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

FORM 10-Q

(Mark One)

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the quarterly period ended September 30, 2019

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 001-32587

Altimmune, Inc.

(Exact Name of Registrant as Specified in its Charter)

Delaware	**20-2726770**
State or Other Jurisdiction of Incorporation or Organization	**I.R.S. Employer Identification No.**
910 Clopper Road Suite 201S, Gaithersburg, Maryland	**20878**
Address of Principal Executive Offices	**Zip Code**

(240) 654-1450
Registrant's Telephone Number, Including Area Code
Former Name, Former Address and Former Fiscal Year, if Changed Since Last Report

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common stock, par value $0.0001 per share	ALT	The NASDAQ Global Market

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 every Interactive Data File required to be submitted 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 such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, 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	☒	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 Act). Yes ☐ No ☒

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date: as of November 12, 2019 there were 15,338,072 shares of the registrant's common stock, par value $0.0001 per share, outstanding.

ALTIMMUNE, INC.

TABLE OF CONTENTS

Part I—FINANCIAL INFORMATION

Item 1. Consolidated Financial Statements (Unaudited).

ALTIMMUNE, INC.
CONSOLIDATED BALANCE SHEETS

	September 30, 2019 (unaudited)	December 31, 2018
ASSETS		
Current assets:		
Cash and cash equivalents	$ 10,972,482	$ 33,718,713
Restricted cash	34,174	634,416
Total cash, cash equivalents and restricted cash	11,006,656	34,353,129
Short-term investments	28,226,026	—
Accounts receivable	1,012,491	3,461,938
Tax refund receivable	968,597	1,008,973
Prepaid expenses and other current assets	410,148	548,094
Total current assets	41,623,918	39,372,134
Property and equipment, net	1,162,715	1,342,802
Right of use asset	717,303	—
Intangible assets, net	12,741,656	13,851,924
Other assets	142,331	183,682
Total assets	$ 56,387,923	$ 54,750,542
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 49,884	$ 372,860
Accrued expenses and other current liabilities	2,311,824	4,082,949
Notes payable	105,062	71,596
Total current liabilities	2,466,770	4,527,405
Deferred income taxes	—	58,500
Contingent consideration	2,750,000	—
Other long-term liabilities	1,787,203	1,852,071
Total liabilities	7,003,973	6,437,976
Commitments and contingencies (Note 12)		
Stockholders' equity:		
Common stock, $0.0001 par value; 200,000,000 shares authorized; 15,338,356 and 9,078,735 shares issued; 15,338,072 and 9,078,238 shares outstanding at September 30, 2019 and December 31, 2018, respectively	1,502	876
Additional paid-in capital	187,683,155	170,207,844
Accumulated deficit	(133,279,497)	(116,855,991)
Accumulated other comprehensive loss	(5,021,210)	(5,040,163)
Total stockholders' equity	49,383,950	48,312,566
Total liabilities and stockholders' equity	$ 56,387,923	$ 54,750,542

The accompanying notes are an integral part of the unaudited consolidated financial statements.

ALTIMMUNE, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS
(unaudited)

	For the Three Months Ended September 30,		For the Nine Months Ended September 30,	
	2019	2018	2019	2018
Revenue	$ 643,978	$ 2,634,393	$ 5,225,600	$ 7,742,514
Operating expenses:				
Research and development	8,729,697	4,728,726	14,892,464	15,394,616
General and administrative	2,187,661	1,963,733	6,485,960	7,345,651
Impairment charges	1,000,000	—	1,000,000	490,676
Total operating expenses	11,917,358	6,692,459	22,378,424	23,230,943
Loss from operations	(11,273,380)	(4,058,066)	(17,152,824)	(15,488,429)
Other income (expense):				
Changes in fair value of warrant liability	76,000	806,224	30,000	(2,874,484)
Changes in fair value of embedded derivatives	—	185,768	—	183,638
Interest expense	(756)	(166,946)	(2,244)	(169,737)
Interest income	224,058	21,100	649,268	78,306
Other income (expense)	(23,734)	31,378	(6,206)	289,053
Total other income (expense)	275,568	877,524	670,818	(2,493,224)
Net loss before income tax benefit	(10,997,812)	(3,180,542)	(16,482,006)	(17,981,653)
Income tax benefit	58,500	829,393	58,500	3,318,124
Net loss	(10,939,312)	(2,351,149)	(16,423,506)	(14,663,529)
Other comprehensive income (loss) – foreign currency translation adjustments	—	—	—	(463,177)
Other comprehensive income (loss) – unrealized gains on investments	18,953	—	18,953	—
Comprehensive loss	$ (10,920,359)	$ (2,351,149)	$ (16,404,553)	$ (15,126,706)
Net loss	$ (10,939,312)	$ (2,351,149)	$ (16,423,506)	$ (14,663,529)
Preferred stock accretion and other deemed dividends	—	64,139	(452,925)	(2,527,275)
Net loss attributed to common stockholders	$ (10,939,312)	$ (2,287,010)	$ (16,876,431)	$ (17,190,804)
Weighted-average common shares outstanding, basic and diluted	14,768,931	1,321,289	12,481,494	983,651
Net loss per share attributed to common stockholders, basic and diluted	$ (0.74)	$ (1.73)	$ (1.35)	$ (17.48)

The accompanying notes are an integral part of the unaudited consolidated financial statements.

ALTIMMUNE, INC.
CONSOLIDATED STATEMENTS OF REDEEMABLE CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' EQUITY
(unaudited)

	Common Stock		Additional Paid-In	Accumulated	Accumulated Other Comprehensive	Total Stockholders'
	Shares	Amount	Capital	Deficit	Loss	Equity
Balance, January 1, 2019	9,078,238	$ 876	$ 170,207,844	$ (116,855,991)	$ (5,040,163)	$ 48,312,566
Stock based compensation and vesting of restricted stock	71		407,742			407,742
Issuance of common stock in registered direct offering, net of offering costs	4,361,370	436	12,668,348			12,668,784
Issuance of common stock upon exercise of warrants	11,000	1	30,323			30,324
Net loss				(2,097,306)		(2,097,306)
Balance, March 31, 2019	13,450,679	1,313	183,314,257	(118,953,297)	(5,040,163)	59,322,110
Stock based compensation and vesting of restricted stock	71		289,800			289,800
Net loss				(3,386,888)		(3,386,888)
Balance, June 30, 2019	13,450,750	1,313	183,604,057	(122,340,185)	(5,040,163)	56,225,022
Stock based compensation and vesting of restricted stock	72		287,802			287,802
Issuance of common stock for acquired in-process research and development	1,887,250	189	3,791,296			3,791,485
Unrealized gain on short-term investments					18,953	18,953
Net loss				(10,939,312)		(10,939,312)
Balance, September 30, 2019	15,338,072	$ 1,502	$ 187,683,155	$ (133,279,497)	$ (5,021,210)	$ 49,383,950

ALTIMMUNE, INC.
CONSOLIDATED STATEMENTS OF REDEEMABLE CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' EQUITY
(unaudited)

	Series B Redeemable Convertible Preferred Stock		Common Stock		Additional Paid-In	Accumulated	Accumulated Other Comprehensive	Total Stockholders'
	Shares	Amount	Shares	Amount	Capital	Deficit	Loss	Equity
Balance, January 1, 2018	12,177	$ 9,281,767	608,499	$ 61	$ 121,657,587	$ (77,684,839)	$ (4,576,986)	$ 39,395,823
Stock based compensation and vesting of restricted stock			71	—	356,737			356,737
Exercises of stock options			7,703	1	18,487			18,488
Conversion of Series B redeemable convertible preferred stock into common stock	(5,219)	(5,218,572)	130,447	13	5,218,559			5,218,572
Accretion of Series B Redeemable convertible preferred stock		1,891,321			(1,891,321)			(1,891,321)
Foreign currency translation adjustments							615,471	615,471
Net loss						(3,173,538)		(3,173,538)
Balance, March 31, 2018	6,958	5,954,516	746,720	75	125,360,049	(80,858,377)	(3,961,515)	40,540,232
Stock based compensation and vesting of restricted stock			71	—	252,156			252,156
Exercises of stock options			1,837	—	4,410			4,410
Accretion of Series B redeemable convertible preferred stock		956,150			(956,150)			(956,150)
Conversion of Series B redeemable convertible preferred stock into common stock	(4,036)	(4,036,539)	334,180	33	4,036,506			4,036,539
Redemption of Series B redeemable convertible preferred stock for cash and release of embedded derivative	(2,364)	(2,364,044)			23,292			23,292
Issuance of common stock for the exchange of warrants			167,700	17	2,126,983			2,127,000
Foreign currency translation adjustments							(1,078,648)	(1,078,648)
Net loss						(9,138,842)		(9,138,842)
Balance, June 30, 2018	558	510,083	1,250,508	125	130,847,246	(89,997,219)	(5,040,163)	35,809,989
Stock based compensation and vesting of restricted stock			71	—	95,649			95,649
Accretion of Series B redeemble convertible preferred stock		47,414			(47,414)			(47,414)
Conversion of Series B redeemable convertible preferred stock into common stock	(558)	(557,497)	37,451	4	535,253			535,257
Issuance of common stock for the exchange of warrants			150,968	15	1,306,026			1,306,041
Issuance of common stock and units in registered direct offerings, net of offering costs			286,633	29	4,334,786			4,334,815
Net loss						(2,351,149)		(2,351,149)
Balance, September 30, 2018	—	$ —	1,725,630	$ 173	$ 137,071,546	$ (92,348,368)	$ (5,040,163)	$ 39,683,188

The accompanying notes are an integral part of the unaudited consolidated financial statements.

ALTIMMUNE, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(unaudited)

	For the Nine Months Ended September 30,	
	2019	**2018**
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net loss	$ (16,423,506)	$ (14,663,529)
Adjustments to reconcile net loss to net cash used in operating activities:		
Non-cash consideration for acquired in-process research and development	6,541,485	—
Impairment charge	1,000,000	490,676
Stock-based compensation	985,260	704,425
Depreciation	181,314	146,299
Amortization	135,664	45,426
Unrealized gains on foreign currency exchange	(3,310)	31,357
Debt discount and deferred financing cost accretion	—	120,024
Gain on disposal of property and equipment	—	(3,806)
Changes in fair value of warrant liability	(30,000)	2,874,484
Changes in fair value of embedded derivatives	—	(183,638)
Changes in operating assets and liabilities:		
Accounts receivable	2,449,447	1,258,837
Prepaid expenses and other current assets	179,298	589,773
Accounts payable	(322,976)	20,940
Accrued expenses and other current liabilities	(2,125,851)	1,695,296
Deferred revenue	(14,833)	(14,833)
Deferred rent	—	861,741
Lease obligation	(133,813)	—
Tax refund receivable	40,376	4,839,775
Deferred taxes	(58,500)	(3,046,768)
Net cash used in operating activities	(7,599,945)	(4,233,521)
CASH FLOWS FROM INVESTING ACTIVITIES:		
Cash paid for short-term investments	(28,207,073)	—
Purchase of property and equipment	(1,227)	(968,354)
Proceeds from sale of property and equipment	—	14,492
Additions to intangible assets	(25,396)	(39,145)
Net cash used in investing activities	(28,233,696)	(993,007)
CASH FLOWS FROM FINANCING ACTIVITIES:		
Redemption of preferred stock	—	(2,386,284)
Cash paid in conjunction with warrant exchange	(25,000)	(1,100,000)
Proceeds from conditional economic incentive	—	100,000
Proceeds from issuance of common units, net of issuance costs	12,668,784	4,334,816
Payments of notes payable	(186,940)	—
Proceeds from exercises of warrants and stock options	30,324	22,898
Net cash provided by financing activities	12,487,168	971,430
EFFECT OF EXCHANGE RATES ON CASH	—	(50,365)
Net decrease in cash and cash equivalents and restricted cash	(23,346,473)	(4,305,463)
Cash, cash equivalents and restricted cash, beginning of period	34,353,129	12,303,639
Cash, cash equivalents and restricted cash, end of period	$ 11,006,656	$ 7,998,176
SUPPLEMENTAL CASH FLOW INFORMATION:		
Cash paid for interest	$ —	$ 49,712
SUPPLEMENTAL NON-CASH FINANCING ACTIVITIES:		
Conversion of Series B redeemable convertible preferred stock into common stock	$ —	$ 9,790,368
Common stock issued for acquired in-process research and development	$ 3,791,485	$ —
Accretion of Series B redeemable convertible preferred stock	$ —	$ 2,894,885
Notes payable issued in conjunction with the exchange of warrants	$ —	$ 1,500,000
Settlement of warrant liability for common stock	$ —	$ 3,345,030

The accompanying notes are an integral part of the unaudited consolidated financial statements.

ALTIMMUNE, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(unaudited)

1. Nature of Business and Basis of Presentation

Nature of Business

Altimmune, Inc., headquartered in Gaithersburg, Maryland, together with its subsidiaries (collectively, the "Company" or "Altimmune") is a clinical stage biopharmaceutical company incorporated under the laws of the State of Delaware. The Company is focused on discovering and developing immunotherapies and vaccines to address significant unmet medical needs. Since its inception, the Company has devoted substantially all of its efforts to business planning, research and development, recruiting management and technical staff, and raising capital, and has financed its operations through the issuance of common and preferred stock, long-term debt, and proceeds from research grants and government contracts. The Company has not generated any revenues from the sale of any products to date, and there is no assurance of any future revenues from product sales.

The accompanying unaudited consolidated financial statements are prepared pursuant to the rules and regulations of the U.S. Securities and Exchange Commission ("SEC") regarding interim financial reporting. Accordingly, they do not include all of the information and disclosures required by accounting principles generally accepted in the United States for complete consolidated financial statements and should be read in conjunction with the audited consolidated financial statements for the year ended December 31, 2018 included in the annual report on Form 10-K which was filed with the SEC on April 1, 2019. In the opinion of management, the Company has prepared the accompanying unaudited consolidated financial statements on the same basis as the audited consolidated financial statements, and these consolidated financial statements include all adjustments, consisting only of normal recurring adjustments, necessary for a fair presentation of the results of the interim periods presented. The operating results for the interim periods presented are not necessarily indicative of the results expected for the full year 2019 or any future years or periods.

Basis of presentation

The unaudited consolidated financial statements have been prepared on the basis of continuity of operations, realization of assets and the satisfaction of liabilities in the ordinary course of business. The financial statements do not include any adjustments relating to the recoverability and classification of recorded assets and liabilities that might be necessary should we be unable to continue as a going concern.

2. Summary of Significant Accounting Policies

During the nine months ended September 30, 2019, there have been no significant changes to the Company's summary of significant accounting policies contained in the Company's Annual report on Form 10-K for the year ended December 31, 2018 as filed with the SEC, except for contingent consideration, investments, and the recently adopted accounting standard for leases.

Investments

The Company's short-term investments are comprised of debt securities that have original maturities less than or equal to one year and are classified as available-for-sale securities. Such securities are carried at estimated fair value, with any unrealized holding gains or losses reported as accumulated other comprehensive income or loss, which is a separate component of stockholders' equity. Realized gains and losses, and declines in value judged to be other-than-temporary, if any, are included in other income in the consolidated results of operations. The Company monitors its investment portfolio for impairment quarterly or more frequently if circumstances warrant. In determining whether a decline in the value of an investment is other-than-temporary, the Company evaluate currently available factors that may include, among others: (1) general market conditions; (2) the duration and extent to which fair value has been less than the carrying value; (3) the investment issuer's financial condition and business outlook; and (4) its assessment as to whether it is more likely than not that the Company will be required to sell a security prior to recovery of its amortized cost basis. A decline in the market value of any available-for-sale security below cost that is deemed to be other-than-temporary results in a reduction in fair value charged to earnings in that period, and a new cost basis for the security is established. Dividend and interest income are recognized in other income when earned. The cost of securities sold is calculated using the specific identification method. The Company places all investments with government agencies, or corporate institutions whose debt is rated as investment grade. Investments are classified as either current or non-current assets on our consolidated balance sheets based on their contractual maturity dates.

Leases

The Company determines if an arrangement is a lease at inception. Operating leases are recorded as a current and long-term lease obligation, with a corresponding right of use lease assets.

The lease obligations represent the Company's obligation to make lease payments arising from the lease. The right of use lease assets represent the Company's right to use an underlying asset for the lease term. The lease obligations and the operating right of use lease assets are recognized at the commencement date based on the present value of lease payments over the lease term. As most of the Company's leases do not provide an implicit rate, the Company uses its incremental borrowing rate based on the information available at the commencement date in determining the

present value of lease payments. The Company's lease terms may include options to extend or terminate the lease when it is reasonably certain that the Company will exercise that option. Lease expense for lease payments is recognized on a straight-line basis over the lease term.

Short-term leases are leases having a term of twelve months or less. The Company recognizes short-term leases on a straight-line basis and does not record a related lease asset or liability for such leases.

Contingent Consideration

The Company records contingent consideration associated with development and regulatory milestones that meets the definition of a liability under ASC 480 at fair value. The fair value model used to calculate this obligation is based on the income approach (a discounted cash flow model) or a Monte Carlo simulation, if more appropriate, that has been risk adjusted based on the probability of achievement of the milestones. The inputs the Company uses for determining the fair value of the contingent consideration associated with development and regulatory milestones are Level 3 fair value measurements. The Company re-evaluates the fair value on a quarterly basis. Changes in the fair value can result from adjustments to the discount rates and updates in the assumed timing of milestone achievement. Any future increase in the fair value of the contingent consideration associated with development and regulatory milestones are based on an increased likelihood that the underlying milestones will be achieved.

The associated payment or payments which will become due and payable for development and regulatory milestones will result in a charge to research and development expense in the period in which the increase is determined. Similarly, any future decrease in the fair value for development and regulatory milestones will result in a reduction in research and development expense.

Recently Issued Accounting Pronouncements - Adopted

In February 2016, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2016-02, Leases ("ASU 2016-02"). ASU 2016-02 requires a lessee to separate the lease components from the non-lease components in a contract and recognize in the statement of financial position a liability to make lease payments (the lease liability) and a right-of-use asset representing its right to use the underlying asset for the lease term. ASU 2016-02 is effective for fiscal years beginning after December 15, 2018. The standard requires a modified retrospective approach or an optional transition to apply the new guidance in the year of transition rather than at the beginning of the earliest period presented. The Company adopted ASU 2016-02 in the first quarter of 2019 under the optional transition method. The Company's current operating leases will be accounted for as operating lease liabilities and right of use assets upon adoption. The Company has elected the package of practical expedients permitted. Accordingly, the Company accounted for its existing operating leases as operating leases under the new guidance, without reassessing (a) whether the contracts contain a lease, (b) whether classification of the operating leases would be different in accordance, or (c) whether the unamortized initial direct costs before transition adjustments would have met the definition of initial direct costs at lease commencement. In addition, the Company does not allocate the consideration between lease and non-lease components. On January 1, 2019, the Company recorded a lease liability and a corresponding right of use asset. The adjustment resulted in an increase of $756,347 to total assets and total liabilities on the January 1, 2019 consolidated balance sheet. The adoption will not have a material impact on the consolidated statement of operations or consolidated statement of cash flows.

In June 2018, FASB issued ASU No. 2018-07,*Compensation—Stock Compensation (Topic 718)—Improvements to Nonemployee Share-Based Payment Accounting* ("ASU 2018-07"). ASU 2018-07 expands the scope of Topic 718 to include share-based payment transactions for acquiring goods and services from nonemployees. The Company adopted ASU 2018-07 in the first quarter of 2019. The adoption of this standard did not have a material impact on the Company's consolidated financial statements.

Recently Issued Accounting Pronouncements - Pending Adoption

In August 2018, FASB issued ASU No. 2018-13, Fair Value Measurement (Topic 820) – Disclosure Framework – Changes to the Disclosure Requirements for Fair Value Measurement, was issued to modify and enhance the disclosure requirements for fair value measurements. This update is effective in fiscal years, including interim periods, beginning after December 15, 2019, and early adoption is permitted. The Company is still completing its assessment of the impacts and anticipated adoption date of this guidance.

3. Acquisitions

The Company entered into a definitive agreement to acquire all of the equity interests of Spitfire Pharma, Inc. ("Spitfire") on July 8, 2019. Spitfire was a privately held, preclinical pharmaceutical company developing a novel dual GLP-1/glucagon receptor agonist for the treatment of non-alcoholic steatohepatitis.

The transaction closed on July 12, 2019. The Company issued 1,887,250 unregistered shares of its common stock (the "shares") as upfront consideration to certain former securityholders of Spitfire (collectively, the "Spitfire Equityholders"), representing an amount equal to $5,000,000 less working capital and transaction expense adjustment amounts as defined in the agreement (the "closing consideration"). The number of shares issued as payment of the Closing Consideration was determined based on the average of the closing prices of the Company's common stock as reported on the Nasdaq Global Market for the twenty (20) consecutive trading days prior to and including July 8, 2019, the date on which the parties entered into the Agreement and Plan of Merger and Reorganization (the "Merger Agreement"). The Spitfire Equityholders

agreed to a lock-up on the upfront consideration pursuant to which 33.3% of the shares will be released at 6 months; 33.3% will be released at 12 months; and 33.3% will be released at 18 months.

The Merger Agreement also includes future contingent payments up to $88,000,000 in cash and shares of the Company's common stock as follows (each, a "Milestone Event"):

- a one-time payment of $5.0 million (the "IND Milestone Consideration Amount") within sixty (60) days of the submission of an Investigational New Drug Application ("IND") to the United States Food and Drug Administration (the "FDA") or other applicable governmental authority in a foreign jurisdiction, which IND has not been rejected or placed on clinical hold by the FDA or such applicable foreign governmental authority within time specified in the Merger Agreement; plus
- a one-time payment of $3.0 million (together with the IND Milestone Consideration Amount, the "Regulatory Milestones") within sixty (60) days of the initiation of a human clinical trial of a product candidate anywhere in the world; plus
- payments of up to $80.0 million upon the achievement of specified worldwide net sales (the "Sales Milestones") of all products developed using the technology acquired in the License Agreement within ten (10) years following the approval of a new drug application filed with the FDA.

The Company determined that the acquisition of Spitfire should be accounted for as an asset acquisition instead of a business combination because substantially all of the fair value of the gross assets acquired is concentrated in a single identifiable asset or group of similar identifiable assets, and therefore, the asset is not considered a business. The Company expensed the acquired intellectual property as of the acquisition date as in-process research and development with no alternative future uses. During the three and nine months ended September 30, 2019, the Company recorded an in-process research and development expense of $4,337,574 for the up-front consideration, which included the fair value of the common stock transferred and net liabilities assumed. The fair value of the common shares transferred was based on the Company's stock price of $2.45 on July 12, 2019, offset by an estimated discount of $832,277 for lack of marketability.

The future contingent payments related to the Regulatory Milestones are stock-based payments accounted for under FASB Accounting Standards Codification Topic 480, *Distinguishing Liabilities From Equity*. The stock-based payments are subject to a lock-up whereby 50% of the shares are released at 3 months and 50% are released at 6 months. The Company has estimated contingent consideration of $2,750,000 based upon a Monte Carlo simulation that has been risk adjusted based on the probability of achieving the milestone and a discount for lack of marketability, which was expensed to in-process research and development expenses during the three and nine months ended September 30. 2019.

The future contingent payments related to the Sales Milestones are predominately cash-based payments accounted for under FASB Accounting Standards Codification Topic 450, *Contingencies*. Accordingly, the Company will recognize the Sales Milestones when the contingency is resolved and the amount is paid or payable.

Finally, transaction costs associated with the Spitfire acquisition of $61,673 and $680,090 are recorded within research and development expense during the three and nine months ended September 30, 2019, respectively.

4. Net Loss Per Share

Because the Company has reported a net loss attributable to common stockholders for all periods presented, basic and diluted net loss per share attributable to common stockholders are the same for all periods presented. For periods presented, all preferred stock, unvested restricted stock, common stock warrants, and stock options have been excluded from the computation of diluted weighted-average shares outstanding because such securities would have an antidilutive impact.

Potential common shares issuable upon conversion, vesting or exercise of preferred stock, unvested restricted stock, common stock warrants, and stock options that are excluded from the computation of diluted weighted-average shares outstanding are as follows:

	The three and nine months ended September 30, 2019	The three and nine months ended September 30, 2018
Common stock warrants	10,384,706	1,767
Common stock options	976,861	45,517
Restricted stock	323,191	568

5. Goodwill and Intangible Assets

Goodwill

In May 2017, the Company closed on a business combination and recorded an initial purchase price allocation including goodwill. During the nine months ended September 30, 2018 and prior to the end of the measurement period for accounting for the business combination, the Company recorded adjustments to the purchase price allocation resulting in a net decrease in tax refunds receivable, with a corresponding net increase in goodwill, of $490,676. As goodwill related to this transaction had previously been determined to be fully impaired, the Company recognized an

impairment charge of $490,676 as a result of these purchase price allocation adjustments during the nine months ended September 30, 2018. The purchase price allocation was considered final in May 2018, and no further adjustments were recorded.

Intangibles assets

The Company's intangible assets consisted of the following:

		September 30, 2019			
	Estimated Useful Lives	Gross Carrying Value	Accumulated Amortization	Impairment	Net Book Value
Internally developed patents	6-10 years	$ 743,956	$ (440,994)	$ —	$ 302,962
Acquired licenses	16-20 years	285,000	(265,273)	—	19,727
Total intangible assets subject to amortization		1,028,956	(706,267)	—	322,689
IPR&D assets	Indefinite	13,418,967	—	(1,000,000)	12,418,967
Total		$ 14,447,923	$ (706,267)	$ (1,000,000)	$ 12,741,656

		December 31, 2018			
	Estimated Useful Lives	Gross Carrying Value	Accumulated Amortization	Impairment	Net Book Value
Internally developed patents	6-10 years	$ 718,559	$ (317,172)	$ —	$ 401,387
Acquired licenses	16-20 years	285,000	(253,430)	—	31,570
Total intangible assets subject to amortization		1,003,559	(570,602)	—	432,957
IPR&D assets	Indefinite	37,868,978	—	(24,450,011)	13,418,967
Total		$ 38,872,537	$ (570,602)	$ (24,450,011)	$ 13,851,924

Amortization expense of intangible assets subject to amortization was $28,084 and $15,972 for the three months ended September 30, 2019 and 2018, and $135,664 and $45,426 for the nine months ended September 30, 2019 and 2018, respectively. Amortization expense was classified as research and development expenses in the accompanying unaudited consolidated statements of operations and comprehensive loss.

The development activities under the SparVax-L NIAID contract were completed during the third quarter of 2019, with no future funding identified. As a result of the contract completion and the US government's funding prioritization of only single dose anthrax vaccine candidates, the Company abandoned the project and concluded that the full remaining net book value of the SparVax-L IPR&D asset was impaired during the three months ended September 30, 2019. An impairment charge of $1,000,000 was expensed for the three and nine months ended September 30, 2019.

As of September 30, 2019, future estimated amortization expense was as follows:

Years ending December 31,	
The remainder of 2019	$ 11,570
2020	41,589
2021	25,375
2022	25,375
2023	25,375
2024 and thereafter	193,405
Total	$ 322,689

6. Accrued Expenses

Accrued expenses and other current liabilities consist of the following:

	September 30, 2019	December 31, 2018
Accrued professional services	$ 398,754	$ 552,619
Accrued payroll and employee benefits	954,658	1,257,191
Accrued interest	3,441	1,192
Accrued research and development	682,463	2,076,704
Lease obligation, current portion	252,755	—
Deferred rent, current portion	—	175,490
Deferred revenue	19,753	19,753
Total accrued expenses	$ 2,311,824	$ 4,082,949

7. Notes Payable and Other Long-Term Liabilities

The Company's current portion of outstanding notes payable are summarized as follows:

	September 30, 2019	December 31, 2018
BPI France notes, short-term portion	$ 105,062	$ 71,596
Total notes payable	$ 105,062	$ 71,596

The Company's long-term portion of outstanding notes payable as well as other long-term liabilities are summarized as follows:

	September 30, 2019	December 31, 2018
BPI France notes, long-term portion	$ —	$ 501,174
Lease obligation, long-term portion (see Note 11)	1,552,031	—
Deferred rent, long-term portion	—	1,045,807
Common stock warrant liability (see Note 9)	10,000	65,000
Other	225,172	240,090
Total other long-term liabilities	$ 1,787,203	$ 1,852,071

Line of Credit

On July 27, 2018, the Company renewed its existing line of credit agreement for a six-month term with an increase to the borrowing capacity from $250,000 to $1,750,000, subject to a minimum liquidity requirement equal to the outstanding balance of the line. The line of credit was not renewed and expired in January 2019. There was no balance on this credit facility as of December 31, 2018 or for the period within 2019 prior to its expiration.

BPI France Notes

Altimmune France has two non-interest-bearing research and development funding arrangements with BPI France that were entered into in December 2013 to provide Altimmune France up to €750,000 in research funding in the first arrangement and up to €250,000 in the second arrangement. Altimmune France was permitted to draw 50% of the funds upon the signing of the arrangements, an additional 30% contingent upon a financial audit and technical progress report, and the remaining amounts at the completion of the research and development project being funded by the arrangements. In October 2016, the Company and BPI France agreed to extend the term on the arrangement by two years. The total amount advanced under the arrangements was €500,000. In April 2019, the Company was notified that €102,951 exceeded the allowable funding in accordance with the arrangement and made payment of this amount on June 5, 2019. In September 2019, the Company was notified that €238,229 ($265,540) was converted into a grant and recognized as grant revenue for the three and nine months ended September 30, 2019. In addition to the €102,951 amount paid in excess of the allowable funding, the Company paid €62,500 (total repayments of $186,940) during the nine months ended September 30, 2019. In October 2019, the Company paid the remaining balance on the BPI France notes. The BPI France notes are recorded at their repayment value which approximates fair value.

8. Common Stock

On July 12, 2019, as discussed in Note 3, the Company issued 1,887,250 unregistered shares of its common stock as upfront consideration to certain former Spitfire Equityholders representing the closing consideration.

On March 12, 2019, the Company issued a combined total of 1,500,000 common units and 2,861,370 pre-funded units to two institutional investors in a registered direct offering (the "Registered Direct Offering"). Each common unit in the Registered Direct Offering was sold at a price

of $3.21 and consisted of one share of common stock and 0.70 of a warrant to purchase one share of common stock at an exercise price of $3.21. Each warrant sold in the Registered Direct Offering was exercisable immediately and expired five years from the date of issuance. Each pre-funded unit in the Registered Direct Offering was sold at a public offering price of $3.20 and consisted of a pre-funded warrant to purchase one share of common stock at an exercise price of $0.01 per share and 0.70 of a warrant to purchase one share of common stock at an exercise price of $3.21. The pre-funded warrants were immediately exercisable and were able to be exercised at any time until all of the pre-funded warrants were exercised in full. All of the pre-funded warrants were exercised prior to March 31, 2019. The net proceeds of the Registered Direct Offering were approximately$12,668,784, after deducting the underwriting discount and offering expenses payable by the Company.

The warrants issued in the Registered Direct Offering were concluded to be equity classified freestanding financial instruments. The Registered Direct Offering triggered a down round adjustment to the exercise price of warrants previously issued in an October 2018 public offering from $4.1798 to $2.7568. The Company treated the value of the effect of the reduction in exercise price as a deemed dividend of $452,925 during the nine months ended September 30, 2019, which reduced income available to common shareholders.

9. Warrants

A summary of warrant activity during the nine months ended September 30, 2019 is as follows:

Warrants outstanding, January 1, 2019	7,344,297
Issuances (Note 8)	3,052,959
Exchanges	(1,550)
Exercises and conversions	(11,000)
Warrants outstanding, September 30, 2019	10,384,706

For warrants classified as a liability, the following is a summary of the periodic changes in their fair value during the nine months ended September 30, 2019:

Balance, January 1, 2019	$ 65,000
Changes in fair value (Monte Carlo simulation valuation)	(30,000)
Warrant repurchases	(25,000)
Balance, September 30, 2019	$ 10,000

10. Stock-Based Compensation

Stock Options

The Company's stock option awards generally vest over four years and typically have a contractual life of ten years. At September 30, 2019, there was $1,536,208 of unrecognized compensation cost related to stock options, which is expected to be recognized over a weighted-average period of 3.41 years. During the nine months ended September 30, 2019, the Company granted 725,000 stock options with a weighted average exercise price of $2.67 and per share weighted average grant date fair value of $2.02.

Information related to stock options outstanding at September 30, 2019 is as follows:

	Number of Stock Options	Weighted-average Exercise Price	Weighted-average Remaining Contractual Term (Years)	Aggregate Intrinsic Value
Outstanding	976,861	$ 5.16	5.91	$ —
Exercisable	188,928	$ 11.88	5.19	$ —
Unvested	787,933	$ 3.55	6.08	$ —

Restricted Stock

At September 30, 2019, the Company had unvested restricted stock of 323,191 shares with total unrecognized compensation expense of $917,158, which the Company expects to recognize over a weighted average period of approximately 3.17 years. During the nine months ended September 30, 2019, the Company released 214 shares of common stock from restriction as a result of the vesting of restricted stock.

2019 Employee Stock Purchase Plan

On March 29, 2019, the board of directors adopted the 2019 Employee Stock Purchase Plan (the "2019 ESPP"). A total of 403,500 shares of the Company's common stock have been reserved for issuance under the 2019 ESPP. Subject to any plan limitations, the 2019 ESPP allows eligible employees to contribute through payroll deductions up to 10% of their earnings for the purchase of the Company's common stock at a discounted

price per share. The offering periods begin in February and August of each year, with the initial offering period starting on August 1, 2019. The common shares issuable under the 2019 ESPP were registered pursuant to a registration statement on Form S-8 on April 4, 2019

Unless otherwise determined by the administrator, the Company's common stock will be purchased for the accounts of employees participating in the 2019 ESPP at a price per share that is the lesser of 85% of the fair market value of the Company's common stock on the first trading day of the offering period or 85% of the fair market value of the Company's common stock on the last trading day of the offering period. The ESPP estimated shares to be purchased fair value is included in the stock-based compensation expense.

Employees have the ability to purchase shares of the Company's common stock at the lower of the first or last trading day of the offering period, which represents an option and, therefore, the ESPP is a compensatory plan under ASC 718-50, *Employee Stock Purchase Plans.* Accordingly, stock-based compensation expense is determined based on the option's grant-date fair value and is recognized over the requisite service period of the option. The Company used the Black-Scholes valuation model and recognized stock-based compensation expense of $8,596 for the three and nine months ended September 30, 2019, respectively.

Stock-based compensation expense

Stock-based compensation expense is classified in the unaudited consolidated statements of operations and comprehensive loss for the three and nine months ended September 30, 2019 and 2018 as follows:

	For the Three Months Ended September 30,		For the Nine Months Ended September 30,	
	2019	2018	2019	2018
Research and development	$ 71,662	$ 39,405	$ 240,345	$ 236,717
General and administrative	216,113	56,186	744,915	467,708
Total	$ 287,775	$ 95,591	$ 985,260	$ 704,425

11. Operating Leases

The Company rents office and laboratory space in the United States. The Company also leases office equipment under a non-cancellable equipment lease through December 2022. Rent expense during the three and nine months ended September 30, 2019 under all of the Company's operating leases was $84,745 and $258,824, respectively, which includes short-term leases and variable lease costs not included in the lease obligation.

Short-term leases are leases having a term of twelve months or less. The Company recognizes short-term leases on a straight-line basis and does not record a related lease asset or liability for such leases.

The office space lease provides for increases in future minimum annual rental payments as defined in the lease agreements. The Company has determined the lease renewal option is not reasonably certain.

The operating cash outflows related to operating lease obligation and the operating cash inflows related to non cash lease expense for the nine months ended September 30, 2019 were $172,857 and $39,044, respectively.

Supplemental other information related to the operating leases balance sheet information is as follows:

	September 30, 2019
Operating lease obligations	$ 1,804,786
Operating lease right-of-use assets	$ 717,303
Weighted-average remaining lease term	5.58
Weighted-average discount rate	8.0%

Maturities of lease liabilities is as follows:

Year ending December 31,	
The remainder of 2019	$ 95,714
2020	387,079
2021	393,542
2022	400,198
2023	407,054
2024 and thereafter	552,948
Total lease payments	2,236,535
Less imputed interest	(431,749)
Total	$ 1,804,786

12. Commitments and Contingencies

As disclosed in Note 3, the Company is obligated to make payments of up to $80.0 million upon the achievement of specified worldwide net sales of all products developed using the technology acquired from Spitfire Pharma Inc. within ten (10) years following the approval of a new drug application filed with the FDA.

The Company is a party in various other contractual disputes, litigation, and potential claims arising in the ordinary course of business. The Company does not believe that the resolution of these matters will have a material adverse effect on its financial position or results of operations.

13. Fair Value Measurement

Cash equivalents and short-term investments have been initially valued at the transaction price and subsequently valued, at the end of each reporting period, utilizing third party pricing services or other market observable data. The pricing services utilize industry standard valuation models, including both income and market-based approaches and observable market inputs to determine value. Short-term investments had quoted prices at September 30, 2019 as shown below:

	September 30, 2019		
	Amortized Cost	Unrealized Gain	Market Value
United States treasury securities	$ 3,388,492	$ 2,872	$ 3,391,364
Financial and corporate debt securities	24,818,581	16,081	24,834,662
Total	$ 28,207,073	$ 18,953	$ 28,226,026

The fair value of contingent payments classified as a liability was estimated using the Monte Carlo simulation valuation model with Level 3 inputs. The assumptions used to estimate the fair value of contingent payments that were classified as a liability at September 30, 2019 were as follows:

Expected volatility	95.3%
Risk-free interest rate	1.6%
Cost of capital	30.0%

The Company's warrant liability is valued using the Monte Carlo simulation valuation model. If applicable, the Company will recognize transfers into and out of levels within the fair value hierarchy at the end of the reporting period in which the actual event or change in circumstance occurs.

There were no transfers into and out of any of the levels of the fair value hierarchy during 2019 or 2018.

The Company's assets and liabilities measured at fair value on a recurring basis at September 30, 2019 consisted of the following:

	Fair Value Measurement at September 30, 2019			
	Total	Level 1	Level 2	Level 3
Recurring fair value measurements				
Cash equivalents - money market funds	$ 10,620,192	$ 10,620,192	$ —	$ —
Short-term investments	28,226,026	3,391,364	24,834,662	—
Contingent consideration	2,750,000	—	—	2,750,000
Warrant liability	10,000	—	—	10,000

The Company's assets and liabilities measured at fair value on a recurring basis at December 31, 2018 consisted of the following:

	Fair Value Measurement at December 31, 2018			
	Total	Level 1	Level 2	Level 3
Recurring fair value measurements				
Cash equivalents - money market funds	$ 29,375,509	$ 29,375,509	$ —	$ —
Warrant liability	65,000	—	—	65,000

Assets recorded at fair value on a nonrecurring basis, such as property and equipment, intangible assets, and goodwill are recognized at fair value when they are impaired. During the three and nine months ended September 30, 2019, the Company recognized an intangible asset impairment (Note 5) measured at fair value on a nonrecurring basis.

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

The following discussion and analysis of our financial condition and results of operations should be read together with our consolidated financial statements and related notes appearing elsewhere in this quarterly report on Form 10-Q and our consolidated financial statements and related notes for the year ended December 31, 2018 included in our annual report on Form 10-K, which was filed with the Securities and Exchange Commission on April 1, 2019.

This quarterly report on Form 10-Q contains forward-looking statements that involve substantial risks and uncertainties. The words "expect," "anticipate," "intend," "plan," "believe," "estimate," "may," "will," "should," "could," "target," "strategy," "intend," "project," "guidance," "likely," "usually," "potential," or the negative of these words or variations of such words, similar expressions, or comparable terminology are intended to identify such forward-looking statements, although not all forward-looking statements contain these identifying words. There are a number of important risks and uncertainties that could cause our actual results to differ materially from those indicated by forward-looking statements. We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. We have included important factors in the cautionary statements included in this quarterly report on Form 10-Q, particularly in the section entitled "Risk Factors" in Part II, Item 1A, that could cause actual results or events to differ materially from the forward-looking statements that we make. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments that we may make.

We have based the forward-looking statements included in this quarterly report on Form 10-Q on information available to us on the date of this quarterly report, and we assume no obligation to update any such forward-looking statements, other than as required by law. Although we undertake no obligation to revise or update any forward-looking statements, whether as a result of new information, future events or otherwise, you are advised to consult any additional disclosures that we may make directly to you or through reports that we, in the future, may file with the SEC, including annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K.

Overview

Altimmune, Inc. is a clinical stage biopharmaceutical company focused on developing liver disease and immune modulating therapies. Our diverse pipeline includes next generation peptide therapeutics for NASH (ALT-801) and chronic Hepatitis B (HepTcell™), conjugated immunostimulants for the treatment of cancer (ALT-702) and intranasal vaccines (NasoVAX™ and NasoShield™).

Acquisition

We entered into a definitive agreement to acquire all of the equity interests of Spitfire Pharma, Inc. ("Spitfire") on July 8, 2019. Spitfire was a privately held, preclinical pharmaceutical company developing a novel dual GLP-1/glucagon receptor agonist for the treatment of non-alcoholic steatohepatitis.

The transaction closed on July 12, 2019. We issued 1,887,250 unregistered shares of our common stock (the "shares") as upfront consideration to certain former securityholders of Spitfire (collectively, the "Spitfire Equityholders"), representing an amount equal to $5.0 million less working capital and transaction expense adjustment amounts as defined in the agreement (the "closing consideration"). The number of shares issued as payment of the closing consideration was determined based on the average of the closing prices of our common stock as reported on the Nasdaq Global Market for the twenty (20) consecutive trading days prior to and including July 8, 2019, the date on which the parties entered into the Agreement and Plan of Merger and Reorganization (the "Merger Agreement"). The Spitfire Equityholders agreed to a lock-up on the upfront consideration pursuant to which 33.3% of the shares will be released at 6 months; 33.3% will be released at 12 months; and 33.3% will be released at 18 months.

The Merger Agreement also includes future contingent payments up to $88.0 million in cash and shares of our common stock as follows (each, a "Milestone Event"):

- a one-time payment of $5.0 million (the "IND Milestone Consideration Amount") within sixty days of the submission of an Investigational New Drug Application ("IND") to the United States Food and Drug Administration (the "FDA") or other applicable governmental authority in a foreign jurisdiction, which IND has not been rejected or placed on clinical hold by the FDA or such applicable foreign governmental authority within time specified in the Merger Agreement; plus
- a one-time payment of $3.0 million (together with the IND Milestone Consideration Amount, the "Regulatory Milestones") within sixty days of the initiation of a human clinical trial of a product candidate anywhere in the world; plus
- payments of up to $80.0 million upon the achievement of specified worldwide net sales (the "Sales Milestones") of all products developed using the technology acquired in the License Agreement within ten years following the approval of a new drug application filed with the FDA.

We determined that the acquisition of Spitfire should be accounted for as an asset acquisition instead of a business combination because substantially all of the fair value of the gross assets acquired is concentrated in a single identifiable asset or group of similar identifiable assets, and therefore, the asset is not considered a business. We expensed the acquired intellectual property as of the acquisition date as in-process research and development with no alternative future uses. During the three and nine months ended September 30, 2019, we recorded an in-process research and development expense of $4.3 million for the up-front consideration, which included the fair value of the stock transferred

and net liabilities assumed. The fair value of the common shares transferred was based on our stock price of $2.45 as of July 12, 2019, offset by an estimated discount of $0.8 million for lack of marketability discount. The net liabilities assumed of $0.5 million approximated fair value.

The future contingent payments related to the Regulatory Milestones are stock-based payments accounted for under FASB Accounting Standards Codification Topic 480, *Distinguishing Liabilities From Equity*. The stock-based payments are subject to a lock-up whereby 50% of the shares are released at 3 months and 50% are released at 6 months. We estimated contingent consideration of $2.8 million based upon a Monte Carlo simulation that has been risk adjusted based on the probability of achieving the milestone and included a discount for lack of marketability, which was expensed to in-process research and development expenses during the three and nine months ended September 30. 2019.

The future contingent payments related to the Sales Milestones are predominately cash-based payments accounted for under FASB Accounting Standards Codification Topic 450, *Contingencies*. Accordingly, we will recognize the Sales Milestones when the contingency is resolved and the amount is paid or payable.

Finally, transaction costs associated with the Spitfire acquisition of $0.1 million and $0.7 million are recorded within research and development expense during the three and nine months ended September 30, 2019, respectively.

Critical Accounting Policies and Significant Judgment and Estimates

Management's Discussion and Analysis of Financial Condition and Results of Operations is based upon our unaudited consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the U.S. and the rules and regulations of the SEC for interim financial reporting. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues, and expenses, and the related disclosure of contingent assets and liabilities. We base our estimates and judgments on historical experience, knowledge of current conditions, and expectations of what could occur in the future given available information.

There have been no changes in our critical accounting policies and significant judgment and estimates as disclosed in our annual report on Form 10-K for the year ended December 31, 2018 except for recently adopted accounting standards (See Note 2 to the consolidated financial statements appearing in Item 1 of this report). For more information regarding our critical accounting policies, we encourage you to read the discussion contained in Item 7 under the heading "Critical Accounting Policies and Significant Judgments and Estimates" and Note 2 "Summary of Significant Accounting Policies" included in the notes to the consolidated financial statements contained in our annual report on Form 10-K for the year ended December 31, 2018.

Results of Operations

Comparison of the three months ended September 30, 2019 and 2018:

	For the Three Months Ended September 30,			
	2019	2018	Increase (Decrease)	
Revenue	$ 643,978	$ 2,634,393	$ (1,990,415)	(75.6) %
Operating expenses				
Research and development	8,729,697	4,728,726	4,000,971	84.6
General and administrative	2,187,661	1,963,733	223,928	11.4
Impairment charges	1,000,000	-	1,000,000	—
Total operating expenses	11,917,358	6,692,459	5,224,899	78.1
Loss from operations	(11,273,380)	(4,058,066)	7,215,314	177.8
Other income (expense):				
Changes in fair value of warrant liability	76,000	806,224	(730,224)	(90.6)
Changes in fair value of embedded derivative	—	185,768	(185,768)	—
Interest expense	(756)	(166,946)	(166,190)	(99.5)
Interest income	224,058	21,100	202,958	961.9
Other income (expenses)	(23,734)	31,378	(55,112)	(175.6)
Total other income (expense)	275,568	877,524	(601,956)	(68.6)
Net loss before income tax benefit	(10,997,812)	(3,180,542)	7,817,270	245.8
Income tax benefit	58,500	829,393	(770,893)	(92.9)
Net loss	$ (10,939,312)	$ (2,351,149)	$ 8,588,163	365.3 %

Comparison of the nine months ended September 30, 2019 and 2018:

	For the Nine Months Ended September 30,			
	2019	2018	Increase (Decrease)	
Revenue	$ 5,225,600	$ 7,742,514	$ (2,516,914)	(32.5) %
Operating expenses				
Research and development	14,892,464	15,394,616	(502,152)	(3.3)
General and administrative	6,485,960	7,345,651	(859,691)	(11.7)
Impairment charges	1,000,000	490,676	509,324	103.8
Total operating expenses	22,378,424	23,230,943	(852,519)	(3.7)
Loss from operations	(17,152,824)	(15,488,429)	1,664,395	10.7
Other income (expense):				
Changes in fair value of warrant liability, including loss on exchange	30,000	(2,874,484)	(2,904,484)	(101.0)
Changes in fair value of embedded derivative	—	183,638	(183,638)	—
Interest expense	(2,244)	(169,737)	(167,493)	(98.7)
Interest income	649,268	78,306	570,962	729.1
Other income (expenses)	(6,206)	289,053	(295,259)	(102.1)
Total other income (expense)	670,818	(2,493,224)	(3,164,042)	(126.9)
Net loss before income tax benefit	(16,482,006)	(17,981,653)	(1,499,647)	(8.3)
Income tax benefit	58,500	3,318,124	(3,259,624)	(98.2)
Net loss	$ (16,423,506)	$ (14,663,529)	$ (1,759,977)	12.0 %

Revenue

Revenue consists primarily of research grants from Biomedical Advanced Research and Development Authority, or BARDA, and the National Institute of Allergy and Infectious Diseases, or NIAID, in the United States for our anthrax vaccine product candidates. These grants consist of cost reimbursement contracts, with a fixed fee based on either costs or milestones.

Revenue decreased by $1.99 million, or 75.6%, for the three months ended September 30, 2019 as compared to the same period in 2018. The decrease was primarily the result of:

- a decrease of $1.75 million in BARDA revenue due to timing of clinical trials and development activities on the NasoShield program;
- a decrease of $0.51 million in NIAID revenue due to the activities diminishing under the SparVax-L program as the contract concluded in the third quarter of 2019 with no future funding identified; and
- the recognition of $0.27 million in grant revenue related to the France BPI note.

Revenue decreased by $2.52 million, or 32.5%, for the nine months ended September 30, 2019, as compared to the same period in 2018. The decrease was primarily the result of:

- a decrease of $1.22 million in BARDA revenue due directly to timing of clinical trials and development activities on the NasoShield program;
- a decrease of $1.57 million in NIAID revenue due to the activities diminishing under the SparVax-L program as the contract concluded in the third quarter of 2019 with no future funding identified; and
- the recognition of $0.27 million in grant revenue related to the France BPI note.

Research and development expenses

Research and development operating expense increased by $4.00 million, or 84.6%, for the three months ended September 30, 2019 as compared to the same period in 2018. The increase was primarily the result of:

- an increase of $7.15 million due to all costs incurred with respect to the Spitfire acquisition which were recorded as acquired in process research and development;
- a decrease of $1.61 million due to development activities decreasing for NasoVAX as management explores strategic options with the program;
- a decrease of $1.30 million due to timing of a clinical trial and development activities for NasoShield;
- a decrease of $0.36 million due to timing of clinical trial and manufacturing development activities for HepTcell;
- a decrease of $0.29 million due to reduced development cost for SparVax-L as the contract concluded in the third quarter of 2019; and
- an increase of $0.41 million in pre-clinical projects and non-project specific research and development costs including employee compensation and facility costs.

Research and development operating expense decreased by $0.50 million, or 3.3%, for the nine months ended September 30, 2019, as compared to the same period in 2018. The decrease was primarily the result of:

- an increase of $7.75 million due to due to all costs incurred with respect to the Spitfire acquisition which were recorded as acquired in process research and development;
- a decrease of $4.60 million due to development activities decreasing for NasoVAX as management explores strategic options with the program;
- a decrease of $1.90 million due to timing of a clinical trial and related activities for HepTcell;
- a decrease of $0.89 million due to reduced development cost for SparVax-L as it the contract concluded in the third quarter of 2019; and
- a decrease of $0.86 due to timing of clinical trial and development activities for NasoShield.

General and administrative expenses

General and administrative expense increased by $0.2 million, or 11.4%, for the three months ended September 30, 2019 as compared to the same period in 2018 due primarily to increased insurance and stock compensation costs. General and administrative expense decreased by $0.9 million, or 11.7% for the nine months ended September 30, 2019, as compared to the same periods in 2018 primarily due to decreases in professional service costs, including legal costs.

Impairments Charges

Impairment charges of $1.0 million reported during the three and nine months ended September 30, 2019 resulted from the completion of SparVax-L NIAID contract with no future funding identified. As a result of the contract completion and the US government's funding prioritization of only single dose anthrax vaccine candidates, we abandoned the project and impaired the remaining net book value of the SparVax-L IPR&D asset.

Goodwill impairment charges reported during the nine months ended September 30, 2018 represented an adjustment recorded during the measurement period to reduce the tax refund receivable acquired in connection with a 2017 business combination. We recorded adjustments to the purchase price allocation resulting in a net decrease in tax refunds receivable, with a corresponding net increase in goodwill, of $0.49 million. As goodwill related to this transaction had previously been determined to be fully impaired, we recognized an impairment charge of $0.49 million. The purchase price allocation was considered final in May 2018, and no further adjustments were recorded.

Other income (expense)

Other income (expense) decreased by $0.6 million and $3.2 million during the three and nine months ended September 30, 2019, respectively, as compared to the same periods in 2018. The decreases are primarily due to changes in the fair value of warrant liability and embedded derivatives as these instruments were settled primarily in 2018 offset by an increase of interest income due to higher cash and investment balances versus the prior year.

Income tax benefit

We recorded a $0.06 million discrete tax benefit for the three and nine months ended September 30, 2019, as compared to an income tax benefit of $0.8 million and $3.3 million for the same respective periods in 2018. We have a valuation allowance against our deferred tax assets. During the three and nine months ended September 30, 2019, our tax loss was applied to the valuation allowance. The $0.06 million discrete tax benefit was a result of the release of deferred tax liabilities associated with the SparVax-L impairment of the remaining net book value of the IPR&D asset. During the nine months ended September 30, 2018, our income tax benefit included $2.1 million for our projected 2018 unlimited lived Federal net operating loss determined to be realizable, $1.0 million due to Maryland state net operating losses, and discrete tax benefits of $0.2 million related to a change in estimate.

Liquidity and Capital Resources

Overview

Our primary sources of cash during the nine months ended September 30, 2019 was the cash on-hand as of January 1, 2019 and the receipt of $12.7 million in proceeds from the Registered Direct Offering (as discussed below). Our cash, cash equivalents, and short-term investments were $39.2 million at September 30, 2019. We believe, based on the operating cash requirements and capital expenditures expected for 2019, our cash on hand at September 30, 2019, short-term investments, and revenue from our government sponsored contracts, are sufficient to fund operations for at least a twelve-month period from the issuance date of our September 30, 2019 financial statements.

We have not generated any revenues from the sale of any products to date, and there is no assurance of any future revenues from product sales. Our sources of revenue have consisted of revenues under our contract with BARDA and NIAID for the development of NasoShield and SparVax-L, respectively, and to a lesser degree from other licensing arrangements. We have incurred significant losses since we commenced operations. As of September 30, 2019, we had accumulated losses of $133.3 million since our inception. In addition, we have not generated positive cash flows from operations. We have had to rely on a variety of financing sources, including the issuance of debt and equity securities. As capital resources are consumed to fund our research and development activities, we may not have sufficient capital to fund our plan of operations.

In order to address our capital needs, including our planned clinical trials, we must continue to actively pursue additional equity or debt financing, government funding, and monetization of our existing programs through partnership arrangements or sales to third parties.

In July 2016, we signed a five-year contract with BARDA. The contract, as amended, has a total value of up to $133.7 million and is used to fund clinical development of NasoShield. Under the contract, BARDA pays us a fixed fee and reimburses certain costs for the research and development of an Ad5-vectored, protective antigen-based intranasal anthrax vaccine through cGMP manufacture and conduct of a Phase 1 clinical trial dose ranging assessment of safety and immunogenicity. The contract consists of an initial base performance period providing approximately $27.8 million in funding for the period July 2016 through December 2020, inclusive of a $3.7 million award during the third quarter of 2019 for continued Phase 1 clinical development. BARDA has seven options to extend the contract to fund certain continued development and manufacturing activities for the anthrax vaccine, including Phase 2 clinical trials. Each option, if exercised by BARDA, would provide additional funding ranging from approximately $1.1 million to $34.4 million for a three year period beginning January 2021. Through September 30, 2019, we have received an aggregate of approximately $21.3 million under the current BARDA contract.

We had a $15.3 million NIAID contract that was incrementally funded for the development of SparVax-L. Activities under this contract were completed during the quarter ended September 30, 2019 and no further funding is expected for this program. As a result of the contract completion and the US government's funding prioritization of only single dose anthrax vaccine candidates, we abandoned the project and impaired the $1 million remaining net book value of the SparVax-L IPR&D asset.

Cash Flows

The following table provides information regarding our cash flows for the three months ended September 30, 2019 and 2018:

	For the Nine Months Ended September 30,	
	2019	**2018**
Net cash provided by (used in):		
Operating activities	$ (7,599,945)	$ (4,233,521)
Investing activities	$ (28,233,696)	$ (993,007)
Financing activities	$ 12,487,168	$ 971,430

Operating Activities

Net cash used in operating activities was $7.6 million for the nine months ended September 30, 2019 compared to $4.2 million during the nine months ended September 30, 2018. Our sources of cash provided by operations during the three months ended September 30, 2019 were primarily cash receipts of revenue generated by our BARDA and NIAID contracts. The primary uses of cash from our operating activities include payments for labor and labor-related costs, professional fees, research and development costs associated with our clinical trials, and other general corporate expenditures. The increase in cash used in operations of $3.4 million year over year is due to a decrease in net loss as adjusted for noncash items of $2.8 million offset by changes in working capital accounts of $6.2 million.

Investing Activities

Net cash used in investing activities was $28.2 million for the nine months ended September 30, 2019 compared to $1.0 million during the nine months ended September 30, 2018. The net cash used in investing activities during 2019 was primarily due to purchases of short-term investments. The net cash used in investing activities in 2018 was primarily due to purchases of property and equipment related to the buildout of the Company's new office and laboratory facilities which was completed in 2018.

Financing Activities

Net cash provided by financing activities during the nine months ended September 30, 2019 was $12.5 million compared to net cash used in financing activities of $1.0 million for the same period in 2018. The net cash provided by financing activities during the nine months ended September 30, 2019 was primarily the result of the receipt of $12.7 million in proceeds from the Registered Direct Offering (as discussed below). The net cash provided by financing activities during the nine months ended September 30, 2018 was primarily the result of a $2.4 million cash redemption by certain holders of our Series B Redeemable Preferred stock (the "Stockholders") and a $1.1 million cash payment to extinguish warrants to purchase our common stock held by the Stockholders, being offset by the receipt of $4.3 million in proceeds from the sale of our common stock.

Financing

On March 12, 2019, we issued a combined total of 1,500,000 common units and 2,861,370 pre-funded units to certain institutional investors in a registered direct offering or the "Registered Direct Offering". Each common unit in the Registered Direct Offering was sold at a price of $3.21 and consisted of one share of our common stock and 0.70 of a warrant to purchase one share of our common stock at an exercise price of $3.21. Each warrant sold in the Registered Direct Offering was exercisable immediately and expires five years from the date of issuance. Each pre-funded unit in the Registered Direct Offering was sold at a public offering price of $3.20 and consisted of a pre-funded warrant to purchase one share of our common stock at an exercise price of $0.01 per share and 0.70 of a warrant to purchase one share of our common stock

at an exercise price of $3.21. The pre-funded warrants were immediately exercisable and were able to be exercised at any time until all of the pre-funded warrants are exercised in full. All of the pre-funded warrants were exercised prior to March 31, 2019.The net proceeds of the Registered Direct Offering were approximately $12.7 million, after deducting the underwriting discount and offering expenses payable by us. TheRegistered Direct Offering triggered an adjustment to the exercise price of the warrants issued with the offering of common units and pre-funded units onOctober 2, 2018 from $4.1798 to $2.7568.

On July 15, 2019, we issued 1,887,250 unregistered shares of our common stock as upfront consideration to the Spitfire Equityholders, representing the closing consideration. The number of shares issued as payment of the closing consideration was determined based on the average of the closing prices of our common stock as reported on the Nasdaq Global Market for the twenty (20) consecutive trading days prior to and including July 8, 2019, the date on which the parties entered into the Merger Agreement. The price of the shares transferred on July 12, 2019 was $2.45.

Current Resources

We have financed our operations to date principally through proceeds from issuances of our preferred stock, common stock, and warrants. AtSeptember 30, 2019, we had $11.0 million of cash, cash equivalents and restricted cash and $28.2 million of short-term investments. Accordingly, management believes that the Company has sufficient capital to fund its plan of operations for at least a twelve-month period from the issuance date of our September 30, 2019 financial statements. However, in order to address our capital needs in the long-term, including our planned clinical trials, we must continue to actively pursue additional equity or debt financing, government funding, and monetization of our existing programs through partnership arrangements or sales to third parties.

Off-Balance Sheet Arrangements

As of September 30, 2019, we did not have any relationships with unconsolidated entities or financial partnerships, such as entities often referred to as "special purpose" entities, which would have been established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes.

Item 3. Quantitative and Qualitative Disclosures about Market Risk.

As a "smaller reporting company" as defined by Item 10 of Regulation S-K, we are not required to provide the information required by this Item.

Item 4. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our principal executive officer and principal financial officer, evaluated the effectiveness of our disclosure controls and procedures pursuant to Rule 13a-15 under the Securities Exchange Act of 1934, as amended ("the "Exchange Act") as of the end of the period covered by this Quarterly Report on Form 10-Q.

Based on this evaluation, our principal executive officer and principal financial officer concluded that, as of September 30, 2019, our disclosure controls and procedures were effective to provide reasonable assurance that information we are required to disclose in reports that we file or submit under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosure.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting (as defined in Rule 13a-15(f) and Rule 15d-15(f) under the Exchange Act) during the quarter ended September 30, 2019 identified in connection with the evaluation thereof by our management, including the Chief Executive Officer and Chief Financial Officer, that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II — OTHER INFORMATION

Item 1. Legal Proceedings

None.

Item 1A. Risk Factors

In addition to the other information set forth in this Form 10-Q, you should carefully consider the factors discussed in Part I, Item 1A, subsection "Risk Factors" in our 2018 Annual Report on Form 10-K filed with the SEC on April 1, 2019, as they could materially affect our business, financial condition or future results of operations. The risks described in our 2018 Annual Report on Form 10-K filed with the SEC on April 1, 2019 are not the only risks that we face. Additional risks and uncertainties not currently known to us or that we currently deem to be immaterial may also materially adversely affect our business, financial condition and future results of operations. The following information updates, and should be read in conjunction with, the risk factors previously disclosed in Item 1A, subsection "Risk Factors" to Part I of our 2018 Annual Report on Form 10-K filed with the SEC on April 1, 2019. Except as set forth below, there have been no material changes to the risk factors previously disclosed under the caption "Risk Factors" in our 2018 Annual Report on Form 10-K.

We recently completed the acquisition of Spitfire Pharma, Inc. and the failure to successfully integrate its operations could adversely affect our future results.

Our success will depend, in significant part, on our ability to realize the anticipated benefits from combining our operations with the operations of Spitfire Pharma, Inc. ("Spitfire"). The failure to integrate successfully and to manage successfully the challenges presented by the integration process may result in our failure to achieve some or all of the anticipated benefits of the merger. Potential difficulties that may be encountered in the integration process include the following:

- increased operating complexity of our business, requiring greater personnel and resources;
- increased costs in connection with the acquisition and integration;
- using our cash and assets efficiently to develop our business;
- uncertainty related to the value or benefits of intellectual property or technologies acquired;
- potential unknown or currently unquantifiable liabilities associated with the acquisition and our operations; and
- performance shortfalls as a result of the diversion of the management's attention caused by integrating the companies' operations.

If the acquired business is not successfully integrated into our company, our business, financial condition and results of operations could be materially adversely affected, as well as our professional reputation. Furthermore, if we are unable to successfully integrate the acquired business and operations, or if there are delays in combining the businesses, the anticipated benefits of the acquisition may not be realized fully or at all or may take longer to realize than expected. Successful integration of the acquired business will depend on our ability to manage these operations, to realize opportunities for revenue growth presented by our products and eliminate certain excess costs of the acquired business.

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

Please refer to Item 3.02 contained in our Current Report on Form 8-K filed on July 9, 2019 and our Current Report on Form 8-K filed on July 15, 2019 for the information required by Item 701 of Regulation S-K as to all equity securities that we issued during the period covered by this Quarterly Report on Form 10-Q that were not registered under the Securities Act.

Item 3. Default upon Senior Securities

None

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

None.

Item 6. Exhibits

No.	Description
2.1	Agreement and Plan of Merger and Reorganization, dated July 8, 2019, by and among the Company, Springfield Merger Sub, Inc., Springfield Merger Sub, LLC, Spitfire Pharma, Inc. and David Collier, as the Stockholder Representative (incorporated by reference to Exhibit 2.1 to Registrant's Form 8-K filed on July 9, 2019)
10.1	Form of Lock-Up Agreement (incorporated by reference to Exhibit 10.1 to Registrant's Form 8-K filed on July 9, 2019)
10.2 ^^	Amended and Restated License Agreement, dated July 12, 2019, by and between Mederis Diabetes, LLC and Spitfire Pharma, Inc.
10.3 ^^	Amendment No. 5 to Contract Award issued by Biomedical Advanced Research and Development Authority of the United States Department of Health and Human Services, dated August 20, 2019
10.4	Employment Agreement, dated September 3, 2019, by and between the Company and M. Scott Harris, M.D.
31.1 †	Certification of Principal Executive Officer Pursuant to SEC Rule 13a-14(a)/15d-14(a)
31.2 †	Certification of Principal Financial Officer Pursuant to SEC Rule 13a-14(a)/15d-14(a)
32.1 †	Certification Pursuant to Section 1350 of Chapter 63 of Title 18 of the United States Code
32.2 †	Certification Pursuant to Section 1350 of Chapter 63 of Title 18 of the United States Code
101.INS	Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

^^ Portions of this exhibit (indicated by asterisks) have been omitted in accordance with the rules of the Securities and Exchange Commission

† This certification will not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liability of that section. Such certification will not be deemed to be incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Exchange Act, except to the extent specifically incorporated by reference into such filing.

SIGNATURES

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

ALTIMMUNE, INC.

Dated: November 13, 2019

By: /s/ Vipin K. Garg
Name: Vipin K. Garg
Title: President and Chief Executive Officer (Principal Executive Officer)

Dated: November 13, 2019

By: /s/ Will Brown
Name: Will Brown
Title: Chief Financial Officer (Principal Financial and Accounting Officer)

Exhibit 10.2

CERTAIN INFORMATION IDENTIFIED BY BRACKETED ASTERISKS ([* * *]) HAS BEEN OMITTED FROM THIS EXHIBIT BECAUSE IT IS BOTH NOT MATERIAL AND WOULD BE COMPETITIVELY HARMFUL IF PUBLICLY DISCLOSED.

AMENDED AND RESTATED LICENSE AGREEMENT

by and between

MEDERIS DIABETES, LLC

and

SPITFIRE PHARMA, INC.

`

AMENDED AND RESTATED LICENSE AGREEMENT

This Amended and Restated License Agreement (this "**Agreement**") is entered into effective as of July 12, 2019 (the "**Effective Date**"), by and between Mederis Diabetes, LLC, a limited liability company organized under the laws of Delaware and having a principal place of business at 7515 Guinevere Drive, Sugar Land, TX 77479 ("**Mederis**"), and Spitfire Pharma, Inc., a Delaware corporation having a principal place of business at 400 Oyster Point, Suite 202, South San Francisco, California 94080 ("**Spitfire**"). Mederis and Spitfire are each sometimes referred to herein as a "**Party**" or collectively as the "**Parties**."

RECITALS

WHEREAS, Mederis is the owner or licensee of certain intellectual property rights relating to peptide therapeutics and has the exclusive right to grant licenses under that intellectual property;

WHEREAS, Mederis desires to have the intellectual property developed and commercialized and is willing to grant a license thereunder;

WHEREAS, Spitfire desires to obtain a license under the intellectual property upon the terms and conditions hereinafter set forth;

WHEREAS, Mederis and Spitfire entered into that certain License Agreement (the "**Original License Agreement**") effective as of December 27, 2012 (the "**Original Effective Date**"), pursuant to which Mederis granted to Spitfire a license under certain patents and know-how to develop and commercialize (GLP1-Glucagon)/Oxyntomodulin therapeutics;

WHEREAS, simultaneous with the execution of the Original License Agreement, the Parties entered into certain arrangements for Mederis to become an investor in Spitfire upon the terms and conditions set forth in certain financing agreements, which included a common Stock Purchase Agreement and a Series A Preferred Stock Purchase Agreement;

WHEREAS, simultaneous with the execution of this Agreement, the Parties are entering into an Intellectual Property Assignment Agreement ("Assignment Agreement"), dated as of the date hereof, whereby Spitfire is transferring certain intellectual property to Mederis and such assigned intellectual property is being licensed to Spitfire by Mederis pursuant to this Agreement; and

WHEREAS, Spitfire and Mederis now desire to amend and restate the Original License Agreement in its entirety to reflect the agreements of the Parties to be effective as of the Effective Date, all on the terms and conditions set forth below.

NOW THEREFORE, in consideration of the foregoing premises and the mutual covenants and agreements contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree that the Original License Agreement is amended and restated in its entirety as follows:

ARTICLE 1
DEFINITIONS

Section 1.1 "**Acquirer**" means, collectively, with respect to the acquisition of Mederis by a Third Party, a Third Party referenced in the definition of Change of Control and such Third Party's Affiliates, other than Mederis and Mederis's Affiliates (determined as of immediately prior to the closing of such Change of Control).

Section 1.2 "**Affiliate(s)**" shall mean any corporation or other entity which is directly or indirectly controlling, controlled by or under the common control with a Party. For the purpose of this Section 1.2, "control" shall mean the direct or indirect ownership of fifty percent (50%) or more of the outstanding shares or other voting rights of the subject entity to elect directors, or if not meeting the preceding, any entity owned or controlled by or owning or controlling at the maximum control or ownership right permitted in the country where such entity exists.

Section 1.3 "**Agreement and Plan of Merger**" means that certain Agreement and Plan of Merger by and among Altimmune, Inc., a Delaware corporation ("**Parent**"), Springfield Merger Sub, Inc., a Delaware corporation and a wholly-owned subsidiary of Parent, Springfield Merger Sub, LLC, a Delaware limited liability company and a wholly-owned subsidiary of Parent, and Spitfire.

Section 1.4 "**Change of Control**" means, with respect to [***].

Section 1.5 "**Confidential Information**" shall mean, subject to the provisions of Article 7 hereof, (i) any proprietary or confidential information material in tangible form disclosed hereunder that is marked as "Confidential" at the time it is delivered to the receiving Party, or (ii) proprietary or confidential information disclosed orally hereunder which is identified as confidential or proprietary when disclosed and such disclosure of confidential information is confirmed in writing within [***] days by the disclosing Party. The Parties acknowledge and agree that the Licensed Know-How and the Patent Rights (each as defined below) shall be deemed to be Confidential Information of each Party.

Section 1.6 "**Control**" or "**Controlled by**" means, in the context of a license to or ownership of intellectual property, the ability on the part of a Party to grant access to or a license or sublicense of such intellectual property as provided for herein without violating the terms of any agreement or other arrangement between such Party and any Third Party existing at the time such Party would be required hereunder to grant such access or license or sublicense.

Section 1.7 "**Exclusive Field**" shall mean (GLP1-Glucagon)/Oxyntomodulin therapeutics, and variants thereof, including SP-1373 and variants thereof, for any indication.

Section 1.8 "**Exhibit B Patent Rights**" shall mean:

(a) the United States and international patent applications and provisional applications listed on Exhibit B;

(b) any patent applications, domestic or foreign, claiming priority from the provisional applications and/or PCT Applications listed on Exhibit B, and any direct or indirect divisionals, continuations, continuation-in-part applications, and continued prosecution applications (and their relevant international equivalents) of the patent applications listed on

Exhibit B and of such patent applications claiming priority from the provisional applications and/or PCT Applications listed on Exhibit B, and the resulting patents; and

(c) any patents resulting from reissues, reexaminations, or extensions (and their relevant international equivalents including, without limitation, supplementary protection certificates) of the patents described in clauses (a) and (b) above.

Section 1.9 "**Exhibit C Patent Rights**" shall mean:

(a) the United States and international patent applications and provisional applications listed on Exhibit C;

(b) any patent applications, domestic or foreign, claiming priority from the provisional applications and/or PCT Applications listed on Exhibit C, and any direct or indirect divisionals, continuations, continuation-in-part applications, and continued prosecution applications (and their relevant international equivalents) of the patent applications listed on Exhibit C and of such patent applications claiming priority from the provisional applications and/or PCT Applications listed on Exhibit C, and the resulting patents; and

(c) any patents resulting from reissues, reexaminations, or extensions (and their relevant international equivalents including, without limitation, supplementary protection certificates) of the patents described in clauses (a) and (b) above.

Section 1.10 "**Expanded Field**" shall mean [***].

Section 1.11 "**Grant Back Licensed Know-How**" shall mean that subset of Licensed Know-How that relates to [***].

Section 1.12 "**Grant Back Licensed Product**" shall mean any product, [***].

Section 1.13 "**Grant Back Sublicensee**" shall mean any sublicensee of the rights granted by Mederis pursuant to Section 3.2(b).

Section 1.14 "**Know-How**" shall mean all commercial, technical, scientific and other know-how and information, inventions, discoveries, trade secrets, knowledge, technology, methods, processes, practices, formulae, instructions, skills, techniques, procedures, experiences, ideas, technical assistance, designs, drawings, assembly procedures, computer programs, specifications, data and results (including biological, chemical, pharmacological, toxicological, pharmaceutical, physical and analytical, preclinical, clinical, safety, manufacturing and quality control data and know-how, including regulatory data, study designs and protocols), and materials, in all cases, whether or not confidential, proprietary, patentable, in written, electronic or any other form now known, but excluding all Patents Rights.

Section 1.15 "**Licensed Know-How**" shall mean [***].

Section 1.16 "**Licensed Product**" shall mean [***].

Section 1.17 "**Mederis Field**" shall mean [***].

Section 1.18 "**Non-Compete Field**" shall mean incretin-based peptide therapeutics for any indication, and variants thereof; indications include, without limitation, liver diseases, kidney

diseases, cardiovascular diseases and metabolic based diseases, such as T2D, NAFLD, NASH, liver fibrosis, liver inflammation, hepatic lipotoxicity, and obesity.

Section 1.19 "**Parties**" shall mean Spitfire and Mederis.

Section 1.20 "**Patent Rights**" shall mean the Exhibit B Patent Rights and the Exhibit C Patent Rights.

Section 1.21 "**Sublicensee**" shall mean any non-Affiliate sublicensee of the rights granted by Spitfire pursuant to Section 3.1(d).

Section 1.22 "**Term**" shall mean the Term of this Agreement which shall commence on the Effective Date and shall remain in effect until the expiration or abandonment of all issued patents and filed patent applications within the Patent Rights, unless earlier terminated in accordance with the provisions of this Agreement.

Section 1.23 "**Territory**" shall mean worldwide.

Section 1.24 "**Third Party**" means any entity other than Mederis, Spitfire and their respective Affiliates.

Section 1.25 "**Valid Patent Claim**" shall mean a claim of an issued and unexpired patent or a claim of a pending patent application within the Patent Rights which has not been held unpatentable, invalid or unenforceable by a court or other government agency of competent final jurisdiction and has not been admitted to be invalid or unenforceable through reissue, re-examination, disclaimer or otherwise; provided, however, that if any holding of invalidity, unenforceability or unpatentability is later reversed by a court or agency with overriding authority, the relevant claim shall be reinstated as a Valid Patent Claim hereunder with respect to sales made after the date of such reversal. Notwithstanding the foregoing provisions, if a claim of a pending patent application has not issued as a claim of an issued patent within [***] years after the date from which claim takes priority, such pending claim shall not be a Valid Patent Claim for purposes of this Agreement, unless and until the patent is issued including such claim.

ARTICLE 2
AMENDMENT AND RESTATEMENT

The Parties hereby acknowledge and agree that, effective as of the Effective Date, the Original License Agreement is hereby amended and restated in its entirety as set forth in this Agreement, and the Original License Agreement shall be of no further force or effect from and after the Effective Date; provided, however, that, except as set forth below, nothing in this Agreement shall affect the rights and obligations of the Parties under the Original License Agreement with respect to periods prior to the Effective Date, all of which shall survive in accordance with their terms. The Parties hereby acknowledge and agree that it was their intent as of the Original Effective Date that the Patent Rights as defined in the Original License Agreement include all of the Exhibit B Patent Rights and Exhibit C Patent Rights. Further, Mederis hereby, on behalf of itself and (to the extent applicable) its agents, officers, directors, employees, shareholders, representatives, predecessors, successors, assigns, Affiliates, attorneys and insurers and all others claiming by, through or under them, hereby fully, finally, irrevocably, forever releases, relinquishes and discharges Spitfire and its Affiliates from any and all actions and causes of action, claims, liabilities, losses, charges, demands, suits, damages,

fees (including attorneys' fees), expenses, judgments, settlements and compensation, and any and all other claims of any kind, nature, and description whatsoever, known or unknown, foreseen or unforeseen, certain or contingent, and asserted or un-asserted, that it now has or ever had, arising out of, predicated upon or related to Spitfire or its Affiliates exercising rights under the Patent Rights during the period of time commencing on the Original Effective Date and ending on the Effective Date.

ARTICLE 3
GRANT OF RIGHTS; NON-COMPETE; ADVERSE EVENT REPORTING; TECHNOLOGY TRANSFER

Section 3.1 License Grant.

(a) Subject to the terms and conditions of this Agreement, Mederis hereby grants to Spitfire and its Affiliates a royalty-free, fully paid-up, exclusive (even as to Mederis) license, with the right to sublicense through multiple tiers (as provided in Section 3.1(d)), under the Exhibit B Patent Rights and the Licensed Know-How, to make, have made, use, have used, sell, have sold, offer to sell, have offered for sale, import, have imported, export, have exported, exploit and otherwise have exploited Licensed Products in the Exclusive Field in the Territory.

(b) Subject to the terms and conditions of this Agreement, Mederis hereby grants to Spitfire and its Affiliates a royalty-free, fully paid-up, exclusive (even as to Mederis) license, with the right to sublicense through multiple tiers (as provided in Section 3.1(d)), under the Exhibit C Patent Rights and the Licensed Know-How, to make, have made, use, have used, sell, have sold, offer to sell, have offered for sale, import, have imported, export, have exported, exploit and otherwise have exploited Licensed Products in the Expanded Field in the Territory.

(c) Mederis acknowledges and agrees that, during the Term, it shall not directly or indirectly grant any licenses or other rights inconsistent with this Section 3.1.

(d) Spitfire shall have the right to grant sublicenses of the rights and licenses granted to Spitfire hereunder through multiple tiers. Spitfire shall incorporate [***]. Upon termination of this Agreement for any reason, provided that a Sublicensee is not in material breach of its sublicense agreement, Mederis shall grant to such Sublicensee license rights and terms equivalent to the sublicense rights and terms which Spitfire previously granted to such Sublicensee.

Section 3.2 Grant Back.

(a) Subject to the terms and conditions of this Agreement (including Article 7), Spitfire hereby grants to Mederis royalty-free, fully paid-up, non-exclusive license, with the rights to sublicense through multiple tiers (as provided in Section 3.2(b)), under the Exhibit C Patent Rights and Grant Back Licensed Know-How, to make, have made, use, have used, sell, have sold, offer to sell, have offered for sale, import, have imported, export, have exported, exploit and otherwise have exploited Grant Back Licensed Products in the Mederis Field in the Territory.

(b) [***].

Section 3.3 No Additional Rights. Nothing in this Agreement shall be construed to confer any rights upon Spitfire by implication, estoppel, or otherwise as to any materials or patent rights of Mederis other than the Licensed Know-How or the Patent Rights.

Section 3.4 Non-Compete.

(a) [***].

(b) Notwithstanding Section 3.4(a), [***].

Section 3.5 Adverse Event Reporting. Following filing of an IND by Spitfire or its Affiliates or sublicensees for any Licensed Product or by Mederis or its Affiliates and permitted sublicensees for any product covered in whole or in part by Exhibit B patent rights, the Parties shall use commercially reasonable efforts to, and shall use commercially reasonable efforts to cause their Affiliates and (sub)licensees to, negotiate in good faith and enter into a Safety Data Exchange Agreement, which shall define the pharmacovigilance responsibilities of the relevant entities and include safety data exchange procedures governing the exchange of information affecting the relevant class and products (e.g., serious adverse events, emerging safety issues) to enable each such entity to comply with all of its legal and regulatory obligations related to the relevant products.

Section 3.6 Technology Transfer. Promptly following the Effective Date, at Spitfire's expense, Mederis shall (a) make available, and cause its Third Party service providers, if any, to make available, to Spitfire physical embodiments of the Licensed Products that exist as of the Effective Date, (b) make available to Spitfire all records and data which exist as of the Effective Date or during the period between the Effective Date and the [***] anniversary thereof, in each case, and are Controlled by Mederis and are necessary or useful for Spitfire to exercise the rights granted to Spitfire under this Agreement and (c) make appropriate personnel available to Spitfire to answer questions and provide reasonable assistance to Spitfire.

ARTICLE 4
CONSIDERATION

In consideration for the licenses granted to Spitfire under Section 3.1(a) and Section 3.1(b), Spitfire issued to Mederis [***] shares of Spitfire's Common Stock, par value one-tenth of one cent ($0.001), representing approximately [***] percent ([***]%) of the fully diluted shares of Spitfire's common stock as of the date of such issuance pursuant to that certain Common Stock Purchase Agreement dated as of December 27, 2012, and which shares have been fully issued as of the Effective Date. Mederis acknowledges and agrees that the foregoing obligations were satisfied on or about the Original Effective Date and that no other consideration shall be due pursuant to this Article 4 in connection with the rights granted to Spitfire under this Agreement.

ARTICLE 5
PATENT PROSECUTION

Section 5.1 Responsibility for Patent Rights.

(a) Mederis hereby appoints Spitfire as its agent to prepare, file, prosecute, maintain and defend in all proceedings (e.g., reissues, reexaminations, oppositions, inter parte reviews and interferences) all of the Patent Rights during the Term, at [***] expense. Except as set forth below, Spitfire shall have the sole and exclusive right to, using legal counsel selected

by Spitfire and reasonably acceptable to Mederis, prepare, file, prosecute, maintain and defend the Patent Rightsin all fields.

(b) Solely with respect to the Exhibit B Patent Rights, but not with respect to Exhibit C Patent Rights:

(i) Spitfire shall copy Mederis on all patent prosecution documents with respect to Exhibit B Patent Rights and give Mederis reasonable opportunities to advise Mederis on such filing, prosecution and maintenance; and

(ii) if Spitfire decides to abandon any of the Exhibit B Patent Rights or to not [***], Mederis shall have the right to assume management of the patent prosecution thereof, at the expense of [***], and such Patent Rights shall on the going-forward basis be excluded from the license grant under Section 3.1; provided that Spitfire hereby agrees not to abandon any Exhibit B Patent Right prior to the [***]anniversary of the Effective Date. To enable Mederis to assume management of the patent prosecution of any such Exhibit B Patent Right, Spitfire shall give prompt advance written notice to Mederis of its intent to abandon or to not pay any particular patent maintenance fee for such Exhibit B Patent Right, sufficiently in advance to avoid the abandonment thereof.

(c) In the event that Mederis grants a license to a Third Party under any the Exhibit B Patent Rights outside the Exclusive Field, Mederis shall [***], to prosecute and maintain the relevant Exhibit B Patent Rights outside the Exclusive Field.

Section 5.2 Patent Extensions and Orange Book Listings. If elections with respect to obtaining patent term extensions (including, without limitation, any available pediatric extensions) or supplemental protection certificates or their equivalents in any country with respect to the relevant Patent Rights are available, Spitfire shall have the sole and exclusive right to make any such elections based on Licensed Products. With respect to data exclusivity periods such as those periods listed in the FDA's Orange Book (including, without limitation, any available pediatric extensions, and all equivalents in any country), Spitfire shall have the sole and exclusive right to seek and maintain all such data exclusivity periods available for the Licensed Products. With respect to all of the rights and activities identified in this Section 5.2, Mederis hereby appoints Spitfire as its agent for such purposes with the authority to act on Mederis's behalf with respect to the relevant Patent Rights in a manner consistent with this Agreement.

ARTICLE 6
INFRINGEMENT

Section 6.1 Notification of Infringement. Each Party agrees to provide written notice to the other Party promptly after becoming aware of any infringement of the Patent Rights by a Third Party and of any available evidence thereof.

Section 6.2 Right to Prosecute Infringement. Spitfire shall have the sole and exclusive right, but not the obligation, under its own control and at [***] expense, to prosecute any Third Party infringement of the Exhibit B Patent Rights inside the Non-Compete Field or any Third Party infringement of the Exhibit C Patent Rights in the Expanded Field. Mederis shall have the sole and exclusive right, but not the obligation, under its own control and at [***] expense, to prosecute any Third Party infringement of the Exhibit B Patent Rights outside the

Non-Compete Field. Upon reasonable request by a Party, the other Party shall promptly, [***], join as a Party any infringement action commenced or defended by the requesting Party with respect to the relevant Patent Rights in accordance with this Section 6.2.

Section 6.3 Declaratory Judgment Actions. If a declaratory judgment action is brought naming Mederis or Spitfire or any of Spitfire's Affiliates or Sublicensees as a defendant and alleging invalidity, unenforceability or non-infringement of any Patent Rights, Spitfire or Mederis, as the case may be, shall promptly notify the other Party in writing and Spitfire shall have the sole and exclusive right, but not the obligation, under its own control and at [***] expense, to take over the sole control of such action at its own expense.

Section 6.4 Recovery. In the event that Spitfire exercises the rights conferred in this Article 6 and recovers any damages or other sums in such action, such damages or other sums recovered shall first be applied to [***]. If after such reimbursement any funds shall remain from such damages or other sums recovered, such funds shall be [***].

Section 6.5 Cooperation. Mederis agrees to cooperate with Spitfire in any action under this Article 6 including, without limitation, joining such action as a party plaintiff if necessary or desirable for initiation or continuation of such action; provided that [***].

Section 6.6 Patent Certifications. Mederis shall notify and provide Spitfire with copies of any allegations of alleged patent invalidity, unenforceability or non-infringement of a Patent Right pursuant to a Paragraph IV Patent Certification by a Third Party filing an Abbreviated New Drug Application, an application under §505(b)(2) or any other similar patent certification by a Third Party, and any foreign equivalent thereof. Such notification and copies shall be provided to Spitfire within [***] business days after Mederis receives such certification. Spitfire will have the exclusive right, but not the obligation, under its own control and at [***] expense to defend any such action or proceeding described in this Section 6.6 or bring an infringement action with respect to such infringement, or settle any such action or proceeding by sublicense (including, at Spitfire's sole discretion, granting a sublicense, covenant not to sue or other right with respect to a compound or product in the Expanded Field for Exhibit C Patent Rights or Exclusive Field for Exhibit B Patent Rights).

ARTICLE 7
CONFIDENTIALITY

Section 7.1 Non-Use and Non-Disclosure of Confidential Information. Except as expressly provided herein, the Parties agree that during the Term and for a period of [***] years thereafter, with respect to the disclosure of any Confidential Information by one Party to the other hereto pursuant to this Agreement, the receiving Party shall keep completely confidential and shall not publish or otherwise disclose and shall not use for any purpose except for the purposes of exercising rights or satisfying obligations under this Agreement such Confidential Information, except to the extent that it can be established by the receiving Party by competent proof that such Confidential Information:

(a) was at the time of disclosure in the public domain;

(b) has come into the public domain after disclosure through no fault of the receiving Party;

(c) was known to the receiving Party prior to disclosure thereof by the disclosing Party;

(d) was lawfully disclosed to the receiving Party by a Third Party which was not under an obligation of confidence to the disclosing Party with respect thereto; or

(e) which the receiving Party can reasonably demonstrate was independently developed by the receiving Party without use of the Licensed Know-How or the Patent Rights.

Notwithstanding the foregoing, neither Section 7.1(c) nor Section 7.1(e) shall apply to relieve Mederis of its obligations under this Article 7 with respect to the Licensed Know-How or the Patent Rights.

Section 7.2 Permitted Use and Disclosures. Neither Party shall disclose any terms or conditions of this Agreement to any Third Party without the prior consent of the other Party, except as expressly permitted by this Agreement. A Party and its Affiliates may disclose Confidential Information (including the terms and conditions of this Agreement): (a) on a need-to-know basis to its legal and financial advisors to the extent such disclosure is reasonably necessary, provided that such advisors are subject to confidentiality with regard to such information under an agreement or ethical obligation; (b) to a Third Party in connection with (i) a financing (or proposed financing) or an equity investment (or proposed investment) in such Party or its Affiliates, including to its shareholders and prospective shareholders, (ii) a merger, consolidation or similar transaction by such Party or its Affiliates, (iii) the sale of all or substantially all of the assets of such Party or its Affiliates that relate to Licensed Products, (iv) a securitization, (v) to facilitate the sublicensing of any or all of the rights licensed to such Party under this Agreement, or (vi) to facilitate the assignment of any or all of such Party's rights and obligations under this Agreement (in accordance with Article 9), provided that such Third Party executes a commercially reasonable non-use and non-disclosure agreement with respect to Confidential Information of the other Party; (c) to the United States Securities and Exchange Commission or any other securities exchange or governmental entity, including as required to make an initial or subsequent public offering; or (d) as otherwise required by law or regulation, provided that, in the case of (c) and (d), the disclosing Party shall (x) if practicable, provide the other Party with reasonable advance notice of and an opportunity to comment on any such required disclosure, (y) if requested by such other Party, seek, or cooperate with such Party's efforts to obtain, confidential treatment or a protective order with respect to any such disclosure to the extent available, at such other Party's expense, and (z) use good faith efforts to incorporate the comments of such other Party in any such disclosure or request for confidential treatment or protective order. Mederis may not publish [***] absent Spitfire's prior written consent, such consent not to be unreasonably withheld. For the avoidance of doubt, other than stating that Spitfire [***], absent Spitfire's prior written consent, Mederis may not publish information that is specific to [***].

Section 7.3 Press Release. Mederis may not issue a press release regarding the subject matter of this Agreement and/or the relationship of the Parties. Spitfire may issue press releases regarding the subject matter of this Agreement and/or the relationship of this Parties.

Section 7.4 Use of Names. Neither Party may identify the other Party in any promotional advertising or other promotional materials to be disseminated to the public or any portion thereof, or use the name of any staff member, employee, or student of the other Party or any trademark, service mark, trade name, symbol or logo that is associated with the other Party, without the other Party's prior written consent. The foregoing notwithstanding, without the

consent of Mederis, Spitfire may indicate that [***], and further, Spitfire may comply with disclosure requirements of all applicable laws relating to its business, including, without limitation, United States and state securities laws.

Section 7.5 Confidential Terms. Except as expressly provided herein, each Party agrees not to disclose any terms of this Agreement to any Third Party without the consent of the other Party.

ARTICLE 8
INDEMNIFICATION; REPRESENTATIONS AND WARRANTIES

Section 8.1 Indemnification by Spitfire. Spitfire shall indemnify, defend and hold harmless Mederis, its Affiliates, and each of its and their respective employees, officers, directors and agents (each of the foregoing, a "**Mederis Indemnified Party**") from and against any and all liability, loss, damage, cost and expense (including reasonable attorneys' fees) (collectively, a "**Liability**") that a Mederis Indemnified Party may incur, suffer or be required to pay as a result of any Third Party claim, suit or action resulting from or arising in connection with (i) [***], (ii) [***], and (iii) [***]. Notwithstanding the foregoing, Spitfire shall have no obligation under this Agreement to indemnify, defend or hold harmless any Mederis Indemnified Party with respect to any Liabilities that result from the gross negligence or willful misconduct of any Mederis Indemnified Party or that result from Mederis's breach of its obligations under this Agreement.

Section 8.2 Indemnification by Mederis. Mederis shall indemnify, defend and hold harmless Spitfire, its Affiliates, and each of its and their respective employees, officers, directors and agents (each of the foregoing, a "**Spitfire Indemnified Party**") from and against any Liability that a Spitfire Indemnified Party may incur, suffer or be required to pay as a result of any Third Party claim, suit or action resulting from or arising in connection with (i) [***], (ii) [***] or (iii) [***]. Notwithstanding the foregoing, Mederis shall have no obligation under this Agreement to indemnify, defend or hold harmless any Spitfire Indemnified Party with respect to any Liabilities that result from the gross negligence or willful misconduct of any Spitfire Indemnified Party or that result from Spitfire's breach of its obligations under this Agreement.

Section 8.3 Procedures and Settlement. The obligations of the indemnifying Party under Section 8.1 or Section 8.2 are conditioned upon the delivery of written notice to the indemnifying Party of any potential Liability promptly after the indemnified Party becomes aware of such potential Liability. The indemnifying Party shall have the right to assume the defense of any suit or claim related to the Liability if it has assumed responsibility for the suit or claim in writing. If the indemnifying Party defends the suit or claim, the indemnified Party may participate in (but not control) the defense thereof at its sole cost and expense. Notwithstanding the foregoing, the Parties acknowledge and agree that failure of the indemnified Party to promptly notify the indemnifying Party of a potential Liability shall not constitute a waiver of, or result in the loss of, such Party's right to indemnification under Section 8.1 or Section 8.2, as appropriate, except to the extent that the indemnifying Party's rights, and/or its ability to defend against such Liability, are materially prejudiced by such failure to notify. No Party may settle a claim or action related to a Liability without the consent of another Party, such consent not to be unreasonably withheld, if such settlement would impose any monetary obligation on such other Party or require such other Party to submit to an injunction or otherwise limit such other Party's rights under this Agreement. Any payment made by a Party to settle any such claim or action shall be at its own cost and expense.

Section 8.4 Mutual Representations and Warranties. Each Party hereby represents and warrants to the other Party that as of the Original Effective Date: (a) it is a corporation or limited liability company duly organized and in good standing under the laws of the jurisdiction of its incorporation or formation, and it has full power and authority and the legal right to own and operate its property and assets and to carry on its business as it is now being conducted and as it is contemplated to be conducted by this Agreement; (b) it has the full right, power and authority to enter into this Agreement and to grant the rights and licenses granted by it under this Agreement; (c) there are no existing or, to its knowledge, threatened actions, suits or claims pending with respect to the subject matter hereof or its right to enter into and perform its obligations under this Agreement; (d) it has taken all necessary action on its part to authorize the execution and delivery of this Agreement and the performance of its obligations under this Agreement; (e) this Agreement has been duly executed and delivered on behalf of it, and constitutes a legal, valid, binding obligation, enforceable against it in accordance with the terms hereof, subject to the general principles of equity and to bankruptcy, insolvency, moratorium and other similar laws affecting the enforcement of creditors' rights generally; (f) all necessary consents, approvals and authorizations of all regulatory and governmental authorities other persons required to be obtained by it in connection with the execution and delivery of this Agreement and the performance of its obligations under this Agreement have been obtained; and (g) the execution and delivery of this Agreement and the performance of its obligations hereunder do not conflict with, or constitute a default under any of its contractual obligations.

Section 8.5 Representations and Warranties of Mederis. Mederis hereby represents and warrants to Spitfire as of the Effective Date that: (a) it solely and exclusively owns the patents and applications included within the Patent Rights; (b) (i) except for [***], the patents and applications listed on Exhibit B and Exhibit C constitute the full list of Patent Rights conceived and/or reduced to practice by [***] and (ii) the patents and patent applications listed on Exhibit B and Exhibit C constitute all patents and patent applications Controlled by Mederis or its Affiliates that are specific to [***]; (c) it has the power and authority to grant the licenses provided for herein to Spitfire, and that it has not earlier granted, or assumed any obligation to grant, any rights in the Patent Rights to any Third Party that would conflict with the nights granted to Spitfire herein; and (d) [***], there is no infringement of the Patent Rights or misappropriation of the Licensed Know-How by any Third Party.

Section 8.6 Limitation of Liability. NEITHER PARTY MAKES ANY REPRESENTATION OR WARRANTY NOT EXPRESSLY SET FORTH IN THIS AGREEMENT, AND EXPRESSLY DISCLAIMS ALL OTHER REPRESENTATIONS AND WARRANTIES, EXPRESS, IMPLIED, STATUTORY, OR OTHERWISE, INCLUDING MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE VALIDITY OF PATENT RIGHTS, AND NON-INFRINGEMENT. IN NO EVENT WILL ONE PARTY BE LIABLE FOR LOSS OF PROFITS, LOSS OF USE, OR ANY OTHER CONSEQUENTIAL, INCIDENTAL. SPECIAL OR PUNITIVE DAMAGES RESULTING FROM THIS AGREEMENT.

ARTICLE 9
ASSIGNMENT

Neither Party shall assign this Agreement without the prior written consent of the other Party; provided, however, either Party may assign this Agreement without the prior written consent of the other Party in connection with the sale of such Party (including, without limitation, through the sale of all or substantially all of the assets of such Party to which the subject matter of this Agreement relates, through sale of a controlling interest in the outstanding shares of such Party, or through any merger, reorganization, consolidation or combination of such Party). This

Agreement shall be binding upon, and inure to the benefit of each Party, its Affiliates, and its permitted successors and assigns.

ARTICLE 10
TERMINATION

Section 10.1 Voluntary/Termination by Spitfire. Spitfire have the right to terminate this Agreement, for any reason, upon at least sixty (60) days prior written notice to Mederis.

Section 10.2 Termination for Default.

(a) Material Breach. In the event that either Party commits a material breach of this Agreement, and fails to cure that breach within [***] days after receiving written notice thereof, the other Party may terminate this Agreement immediately by giving written notice.

(b) Termination of Grant Back. Notwithstanding Section 10.2(a), in the event that Mederis commits a material breach of this Agreement, and fails to cure that breach within [***] days after receiving written notice thereof, Spitfire may terminate Section 3.2, without the requirement that Spitfire also terminate the remainder of this Agreement, immediately by giving written notice to Mederis.

Section 10.3 Effect of Expiration or Termination.

(a) Expiration. Upon the expiration of the Term, the licenses set forth in Section 3.1(a), Section 3.1(b) and Section 3.2(a) shall become perpetual and irrevocable.

(b) Survival. The following Articles or Sections (as applicable) shall survive the expiration or termination of this Agreement: Article 7, Section 8.6, Section 10.3, Article 11, and Article 12.

(c) Accrued Rights. Expiration or termination of this Agreement for any reason shall not relieve either Party of any liability or obligation which accrued hereunder prior to the effective date of such termination or expiration.

(d) Effect of Termination. In the event of any termination of this Agreement pursuant to Section 10.1 or Section 10.2(a), all rights and licenses granted to Spitfire hereunder shall immediately terminate. In the event this Agreement is terminated pursuant to Article 10, Mederis shall be under no obligation to refund any payments or return any consideration furnished by Spitfire under this Agreement, including without limitation reimbursing any patent costs paid by Spitfire during or prior to the term of this Agreement.

Section 10.4 Non-Waiver. The Parties covenant and agree that if a Party fails or neglects for any reason to take advantage of any of the terms provided for the termination of this Agreement or if a Party, having the right to declare this Agreement terminated, shall fail to do so, any such failure or neglect by such Party shall not be a waiver or be deemed or be construed to be a waiver of any cause for the termination of this Agreement subsequently arising, or as a waiver of any of the terms, covenants or conditions of this Agreement or of the performance thereof. None of the terms, covenants and conditions of this Agreement may be waived by a Party except by its written consent.

ARTICLE 11
DISPUTE RESOLUTION

Section 11.1 Mandatory Procedures. The Parties agree that any dispute arising out of or relating to this Agreement shall be resolved solely by means of the procedures set forth in this Article 11, and that such procedures constitute legally binding obligations that are an essential provision of this Agreement. If either Party fails to observe the procedures of this Article 11, as may be modified by their written agreement, the other Party may bring an action for specific performance of these procedures in any court of competent jurisdiction.

Section 11.2 Equitable Remedies. Although the procedures specified in this Article 11 are the sole and exclusive procedures for the resolution of disputes arising out of or relating to this Agreement, either Party may seek a preliminary injunction or other provisional equitable relief if, in its reasonable judgment, such action is necessary to avoid irreparable harm to itself or to preserve its rights under this Agreement.

Section 11.3 Dispute Resolution Procedures. Any controversy or claim arising out of or relating to this Agreement or the breach thereof, shall be settled by binding confidential arbitration in accordance with the [***], and the procedures set forth below. In the event of any inconsistency between the [***] and the procedures set forth below, the procedures set forth below shall control. Judgment upon the award rendered by the arbitrators may be enforced in any court having jurisdiction thereof.

(a) The location of the arbitration shall be in the state of California. Mederis and Spitfire hereby irrevocably submit to the exclusive jurisdiction and venue of the [***] arbitration panel selected by the Parties and located in San Francisco, California for any dispute regarding this Agreement, and to the exclusive jurisdiction and venue of the federal and state courts located in the Northern District of California for any action or proceeding to enforce an arbitration award or as otherwise provided in this Article, and waive any right to contest or otherwise object to such jurisdiction or venue.

(b) The arbitrators shall decide any disputes and shall control the process concerning these pre-hearing discovery matters. Pursuant to the [***], the Parties may subpoena witnesses and documents for presentation at the hearing.

(c) The arbitrators may grant any legal or equitable remedy or relief that the arbitrators deem just and equitable, to the same extent that remedies or relief could be granted by a state or federal court, provided however, that no punitive damages may be awarded. No court action shall be maintained seeking punitive damages. The decision of any two of the three arbitrators appointed shall be binding upon the Parties. Notwithstanding anything to the contrary in this Agreement, prior to or while an arbitration proceeding is pending, either Party has the right to seek and obtain injunctive and other equitable relief from a court of competent jurisdiction to enforce that Party's rights hereunder.

(d) Notwithstanding the foregoing, any disputes arising hereunder with respect to the inventorship, validity, enforceability or other aspect of intellectual property rights shall be resolved by a court of competent jurisdiction and not by arbitration.

(e) Except as set forth below and as necessary to obtain or enforce a judgment upon any arbitration award, the Parties shall keep confidential the fact of the arbitration, the dispute being arbitrated, and the decision of the arbitrators. Notwithstanding the

foregoing, the Parties may disclose information about the arbitration to persons who have a need to know, such as directors, trustees, management employees, witnesses, experts, investors, attorneys, lenders, insurers, actual or potential collaborators or corporate partners of Spitfire, actual or potential acquirers of Spitfire, and others who may be directly affected provided that such persons are bound to keep such information confidential. Additionally, if a Party has stock which is publicly traded, the Party may make such disclosures as are required by applicable securities laws, but shall use commercially reasonably efforts to seek confidential treatment for such disclosure.

Section 11.4 Statute of Limitations. The Parties agree that all applicable statutes of limitation and time-based defenses (such as estoppel and laches) shall be tolled while the procedures set forth in Article 11 are pending. The Parties shall cooperate in taking any actions necessary to achieve this result.

ARTICLE 12
MISCELLANEOUS

Section 12.1 Taxation. The Parties are entering into the Assignment Agreement and this Agreement as part of a single integrated transaction and the Parties intend that for income tax purposes no transfer of intellectual property has been made by Spitfire to Mederis, or conversely from Mederis to Spitfire, under either the Assignment Agreement or this Agreement, and the Parties hereby agree to file (or caused to be filed) all required income tax returns and related returns and reports in a manner consistent with such intent and shall maintain such reporting position unless otherwise required by a determination within the meaning of Section 1313(a) of the Internal Revenue Code of 1986, as amended.

Section 12.2 Notice. Any notices required or permitted under this Agreement shall be in writing, shall specifically refer to this Agreement, and shall be sent by hand, recognized national overnight courier, confirmed electronic mail, or registered or certified mail, postage prepaid, return receipt requested, to the following addresses or facsimile numbers of the Parties:

If to Mederis:

Mederis Diabetes, LLC
Attention: John Nestor
[***]
[***]

If to Spitfire:

Spitfire Pharma, Inc.
c/o of Altimmune, Inc.
910 Clopper Road, Suite 201S
Gaithersburg, MD 20878
Attention: Vipin K. Garg, Chief Executive Officer

With a copy, which shall not constitute notice, to:

Goodwin Procter LLP
100 Northern Avenue

Boston, Massachusetts 02210
Attention: Joseph C. Theis, Jr.

All notices under this Agreement shall be deemed effective upon receipt. A Party may change its contact information immediately upon written notice to the other Party in the manner provided in this Article 12.

Section 12.3 Governing Law. This Agreement and all disputes arising out of or related to this Agreement, or the performance, enforcement, breach or termination hereof, and any remedies relating thereto, shall be construed, governed, interpreted and applied in accordance with the laws of the State of California, without regard to conflict of laws principles, except that questions affecting the construction and effect of any patent shall be determined by the law of the country in which the patent shall have been granted.

Section 12.4 Force Majeure. No liability hereunder shall result to a Party by reason of delay in performance caused by force majeure, that is circumstances beyond the reasonable control of the Party, including, without limitation, acts of God, fire, flood, war, civil unrest, labor unrest, or shortage of or inability to obtain material or equipment.

Section 12.5 Amendment and Waiver. This Agreement may be amended, supplemented, or otherwise modified only by means of a written instrument signed by both Parties. Any waiver of any rights or failure to act in a specific instance shall relate only to such instance and shall not be construed as an agreement to waive any rights or fail to act in any other instance, whether or not similar.

Section 12.6 Severability. In the event that any provision of this Agreement shall be held invalid or unenforceable for any reason, such invalidity or unenforceability shall not affect any other provision of this Agreement, and the Parties shall negotiate in good faith to modify the Agreement to preserve (to the extent possible) their original intent. If the Parties fail to reach a modified agreement within [***] days after the relevant provision is held invalid or unenforceable, then the dispute shall be resolved in accordance with the procedures set forth in Article 11. While the dispute is pending resolution, this Agreement shall be construed as if such provision were deleted by agreement of the Parties.

Section 12.7 Section 365(n) of the Bankruptcy Code. All rights and licenses granted under or pursuant to any section of this Agreement are and shall otherwise be deemed to be for purposes of Section 365(n) of the United States Bankruptcy Code (Title 11, U.S. Code), as amended (the "**Bankruptcy Code**"), licenses of rights to "intellectual property" as defined in Section 101(35A) of the Bankruptcy Code. The Parties shall retain and may fully exercise all of their respective rights and elections under the Bankruptcy Code. Upon the bankruptcy of any Party, the non-bankrupt Party shall further be entitled to a complete duplicate of, or complete access to, any such intellectual property, and such, if not already in its possession, shall be promptly delivered to the non-bankrupt Party, unless the bankrupt Party elects to continue, and continues, to perform all of its obligations under this Agreement.

Section 12.8 Headings. All headings are for convenience only and shall not affect the meaning of any provision of this Agreement.

Section 12.9 Counterparts. This Agreement may be executed in two or more counterparts, each of which will be deemed an original, but all of which will constitute one and the same instrument.

Section 12.10 Entire Agreement. The terms and conditions herein, together with the Agreement and Plan of Merger, constitute the entire agreement between the Parties and shall supersede all previous agreements, either oral or written, between the Parties hereto with respect to the subject matter hereof. For the avoidance of doubt, the Original License Agreement shall be of no further force or effect from and after the Effective Date; provided, however, that, except as set forth herein, nothing in this Agreement shall affect the rights and obligations of the Parties under the Original License Agreement with respect to periods prior to the Effective Date, all of which shall survive in accordance with their terms. No agreement of understanding bearing on this Agreement shall be binding upon either Party hereto unless it shall be in writing and signed by the duly authorized officer or representative of each of the Parties and shall expressly refer to this Agreement.

Section 12.11 Interpretation. Except where the context expressly requires otherwise, (a) the use of any gender herein shall be deemed to encompass references to either or both genders, and the use of the singular shall be deemed to include the plural (and vice versa), (b) the words “include”, “includes” and “including” shall be deemed to be followed by the phrase “without limitation”, (c) the word “will” shall be construed to have the same meaning and effect as the word “shall”, (d) any definition of or reference to any agreement, instrument or other document herein shall be construed as referring to such agreement, instrument or other document as from time to time amended, supplemented or otherwise modified (subject to any restrictions on such amendments, supplements or modifications set forth herein), (e) any reference herein to any person shall be construed to include the person’s successors and assigns, (f) the words “herein”, “hereof” and “hereunder”, and words of similar import, shall be construed to refer to this Agreement in its entirety and not to any particular provision hereof, (g) all references herein to Sections, Exhibits or Schedules shall be construed to refer to Sections, Exhibits or Schedules of this Agreement, and references to this Agreement include all Exhibits and Schedules hereto, (h) the word “notice” means notice in writing (whether or not specifically stated) and shall include notices, consents, approvals and other written communications contemplated under this Agreement, (i) provisions that require that a Party, the Parties or any committee hereunder “agree,” “consent” or “approve” or the like shall require that such agreement, consent or approval be specific and in writing, whether by written agreement, letter, approved minutes or otherwise (but excluding e-mail and instant messaging), (j) references to any specific law, rule or regulation, or article, section or other division thereof, shall be deemed to include the then-current amendments thereto or any replacement or successor law, rule or regulation thereof, and (k) the term “or” shall be interpreted in the inclusive sense commonly associated with the term “and/or.” This Agreement has been prepared jointly and shall not be strictly construed against either Party. Ambiguities, if any, in this Agreement shall not be construed against any Party, irrespective of which Party may be deemed to have authored the ambiguous provision. Each Party acknowledges it is a sophisticated entity or individual familiar with transactions similar to those contemplated by this Agreement and have such knowledge and experience in financial and business matters that they are capable of evaluating the merits and risks of such transactions.

[Signature Page Follows]

IN WITNESS WHEREOF, the Parties hereto have executed and delivered this Agreement in multiple originals by their duly authorized officers and representatives, as of the Effective Date.

MEDERIS DIABETES, LLC	**SPITFIRE PHARMA, INC.**
By:/s/ John J. Nestor	By:/s/ Edward F. Schnipper
Name:John J. Nestor	Name:Edward F. Schnipper
Title:Managing Member	Title:President

EXHIBIT A

LICENSED KNOW-HOW

All technology related to (GLP1-Glucagon)/Oxyntomodulin therapeutics, [***]

EXHIBIT B

EXHIBIT B PATENT RIGHTS

[***]

EXHIBIT C

EXHIBIT C PATENT RIGHTS

[***]

CERTAIN INFORMATION IDENTIFIED BY BRACKETED ASTERISKS ([* * *]) HAS BEEN OMITTED FROM THIS EXHIBIT BECAUSE IT IS BOTH NOT MATERIAL AND WOULD BE COMPETITIVELY HARMFUL IF PUBLICLY DISCLOSED.

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

PAGE OF PAGES

1 20

2. AMENDMENT/MODIFICATION NO.

P00005

5. PROJECT NO. *(If applicable)*

6. ISSUED BY
CODE
ASPR-BARDA02
US DEPT OF HEALTH & HUMAN SERVICES
ASST SEC OF PREPAREDNESS & RESPONSE
RESPONSE ACQ MANAGEMENT, CONTRACTS, & GRANTS
CONTRACTS, & GRANTS O'NEILL HOUSE OFFICE BUILDING
OFFICE BUILDING
Washington DC 20515

7. ADMINISTERED BY *(If other than Item 6)*
CODE
US DEPT OF HEALTH & HUMAN SERVICES
ASST SEC OF PREPAREDNESS &
ACQ MANAGEMENT,
O'NEILL HOUSE
Washington DC 20515

8. NAME AND ADDRESS OF CONTRACTOR *(No., street, county, State and ZIP Code)*
9A. AMENDMENT OF SOLICITATION NO.
ALTIMMUNE, INC. 1305044 Attn: WILLIAM BROWN
9B. DATED *(SEE ITEM 11)*
ALTIMMUNE, INC. 910 CLOPPER RD STE 201S GAITHERSBURG MD 208781361
10A. MODIFICATION OF CONTRACT/ORDER NO.
HHSO100201600008C
CODE
1305044
10B. DATED *(SEE ITEM 13)*
07/27/2016
FACILITY CODE

x

(x)
HHS/OS/ASPR/BARDA
4. REQUISITION/PURCHASE REQ. NO.
OS244880
3. EFFECTIVE DATE
See Block 16C
1. CONTRACT ID CODE

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS is extended, is not extended.

The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended , by one of the following methods: (a) By completing Items 8 and 15, and returning - copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted ; or (c) By separate letter or electronic communication which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted , such change may be made by letter or electronic communication, provided

each letter or electronic communication makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA *(If required)*

Net Increase: $3,700,000.00

2019.1992019.25106

13. **THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM14.**

CHECK ONE	
	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: *(Specify authority)* THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES *(such as changes in paying office, appropriation data, etc.)* SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
X	FAR 43.103(a) - By mutual agreement of the parties
	D. OTHER *(Specify type of modification and authority)*

E. **IMPORTANT:** Contractor x is required to sign this document and return 1 copies to the issuing office. is not

14. DESCRIPTION OF AMENDMENT/MODIFICATION *(Organized by UCF section headings, including solicitation/contract subject matter where feasible)*

Tax ID Number: 20-
2726770 DUNS Number: 082804936
The purpose of this modification is to increase the estimated cost of the contract from $[***] by $[***] to $[***]. The estimated fixed fee remains unchanged at $[***]. The total estimated cost and fixed fee of the contract is increased by $3,700,000 from $24,081,404 to $27,781,404. Additionally, Articles B.2, B.3, C.1, G.3 and Section J - Attachment 1 are modified as outlined in the supplemental pages to this modification and the Statement of Work dated September 14, 2018 is amended to incorporate the data dated 7/30/2019 covering WBS 1.1.10, WBS 1.5.10, WBS 1.5.11.

TOTAL FUNDS ALLOTED TO DATE: $27,781,404 (Changed)

Continued ...

Except as provided herein, all terms and conditions of the document referenced in Item 9 A or 10A, as heretofore changed, remains unchanged and in full force and effect .

15A. NAME AND TITLE OF SIGNER *(Type or print)*		16A. NAME AND TITLE OF CONTRACTING OFFICER *(Type or print)*	
William Brown, Chief Financial Officer		GEORGE J. KEANE	
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
/s/ William Brown *(Signature of person authorized to sign)*	8/19/19	/s/ George J. Keane *(Signature of Contracting Officer)*	8/20/19

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	COMPLETION DATE:December 31, 2020 (C CONTRACT FUNDED THROUGH:December 31, 2020 (C	hanged) hanged)			
	Attached: Supplemental Pages and Statement of Work with NasoShield Post-Investigation Phase 1b Trial of Work dated July 30, 2019 Delivery: 12/31/2020 Delivery Location Code: HHS/OS/ASPR HHS/OS/ASPR 200 C St SW WASHINGTON DC 20201 US	Dated & Non-C	Sep lin	tember 14, 2 ical Studies	018 revised Statement
	Appr. Yr.: 2019 CAN: 1992019 Object Class: 25106 Period of Performance: 07/27/2016 to 12/31/2020				
	Add Item 12 as follows:				3,700,000.00

12	ASPR-19-03732 -- CLIN 0001 funding to Altimmune to support Phase I clinical trial for single-dose anthrax vaccineHHSO100201600008C Obligated Amount: $3,700,000.00				

Beginning with the effective date of this modification, the Government and contractor mutually agree as follows:

1) Revise ARTICLE B.2 - Estimated Cost and Fixed Fee as follows:

ARTICLE B.2. ESTIMATED COST AND FIXED FEE

a. The total estimated cost of ***the base performance segment*** **(CLIN 0001)** is **$[***]**

b. The total fixed fee ***of the base performance segment*** is **$[***]**. The fixed fee shall be paid subject to the Allowable Cost and Payment and Fixed Fee Clauses.

c. The total amount of ***the base performance segment***, CLIN 0001, represented by the sum of the total estimated cost-plus fixed fee is **$27,781,404.00**. The total amount for ***the base performance segment shall not exceed*** **$27,781,404.00**. The total amount obligated by the Government for the base segment of the contract shall not exceed **$27,781,404.00** and the Government will not be responsible for any Contractor incurred costs that exceed this amount unless a modification to the contract is signed by the Contracting Officer which expressly increases this amount.

d. It is estimated that the amount current allotted will cover performance of the contract through **31 December 2020**.

.IN	Estimated Period of Performance	Supplies/Services	Estimated Cost	Estimated Fixed Fee	Total Estimated Cost Plus Fixed Fee

01	July 27 2016 – December 31 2020	Perform activities to support the conduct ofa Phase 1a clinical study and demonstrate safety and immunogenicity in accordance with Article C.1 Statement of Work Study reports, development reports, IND	$[***]	$[***]	$[***]

2) Revise ARTICLE B.3 – Option Prices as follows:

ARTICLE B.3. OPTION PRICES
The starting date of the period of performances for CLIN 0002 (Option 1) through CLIN 0008 (Option 7) are revised from January 1, 2021 to March 31, 2021.

3) Delete and replace SECTION C - DESCRIPTION/SPECIFICATIONS/WORK STATEMENT, ARTICLE C.1. STATEMENT OF WORK

ARTICLE C.1. STATEMENT OF WORK
Independently and not as an agent of the Government, the Contractor shall furnish all the necessary services, qualified personnel, material, equipment, and facilities not otherwise provided by the Government as needed to perform the Statement of Work dated September 14, 2018 (including additional activities WBS 1.1.10, 1.5.10 and 1.5.11) set forth in SECTION J-List of Attachments, attached hereto and made a part of the contract.

4) **SECTION J (LIST OF ATTACHMENTS**)

Attachment 1 (Statement of Work dated September 14, 2018) is revised to incorporate NasoShield Post-Investigation Phase 1b Trial & Non-Clinical Studies WBS 1.1.10, 1.5.10, 1.5.11 dated July 30, 2019. (16 pages)

5) ARTICLE G.3 KEY PERSONNEL

Article G.3 is deleted and replaced with the following:

Pursuant to the Key Personnel clause incorporated in Section I of this contract, the following individuals are considered to be essential to the work being performed hereunder:

#	NAME	ORGANIZATION	TITLE
1	[***]	Altimmune, Inc.	[***]
2	[***]	Altimmune, Inc.	[***]

The key personnel specified in this contract are considered to be essential to work performance. At least thirty (30) business days prior to diverting any of the specified individuals to other programs or contracts, including, where practicable, an instance when an individual must be replaced as a result of leaving the employ of the Contractor, the Contractor shall notify the Contracting Officer and shall submit comprehensive justification for the diversion or replacement request (including proposed substitutions for key personnel) to permit evaluation by the Government of the impact on performance under this contract. The Contractor shall not divert or otherwise replace any key personnel without the written consent of the Contracting Officer.

Revised Statement of Work:

Broad Agency Announcement (BAA) for the Advanced Research and Development of Chemical, Biological, Radiological, and Nuclear (CBRN) Medical Countermeasures for BARDA

CBRN-BAA-13-100-SOL-00013

Development of a Single-Dose Intranasal Vaccine for Post-Exposure Prophylaxis of Inhalation Anthrax

Topic Area of Interest Number 1: Vaccines

Contractual Statement of Work
September 14, 2018

PREAMBLE

Independently and not as an agency of the Government, the Contractor shall be required to furnish to The Government all the necessary services, qualified personnel, material, equipment, and facilities, not otherwise provided by the Government, as needed to perform the Statement of Work submitted in response to the BARDA Broad Agency Announcement (BAA) CBRN-BAA-13- 100-SOL-00013.

The Government reserves the right to modify the milestones, progress, schedule, budget or deliverables to add or delete deliverables, process or schedules if the need arises. Because of the nature of this research and development (R&D) contract and the complexities inherent in this and prior programs, at designated milestones the Government will evaluate whether work should be redirected, removed, or whether schedule or budget adjustments should be made. The Government reserves the right to change the product, process, schedule or events to add or delete part or all these elements as the need arises.

Overall Objectives and Scope

The overall objective of this contract is to advance the development of AdVAV as a novel, intranasally administered vaccine for use in protection against anthrax infection. The scope of work for this contract includes pre-clinical, clinical and manufacturing development activities that fall into the following areas: nonclinical efficacy studies; clinical activities; manufacturing activities; and all associated regulatory, quality assurance, management and administrative activities. The development effort for AdVAV will progress in specific stages that cover the base performance segment and the option segments as specified in this contract. The Contractor must complete specific tasks required in the base work segment before the Government will exercise any or all the option segments. The scope of work includes the following tasks integral to the successful completion of CLIN 0001 (Base segment) and CLIN 0002 through CLIN 0008 (Option segments).

1. [***]
    - 1.1 [***]
        - 1.1.1. [***]
        - 1.1.2. [***]
        - 1.1.3. [***]
        - 1.1.4. [***]
        - 1.1.5. [***]
        - 1.1.6. [***]
        - 1.1.7. [***]
            - 1.1.7.1. [***]
            - 1.1.7.2. [***]
        - 1.1.8. [***]
            - 1.1.8.1. [***]
        - 1.1.9. [***]
            - 1.1.9.1. [***]
            - 1.1.9.2. [***]
            - 1.1.9.3. [***]
                - I. [***]
                - II. [***]

III. [***]
IV. [***]
V. [***]
VI. [***]
VII. [***]

1.1.10. [***]

1.1.11. [***]

1.1.12. [***]

I. [***]
II. [***]
III. [***]
IV. [***]
V. [***]
VI. [***]
VII. [***]
VIII. [***]

1.1.13. [***]

1.1.14. [***]

I. [***]
II. [***]
III. [***]
IV. [***]
V. [***
VI. [***]
VII. [***]
VIII. [***]

1.1.15. [***]

1.1.15.1. [***]

1.1.15.2. [***]

1.2 [***]

1.2.1 [***]

1.2.2 [***]

1.2.3 [***]

1.2.4 [***]

1.2.5 [***]

1.2.6 [***]

1.2.7 [***]

1.2.8 [***]

1.2.9 [***]

1.3 [***]

1.3.1 [***]

1.3.2 [***]

1.3.3 [***]

1.3.4 [***]

1.4 [***]

1.4.1 [***]

1.4.1.1 [***]

1.4.1.2 [***]

1.4.1.3 [***]

1.4.2 [***]

1.4.3 [***]

1.5 [***]

1.5.1 [***]

1.5.1.1 [***]

1.5.2 [***]

1.5.3 [***]

1.5.4 [***]

1.6 [***]

1.6.1 [***]

1.6.2 [***]

1.6.3 [***]

1.6.4 [***]

2. [***]

2.1 [***]

2.1.1 [***]

2.1.2 [***]

2.2 [***]

2.2.1 [***]

2.2.2 [***]

2.3 [***]

2.3.1 [***]

3. [***]

3.1 [***]

3.1.1 [***]

3.1.2 [***]

3.1.3 [***]

3.1.4 [***]

3.2 [***]

3.3 [***]

3.3.1 [***]

3.3.2 [***]

3.3.3 [***]

3.4 [***]

3.5 [***]

3.6 [***]

4. [***]

4.1 [***]

4.2 [***]

5. [***]

5.1 [***]

5.1.1 [***]

5.2 [***]

5.2.1 [***]

5.3 [***]

5.3.1 [***]

5.3.2 [***]

5.3.3 [***]

5.4 [***]

6. [***]

6.1 [***]

6.2 [***]

7. [***]

7.1 [***]

7.2 [***]

8. [***]

8.1 [***]

8.2 [***]

9. [***]

9.1 [***]

9.1.1 [***]

9.1.2 [***]

9.1.3 [***]

9.1.3.1 [***]

9.1.4 [***]

NasoShield Post-Investigation Phase 1b Trial & Non-Clinical Studies SOW dated July 30, 2019

[***]

(WBS 1.1.10): [***]

[***]

(WBS 1.5.10): [***]

[***]

(WBS 1.5.11): [***]
[***]

Activities & Deliverables

[***]

END OF MODIFICATION 06 of HHSO100201600008C

Exhibit 10.4

EMPLOYMENT AGREEMENT

This **EMPLOYMENT AGREEMENT** ("Agreement") is made and entered into as of September 9, 2019, by and between M. Scott Harris, M.D. ("Harris") and Altimmune, Inc., a Delaware corporation ("Altimmune").

WHEREAS, the Board of Directors of Altimmune (the "Board") desires to employ Harris, and Harris desires to be employed by Altimmune pursuant to the terms and conditions set forth in this Agreement;

WHEREAS, Harris acknowledges that, in executing this Agreement, he has had a reasonable opportunity to seek the advice of independent legal and tax counsel, and has read and understood all of the terms and provisions of this Agreement.

NOW, THEREFORE, in consideration of the mutual promises and covenants contained herein and for other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the parties hereto agree as follows:

1. Titles, Duties and Responsibilities.

(a) Title and Duties. During the Employment Period (as defined in Section 2 below), Harris shall serve as Chief Medical Officer of Altimmune and shall have such duties, responsibilities and authority commensurate with such position, and such additional duties and responsibilities commensurate with such position as shall be determined from time to time by the Chief Executive Officer and the Board. If requested, Harris shall also serve without additional compensation in such other offices of Altimmune or its subsidiaries or affiliates to which he may be elected or appointed.

(b) Reporting Responsibilities. Harris shall report directly to the Chief Executive Officer.

(c) Conflicts of Interest and Compliance with Laws. Except as specifically set forth in this Section 1(c), during the Employment Period, Harris shall devote his entire time, attention, energies and business efforts to the affairs of Altimmune. During the Employment Period, Harris shall not, without the prior written consent of the Board (x) engage, directly or indirectly, in any other business activity that materially interferes with his duties as set forth in this Agreement and/or that creates a conflict of interest, (y) act as a proprietor, partner, director, officer, executive, consultant, advisor, agent, representative or any other capacity of any entity other than Altimmune and its divisions, subsidiaries and other affiliated entities, regardless of whether such activity is for gain, profit or other pecuniary advantage, or (z) allow or cause Altimmune to participate in any transaction with Harris, any of his relatives (other than as employees of Altimmune), or any entity in which Harris or any of his relatives has an interest. Harris further agrees that he shall not knowingly take any action, or authorize the taking of any action, that contravenes any applicable federal, state, municipal or other political subdivision ordinance, statute or rule, regulation or order of any jurisdiction. Harris agrees to immediately disclose to the Board any relationship, action or activity that may potentially be subject to the provisions of this Section 1(c). Notwithstanding any restrictions contained in this Section 1(c), it is expressly understood and agreed that Harris may (i) serve on up to two scientific advisory boards with the advance consent of the Chief Executive Officer, and (ii) participate in the winding down of Harris' current business engagements, including participating in FDA meetings (the "Wind Down Activities"), in each case ((i) and (ii)) so long as such service does not materially interfere with the performance of his duties and responsibilities hereunder, does not violate Section 7, and does not give rise to a conflict of interest. The Executive agrees that the Wind Down Activities shall terminate no later than six months after the Effective Date.

2. Employment Term. Harris's employment with Altimmune under this Agreement shall begin on September 9, 2019 (the "Effective Date") and shall continue until terminated pursuant to Section 6 hereof (the

"Employment Period"). Harris's employment with Altimmune is "at-will" and shall continue only so long as mutually agreeable toHarris and Altimmune, in each case subject to Section 6 hereof.

3. Salary, Bonus and Other Compensation. During the Employment Period, Altimmune shall provide the following salary, bonus and other compensation to Harris:

(a) Base Compensation. Altimmune shall pay Harris an initial annual base salary of Three Hundred-Seventy Thousand Dollars ($370,000) per annum ("Base Salary"), payable in substantially equal installments in accordance with Altimmune's normal payroll practices. Harris's compensation shall be evaluated and adjusted by the Compensation Committee of the Board (the "Committee") on at least an annual basis, provided that in no event shall Harris's Base Salary be reduced while this Agreement is in effect.

(b) Annual Bonus. In addition to the Base Salary, during each year of the Employment Period, Harris will be eligible for an annual cash bonus ("Annual Bonus") with a target award equal to thirty percent (30%) of the Base Salary. The Annual Bonus will be subject to all of the terms and conditions of the applicable bonus plan. The actual Annual Bonus payouts will be based on achievement of the individual and/or Altimmune performance criteria established for the applicable fiscal year by the Committee in its sole and absolute discretion. Harris must be actively employed by Altimmune on December 31st of the applicable fiscal year to be eligible for an Annual Bonus payment. The Annual Bonus shall be paid no later than the March 15th of the fiscal year immediately following the fiscal year in which such Annual Bonus was earned.

(c) Sign-On Incentive Option. As soon as reasonably practicable following the Effective Date, but in no event later than thirty (30) days following the Effective Date, and subject to the approval of the Committee, Altimmune shall grant Harris an option to purchase One Hundred-Seven Thousand (107,000) shares of Altimmune's common stock (the "Sign-On Incentive Option") under the Altimmune, Inc. 2017 Omnibus Incentive Plan (the "2017 Plan"). The exercise price of the Sign-On Incentive Option shall be equal to the Fair Market Value (as defined in the 2017 Plan) of a share of Altimmune's common stock on the grant date. The Sign-On Incentive Option will be an "incentive stock option" to the extent permitted under the Internal Revenue Code of 1986, as amended (the "Code"). One hundred percent (100%) of the Sign-On Incentive Option shall be unvested and unexercisable as of the grant date. On the first anniversary of the Effective Date (the "First Vesting Date"), twenty-five percent (25%) of the unvested portion of the Sign-On Incentive Option shall vest and become exercisable, and the aggregate remaining unvested portion of the Sign-On Incentive Option shall vest and become exercisable in substantially equal monthly installments over the thirty-six (36) month period commencing on the first monthly anniversary of the First Vesting Date, subject to Harris's continued employment with Altimmune on each applicable vesting date. The Sign-On Incentive Option will be governed by the terms and conditions of the 2017 Plan and the stock option agreement approved by the Committee to evidence the grant of the Sign-On Incentive Option (collectively, the "Equity Documents").

(e) Additional Equity Awards. Harris will be eligible to participate in the 2017 Plan or such other equity based long-term incentive compensation plan, program or arrangement generally made available to senior executive officers of Altimmune from time to time, as determined by the Committee in its sole and absolute discretion.

4. Benefits. During the Employment Period, Harris shall be eligible for participation in and shall receive all benefits under welfare benefit, savings and retirement plans provided by Altimmune (including, but not limited to, life insurance, disability insurance, medical insurance, dental insurance) to the extent applicable generally to senior executives of Altimmune, and consistent with the following specific agreements:

(a) Vacation. Harris will be entitled to twenty (20) days of paid vacation and six (6) days of personal and sick leave each calendar year during the Employment Period. At the end of each year, Harris is permitted to carry over a maximum of twelve (12) days of vacation, personal and sick leave to the subsequent year, subject to applicable law, and any additional days shall be forfeited.

(b) Health, Vision and Dental Insurance. Harris will be entitled to participate in all health, vision and dental insurance programs provided by Altimmune to the extent applicable generally to senior executives of Altimmune.

5. Reimbursement of Business Expenses. Altimmune shall reimburse Harris for all reasonable and customary out-of-pocket business expenses incurred by Harris in the course of his duties (to include monthly expenses to maintain cellular telephone service), in accordance with Altimmune's policies as in effect from time to time. Harris shall be required to submit to Altimmune appropriate documentation supporting such out-of-pocket business expenses as a prerequisite to reimbursement in accordance with such policies. Notwithstanding anything herein to the contrary or otherwise, except to the extent any expense or reimbursement described in this Agreement does not constitute a "deferral of compensation" within the meaning of Section 409A of the Code and the Treasury regulations and other guidance issued thereunder, any expense or reimbursement described in this Agreement shall meet the following requirements: (i) the amount of expenses eligible for reimbursement provided to Harris during any calendar year will not affect the amount of expenses eligible for reimbursement to Harris in any other calendar year; (ii) the reimbursements for expenses for which Harris is entitled to be reimbursed shall be made on or before the last day of the calendar year following the calendar year in which the applicable expense is incurred; (iii) the right to payment or reimbursement or in-kind benefits hereunder may not be liquidated or exchanged for any other benefit; and (iv) the reimbursements shall be made pursuant to objectively determinable and nondiscretionary company policies and procedures regarding such reimbursement of expenses.

6. Termination Provisions.

(a) Termination by Altimmune for Cause or Termination by Harris without Good Reason Altimmune may terminate Harris's employment immediately for Cause (as defined below) and Harris may terminate his employment at any time without Good Reason upon providing Altimmune at least thirty (30) days advance written notice. Should Harris provide such notice, Altimmune may accelerate Harris' date of termination to an earlier date without such acceleration constituting a termination hereunder. Upon such termination, Altimmune shall provide Harris with the following: (i) payment of any accrued Base Salary through and including the date of Harris's termination to the extent not theretofore paid; (ii) any accrued and unused vacation pay through and including the date of Harris's termination; (iii) any unreimbursed business expenses in accordance with Section 5 hereof; and (iv) such accrued and vested rights or benefits as may be due to Harris under any Altimmune sponsored employee benefits plans payable in accordance with the terms and conditions of such plans (the payments and benefits referred to in subclauses (i) through (iv) above shall be collectively referred to as the "Accrued Obligations"). Except as provided in this Section 6(a), termination pursuant to this Section 6(a) shall terminate any other rights Harris may have under this Agreement and shall relieve Altimmune of any other obligations it may have under this Agreement.

For purposes of this Agreement, termination for Cause shall mean the termination of Harris's employment by Altimmune due to: (i) a material breach by Harris of his fiduciary duties to Altimmune; (ii) a material breach by Harris of this Agreement after being given written notice of such breach and a failure to cure within thirty (30) days of such notice; (iii) Harris's willful failure or refusal to follow Altimmune's written policies after being given written notice of said failure or refusal and a failure to cure within thirty (30) days of such notice; (iv) Harris's conviction of, or plea of guilty or *nolo contendere,* to a felony; and/or (v) Harris's continuing and willful refusal to act as directed by the Chief Executive Officer or the Board (other than refusal resulting from incapacity due to physical or mental illness), after written notice is delivered to Harris within sixty (60) days of such refusal which identifies said refusal and sets forth a plan of corrective action and a failure to cure within thirty (30) days of such notice.

(b) Termination by Altimmune without Cause or Resignation by Harris for Good Reason Altimmune may terminate Harris's employment without Cause at any time upon prior written notice to Harris and Harris may terminate his employment for Good Reason (as defined below). Upon such termination, subject to Harris's continued compliance with the restrictive covenants set forth in Section 7, Altimmune shall provide Harris with the following:

(i) continued payment of the Cash Severance Amount (as defined below) in equal monthly installments during the applicable severance period (as determined below) following the effective date of such termination and otherwise payable in accordance with Altimmune's normal payroll practices and subject to Section 6(d) hereof. As used herein, the "Cash Severance Amount" shall be equal to six (6) months of Harris's Base

Salary existing at the time of such termination payable over the six (6) month period following such termination, except that if such termination occurs within the one (1) year period commencing on the occurrence of a Change in Control (as defined below), the Cash Severance Amount shall instead be equal to the sum of twelve (12) months of Harris's Base Salary (existing at the time of such termination) plus Harris's target Annual Bonus for the year of termination, payable over the twelve (12) month period following such termination;

(ii) subject to Harris's timely election, and the availability, of continuation coverage under Part 6 of Title I of the Employment Retirement Income Security Act of 1974 (as amended) and Section 4980B of the Code ("COBRA"), Altimmune will pay monthly, on Harris's behalf, a portion of the cost of such coverage for the six (6) months after the date of such termination, which payments will be equal to the amount of the monthly premium for such coverage, less the amount that Harris would have been required to pay if Harris had remained an active employee of Altimmune (the "COBRA Assistance"); provided, however, that if such termination occurs within the one (1) year period commencing on the occurrence of a Change in Control, the COBRA Assistance shall instead be for twelve (12) months, and provided, further, that if at any time Altimmune determines that the COBRA Assistance would result in a violation of the non-discrimination rules under Section 105(h)(2) of the Code or any other applicable laws, statute or regulation of similar effect (including, but not limited to, the 2010 Patient Protection and Affordable Care Act, as amended by the 2010 Health Care and Education Reconciliation Act), then in lieu of providing the COBRA Assistance, Altimmune will instead pay Harris fully taxable cash payments equal to, and paid at the same time as, the COBRA Assistance would have otherwise been paid, subject to applicable tax withholdings;

(iii) any earned but unpaid Annual Bonus for such prior year (subject to the criteria and other conditions set forth in Section 3(b)), payable by Altimmune to Harris at the same time annual bonuses in respect of the prior year are generally paid to senior executives of Altimmune;

(iv) the Accrued Obligations; and

(v) if such termination occurs within the one (1) year period commencing on the occurrence of a Change in Control, accelerated vesting of all unvested equity awards then outstanding and held by Harris (for the avoidance of doubt, if such termination does not occur during such one (1) year period, then any accelerated vesting of unvested equity awards shall be at the discretion of the Committee).

For purposes of this Agreement, resignation for "Good Reason" shall mean the resignation by Harris of his employment due to: (a) a reduction in Harris's Base Salary or target Annual Bonus opportunity; (b) a material diminution in Harris's authority, duties or responsibilities; or (c) a relocation by Altimmune of Harris's principal place of business for the performance of his duties under this Agreement to a location that is anywhere outside of a 50-mile radius of Gaithersburg, Maryland; provided, however, that Harris must notify Altimmune within ninety (90) days of the occurrence of any of the foregoing conditions that he considers to be a "Good Reason" condition and provide Altimmune with thirty (30) days in which to cure the condition. If Harris fails to provide this notice and cure period prior to his resignation, or resigns more than six (6) months after the initial existence of the condition, his resignation will not be deemed to be for "Good Reason."

For purposes of this Agreement, "Change in Control" means the occurrence of either (i) an acquisition from stockholders of Altimmune (including through purchase, reorganization, merger, consolidation or similar transaction), directly or indirectly, in one or more transactions by a Person (as defined below) (other than any Person or group of Persons consisting solely of shareholders of Altimmune as of the date immediately prior to the consummation of the transaction) of beneficial ownership (within the meaning of Rule 13d-3 under the Exchange Act) of securities representing 50% or more of the combined voting power of the securities of Altimmune entitled to vote generally in the election of directors of the Board, calculated on a fully diluted basis after giving effect to such acquisition, or (ii) the sale or other disposition, directly or indirectly, of all or substantially all of the assets of Altimmune and its subsidiaries, taken as a whole, to any Person (other than any Person or group of Persons consisting solely of shareholders of Altimmune as of the date immediately prior to the consummation of the transaction). For the avoidance of doubt, a transaction effected primarily for the purpose of (x) an equity financing of Altimmune, (y) the reincorporation of Altimmune in a different state, or (z) the formation of a holding company that will be owned exclusively by Altimmune's stockholders, shall not be a Change in Control for purposes of this Agreement. A "Person" means any individual, entity or group within the meaning of Section 13(d)(3) or 14(d)(2) of the Securities Exchange Act of 1934, as amended, and the rules and regulations thereunder, other than employee

benefit plans sponsored or maintained by Altimmune and by entities controlled by Altimmune or an underwriter of the capital stock of Altimmune in a registered public offering.

(c) Death or Disability. Harris's employment shall terminate automatically upon Harris's death. Subject to applicable law, Altimmune may terminate Harris's employment due to Harris's Disability (as defined below). Upon any such termination, Altimmune shall provide Harris (or his estate as the case may be) with the Accrued Obligations through the date of termination. The term "Disability" shall mean Harris becoming physically or mentally disabled such that he is unable to perform his duties to Altimmune for a period of 90 consecutive days.

(d) Limits. Notwithstanding anything herein to the contrary, Altimmune's obligation to make any payments or benefits to Harris (including without limitation acceleration of equity vesting) upon termination of his employment under the circumstances described in Section 6(b) (other than the Accrued Obligations) is conditioned upon Harris's execution, delivery and non-revocation of a valid and enforceable release of claims in a form provided by Altimmune arising in connection with Harris's employment and termination or resignation of employment with Altimmune and its affiliates (the "Release") that becomes effective within the time period provided in the Release but not later than sixty (60) days after the date of such termination or resignation of employment (and to avoid doubt, the "date of such termination or resignation" shall be the actual last day of Harris's employment with Altimmune, as opposed to the day notice of termination or resignation is provided, if earlier). Altimmune shall provide the form of the Release to Harris within seven (7) days following the date of Harris's termination or resignation of employment. Subject to the foregoing and Section 21 hereof, the Cash Severance Amount will commence to be paid to Harris on the sixtieth (60th) day following Harris's termination or resignation of employment, and such first payment shall include payment of any amounts that would otherwise be due prior thereto. On any termination entitling Harris to the payments and benefits under Section 6(b), Altimmune and its affiliates shall have no further obligation to make payments under this Agreement other than as specifically provided for in such section.

(e) Resignation from All Positions. Unless the parties otherwise agree in writing, upon the termination or resignation of Harris's employment with Altimmune for any reason, Harris shall be deemed to have resigned, as of the date of such termination or resignation, from and with respect to all positions Harris then holds as an officer, director or employee with Altimmune and any of its affiliates.

7. Secrecy, Non-Solicitation and Non-Competition.

(a) Secrecy. During the Employment Period and thereafter, Harris covenants and agrees that he will not, except in performance of Harris's obligations to Altimmune, or with the prior written consent of Altimmune pursuant to the authority granted by a resolution of the Board, directly or indirectly, disclose any secret or confidential information that he may learn or has learned by reason of his association with Altimmune or use any such information. The term "secret or confidential information" includes, without limitation, information not previously disclosed to the public or to the trade by Altimmune's management with respect to Altimmune's products, facilities and methods, trade secrets and other intellectual property, systems, procedures, manuals, confidential reports, product price lists, customer lists, member lists, financial information (including the revenues, costs or profits associated with any Altimmune's products), business plans, prospects, employee or employees, compensation, or opportunities but shall exclude any information already in the public domain which has been disclosed to the public during the normal course of Altimmune's business. Notwithstanding anything herein to the contrary, nothing in this Agreement shall be construed to prohibit Harris from reporting possible violations of federal or state law or regulations to any governmental agency or entity, including but not limited to the Department of Justice, the Securities and Exchange Commission, the Congress, and any agency Inspector General, or making other disclosures that are protected under the whistleblower provisions of federal or state law or regulation or protected by other state or federal law. Harris does not need the prior authorization of Altimmune to make any such reports or disclosures and Harris is not required to notify Altimmune that he made such reports or disclosures.

(b) Non-solicitation of Clients and Customers. Harris covenants and agrees that during the Employment Period and for a period of six (6) months thereafter, he will not solicit, either directly or indirectly, any customer or client of Altimmune on behalf of any direct competitor of Altimmune for the purpose of diverting business from Altimmune. This Agreement extends to prevent Harris from soliciting on behalf of Harris or any other individual or entity that seeks to compete with Altimmune.

(c) Non-solicitation of Employees. Harris covenants and agrees that during the Employment Period and for a period of six (6) months thereafter, he shall not directly or indirectly, on his behalf or on behalf of any person or other entity, solicit or induce, or attempt to solicit or induce, any person who is an employee of Altimmune, to terminate his or her employment with Altimmune.

(d) Noncompetition. Harris covenants and agrees that during the Employment Period and for a period of six (6) months thereafter, he will not directly or indirectly work for, or engage in sales, marketing or related activities on behalf of, himself or any other person or entity that is a direct competitor of Altimmune.

(e) Equitable Relief. Harris acknowledges and agrees that the services performed by him are special, unique and extraordinary in that, by reason of Harris's employment, Harris may acquire confidential information and trade secrets concerning the operation of Altimmune, or that Harris may have contact with or obtain knowledge of Altimmune's members or prospects, the use or disclosure of which could cause Altimmune substantial loss and damages, which could not be readily calculated and for which no remedy at law would be adequate. Accordingly, Harris acknowledges and agrees that Altimmune shall be entitled to obtain a temporary restraining order and/or a preliminary or permanent injunction restraining Harris from engaging in activities prohibited by this Section 7 or such other relief as may be required to specifically enforce any of the covenants in this Section 7. Harris acknowledges and agrees that Altimmune shall be entitled to its attorneys' fees and court costs should Altimmune successfully pursue legal action to enforce its rights under this Section 7.

(f) Return of Property. Upon termination or resignation of Harris's employment with Altimmune, Harris shall promptly supply to Altimmune all property, keys, notes, memoranda, writings, lists, files, reports, customer lists, correspondence, tapes, disks, cards, surveys, maps, logs, machines, technical data and any other tangible product or document which has been produced by, received by or otherwise submitted to Harris during or prior to his employment with Altimmune, and any copies thereof in Harris's (or capable of being reduced to Harris's) possession.

(g) Survival. Any termination of Harris's employment, of the Employment Period or of this Agreement (or breach of this Agreement by Altimmune or Harris) shall have no effect on the continuing operation of this Section 7.

(h) Defend Trade Secrets Act of 2016. Harris understands that pursuant to the federal Defend Trade Secrets Act of 2016, Harris shall not be held criminally or civilly liable under any federal or state trade secret law for the disclosure of a trade secret that (a) is made (i) in confidence to a federal, state, or local government official, either directly or indirectly, or to an attorney; and (ii) solely for the purpose of reporting or investigating a suspected violation of law; or (b) is made in a complaint or other document filed in a lawsuit or other proceeding, if such filing is made under seal.

8. Governing Law. This Agreement is made and entered into in the State of Maryland, without regard to conflict of laws rules, and the laws of the State of Maryland shall govern its validity and interpretation in the performance by the parties of their respective duties and obligations.

9. Entire Agreement. This Agreement and the Equity Documents constitute the entire agreement between the parties with respect to the matters described herein and supersede all prior agreements and understandings both written and oral, among the parties with respect to the subject matter hereof, and there are no representation, warranties or commitments, other than those in writing executed by the parties hereto.

10. Consent to Venue. Any dispute, controversy, or claim arising out of or relating to this Agreement or the breach thereof, arising out of or relating in any way to the employment of Harris or termination thereof, shall be brought in the Federal courts located in the State of Maryland; provided, however, that if any of the aforementioned courts is found to lack subject matter jurisdiction, then to the exclusive jurisdiction of the state courts in the State of Maryland. By executing and delivering this Agreement, each party, for itself or himself and in connection with its or his properties, irrevocably (a) accepts generally and unconditionally the exclusive jurisdiction and venue of such courts; (b) waives any defense of *forum non conveniens*; (c) agrees that service of all process in any such proceeding in any such court may be made by registered or certified mail, return receipt requested, to the applicable party at its

address provided herein; and (d) agrees that service as provided in clause (c) above is sufficient to confer personal jurisdiction over the applicable party in any such proceeding in any such court, and otherwise constitutes effective and binding service in every respect.

11. WAIVER OF JURY TRIAL. EACH PARTY HERETO IRREVOCABLY AND UNCONDITIONALLY WAIVES ANY RIGHT TO TRIAL BY JURY IN ANY DISPUTE, CONTROVERSY OR CLAIM, WHETHER SOUNDING IN CONTRACT, TORT OR OTHERWISE, AMONG THE PARTIES HERETO ARISING OUT OF OR RELATING IN ANY WAY TO THE EMPLOYMENT OF HARRIS OR TERMINATION THEREOF OR FOR ANY COUNTERCLAIM THEREIN. THE PARTIES HERETO MAY FILE AN ORIGINAL COUNTERPART OR A COPY OF THIS AGREEMENT WITH ANY COURT OF COMPETENT JURISDICTION AS PROVIDED HEREIN AS WRITTEN EVIDENCE OF THE CONSENT OF THE PARTIES HERETO TO THE WAIVER OF THEIR RIGHT TO TRIAL BY JURY.

12. Assistance in Litigation. Harris shall make himself available, upon the request of Altimmune, to testify or otherwise assist in litigation, arbitration, or other disputes involving Altimmune, or any of the directors, officers, executives, subsidiaries, or parent corporations of Altimmune, at no additional cost during the Employment Period and at any time following the termination of Harris's employment for any reason; provided, however, in the event such request is made by Altimmune after the Employment Period, Harris shall be reimbursed for any reasonable out-of-pocket expenses incurred with respect thereto and shall also be paid a reasonable daily stipend based on his Base Salary at the time of termination.

13. Notices. Any notice or communication required or permitted to be given to the parties shall be delivered personally or sent by registered or certified mail, postage prepaid and return receipt requested, and addressed or delivered as follows, or to such other address as the party addressed may have substituted by notice pursuant to this Section.

(a) If to Altimmune, to:

Altimmune, Inc.
910 Clopper Road, Suite 201S
Gaithersburg, Maryland 20878
Attention: Chief Executive Officer

(b) If to Harris, to:

The last address on file with Altimmune at the time of Notice.

14. Binding Agreement. This Agreement shall inure to the benefit of and be enforceable by Harris and his personal or legal representatives, executors, administrators, successors, heirs, distributees, devises and legatees. This Agreement shall inure to the benefit of and be enforceable by Altimmune and any of its successors and assigns. Altimmune will require any successor (whether direct or indirect, by purchase, merger, consolidation or otherwise) to all or substantially all of the business and/or assets of Altimmune to assume expressly and agree to satisfy all of the obligations under this Agreement in the same manner and to the same extent that Altimmune would be required to satisfy such obligations if no such succession had taken place. As used in this Agreement, "Altimmune" shall mean "Altimmune" as hereinbefore defined and any successor to its respective businesses and/or assets as aforesaid which assumes and agrees to perform this Agreement by operation of law or otherwise.

15. Amendment. This Agreement may not be amended or modified otherwise than by a written agreement executed by Harris and the Chief Executive Officer or other person authorized by the Board or their respective successors and legal representatives.

16. Construction. This Agreement shall not be construed against any party by reason of the drafting or preparation hereof.

17. Captions. The captions of this Agreement are inserted for convenience and are not part of the Agreement.

18. Severability. In case any one or more of the provisions contained in this Agreement shall for any reason be held to be invalid, illegal, or unenforceable in any other respect, such invalidity, illegality or unenforceability shall not affect any other provision of this Agreement. This Agreement shall be construed as if such invalid, illegal or unenforceable provision had never been part of the Agreement and there shall be deemed substituted therefore such other provision as will most nearly accomplish the intent of the parties to the extent permitted by the applicable law.

19. Survivorship. Upon the expiration or other termination of this Agreement or termination of Harris's employment for any reason, the respective rights and obligations of the parties hereto shall survive such expiration or other termination to the extent necessary to carry out the intentions of the parties under this Agreement.

20. Withholding. Altimmune may withhold from any amounts payable under this Agreement such Federal, state, local or foreign taxes as shall be required to be withheld pursuant to any applicable law or regulation.

21. Section 409A.

(a) Although Altimmune does not guarantee the tax treatment of any payments or benefits provided under this Agreement, it is intended that this Agreement will comply with, or be exempt from, Code Section 409A to the extent this Agreement (or any benefit or payment provided hereunder) is subject thereto, and this Agreement shall be interpreted on a basis consistent with such intent.

(b) Notwithstanding any provision to the contrary in this Agreement, if Harris is deemed on the date of his "separation from service" (within the meaning of Treas. Reg. Section 1.409A-1(h)) with Altimmune to be a "specified employee" (within the meaning of Treas. Reg. Section 1.409A-1(i)), then with regard to any payment or benefit that is considered non-qualified deferred compensation under Code Section 409A payable on account of a "separation from service" that is required to be delayed pursuant to Code Section 409A(a)(2)(B) of the Code (after taking into account any applicable exceptions to such requirement), such payment or benefit shall be made or provided on the date that is the earlier of (i) the date immediately following the expiration of the six-month period measured from the date of Harris's "separation from service," and (ii) the date of Harris's death (the "Delay Period"). Upon the expiration of the Delay Period, all payments and benefits delayed pursuant to this Section 21(b) (whether they would have otherwise been payable in a single sum or in installments in the absence of such delay) shall be paid or reimbursed to Harris in a lump sum and any remaining payments and benefits due under this Agreement shall be paid or provided in accordance with the normal payment dates specified for them herein.

(c) Notwithstanding any provision of this Agreement to the contrary, for purposes of any provision of this Agreement providing for the payment of any amounts or benefits upon or following a termination of employment that are considered deferred compensation under Code Section 409A, references to Harris's "termination of employment" (and corollary terms) with Altimmune shall be construed to refer to Harris's "separation from service" (within the meaning of Treas. Reg. Section 1.409A-1(h)) with Altimmune.

(d) Whenever payments under this Agreement are to be made in installments, each such installment shall be deemed to be a separate payment for purposes of Code Section 409A. Whenever a payment under this Agreement specifies a payment period with reference to a number of days (e.g., "payment shall be made within thirty (30) days following the date of termination"), the actual date of payment within the specified period shall be within the sole discretion of Altimmune. Notwithstanding anything herein, Harris shall be responsible for payment of any applicable personal tax liabilities associated with the receipt of income or benefits pursuant to this Agreement.

22. Section 280G.

(a) Notwithstanding anything contained in this Agreement to the contrary, (i) to the extent that any payment or distribution of any type to or for the benefit of Harris by Altimmune, any affiliate thereof, any person or entity who acquires ownership or effective control of Altimmune or ownership of a substantial portion of Altimmune's assets (within the meaning of Section 280G of the Code and the regulations thereunder), or any affiliate of such person or entity, whether paid or payable or distributed or distributable pursuant to the terms of this Agreement or otherwise (the "Payments") constitutes "parachute payments" (within the meaning of Section 280G of

the Code), and if (ii) such aggregate Payments would, if reduced by all federal, state and local taxes applicable thereto, including the excise tax imposed under Section 4999 of the Code (the "Excise Tax"), be less than the amount Harris would receive, after all taxes, if Harris received aggregate Payments equal (as valued under Section 280G of the Code) to only three times Harris's "base amount" (within the meaning of Section 280G of the Code), less $1.00, then (iii) such Payments shall be reduced (but not below zero) if and to the extent necessary so that no Payments to be made or benefit to be provided to Harris shall be subject to the Excise Tax.

(b) The determination of whether the Payments shall be reduced as provided in Section 22(a) hereof and the amount of such reduction shall be made at Altimmune's expense by an independent public accounting firm of national reputation selected by Altimmune (the "Accounting Firm"). The Accounting Firm shall provide its determination (the "Determination"), together with detailed supporting calculations and documentation, to Altimmune and Harris within ten (10) days after Harris's final day of employment. If the Accounting Firm determines that no Excise Tax is payable by Harris with respect to the Payments, it shall furnish Harris with an opinion reasonably acceptable to the him that no Excise Tax will be imposed with respect to any such payments and, absent manifest error, such Determination shall be binding, final and conclusive upon Altimmune and Harris.

23. **Counterparts.** This Agreement may be executed simultaneously in two or more counterparts, each of which shall be deemed an original, but all of which shall together constitute one in the same Agreement.

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

ALTIMMUNE, INC.:

By: /s/ Will Brown
Will Brown, Chief Financial Officer

Date: September 3, 2019

M. SCOTT HARRIS, M.D.:

/s/ M. Scott Harris

Date: September 4, 2019

Exhibit 31.1

Certification of Principal Executive Officer
Pursuant to SEC Rule 13a-14(a)/15d-14(a)

I, Vipin K. Garg, certify that:

1. I have reviewed this report on Form 10-Q of Altimmune, Inc. for the period ended September 30, 2019;

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

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

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

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

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

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

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

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

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

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

Dated: November 13, 2019

/s/ Vipin K. Garg
Name: Vipin K. Garg
Title: President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

Certification of Principal Financial Officer
Pursuant to SEC Rule 13a-14(a)/15d-14(a)

I, Will Brown, certify that:

1. I have reviewed this report on Form 10-Q of Altimmune, Inc. for the period ended September 30, 2019;

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

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

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

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

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

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

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

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

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

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

Dated: November 13, 2019

/s/ Will Brown
Name: Will Brown
Title: Chief Financial Officer
(Principal Financial Officer)

Exhibit 32.1

Certification Pursuant to Section 1350 of Chapter 63
of Title 18 of the United States Code

In connection with the quarterly report on Form 10-Q of Altimmune, Inc. (the "Company") for the period ended September 30, 2019, as filed with the Securities and Exchange Commission (the "Report"), I, Vipin K. Garg, President and Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934.

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Vipin K. Garg
Vipin K. Garg
President and Chief Executive Officer
November 13, 2019

A signed original of this written statement required by Section 906 of the Sarbanes-Oxley Act of 2002 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.

This certification is being furnished pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 and shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, or otherwise subject to the liability of that section. This certification will not be deemed to be incorporated by reference into any filing under the Securities Act of 1933 or the Securities Exchange Act of 1934.

Exhibit 32.2

Certification Pursuant to Section 1350 of Chapter 63
of Title 18 of the United States Code

In connection with the quarterly report on Form 10-Q of Altimmune, Inc. (the "Company") for the period ended September 30, 2019, as filed with the Securities and Exchange Commission (the "Report"), I, Will Brown, Interim Chief Financcial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934.

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Will Brown
Will Brown
Chief Financial Officer
November 13, 2019

A signed original of this written statement required by Section 906 of the Sarbanes-Oxley Act of 2002 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.

This certification is being furnished pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 and shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, or otherwise subject to the liability of that section. This certification will not be deemed to be incorporated by reference into any filing under the Securities Act of 1933 or the Securities Exchange Act of 1934.