQ Capital Market or other national securities exchange, our common stock will be subject to the "penny stock" rules adopted under Section 15(g) of the Exchange Act. The penny stock rules generally apply to companies whose common stock is not listed on the NASDAQ Capital Market or other national securities exchange and trades at less than $4.00 per share, other than companies that have had average revenue of at least $6,000,000 for the last three years or that have tangible net worth of at least $5,000,000 ($2,000,000 if the company has been operating for three or more years). These rules require, among other things, that brokers who trade penny stock to persons other than "established customers" complete certain documentation, make suitability inquiries of investors and provide investors with certain information concerning trading in the security, including a risk disclosure document and quote information under certain circumstances. Many brokers have decided not to trade penny stocks because of the requirements of the penny stock rules and, thus, the number of broker-dealers willing to act as market makers in such securities is limited. If we remain subject to the penny stock rules for any significant period, it could have an adverse effect on the market, if any, for our securities. If our securities are subject to the penny stock rules, investors will find it more difficult to dispose of our securities.

Additionally, in order for our Company to continue trading on the NASDAQ Capital Market, we must maintain compliance with all of the criteria under at least one of the three continued listing standards: the Equity Standard, which includes a requirement for $2.5 million in stockholders' equity; the Market Value of Listed Securities Standard, which includes a requirement for a market value of listed securities of at least $35 million; or the Net Income Standard, which includes a requirement for net income of at least $500,000 from continuing operations in the latest fiscal year or in two of the last three fiscal years. As of March 31, 2017, which is prior to our May 3rd Private Placement of $850,000 in Series H Preferred Stock, and prior to the closing of our May 2017 Public Offering, we met none of the three standards. Following receipt of funds from our May 3rd Private Placement and closing of our May 2017 Public Offering, we believe we meet the Equity Standard for March 31, 2017, on a pro forma basis, and expect to be able to meet the Equity Standard for June 30, 2017. However, for future periods if we do not have a market value of listed securities of at least $35 million, or do not meet the Equity Standard, then we may have to enter into a license agreement on less favorable terms to generate near term revenues, or raise additional capital, which could be dilutive to the Company.

Other than set forth above, there have been no material changes to the Risk Factors set forth in our Annual Report on Form 10-K for the year ended December 31, 2016.

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

May 2017 Private Placement

On May 3, 2017, we entered into separate subscription agreements with accredited investors pursuant to which we agreed to sell an aggregate of $850,000 of 0% Series H Convertible Preferred Stock, or the Series H Preferred Stock. The shares of Series H Preferred Stock are convertible into shares of common stock based on a conversion calculation equal to the stated value of the Series H Preferred Stock, plus all accrued and unpaid dividends (the "Base Amount"), if any, on such Series H Preferred Stock, as of such date of determination, divided by the conversion price. The stated value of each share of Series H Preferred Stock is $1,000 and the initial conversion price is $1.75 per share, each subject to adjustment for stock splits, stock dividends, recapitalizations, combinations, subdivisions or other similar events.

On the closing date, we entered into separate registration rights agreements with each of the investors, pursuant to which we agreed to undertake to file a registration statement to register the resale of the shares within thirty (30) days following the closing date, to cause such registration statement to be declared effective by the Securities and Exchange Commission within sixty (60) days of the closing date and to maintain the effectiveness of the registration statement until all of such shares of Common Stock have been sold or are otherwise able to be sold pursuant to Rule 144 under the Securities Act, without any restrictions.

The securities referenced above were issued in reliance on the exemption from registration afford by Rule 506 of Regulation D and/or Section 4(a)(2) of the Securities Act as a transaction by an issuer not involving a public offering.

Item 3. Defaults Upon Senior Securities.

None.

Item 4. Mine Safety Disclosures.

None.

Item 5. Other Information.

As described in Note 12 herein, on May 19, 2017, we closed a public offering of 1,342,858 shares of common stock and 1,000,000 shares of newly designated 0% Series G Convertible Preferred Stock, or Series G Preferred Stock, at $1.75 per share of common stock and Series G Preferred Stock (the "May 2017 Public Offering").

In connection with the May 2017 Public Offering, we agreed with the Lead Investor of the August 2016 Public Offering on May 18, 2017 to issue 2,900,000 shares of common stock to the investors in the August 2016 Public Offering (the "August 2016 Investors"), as incentive shares to those investors to make a minimum required investment in this public offering of at least 50% of their investment in the $9.4 million August 2016 Public Offering, or the Minimum Required Investment, and who still hold 100% of the shares of common stock. Such August 2016 Investors shall be entitled to receive their pro rata share of 2,900,000 shares, after the Lead Investor in this offering receives the first 10%. For the August 2016 Investors who purchased Series F Preferred Stock and made the Minimum Required Investment and who still held 100% of the shares of Series F Preferred Stock at the closing of the May 2017 Public Offering, they may, instead of receiving a pro rata share of the 2,610,000 shares remaining (the "Inducement Shares") after the Lead Investor receives the first 290,000 shares, elect to receive their Inducement Shares in the form of a new series I convertible preferred Stock (the "Series I Preferred Stock") to be created with similar rights as currently exist in the Series G Preferred Stock. The stated value of each share of Series I Preferred Stock will be $1.75 and the initial conversion price will be $1.75 per share, each subject to adjustment for stock splits, stock dividends, recapitalizations, combinations, subdivisions or other similar events. In the event of a liquidation, dissolution or winding up of the Company, each share of Series I Preferred Stock will be entitled to a per share preferential payment equal to the par value, or $0.01 per share. All shares of the Company's capital stock will be junior in rank to the Series I Preferred Stock at the time of creation, with respect to the preferences as to dividends, distributions and payments upon the liquidation, dissolution and winding-up of the Company, except for the Company's Series D Preferred Stock, Series E Preferred Stock, Series G Preferred Stock, and Series H Preferred Stock.

Also in connection with the May 2017 Public Offering, each of these investors in our August 2016 Public Offering must agree to the cancellation of the warrants issued to them in the August 2016 Public Offering. These investors additionally must agree to amend the terms of their outstanding warrants that currently have an exercise price of $11.10 per share, such that the amended warrants shall have an exercise price of $2.00 per share and no cashless exercise feature (as amended, the "Inducement Amended Warrants"). The Company agreed to register for resale on a registration statement the Inducement Shares and shares of common stock underlying the Inducement Amended Warrants.

As previously disclosed on a Current Report on Form 8-K filed on May 10, 2017, on May 10, 2017, we entered into Exchange Agreements with each of the Holders of our Series H Preferred Stock representing an aggregate of $850,000 of our Series H Preferred Stock (the "Exchange Securities") with such exchange to be effective on the closing of our May 2017 Public Offering. Prior to the closing of the May 2017 Public Offering, we and the holders rescinded and cancelled the Exchange Agreements and they have no force and effect and no transaction contemplated by the Exchange Agreements was consummated.

As a condition to the Lead Investor leading an investment in the May 2017 Public Offering, including the requirement that we offer incentive shares to August 2016 Investors who participate in making the Minimum Required Investment in the May 2017 Public Offering, we have agreed to the following:

Board Nomination	The Company shall nominate one candidate to the Board of Directors of the Company acceptable to the holder of a majority of the Series G Preferred Stock by December 31, 2017, and two current Board members will resign.
Executive Hire	The Company shall hire a new C-level executive in a leadership role by July 15, 2017.
Board Compensation	The Company is obligated to issue an aggregate of 1,050,000 options to certain employees and members of the Board, at a price not less than $2.00 per share, and 50,000 options to each other Board member at the current market price in connection with this offering. The options shall be issued pursuant to the Company's option plan and are subject to the requisite approvals and subject to availability under the plan. To the extent we need to increase the number of shares available under such plan, we will need the approval of our board and stockholders. All board fees will be waived for 2017.
Funds Held in Escrow	$500,000 of the funds from this offering will be held in escrow and released to one or more investor relations services acceptable to the Company following the closing of this offering.

Additionally we granted the Lead Investor in the May 2017 Public Offering certain rights to approve future (i) issuances of our securities, (ii) equity or debt financings and (iii) sales of any development product assets currently held by us, subject to certain exceptions, if such securities are sold at price below $2.50 per share and for as long as the Lead Investor in the offering holds 50% or more of the shares of Series G Preferred Stock purchased by the Lead Investor in this offering (the "May 2017 Consent Right"). All other prior consent rights of the Lead Investor have been superseded by the May 2017 Consent Right.

The foregoing descriptions of our agreements with our lead investor, the agreements to rescind and cancel the Exchange

Agreements and other agreements with existing investors are incomplete and are subject to, and qualified in their entirety by, the full text of the Investor Consent dated May 18, 2017, the Form of Rescission Agreement and the Form of Letter Agreement dated May 22, 2017, which are filed as Exhibits 10.2, 10.3, and 10.4 hereto, respectively, and incorporated herein by reference.

Item 6. Exhibits.

EXHIBIT INDEX

Exhibit No.	Description
10.1	First Amendment to Loan and Security Agreement with Oxford Finance LLC as of March 31, 2017*
10.2	Investor Consent dated May 18, 2017*
10.3	Form of Rescission Agreement dated May 19, 2017*
10.4	Form of Letter Agreement dated May 22, 2017*
31.1	Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002*
31.2	Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002*
32	Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002**
101	Interactive data file*

*Filed herewith

**Furnished herewith

SIGNATURES

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

Date: May 22, 2017

MABVAX THERAPEUTICS HOLDINGS, INC.

By: /s/ J. David Hansen
J. David Hansen
President and Chief Executive Officer (Principal Executive Officer authorized to sign on behalf of the registrant)

By: /s/ Gregory P. Hanson
Gregory P. Hanson
Chief Financial Officer (Principal Financial and Accounting Officer authorized to sign on behalf of the registrant)

EXHIBIT 10.1

FIRST AMENDMENT TO LOAN AND SECURITY AGREEMENT

THIS FIRST AMENDMENT to Loan and Security Agreement (this "**Amendment**") is made effective as of March 31, 2017 (the "**Amendment Date**") and made, by and among OXFORD FINANCE LLC, a Delaware limited liability company with an office located at 133 North Fairfax Street, Alexandria, Virginia 22314 (in its individual capacity, "**Oxford**"; and in its capacity as Collateral Agent, "**Collateral Agent**"), the Lenders listed on Schedule 1.1 thereof from time to time including Oxford in its capacity as a Lender (each a "**Lender**" and collectively, the "**Lenders**") and MABVAX THERAPEUTICS HOLDINGS, INC., a Delaware corporation with offices located at 11535 Sorrento Valley Road, Suite 400, San Diego, CA 92121 ("**Holdings**"), MABVAX THERAPEUTICS, INC., a Delaware corporation with offices located at 11535 Sorrento Valley Road, Suite 400, San Diego, CA 92121 ("**MabVax**" and together with Holdings, individually and collectively, jointly and severally, "**Borrower**").

WHEREAS, Collateral Agent, Borrower and Lenders party thereto from time to time have entered into that certain Loan and Security Agreement, dated as of January 15, 2016 (as amended, supplemented or otherwise modified from time to time, the "**Loan Agreement**") pursuant to which Lenders have provided to Borrower certain loans in accordance with the terms and conditions thereof; and

WHEREAS, Borrower, Lenders and Collateral Agent desire to amend certain provisions of the Loan Agreement as provided herein and subject to the terms and conditions set forth herein;

NOW, THEREFORE, in consideration of the promises, covenants and agreements contained herein, and other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, Borrower, Lenders and Collateral Agent hereby agree as follows:

1. Capitalized terms used herein but not otherwise defined shall have the respective meanings given to them in the Loan Agreement.

2. Section 2.2(b) of the Loan Agreement is hereby amended and restated in its entirety as follows:

    b. Repayment. Borrower shall make monthly payments of interest only commencing on the first (1st) Payment Date following the Funding Date of each Term Loan, and continuing on the Payment Date of each successive month thereafter through and including the Payment Date immediately preceding the Amortization Date. Borrower agrees to pay, on the Funding Date of each Term Loan, any initial partial monthly interest payment otherwise due for the period between the Funding Date of such Term Loan and the first Payment Date thereof. Commencing on the Amortization Date, and continuing on the Payment Date of each month thereafter, Borrower shall make consecutive equal monthly payments of principal, together with applicable interest, in arrears, to each Lender, as calculated by Collateral Agent (which calculations shall be deemed correct absent manifest error) based upon: (1) the amount of such Lender's Term Loan, (2) the effective rate of interest, as determined in Section 2.3(a), and (3) a repayment schedule equal to thirty-six (36) months; provided, however, that the payment of principal that otherwise would have been due on the Amortization Date will be due and payable on May 1, 2017 along with any other payment of principal due on May 1, 2017. The Final Payment and all unpaid principal and accrued and unpaid interest with respect to each Term Loan are due and payable in full on the Maturity Date. Each Term Loan may only be prepaid in accordance with Sections 2.2(c) and 2.2(d).

3. Limitation of Amendment.

    a. The amendments set forth above are effective for the purposes set forth herein and shall be limited precisely as written and shall not be deemed to (a) be a consent to any amendment, waiver or modification of any other term or condition of any Loan Document, or (b) otherwise prejudice any right, remedy or obligation which Lenders or Borrower may now have or may have in the future under or in connection with any Loan Document, as amended hereby.

    b. This Amendment shall be construed in connection with and as part of the Loan Documents and all terms, conditions, representations, warranties, covenants and agreements set forth in the Loan Documents, except as herein amended, are hereby ratified and confirmed and shall remain in full force and effect.

4. To induce Collateral Agent and Lenders to enter into this Amendment, Borrower hereby represents and warrants to Collateral Agent and Lenders as follows:

    a. Immediately after giving effect to this Amendment (a) the representations and warranties contained in the Loan Documents are true, accurate and complete in all material respects as of the date hereof (except to the extent such representations and warranties relate to an earlier date, in which case they are true and correct as of such date), and (b) no Event of Default has occurred and is continuing;

    b. Borrower has the power and due authority to execute and deliver this Amendment and to perform its obligations under the Loan Agreement, as amended by this Amendment;

    c. The organizational documents of Borrower delivered to Collateral Agent on the Effective Date, and updated pursuant to subsequent deliveries by the Borrower to the Collateral Agent, remain true, accurate and complete and have not been amended, supplemented or restated and are and continue to be in full force and effect;

    d. The execution and delivery by Borrower of this Amendment and the performance by Borrower of its obligations under the Loan Agreement, as amended by this Amendment, do not and will not contravene (i) any law or regulation binding on or affecting Borrower, (ii) any contractual restriction with a Person binding on Borrower, (iii) any order, judgment or decree of any court or other governmental or public body or authority, or subdivision thereof, binding on Borrower, or (iv) the organizational documents of Borrower;

    e. The execution and delivery by Borrower of this Amendment and the performance by Borrower of its obligations under the Loan Agreement, as amended by this Amendment, do not require any order, consent, approval, license, authorization or validation of, or filing, recording or registration with, or exemption by any governmental or public body or authority, or subdivision thereof, binding on Borrower, except as already has been obtained or made; and

    f. This Amendment has been duly executed and delivered by Borrower and is the binding obligation of Borrower, enforceable against Borrower in accordance with its terms, except as such enforceability may be limited by bankruptcy, insolvency, reorganization, liquidation, moratorium or other similar laws of general application and equitable principles relating to or affecting creditors' rights.

5. Except as expressly set forth herein, the Loan Agreement shall continue in full force and effect without alteration or amendment. This Amendment and the Loan Documents represent the entire agreement about this subject matter and supersede prior negotiations or agreements.

6. This Amendment shall be deemed effective as of the Amendment Date upon (a) the due execution and delivery to Collateral Agent of this Amendment by each party hereto, (b) Borrower's payment of all Lenders' Expenses incurred through the date hereof, which may be debited from any of Borrower's accounts and (c) in addition to the payment of Lender's Expenses payable under clause (b) hereof, a payment of a fully earned and non-refundable amendment fee equal to $15,000.00 to Collateral Agent.

7. This Amendment may be executed in any number of counterparts, each of which shall be deemed an original, and all of which, taken together, shall constitute one and the same instrument.

8. This Amendment and the rights and obligations of the parties hereto shall be governed by and construed in accordance with the laws of the State of New York.

[*Balance of Page Intentionally Left Blank*]

IN WITNESS WHEREOF, the parties hereto have caused this First Amendment to Loan and Security Agreement to be executed as of the date first set forth above.

BORROWER:

MABVAX THERAPEUTICS HOLDINGS, INC.

By: /s/ J. David Hansen /s/ Gregory P. Hanson
Name: J. David Hansen Gregory P. Hanson
Title: President and CEO Chief Financial Officer

BORROWER:

MABVAX THERAPEUTICS, INC.

By /s/ J. David Hansen /s/ Gregory P. Hanson

COLLATERAL AGENT AND LENDER:

OXFORD FINANCE LLC

By /s/ Mark Davis
Name: Mark Davis
Title: Vice President – Finance, Secretary & Treasurer

EXHIBIT 10.2

HS CONTRARIAN INVESTMENTS, LLC
68 Fiesta Way
Fort Lauderdale, FL 33301

May 18, 2017

MabVax Therapeutics Holdings, Inc.
11535 Sorrento Valley Rd., Suite 400
San Diego, CA 92121
Attn: J. David Hansen

Re: Consent to 2017 Offering

Dear Mr. Hansen:

Reference is made to the following: (i) that Letter Agreement dated August 16, 2016 (hereinafter referred to as the "August 2016 Letter Agreement") by and among MabVax Therapeutics Holdings, Inc. (the "Company") and the undersigned lead investor in the Company's public offering that closed in August 2016 (the "2016 Public Offering"), (ii) the consent dated March 10, 2017 (the "March 2017 Consent"), and (iii) the second letter agreement dated May 15, 2017 attached hereto as Exhibit A (the "May 2017 Letter Agreement"). Capitalized terms used herein and not defined herein shall have the meanings given to them in the August 2016 Letter Agreement.

On February 10, 2017, the Company filed a Registration Statement on Form S-1 (File No. 333-216016), as amended (the "Registration Statement") pursuant to which the Company had undertaken to consummate a public offering of up to $10 million of its securities. On May 12, 2017, the Registration Statement amount was amended by Amendment No. 6 to an amount of $5.085 million, and on May 15, 2017, an Underwriting Agreement for an offering of $4.1 million (the "2017 Offering") was executed with Laidlaw & Co. (UK) Ltd. as lead underwriter, as described in the prospectus dated May 16, 2017 filed with the SEC under Rule 424B4 (the "Prospectus") promulgated under the Securities Act of 1933, as amended (the "Act").

The undersigned has reviewed the Prospectus. Pursuant to Paragraph A of the August 2016 Letter Agreement, the undersigned hereby consents to the 2017 Offering and the transactions contemplated by the Prospectus (the "Consent").

In consideration for the Consent to the 2017 Offering, upon closing thereof pursuant to the Prospectus, the Company shall issue to the undersigned and certain investors in the 2016 Public Offering (the "August 2016 Investors") 2,610,000 shares (the "Inducement Shares") of the Company's common stock, par value $0.01 per share (the "Common Stock"), provided, however, that any August 2016 Investor who beneficially owns or as a result of any purchases in the Offering or issuances of the Inducement Shares or otherwise will beneficially own 5% or more of the Common Stock of the Company, may elect to receive shares of the Company's preferred stock containing "beneficial ownership blocker" provisions and a liquidation preference equal to the par value thereof (the "Inducement Preferred Shares") to be issued by the Company convertible into the pro rata portion of the Inducement Shares such August 2016 Investor would otherwise receive. The Company shall issue the Inducement Shares and Inducement Preferred Shares as restricted securities, unless in the opinion of counsel to the Company such shares are deemed to be registered under the Act and if not so registered shall within 30 days of issuance file a registration statement under the Act with respect to the Inducement Shares and the Common Stock underlying the Inducement Preferred Shares, and shall issue such shares within five (5) business days of closing of the 2017 Offering during which time any August 2016 Investor may instruct the Company to issue Inducement Preferred Shares. No Inducement Shares and no Inducement Preferred Shares shall be required to be issued or issued to any August 2016 Investor who in connection with the 2017 Offering does not invest at least 50% of the of such investor made in the August 2016 Offering and holds on the date of the Prospectus 100% of the shares of common stock or Series F Preferred Stock acquired (the "Minimum Required Investment"). August 2016 Investors shall be entitled to receive their pro rata share of 2,610,000 Inducement Shares, as provided above, and the undersigned consenting investor shall receive 290,000 Inducement Shares, in addition to any pro rata shares.

In the event the August 2016 Investors elect to receive Inducement Preferred Shares, the Inducement Preferred Shares shall be entitled to a per share preferential payment equal to the par value of $0.01 per share. In the event of a liquidation, dissolution or winding up of the Company, each share of Inducement Preferred Shares will be entitled to a per share preferential payment equal to the par value of $0.01 per share. Additionally, any August 2016 Investor as a condition of receiving Inducement Shares or Inducement Preferred Shares shall be required to consent to the cancellation of all warrants issued in connection with the August 2016 Offering which warrants are presently exercisable at a price of $5.55 and $6.29, respectively.

In consideration for the Consent to the 2017 Offering, upon closing thereof pursuant to the Prospectus provided investors in the Company's April 2015 financing (the "April 2015 Financing") invest at least 25% of the amount of such investor's investment in the April 2015 Financing made in the August 2016 Offering and holds on the date of the Prospectus 100% of the shares of common stock or Series E Preferred Stock acquired (the "2015 Minimum Required Investment") then the exercise price of all warrants to purchase common stock currently exercisable at $11.10 per share, shall be reduced to $2.00 per share, provided however, such April 2015 Financing Investor shall be required to consent to elimination of any right to cashless exercise of such warrants and that such warrants shall require immediate payment in cash upon the exercise thereof (the "Inducement Amended Warrants"). To the extent there is less than 100% participation, the number of warrants offered for repricing, or number of shares to be issued as part of the Additional Issuance would be reduced pro rata. The Company shall issue the Inducement Amended Warrants and Common Stock issuable thereunder as restricted securities, unless in the opinion of counsel to the Company such shares are deemed to be registered under the Act and if not so registered shall within 30 days of issuance file a registration statement under the Act with respect to the Common Stock underlying the Inducement Amendment Warrants, and shall issue such Inducement Amended Warrants within five (5) business days of closing of the 2017 Offering.

Each investor will be required to present suitable evidence of the ownership to the Company in accordance with the foregoing.

Notwithstanding anything herein to the contrary, in the event the 2017 Offering does not close prior to June 1, 2017, this Consent and the agreements hereunder shall be null and void.

Upon closing of the 2017 Offering, rights to consent under the August 2016 Letter Agreement and the March 2017 Consent (and any restrictions on the Company contained therein) shall terminate and be of no force and effect, provided however, the undersigned shall have the right to approve future (i) issuances of the Company's securities, (ii) equity or debt financings and (iii) sales of any development product assets currently held by the Company, subject to certain exceptions, if such securities are sold at price below $2.50 per share and for as long as the undersigned holds 50% or more of the shares of Series G Preferred Stock purchased by the undersigned in the 2017 Offering. In addition, each of the matters set forth in the May 2017 Letter Agreement, shall be enforceable by the undersigned and continue in full force and effect following closing of the 2017 Offering.

Sincerely,

HS Contrarian Investments, LLC

By: /s/ John Stetson
Name: John Stetson
Title: Manager

MabVax Therapeutics Holdings, Inc.
11535 Sorrento Valley Rd., Suite 400
San Diego, CA 92121
Phone: (858) 259-9405

May 15, 2017

HS Contrarian Investments, LLC
68 Fiesta Way
Fort Lauderdale, FL 33301
Attn: John Stetson

Re: Letter Agreement

Dear Mr. Stetson,

MabVax Therapeutics Holdings, Inc. (the "Company") and HS Contrarian Investments, LLC ("HSCI") hereby agree pursuant to this agreement (this "Letter Agreement") that:

A. Financing.

HSCI shall lead a financing of $4,000,000 at $1.75 per share of common stock (or shares of the Company's Series G Convertible Preferred Stock ("Series G Preferred Stock"), as HSCI may elect, so as not to own in excess of 4.9% but otherwise equivalent to common stock) in the Company's May 2017 public offering (the "Offering"). The stock shall be fully registered on Form S-1.

$500,000 of the funds will be held in escrow and released to one or more investor relations services acceptable to the Company following the closing of the Offering.

B. Consent to Future Financings.

HSCI shall have the right to approve future (i) issuances of the Company's securities, (ii) equity or debt financings and (iii) sales of any development product assets currently held by the Company, subject to certain exceptions, if such securities are sold at price below $2.50 per share and for as long as HSCI holds 50% or more of the shares of Series G Preferred Stock purchased by HSCI in the Offering.

C. Ratchet Provision.

HSCI and each investor in the Company's 2016 public offering (the "August 2016 Investors"), upon receipt of suitable evidence of such ownership acceptable to the Company and an investment into the Offering of at least 50% of their August 2016 investment, shall be entitled to receive their pro rata share of 2.9 million shares, after HSCI receives the first 10%. The Company shall issue the additional shares within three (3) trading days' of closing the Offering.

D. Warrant Cancellation.

The August 2016 Investors who still hold 100% of their shares from the 2016 public offering and make an investment into the Offering of at least 50% of their August 2016 investment, will have their outstanding warrants, exercisable at a price of $5.55 and $6.29, respectively, from the August 2016 public offering, cancelled.

E. August 2015 Investors.

Investors in the Company's 2015 private offering that invest at least 25% of their original investment from the April 2015 financing and still hold 100% of their common stock or Series E preferred stock from the April 2015 financing, will have their up to 805,361 warrants to purchase common stock at $11.10 per share, which were issued in that financing, reduced to $2.00 per share and the cashless exercise provision shall be removed. To the extent there is less than 100% participation, the number of warrants offered for repricing would be reduced pro rata.

F. Board of Directors.

The Company shall nominate one candidate to the Board of Directors of the Company prior to December 31, 2017. Such candidate shall be presented to and acceptable to HSCI prior to appointment. Two current Board of Directors members shall resign.

G. Executive Hire.

The Company shall hire a new executive officer in a leadership role with a C-Level title by July 15, 2017.

H. Executive & Board Compensation.

The Company shall issue an aggregate of 1,050,000 options (50,000 to Phil Livingston and 500,000 to each of J. David Hansen and Jeffrey Ravetch), at a price not less than $2.00 per share. Each member of the Board of Directors (not including Mr. Hansen and Mr. Ravetch) shall receive 50,000 options at the current market price in connection with the Offering. The options shall be issued pursuant to the Company's option plan and are subject to the requisite approvals and subject to availability under the plan. To the extent the Company needs to increase the number of shares available under such plan, the Company will need the approval of the Board of Directors and stockholders. The Company shall also waive all board fees for 2017.

I. Miscellaneous

The rights herein are specific to HSCI, and may only be exercised by the managing partner/president of HSCI which is John Stetson. Such rights shall not be assigned or transferred to or assumed by any other party or individual, voluntarily or by operation of law, and any such purported assignment, transfer or assumption shall be void and of no force or effect.

This Letter Agreement shall be governed by the laws of the state of New York, without giving effect to any conflict of laws provision, and may not be amended other than through a written agreement executed by the Company and HSCI.

As used herein, "HSCI" shall mean any person or entity controlled by, in control of, or in common control with John Stetson.

MabVax Therapeutics Holdings, Inc.

By: */s/ J. David Hansen*
Name: J. David Hansen
Title: President and Chief Executive Officer

HS Contrarian Investments LLC

By: */s/ John Stetson*
Name: John Stetson
Title: Manager

EXHIBIT 10.3

RESCISSION AGREEMENT

THIS RESCISSION AGREEMENT (the "Agreement"), dated and effective as of May 19, 2017 (the "Effective Date"), is made by and between MabVax Therapeutics Holdings, Inc., a Delaware corporation ("Company"), and the holder of the Company's Series H Preferred Stock signatory hereto ("Holder").

WHEREAS, pursuant to that certain Subscription Agreement (the "Subscription Agreement"), dated as of May 3, 2017, by and between the Company and the Holder, whereby, among other things, the Holder purchased from the Company $[ ] of shares of Series H Convertible Preferred Stock having a stated value of $1,000 per share (the "Series H Preferred Stock" or the "Exchange Securities");

WHEREAS, the Company has authorized a new series of convertible preferred stock of the Company designated as Series G Convertible Preferred Stock, $0.01 par value, the terms of which are set forth in the Certificate of Designation of Preferences, Rights and Limitations of Series G Convertible Preferred Stock (the "G Certificate of Designations") in the form attached hereto as Exhibit A (together with any convertible preferred shares issued in replacement thereof in accordance with the terms thereof, the "Series G Preferred Stock"), which Series G Preferred Stock shall be convertible into the Company's Common Stock, in accordance with the terms of the G Certificate of Designations;

WHEREAS, the Company has filed a Registration Statement on Form S-1, as amended (Registration No. 333-216016) (the "Registration Statement") with the Securities and Exchange Commission (the "SEC"), and such Registration Statement has been declared effective by the SEC, in connection with a public offering of the Company's Series G Preferred Stock and Common Stock that is expected to close on the Effective Date (the "Offering");

WHEREAS, on May 10, 2017, the Company and the Holder entered into an exchange agreement (the "Exchange Agreement") pursuant to which the Holder agreed to exchange all of its Series H Preferred Stock and relinquish any and all other rights it may have pursuant to the Exchange Securities, their respective governing agreements and certificates of designation, including any related registration rights, in exchange for an aggregate of _____ shares of Series G Preferred Stock in the Offering (the "Exchange"), with such shares of Series G Preferred Stock to be issued at the closing of the Offering;

WHEREAS, the Holder and Company intend that this Agreement be effective prior to the closing of the Offering;

WHEREAS, the parties have amicably determined that it is in their collective best interest to: (i) rescind the Exchange Agreement, including but not limited to the exchange of Exchange Securities for Series G Preferred Stock, and (ii) provide for such additional agreements as are set forth herein; and

WHEREAS, in connection with the Offering, the Company and Holder desire to cancel certain of Holder's warrants and issue the Holder new shares of common stock, preferred stock and warrants as further set forth in the lead investor consent attached hereto as Exhibit B (the "Lead Investor Consent").

NOW, THEREFORE, in consideration of the mutual promises and obligations set forth herein, the parties hereby agree as follows:

1. Rescission of Exchange Agreement. The Company and the Holder hereby rescind the Exchange Agreement and all transactions contemplated thereby, including the Exchange, in its entirety, effective prior to the consummation of the Offering, such that the Exchange Agreement shall have no force or effect and shall create no rights or obligations whatsoever of one party against the other. For the avoidance of doubt, the Holder shall remain the beneficial owner of the Series H Preferred Stock and the Holder shall purchase the Series G Preferred Stock in the Offering for cash.

2. Subscription Agreement and Registration Rights Agreement. The Holder and Company agree that the Subscription Agreement and that certain Registration Rights Agreement, dated as of May 3, 2017, by and between the Company and the Holder, as amended from time to time (the "Registration Rights Agreement") remain in full force and effect, including all of the Company's and Holder's respective obligations thereunder. For the avoidance of doubt, the Company and Holder agree that Holder's registration rights and the Company's related obligations under the Subscription Agreement and Registration Rights Agreement remain in full force and effect.

3. Consent to Cancellation of Existing Warrants and Issuance of New Warrants. The Holder has reviewed the attached Lead Investor Consent and consents, as a condition to receipt of Inducement Shares, to the cancellation of all warrants issued to the Holder in connection with the August 2016 Offering and consents to the amendment of the warrants issued to it that have a current exercise price of $11.10 per share (including elimination of any right to cashless exercise of such warrants), pursuant to the terms described in the Lead Investor Consent (all terms used in this Section 3 but not defined shall have the meanings assigned to them in the Lead Investor Consent).

4. Legal Representation. Each party hereto acknowledges that it has been represented by independent legal counsel in the preparation of the Agreement and each party waives any conflicts of interest and other allegations that it has not been represented by its own counsel.

5. Miscellaneous.

   a. Successors and Assigns. This Agreement shall be binding upon and inure to the benefit of the parties and their respective successors and assigns.

   b. Governing Law; Jurisdiction; Waiver of Jury Trial. This Agreement shall be governed by and construed under the laws of the State of New York without regard to the choice of law principles thereof. Each party hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in the State of New York located in The City of New York, Borough of Manhattan for the adjudication of any dispute hereunder or in connection herewith or therewith or with any transaction contemplated hereby or thereby, and hereby irrevocably waives any objection that such suit, action or proceeding is brought in an inconvenient forum or that the venue of such suit, action or proceeding is improper. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law. EACH PARTY HEREBY IRREVOCABLY WAIVES ANY RIGHT IT MAY HAVE, AND AGREES NOT TO REQUEST, A JURY TRIAL FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR IN CONNECTION WITH OR ARISING OUT OF THIS AGREEMENT OR ANY TRANSACTION CONTEMPLATED HEREBY.

   c. Severability. If any provision of this Agreement shall be invalid or unenforceable in any jurisdiction, such invalidity or unenforceability shall not affect the validity or enforceability of the remainder of this Agreement in that jurisdiction or the validity or enforceability of any provision of this Agreement in any other jurisdiction.

   d. Counterparts/Execution. This Agreement may be executed in two or more identical counterparts, all of which shall be considered one and the same agreement and shall become effective when counterparts have been signed by each party and delivered to the other party. In the event that any signature is delivered by facsimile transmission or by an e-mail which contains an electronic file of an executed signature page, such signature page shall create a valid and binding obligation of the party executing (or on whose behalf such signature is executed) with the same force and effect as if such facsimile or electronic file signature page (as the case may be) were an original thereof.

   e. Notices. Any notice or communication permitted or required hereunder shall be in writing and shall be deemed sufficiently given if hand-delivered or sent (i) postage prepaid by registered mail, return receipt requested, or (ii) by facsimile, to the respective parties as set forth below, or to such other address as either party may notify the other in writing.

      If to the Company, to:

      MabVax Therapeutics Holdings, Inc.
      11535 Sorrento Valley Road, Ste. 400
      San Diego, CA 92121
      Attention: Chief Executive Officer

If to Holder, to the address set forth on the signature page of the Holder.

f. Expenses. The parties hereto shall pay their own costs and expenses in connection herewith.

g. Entire Agreement; Amendments. This Agreement constitutes the entire agreement between the parties with regard to the subject matter hereof and thereof, superseding all prior agreements or understandings, whether written or oral, between or among the parties. This Agreement may be amended, modified, superseded, cancelled, renewed or extended, and the terms and conditions hereof may be waived, only by a written instrument signed by all parties, or, in the case of a waiver, by the party waiving compliance. Except asexpressly stated herein, no delay on the part of any party in exercising any right, power or privilege hereunder shall operate as a waiver thereof, nor shall any waiver on the part of any party of any right, power or privilege hereunder preclude any other or future exercise of any other right, power or privilege hereunder.

h. Headings. The headings used in this Agreement are used for convenience only and are not to be considered in construing or interpreting this Agreement.

i. Independent Nature of the Holder's Obligations and Rights. The obligations of the Holder under this Agreement are several and not joint with the obligations of any other holder of Series H Preferred Stock (each, an "Other Holder") under any other agreement to exchange Series H Preferred Stock or rescind such exchange agreement (each, an "Other Agreement"), and the Holder shall not be responsible in any way for the performance of the obligations of any Other Holders under any Other Agreement. Nothing contained herein or in any Other Agreement, and no action taken by the Holder pursuant hereto or any Other Holder pursuant to any Other Agreement, shall be deemed to constitute the Holder or any Other Holder as, and the Company acknowledges that the Holder and the Other Holders do not soconstitute, a partnership, an association, a joint venture or any other kind of group or entity, or create a presumption that the Holder and any Other Holder are in any way acting in concert or as a group or entity with respect to such obligations or the transactions contemplated by this Agreement, any other agreement or any matters, and the Company acknowledges that the Holder and the Other Holders are not acting in concert or as a group or entity, and the Company shall not assert any such claim, with respect to such obligations or the transactions contemplated by this Agreement and any Other Agreement. The decision of the Holder to rescind the Exchange pursuant to this Agreement has been made by the Holder independently of any Other Holder. The Holder acknowledges that no Other Holder has acted as agent for the Holder in connection with the Holder hereunder and that no Other Holder will be acting as agent of the Holder in connection with monitoring the Holder's Securities or enforcing its rights under this Agreement. The Company and the Holder confirm that the Holder has independently participated with the Company in the negotiation of the transaction contemplated hereby with the advice of its own counsel and advisors. The Holder shall be entitled to independently protect and enforce its rights, including, without limitation, the rights arising out of this Agreement or out of any of the Other Agreements, and it shall not be necessary for any Other Holder to be joined as an additional party in any proceeding for such purpose.To the extent that any of the Other Holders and the Company enter into the same or similar documents, all such matters are solely in the control of the Company, not the action or decision of the Holder, and would be solely for the convenience of the Company and not because it was required or requested to do so by the Holder or any Other Holder. For clarification purposes only and without implication that the contrary would otherwise be true, the transactions contemplated by this Agreement include only the transaction between the Company and the Holder and do not include any other transaction between the Company and any Other Holder.

(Signature Pages Follow)

IN WITNESS WHEREOF, the parties have caused this Agreement to be duly executed as of the day and year first above written.

MABVAX THERAPEUTICS HOLDINGS, INC.

By:_____
Name: J. David Hansen
Title: Chief Executive Officer

HOLDER:

By:_____
Name:
Title:
Address for Notice:

EXHIBIT 10.4

MabVax Therapeutics Holdings, Inc.
11535 Sorrento Valley Rd., Suite 400
San Diego, CA 92121
Phone: (858) 259-9405

May 22, 2017

Re: Letter Agreement

MabVax Therapeutics Holdings, Inc. (the "Company") and the undersigned hereby agree pursuant to this agreement (this "Letter Agreement") that:

A. Inducement Shares

The undersigned, upon delivery to the Company of suitable evidence acceptable to the Company of the undersigned's investment in the Company's August 2016 public offering and an investment into the Company's May 2017 public offering (the "Offering") of at least 50% of the undersigned's August 2016 investment (the "Minimum Required Investment"), shall be entitled to receive its pro rata share, along with the other August 2016 investors who invested in the Offering, of 2.61 million shares of common stock (the "Inducement Common Shares") provided, however, that if the undersigned beneficially owns or as a result of any purchases in the Offering or issuances of the Inducement Common Shares or otherwise will beneficially own 5% or more of the common stock of the Company, the undersigned may elect to receive shares of the Company's preferred stock containing "beneficial ownership blocker" provisions and a liquidation preference equal to the par value thereof (the "Inducement Preferred Shares" and, together with the Inducement Common Shares, the "Inducement Shares") to be issued by the Company convertible into the pro rata portion of the Inducement Shares the undersigned would otherwise receive. The Company shall issue the Inducement Shares as restricted securities, unless in the opinion of counsel to the Company such shares are deemed to be registered under the Securities Act of 1933, as amended (the "Act") and if not so registered shall within 30 days of issuance file a registration statement under the Act with respect to the Inducement Common Shares and the common stock underlying the Inducement Preferred Shares, and shall issue such shares within five (5) business days of closing of the Offering during which time the undersigned may instruct the Company to issue Inducement Preferred Shares. No Inducement Shares shall be required to be issued or issued to the undersigned if the undersigned, in connection with the 2017 Offering, does not invest at least 50% of such undersigned's investment in the August 2016 Offering or does not hold on the date of the Offering 100% of the shares of common stock or Series F Preferred Stock acquired in the August 2016 offering.

In the event the undersigned elects to receive Inducement Preferred Shares, the Inducement Preferred Shares shall be entitled to a per share preferential payment equal to the par value of $0.01 per share. In the event of a liquidation, dissolution or winding up of the Company, each share of Inducement Preferred Shares will be entitled to a per share preferential payment equal to the par value of $0.01 per share.

B. Warrant Cancellation.

The undersigned, if the undersigned still owns 100% of the common stock or preferred stock purchased in the August 2016 financing and invests the Minimum Required Investment in the Offering, agrees to the cancellation of the warrants issued to it in the August 2016 financing that are exercisable at prices of $5.55 and $6.29.

C. Warrant Amendment.

The undersigned, if the undersigned invested in the Company's April 2015 private offering, invested at least 25% of its original investment from the April 2015 private offering in the Offering and still hold 100% of its common stock or Series E Preferred Stock from the April 2015 private offering, agrees to amend the warrants issued to it in the April 2015 financing to lower the exercise price from $11.10 per share to $2.00 per share and remove the cashless exercise provision.

This Letter Agreement shall be governed by the laws of the state of New York, without giving effect to any conflict of laws provision, and may not be amended other than through a written agreement executed by the Company and the undersigned.

MabVax Therapeutics Holdings, Inc.

By: _____
Name:
Title:

By: _____
Name:
Title:

EXHIBIT 31.1

Certification Under Section 302

I, J. David Hansen, certify that:

1. I have reviewed this quarterly report on Form 10-Q of MabVax Therapeutics Holdings, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 22, 2017

By: /s/ J. David Hansen
J. David Hansen
Chief Executive Officer (Principal Executive Officer)

EXHIBIT 31.2

Certification Under Section 302

I, Gregory P. Hanson, certify that:

1. I have reviewed this quarterly report on Form 10-Q of MabVax Therapeutics Holdings, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 22, 2017

By: /s/ Gregory P. Hanson
Gregory P. Hanson
Chief Financial Officer (Principal Financial and Accounting Officer)

EXHIBIT 32

Certification
Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
(Subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code)

Pursuant to section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of section 1350, chapter 63 of title 18, United States Code), each of the undersigned officers of MabVax Therapeutics Holdings, Inc., does hereby certify, to such officer's knowledge, that:

The Quarterly Report on Form 10-Q of MabVax Therapeutics Holdings, Inc. for the three months ended March 31, 2017, fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, and the information contained in the Form 10-Q fairly presents, in all material respects, the financial condition and results of operations of MabVax Therapeutics Holdings, Inc.

Date: May 22, 2017

By: /s/ J. David Hansen
J. David Hansen
Chief Executive Officer (Principal Executive Officer)

Date: May 22, 2017

By: /s/ Gregory P. Hanson
Gregory P. Hanson
Chief Financial Officer (Principal Financial and Accounting Officer)

A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.