Tables of Contents

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 March 31, 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: 001-36304

Phio Pharmaceuticals Corp.

(Exact name of registrant as specified in its charter)

Delaware	**45-3215903**
(State of incorporation)	**(I.R.S. Employer Identification No.)**

257 Simarano Drive, Suite 101, Marlborough, MA 01752
(Address of principal executive office) (Zip code)

Registrant's telephone number: (508) 767-3861

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	PHIO	The Nasdaq Capital 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 time 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, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☒	Smaller reporting company	☒
		Emerging growth company	☐

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

Indicate by checkmark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

As of May 10, 2019, Phio Pharmaceuticals Corp. had 23,889,132 shares of common stock, $0.0001 par value, outstanding.

PHIO PHARMACEUTICALS CORP.
FORM 10-Q — QUARTER ENDED MARCH 31, 2019

INDEX

Part No.	Item No.	Description	Page No.
I		FINANCIAL INFORMATION	
	1	Financial Statements (Unaudited)	3
		Condensed Consolidated Balance Sheets as of March 31, 2019 and December 31, 2018	3
		Condensed Consolidated Statements of Operations for the Three Months Ended March 31, 2019 and 2018	4
		Condensed Consolidated Statements of Stockholders' Equity for the Three Months Ended March 31, 2019 and 2018	5
		Condensed Consolidated Statements of Cash Flows for the Three Months Ended March 31, 2019 and 2018	6
		Notes to Condensed Consolidated Financial Statements	7
	2	Management's Discussion and Analysis of Financial Condition and Results of Operations	13
	3	Quantitative and Qualitative Disclosures about Market Risk	19
	4	Controls and Procedures	19
II		OTHER INFORMATION	20
	1	Legal Proceedings	20
	1A	Risk Factors	20
	2	Unregistered Sales of Equity Securities and Use of Proceeds	20
	3	Defaults Upon Senior Securities	21
	4	Mine Safety Disclosures	21
	5	Other Information	21
	6	Exhibits	21
Signatures			23

PART I — FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

PHIO PHARMACEUTICALS CORP.
CONDENSED CONSOLIDATED BALANCE SHEETS
(Amounts in thousands, except share and per share data)
(Unaudited)

	March 31, 2019	December 31, 2018
ASSETS		
Current assets:		
Cash	$ 12,746	$ 14,879
Restricted cash	50	50
Prepaid expenses and other current assets	117	221
Total current assets	12,913	15,150
Right of use asset	592	–
Property and equipment, net	155	172
Other assets	18	–
Total assets	$ 13,678	$ 15,322
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 721	$ 550
Accrued expenses	703	1,194
Lease liability	92	–
Total current liabilities	1,516	1,744
Lease liability, net of current portion	500	–
Total liabilities	2,016	1,744
Commitments and contingencies		
Stockholders' equity:		
Preferred stock, $0.0001 par value, 10,000,000 shares authorized	–	–
Common stock, $0.0001 par value, 100,000,000 shares authorized; 23,389,132 and 18,841,814 shares issued and outstanding at March 31, 2019 and December 31, 2018, respectively	2	2
Additional paid-in capital	99,690	99,487
Accumulated deficit	(88,030)	(85,911)
Total stockholders' equity	11,662	13,578
Total liabilities and stockholders' equity	$ 13,678	$ 15,322

The accompanying notes are an integral part of these condensed consolidated financial statements.

PHIO PHARMACEUTICALS CORP.
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(Amounts in thousands, except share and per share data)
(Unaudited)

	Three Months Ended March 31,	
	2019	**2018**
Revenues	$ 21	$ 23
Operating expenses:		
Research and development	1,089	1,361
General and administrative	1,078	901
Total operating expenses	2,167	2,262
Operating loss	(2,146)	(2,239)
Total other income, net	27	–
Net loss	$ (2,119)	$ (2,239)
Net loss per share:		
Basic and diluted	$ (0.10)	$ (0.90)
Weighted average shares: basic and diluted	20,419,440	2,494,464

The accompanying notes are an integral part of these condensed consolidated financial statements.

PHIO PHARMACEUTICALS CORP.
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(Amounts in thousands, except share data)
(Unaudited)

For the Three Months Ended March 31, 2019

	Common Stock		Additional Paid-in Capital	Accumulated Deficit	Total
	Shares	Amount			
Balance at December 31, 2018	18,841,814	$ 2	$ 99,487	$ (85,911)	$ 13,578
Issuance of common stock upon the exercise of pre-funded warrants	4,304,286	–	43	–	43
Issuance of restricted stock	243,032	–	–	–	–
Stock-based compensation expense	–	–	160	–	160
Net loss	–	–	–	(2,119)	(2,119)
Balance at March 31, 2019	23,389,132	$ 2	$ 99,690	$ (88,030)	$ 11,662

For the Three Months Ended March 31, 2018

	Common Stock		Additional Paid-in Capital	Accumulated Deficit	Total
	Shares	Amount			
Balance at December 31, 2017	2,429,993	$ –	$ 80,384	$ (78,551)	$ 1,833
Cash paid in lieu of fractional shares for 1:10 reverse stock split	(31)	–	–	–	–
Issuance of common stock under 2017 Lincoln Park Capital, LLC purchase agreement	270,000	–	932	–	932
Stock-based compensation expense	–	–	41	–	41
Net loss	–	–	–	(2,239)	(2,239)
Balance at March 31, 2018	2,699,962	$ –	$ 81,357	$ (80,790)	$ 567

The accompanying notes are an integral part of these condensed consolidated financial statements.

PHIO PHARMACEUTICALS CORP.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(Amounts in thousands)
(Unaudited)

	Three Months Ended March 31,	
	2019	**2018**
Cash flows from operating activities:		
Net loss	$ (2,119)	$ (2,239)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	18	20
Non-cash stock-based compensation	160	41
Changes in operating assets and liabilities:		
Prepaid expenses and other assets	86	13
Right of use asset	28	–
Accounts payable	171	10
Accrued expenses	(491)	248
Lease liability	(28)	–
Net cash used in operating activities	(2,175)	(1,907)
Cash flows from investing activities:		
Cash paid for purchase of property and equipment	(1)	–
Net cash used in investing activities	(1)	–
Cash flows from financing activities:		
Net proceeds from the issuance of common stock	–	932
Proceeds from the exercise of pre-funded warrants	43	–
Net cash provided by financing activities	43	932
Net decrease in cash and restricted cash	(2,133)	(975)
Cash and restricted cash at the beginning of period	14,929	3,631
Cash and restricted cash at the end of period	$ 12,796	$ 2,656
Supplemental disclosure of cash flow information:		
Cash paid for interest	$ –	$ –
Supplemental disclosure of non-cash investing and financing activities:		
Right of use asset	$ 620	$ –

The accompanying notes are an integral part of these condensed consolidated financial statements.

PHIO PHARMACEUTICALS CORP.
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

1. Nature of Operations

Phio Pharmaceuticals Corp. ("**Phio**," "**we**," "**our**" or the "**Company**") is a biotechnology company developing the next generation of immuno-oncology therapeutics based on its self-delivering RNAi ("**sd-rxRNA®**") therapeutic platform. The Company's efforts are focused on developing sd-rxRNA therapeutic compounds to be used in the context of immunotherapy by targeting checkpoints or other gene targets, by local or intravenous injections. We aim to maximize the power of our sd-rxRNA therapeutic compounds by weaponizing therapeutic immune effector cells to overcome tumor immune escape, providing patients with a powerful new treatment option that goes beyond current treatment modalities.

2. Significant Accounting Policies

Basis of Presentation

The accompanying condensed consolidated financial statements are unaudited and have been prepared in accordance with accounting principles generally accepted in the United States of America ("**GAAP**"). Certain information and footnote disclosures included in the Company's annual financial statements have been condensed or omitted. The year-end condensed balance sheet data was derived from audited financial statements, but does not include all disclosures required by GAAP. In the opinion of management, all adjustments (including normal recurring accruals) considered necessary for a fair presentation of the condensed consolidated financial statements have been included. Interim results are not necessarily indicative of results for a full year.

Principles of Consolidation

The consolidated financial statements include the accounts of Phio and its wholly-owned subsidiary, MirImmune, LLC. All material intercompany accounts have been eliminated in consolidation.

Uses of Estimates in Preparation of Financial Statements

The preparation of financial statements in accordance with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ materially from these estimates.

Restricted Cash

Restricted cash consists of certificates of deposit held by financial institutions as collateral for the Company's corporate credit cards.

Leases

The Company follows the provisions of the Financial Accounting Standards Board ("**FASB**") Accounting Standards Codification ("**ASC**") Topic 842, "*Leases*" ("**ASC 842**"). At the inception of a contract, the Company determines whether the contract is or contains a lease based on all relevant facts and circumstances. For contracts that contain a lease, the Company identifies the lease and non-lease components, determines the consideration in the contract and recognizes the classification of the lease as operating or financing. At the commencement date of the lease, the Company recognizes a liability to make lease payments and an asset representing the right to use the underlying asset during the lease term. The Company has elected not to recognize on the balance sheet leases with a term less than one year.

Lease liabilities and the corresponding right of use assets are recorded based on the present value of lease payments to be made over the lease term. The discount rate used to calculate the present value is the rate implicit in the lease, or if not readily determinable, the Company's incremental borrowing rate. The Company's incremental borrowing rate is the rate of interest that we would have to pay to borrow on a collateralized basis over a similar term an amount equal to the lease payments in a similar economic environment. Certain adjustments to the right of use asset may be required for items such as initial direct costs or incentives received. Lease payments on operating leases are recognized on a straight-line basis over the expected term of the lease. Lease payments on financing leases are recognized using the effective interest method.

Derivative Financial Instruments

The Company follows the provisions of the FASB ASC Topic 815, "*Derivatives and Hedging*" ("**ASC 815**"). Financial instruments that meet the definition of a derivative are classified as an asset or liability and measured at fair value on the issuance date and are revalued on each subsequent balance sheet date. The changes in fair value are recognized as current period income or loss. Financial instruments that do not meet the definition of a derivative are classified as equity and measured at fair value and recorded as additional paid in capital in stockholders' equity at the date of issuance. No further adjustments to their valuation are made.

Fair Value of Financial Instruments

The carrying amounts reported in the balance sheet for restricted cash, accounts payable and accrued expenses approximate their fair values due to their short-term nature.

Research and Development Expenses

Research and development costs relate to compensation and benefits for research and development personnel, facility-related expenses, supplies, external services, costs to acquire technology licenses, expenses associated with preclinical and clinical development activities and other operating costs. Research and development expenses are charged to expense as incurred. Payments made by the Company in advance for research and development services not yet provided and/or for materials not yet received are recorded as prepaid expenses and expensed when the service has been performed or when the goods have been received. Accrued liabilities are recorded related to those expenses for which vendors have not yet billed the Company with respect to services provided and/or materials that it has received.

The Company contracts with third parties to perform various preclinical and clinical activities on our behalf for the continued development of our product candidates. Accruals and expenses are recorded during the period incurred based on such estimates and assumptions as expected cost, passage of time, the achievement of milestones and other information available to us and are assessed on a quarterly basis. Actual results may differ from these estimates and could have a material impact on the Company's reported results. The Company's historical accrual estimates have not been materially different from its actual costs.

Stock-based Compensation

The Company follows the provisions of the FASB ASC Topic 718, "*Compensation — Stock Compensation*" ("**ASC 718**"), which requires the measurement and recognition of compensation expense for all stock-based payment awards. Stock compensation expense is based on the grant date fair value estimated in accordance with the provisions of ASC 718 and is recognized as an expense over the requisite service period.

Comprehensive Loss

The Company's comprehensive loss is equal to its net loss for all periods presented.

Net Loss per Share

The Company accounts for and discloses net loss per share in accordance with the FASB ASC Topic 260, "*Earnings per Share*." Basic and diluted net loss per share is computed by dividing net loss by the weighted average number of common shares outstanding. Diluted earnings per share is computed by dividing the Company's net loss by the weighted average number of common shares outstanding and the impact of all dilutive potential common shares.

3. Recent Accounting Pronouncements

In February 2016, the FASB issued Accounting Standards Update ("**ASU**") 2016-02, "*Leases (Topic 842)*" ("**Topic 842**"), which requires lessees to recognize a right-of-use asset and lease liability on the balance sheet for most leases that do not meet the definition of a short-term lease and to disclose key information about leasing arrangements. Leases will continue to be classified as either operating or financing. The Company adopted Topic 842 on January 1, 2019 using the modified retrospective approach and elected to apply the transition method that allows companies to continue applying guidance under the lease standard in effect at that time in the comparative period financial statements and recognize a cumulative-effect adjustment to the balance sheet on the date of adoption. The Company has also elected the package of practical expedients to not reassess our prior conclusions about lease identification, lease classification and indirect costs and to not separate lease and non-lease components.

Upon adoption of Topic 842 on January 1, 2019, the Company recorded a right of use asset of $28,000 and an operating lease liability of $28,000. Comparative periods have not been restated. For additional information regarding how the Company is accounting for leases under Topic 842, refer to Note 4.

4. Leases

The Company adopted Topic 842 on January 1, 2019 using the modified retrospective approach and elected to apply the transition method that allows companies to continue applying guidance under the lease standard in effect at that time in the comparative period financial statements and recognize a cumulative-effect adjustment to the balance sheet on the date of adoption. The Company has also elected the package of practical expedients to not reassess our prior conclusions about lease identification, lease classification and indirect costs and to not separate lease and non-lease components. With the adoption of Topic 842, the Company's balance sheet now contains line items for right of use asset, current lease liability and noncurrent lease liability.

The Company determined that it held an operating lease for its office and laboratory space as of January 1, 2019. The Company held no other lease agreements. The Company leases 7,581 square feet of office and laboratory space for its corporate headquarters and primary research facility in Marlborough, Massachusetts. On January 1, 2019, the Company recorded a right of use asset and corresponding lease liability of $28,000.

On January 22, 2019, the Company amended the lease for its office and laboratory space to extend the term by five years, such that the lease will expire on March 31, 2024. With the amendment, the Company also has the option to terminate the lease after two or three years by providing advance written notice. Due to the extension of the lease agreement, the Company increased the right of use asset and corresponding lease liability by $592,000.

Additionally, the lease agreements did not contain information to determine the rate implicit in the lease. The Company calculated its incremental borrowing rate based on what the Company would have to pay to borrow on a collateralized basis over the lease term for an amount equal to the remaining lease payments. At March 31, 2019, the weighted average incremental borrowing rate and the weighted average remaining lease term for the Company's operating lease was 4.46% and 3.91 years, respectively.

As of March 31, 2019, the right of use asset and liability arising from the Company's operating lease was $592,000. During the three months ended March 31, 2019, cash paid for the amounts included in the measurement of liabilities was $28,000 and the Company recorded operating lease expense of $28,000, which was included in operating expense.

Aggregate future minimum non-cancellable commitments under the operating lease as of March 31, 2019 was as follows, in thousands:

2019 (remaining)	$ 94
2020	128
2021	132
2022	135
2023	139
Thereafter	35
Total lease payments	663
Less: Imputed interest	(71)
Total operating lease liabilities	$ 592

5. Stockholders' Equity

Lincoln Park Capital Fund, LLC – On August 8, 2017, the Company entered into a purchase agreement (the "**Purchase Agreement**") and a registration rights agreement with Lincoln Park Capital Fund, LLC ("**LPC**"), pursuant to which the Company has the right to sell to LPC shares of the Company's common stock, subject to certain limitations and conditions set forth in the Purchase Agreement.

No shares of common stock were sold to LPC under the Purchase Agreement during the three months ended March 31, 2019. During the three months ended March 31, 2018, the Company sold 270,000 shares of common stock to LPC for net proceeds of approximately $932,000.

Warrants — The following table summarizes the Company's outstanding equity-classified warrants at March 31, 2019:

Summary of Warrants	Exercise prices	Number of Shares Underlying Warrants	Expiration
June 2015 Warrants	$ 52.00	130,007	June 2, 2020
December 2016 Warrants	$ 9.00	1,277,793	December 21, 2021
April 2018 Warrants	$ 3.15	1,132,953	May 31, 2023
Placement Agent Warrants	$ 4.0546	75,530	April 9, 2023
Pre-Funded Warrants	$ 0.01	2,864,286	No expiration
October 2018 Warrants	$ 0.70	21,428,572	October 3, 2025
Underwriter Warrants	$ 0.875	1,607,143	October 1, 2023
Total warrants outstanding		28,516,284	

During the quarter ended March 31, 2019, the Company received proceeds of $43,000 from the exercise of Pre-Funded Warrants for a total of 4,304,286 shares of common stock. There were no warrant exercises during the quarter ended March 31, 2018.

6. Net Loss per Share

The following table sets forth the potential common shares excluded from the calculation of net loss per share because their inclusion would be anti-dilutive:

	March 31,	
	2019	2018
Options to purchase common stock	149,402	52,180
Restricted stock units	387,500	–
Warrants to purchase common stock	28,516,284	1,408,000
Total	29,053,186	1,460,180

7. Stock-based Compensation

Stock Options

The Company uses the Black-Scholes option-pricing model to determine the fair value of all its option grants. For valuing options granted during the three months ended March 31, 2019 and 2018, the following assumptions were used:

	For the Three Months Ended March 31,	
	2019	2018
Risk-free interest rate	2.58%	2.70 – 2.84%
Expected volatility	98.87%	91.28 – 91.48%
Weighted average expected volatility	98.87%	91.38%
Expected lives (in years)	5.31	10.00
Expected dividend yield	0.00%	0.00%

The weighted average fair value of options granted during the three months ended March 31, 2019 and 2018 was $0.29 and $3.35, respectively.

The risk-free interest rate used for each grant is based upon the yield on zero-coupon U.S. Treasury securities with a term similar to the expected life of the related option. The Company's expected stock price volatility assumption is based upon the Company's own implied volatility. The expected life assumption for option grants is based upon the simplified method provided for under ASC 718. The dividend yield assumption is based upon the fact that the Company has never paid cash dividends and presently has no intention of paying cash dividends.

The following table summarizes the activity of the Company's stock options for the three months ended March 31, 2019:

	Number of Shares	Weighted-Average Exercise Price Per Share	Aggregate Intrinsic Value
Balance at December 31, 2018	141,677	$ 66.29	
Granted	10,000	0.38	
Exercised	–	–	
Cancelled	(2,275)	283.39	
Balance at March 31, 2019	149,402	$ 58.57	$ 701
Exercisable at March 31, 2019	39,499	$ 215.56	$ –

Stock-based compensation expense related to stock options for the three months ended March 31, 2019 and 2018 was $19,000 and $41,000, respectively.

Restricted Stock Units

In addition to options to purchase shares of common stock, the Company may also grant restricted stock units ("**RSUs**"). RSUs are generally subject to graded vesting and the satisfaction of service requirements, similar to our stock options. Upon vesting, each outstanding RSU will be exchanged for one share of the Company's common stock. The fair value of the RSUs awarded are based on the Company's closing stock price at the grant date and are expensed over the requisite service period.

The following table summarizes the activity of the Company's RSUs for the three months ended March 31, 2019:

	Number of Shares	Weighted-Average Grant Date Fair Value
Unvested units at December 31, 2018	137,500	$ 1.79
Granted	250,000	0.36
Vested	–	–
Forfeited	–	–
Unvested units at March 31, 2019	387,500	$ 0.87

Stock-based compensation expense related to RSUs for the three months ended March 31, 2019 was $35,000. There was no stock-based compensation expense related to RSUs recorded in the same prior year period.

Restricted Stock

On August 31, 2018, and through subsequent amendments on December 19, 2018 and February 14, 2019, Geert Cauwenbergh, Dr. Med. Sc., the Company's former Chief Executive Officer, elected the right to receive, in lieu of cash, for the period from September 15, 2018 to February 28, 2019, up to 50% of his base salary and cash bonuses, if any, (collectively, the "**Compensation**") payable in the form of unvested, restricted shares of the Company's common stock. Such restricted shares were received in the form of a series of grants made on each Company payroll date in lieu of cash payment of the Compensation. All shares issued in lieu of Compensation shall vest in full on June 1, 2019.

The fair value of the restricted stock is based on the Company's closing stock price on the date of grant and is expensed over the vesting period. During the three months ended March 31, 2019, the Company granted 243,032 shares of restricted stock in lieu of Compensation to Dr. Cauwenbergh. Stock-based compensation expense related to restricted stock for the three months ended March 31, 2019 was $106,000. There were no restricted stock issuances under this election during the three months ended March 31, 2018.

Compensation Expense Related to Equity Awards

The following table sets forth total stock-based compensation expense for the three months ended March 31, 2019 and 2018, in thousands:

	Three Months Ended March 31,	
	2019	2018
Research and development	$ 7	$ 9
General and administrative	153	32
Total stock-based compensation	$ 160	$ 41

8. Subsequent Events

Subsequent to the balance sheet date, the Company received proceeds of $5,000 from the exercise of Pre-Funded Warrants for a total of 500,000 shares of common stock.

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

In this document, "we," "our," "ours," "us," "Phio" and the "Company" refers to Phio Pharmaceuticals Corp. and our subsidiary, MirImmune, LLC and the ongoing business operations of Phio Pharmaceuticals Corp. and MirImmune, LLC, whether conducted through Phio Pharmaceuticals Corp. or MirImmune, LLC.

This management's discussion and analysis of financial condition as of March 31, 2019 and results of operations for the three months ended March 31, 2019 and 2018 should be read in conjunction with the financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2018, which was filed with the Securities and Exchange Commission (the "SEC") on March 27, 2019.

This report contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements can be identified by words such as "intends," "believes," "anticipates," "indicates," "plans," "expects," "suggests," "may," "should," "potential," "designed to," "will" and similar references, although not all forward-looking statements contain these words. Forward-looking statements are neither historical facts nor assurances of future performance. These statements are based only on our current beliefs, expectations and assumptions regarding the future of our business, future plans and strategies, projections, anticipated events and trends, the economy and other future conditions. Because forward-looking statements relate to the future, they are subject to inherent uncertainties, risks and changes in circumstances that are difficult to predict and many of which are outside of our control. Our actual results and financial condition may differ materially from those indicated in the forward-looking statements as a result of a number of important factors, including those identified in our Annual Report on Form 10-K for the year ended December 31, 2018 under the heading "Risk Factors" and in other filings the Company periodically makes with the SEC. Therefore, you should not rely on any of these forward-looking statements. Forward-looking statements contained in this Quarterly Report on Form 10-Q speak as of the date hereof and the Company does not undertake to update any of these forward-looking statements to reflect a change in its views or events or circumstances that occur after the date of this report.

Overview

Phio Pharmaceuticals Corp. is a biotechnology company developing the next generation of immuno-oncology therapeutics based on our self-delivering RNAi ("**sd-rxRNA®**") therapeutic platform. The Company's efforts are focused on developing sd-rxRNA therapeutic compounds to be used in the context of immunotherapy by targeting checkpoints or other gene targets, by local or intravenous injections. We aim to maximize the power of our sd-rxRNA therapeutic compounds by weaponizing immune effector cells to overcome tumor immune escape providing patients a powerful new treatment option that goes beyond current treatment modalities.

Our development efforts are based on our broadly patented sd-rxRNA technology platform. Our sd-rxRNA compounds do not require a delivery vehicle to penetrate into tissues and cells and are designed to "silence" or down-regulate, the expression of a specific gene which is over-expressed in cancer. We believe that our sd-rxRNA platform uniquely positions the Company in the field of immuno-oncology because of this and for the following reasons:

- Efficient uptake of sd-rxRNA to immune cells obviating the need for facilitated delivery (mechanical or formulation);
- Can target multiple genes (i.e. multiple immunosuppression pathways) in a single therapeutic entity;
- Gene silencing by sd-rxRNA has been shown to have a sustained, or long-term, effect *in vivo*;
- Favorable clinical safety profile of sd-rxRNA with local administration; and
- Can be readily manufactured under current good manufacturing practices.

Checkpoint Inhibition in Adoptive Cell Transfer

The Company has developed sd-rxRNA targeting PD-1, TIGIT and other undisclosed checkpoints in adoptive cell transfer ("**ACT**") for the treatment of solid tumors. The Company has selected RXI-762, our sd-rxRNA targeting PD-1, and RXI-804, our sd-rxRNA targeting TIGIT, for development in melanoma, ovarian cancer and head and neck cancer, as well as other undisclosed indications. When used in ACT, RXI-762 and RXI-804 are expected to result in an improved efficacy to targeted tumors. We plan to enter the clinic with RXI-762 as part of an investigator sponsored clinical trial with one of our collaborators in ACT therapy for solid tumors, such as in melanoma, by Q1 2020.

The Center for Cancer Immune Therapy (CCIT) at Herlev Hospital is a leading European cancer center for use of tumor-infiltrating lymphocytes ("**TILs**") for ACT. CCIT has carried out numerous clinical trials based on a direct translation of the discoveries from the laboratory. Our collaboration with CCIT is evaluating the potential of our sd-rxRNA technology platform to enhance the function of TILs for use in the treatment for a number of cancer types, including melanoma and ovarian cancer. To date, CCIT has evaluated sd-rxRNA compounds targeting immune checkpoints in preclinical screening models of matched TIL/tumor cell pairs from melanoma and cancer patients. Results have shown a marked PD-1 reduction on the surface of TILs in a pilot rapid expansion protocol.

Iovance Biotherapeutics, Inc. is a biotechnology company focused on the development and commercialization of autologous cellular immunotherapies optimizing personalized, tumor-directed TILs. Our research collaboration with Iovance will evaluate the potential synergies with our novel sd-rxRNA therapeutic compounds and Iovance's autologous cell therapy based on TILs for the use in the treatment of cancer. Data from this collaboration has shown that a sd-rxRNA mediated knock-down of PD-1 was associated with phenotypic changes indicative of TIL activation. Our next steps with Iovance include further evaluation of the impact of sd-rxRNA mediated gene silencing on TIL tumor reactivity and implementation of optimized silencing protocols and scale-up thereof.

Cell Maturation and Metabolism in Adoptive Cell Transfer

We are also able to use our sd-rxRNA in T-cells and other immune cell types, such as natural killer ("**NK**") cells and dendritic cells, for targets other than immune checkpoints in order to weaponize and improve cell persistence and cell viability in the immunosuppressive tumor micro-environment. We believe this shows the broad applicability of our platform technology, and that our potential impact in immuno-oncology is not limited to checkpoints and TILs.

We have shown that sd-rxRNAs are rapidly and efficiently taken up by immune effector cells without the use of transfection reagents. Using sd-rxRNA compounds against checkpoint inhibitors, we can suppress their expression levels up to 95% in immune cells, including T-cells and NK cells. Furthermore, we have demonstrated potent silencing activity as well as a phenotypic effect (enhanced degranulation activity) of NK cells treated with sd-rxRNA compounds targeting checkpoints. By treating NK cells *ex-vivo*, prior to ACT with sd-rxRNA reducing the expression of proteins such as Cbl-b and TIGIT, the anti-tumor response of these cells can be improved. Ongoing work expands these findings to include compounds for more specific NK targets, including NK specific inhibitory receptors, which could be used alone or in combination.

Our recently announced collaboration with Glycostem Therapeutics BV, a leading cellular immunotherapy company, will explore potential synergies of our sd-rxRNA in combination with Glyostem's proprietary NK cell generation technology, oNKord®, to develop cellular immunotherapies for cancer treatment with enhanced efficacy and/or safety. This collaboration will examine the applicability of our sd-rxRNA technology to be integrated into Glycostem's processes to produce NK cells with the ultimate goal to further improve Glycostem's immunotherapies for the treatment of cancer patients.

Through our collaboration with Medigene AG, a German biotechnology company developing highly innovative, complementary treatment platforms to target various types and stages of cancer, we are exploring the potential synergies of our sd-rxRNA technology in combination with Medigene's recombinant TCRs to develop modified T-cells with enhanced efficacy and/or safety with the ultimate goal to further improve Medigene's T-cell therapies for the treatment of cancer patients. In the studies completed, Medigene observed the reduction of PD-1 surface levels in T-cells transduced with TCRs and treated with our sd-rxRNA compound, RXI-762. While these studies utilized the Company's PD-1 targeting sd-rxRNA for proof of concept, Medigene is evaluating additional targets to improve the therapeutic effects of Medigene's receptor modified T-cells.

Direct Tumor and Tumor Micro-Environment

We are exploring the use of our sd-rxRNA directly towards tumor and/or tumor micro-environment ("**TME**") targets. Impacting the tumor cells and/or TME through a direct use of sd-rxRNA, locally administered, could potentially become an important form of adjuvant therapy. We believe that this will also show that our contributions with our sd-rxRNA compounds in immuno-oncology are not limited to use with a cell therapy platform. Additionally, the Company has shown in a clinical setting that its sd-rxRNA compounds are safe and well-tolerated following local administration.

Our collaborative research agreement with Gustave Roussy, a leading comprehensive cancer center in France, concentrates on determining the feasibility of our sd-rxRNA platform to target the TME via intra-tumoral injection. Our recent *in-vivo* study with Gustave Roussy demonstrated that sd-rxRNA compound delivered via intra-tumoral injection showed silencing of gene expression with our sd-rxRNA compounds with a 80—85% reduction of the target gene expression in a mouse model of melanoma.

Critical Accounting Policies and Estimates

The discussion and analysis of our financial condition and results of operations is based upon our financial statements, which have been prepared in accordance with GAAP. 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 related disclosure of contingent assets and liabilities. On an ongoing basis, we evaluate our estimates and base our estimates on historical experience and various other assumptions that are believed to be reasonable under the circumstances. Actual results may differ from these estimates under different assumptions or conditions and could have a material impact on our reported results. Other than our accounting policy for leases in connection with the adoption of Topic 842 on January 1, 2019, as described below, there have been no significant changes to our critical accounting policies since the beginning of this fiscal year. Our critical accounting policies are described in the "Management's Discussion and Analysis of Financial Condition and Results of Operations" section of our Annual Report on Form 10-K for the year ended December 31, 2018, which we filed with the SEC on March 27, 2019.

Leases

The Company follows the provisions of the FASB ASC 842. At the inception of a contract, the Company determines whether the contract is or contains a lease based on all relevant facts and circumstances. For contracts that contain a lease, the Company identifies the lease and non-lease components, determines the consideration in the contract and recognizes the classification of the lease as operating or financing. At the commencement date of the lease, the Company recognizes a liability to make lease payments and an asset representing the right to use the underlying asset during the lease term. The Company has elected not to recognize on the balance sheet leases with a term less than one year.

Lease liabilities and the corresponding right of use assets are recorded based on the present value of lease payments to be made over the lease term. The discount rate used to calculate the present value is the rate implicit in the lease, or if not readily determinable, the Company's incremental borrowing rate. The Company's incremental borrowing rate is the rate of interest that we would have to pay to borrow on a collateralized basis over a similar term an amount equal to the lease payments in a similar economic environment. Certain adjustments to the right of use asset may be required for items such as initial direct costs or incentives received. Lease payments on operating leases are recognized on a straight-line basis over the expected term of the lease. Lease payments on financing leases are recognized using the effective interest method.

Results of Operations

The following data summarizes the results of our operations for the periods indicated, in thousands:

	Three Months Ended March 31,		
Description	**2019**	**2018**	**Dollar Change**
Revenues	$ 21	$ 23	$ (2)
Operating expenses	(2,167)	(2,262)	95
Operating loss	(2,146)	(2,239)	93
Net loss	(2,119)	(2,239)	120

Comparison of the Three Months Ended March 31, 2019 and 2018

Revenues

The following table summarizes our total revenues, for the periods indicated, in thousands:

	Three Months Ended March 31,		
Description	**2019**	**2018**	**Dollar Change**
Revenues	$ 21	$ 23	$ (2)

Revenues for the three months ended March 31, 2019 and 2018 related to the work performed by the Company as a sub-awardee under the government grant issued to our collaborator BioAxone Biosciences, Inc. from the National Institute of Neurological Disorders and Stroke. The grant provided funding for the development of a novel sd-rxRNA compound, BA-434, that targets PTEN for the treatment of spinal cord injury.

Operating Expenses

The following table summarizes our total operating expenses, for the periods indicated, in thousands:

	Three Months Ended March 31,		
Description	**2019**	**2018**	**Dollar Change**
Research and development	$ 1,089	$ 1,361	$ (272)
General and administrative	1,078	901	177
Total operating expenses	$ 2,167	$ 2,262	$ (95)

Research and Development Expenses

Research and development expenses relate to compensation and benefits for research and development personnel, facility-related expenses, supplies, external services, costs to acquire technology licenses, expenses associated with preclinical and clinical development activities and other operating costs.

Research and development expenses for the three months ended March 31, 2019 decreased 20% as compared with the three months ended March 31, 2018, primarily due to a reduction in headcount and the payroll-related expenses, as well as the completion of the Company's drug manufacture of RXI-762 in the prior year period.

General and Administrative Expenses

General and administrative expenses relate to compensation and benefits for general and administrative personnel, facility-related expenses, professional fees for legal, audit, tax and consulting services, as well as other general corporate expenses.

General and administrative expenses for the three months ended March 31, 2019 increased 20% as compared with the three months ended March 31, 2018, primarily due to an increase in stock-based compensation expense related to the restricted stock issued to the Company's former Chief Executive Officer in lieu of cash compensation.

Liquidity and Capital Resources

On August 8, 2017, the Company entered into a purchase agreement (the "**Purchase Agreement**") and a registration rights agreement with Lincoln Park Capital Fund, LLC ("**LPC**"), pursuant to which the Company has the right to sell to LPC up to $15,000,000 in shares of the Company's common stock, subject to certain limitations and conditions set forth therein, over the 30-month term of the Purchase Agreement. To date, the Company has sold a total of 495,000 shares of common stock to LPC under the Purchase Agreement for net proceeds of $1,602,000. The Company has approximately $13,300,000 remaining under the Purchase Agreement with LPC.

On April 11, 2018, the Company closed a registered direct offering of 1,510,604 shares of the Company's common stock at a purchase price of $3.15 per share and in a concurrent private placement, sold warrants to purchase a total of 1,132,953 shares of common stock at a purchase price of $0.125 per underlying warrant share and with an exercise price of $3.15 per share (the "**April 2018 Offering**"). Net proceeds to the Company from the April 2018 Offering were $4,210,000 after deducting placement agent fees and offering expenses paid by the Company.

On October 3, 2018, the Company closed an underwritten public offering of 3,725,714 shares of the Company's common stock and pre-funded warrants (the "**Pre-Funded Warrants**") to purchase an aggregate of 17,702,858 shares of common stock (the "**October 2018 Offering**"). The Pre-Funded Warrants are immediately exercisable at a price per share of $0.01 and do not expire. Each share of common stock or Pre-Funded Warrant, as applicable, was sold as a unit with a warrant to purchase one share of common stock at an exercise price of $0.70 per share. The combined public offering price was $0.70 per common stock unit or $0.69 per Pre-Funded Warrant unit. Net proceeds from the October 2018 Offering were $13,193,000 after deducting underwriting discounts and commissions and offering expenses paid by the Company.

We had cash of $12,746,000 as of March 31, 2019, compared with $14,879,000 as of December 31, 2018. We have reported recurring losses from operations since inception and expect that we will continue to have negative cash flows from our operations for the foreseeable future. Historically, the Company's primary source of funding has been the sale of its securities. In the future, we will be dependent on obtaining funding from third parties, such as proceeds from the issuance of debt, sale of equity, or strategic opportunities, in order to maintain our operations. There is no guarantee that debt, additional equity or other funding will be available to us on acceptable terms, or at all. If we fail to obtain additional funding when needed, we would be forced to scale back or terminate our operations or to seek to merge with or to be acquired by another company. We believe that our existing cash should be sufficient to fund our operations for at least the next twelve months.

The following table summarizes our cash flows for the periods indicated, in thousands:

	Three Months Ended March 31,	
	2019	**2018**
Net cash used in operating activities	$ (2,175)	$ (1,907)
Net cash used in investing activities	(1)	–
Net cash provided by financing activities	43	932
Net decrease in cash and restricted cash	$ (2,133)	$ (975)

Net Cash Flow from Operating Activities

Net cash used in operating activities was $2,175,000 for the three months ended March 31, 2019, as compared with $1,907,000 for the three months ended March 31, 2018. The increase in cash used in operating activities of $268,000 was primarily attributable to an increase in total changes in operating assets and liabilities due to the Company's payment of its RXI-782 drug manufacture during the first quarter of 2019.

Net Cash Flow from Investing Activities

Net cash used in investing activities for the three months ended March 31, 2019 was $1,000. There were no net cash flows related to investing activities for the three months ended March 31, 2018. The increase in net cash flow from investing activities was primarily related to the purchase of office fixtures.

Net Cash Flow from Financing Activities

Net cash provided by financing activities was $43,000 for the three months ended March 31, 2019, as compared with $932,000 for the three months ended March 31, 2018. The decrease in cash provided by financing activities was due to proceeds received by the Company from the exercise of pre-funded warrants as compared to the proceeds received by the Company from the issuance of common stock to LPC under the Purchase Agreement during the same prior year period.

Off-Balance Sheet Arrangements

In connection with certain license agreements, we are required to indemnify the licensor for certain damages arising in connection with the intellectual property rights licensed under the agreement. In addition, we are a party to a number of agreements entered into in the ordinary course of business that contain typical provisions that obligate us to indemnify the other parties to such agreements upon the occurrence of certain events. These indemnification obligations are considered off-balance sheet arrangements in accordance with Accounting Standards Codification Topic 460, "*Guarantor's Accounting and Disclosure Requirements for Guarantees, Including Indirect Guarantees of Indebtedness of Others*." To date, we have not encountered material costs as a result of such obligations and have not accrued any liabilities related to such obligations in our financial statements. See Note 5 to our consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2018, which was filed with the SEC on March 27, 2019, for further discussion of these indemnification agreements.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Not applicable.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer, evaluated the effectiveness of our disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), as of the end of the period covered by this report to ensure that information that 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 rules and forms.

Our disclosure controls and procedures are designed to provide reasonable assurance of achieving their objectives. We believe that a control system, no matter how well designed and operated, cannot provide absolute assurance that the objectives of the control system are met, and no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within a company have been detected. Based on the evaluation of our disclosure controls and procedures as of the end of the period covered by this report, management concluded that our disclosure controls and procedures were effective as of such date.

Changes in Internal Control Over Financial Reporting

There have been no changes in our internal control over financial reporting that occurred during the three months ended March 31, 2019 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II — OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

From time to time, the Company is party to legal proceedings. There are none deemed to be material at this time.

ITEM 1A. RISK FACTORS

Please carefully consider the information set forth in Part I, "Item 1A. Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2018 filed with the SEC on March 27, 2019. Our business, financial condition or results of operations could be materially adversely affected by any of these risks. This Quarterly Report on Form 10-Q also contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of certain factors, including these risks.

We may not be able to regain compliance with the continued listing requirements of The Nasdaq Capital Market.

On November 2, 2018, we received written notice (the "**Notification Letter**") from the Nasdaq Stock Market ("**Nasdaq**") notifying us that we are not in compliance with the minimum bid price requirements set forth in Nasdaq Listing Rule 5550(a)(2) for continued listing on The Nasdaq Capital Market. Nasdaq Listing Rule 5550(a)(2) requires listed securities to maintain a minimum bid price of $1.00 per share, and Listing Rule 5810(c)(3)(A) provides that a failure to meet the minimum bid price requirement exists if the deficiency continues for a period of 30 consecutive business days. Based on the closing bid price of our common stock for the 30 consecutive business days prior to the date of the Notification Letter, we no longer meet the minimum bid price requirement.

The Notification Letter provided an initial 180-day period to regain compliance, which was extended for a second 180-day period on May 14, 2019. As a result of the extension, we have until November 11, 2019 to regain compliance by maintaining a closing bid price of at least $1.00 per share for a minimum of 10 consecutive business days. In the event that we do not regain compliance by that date, Nasdaq may commence delisting proceedings and our common stock will trade, if at all, on the over-the counter market, such as the OTC Bulletin Board or OTCQX market, which could adversely impact us by, among other things, reducing the liquidity and market price of our common stock; reducing the number of investors willing to hold or acquire our common stock; limiting our ability to issue additional securities in the future; and limiting our ability to fund our operations.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

None.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

ITEM 5. OTHER INFORMATION

As previously reported, on November 12, 2018, the Company received the Notification Letter from Nasdaq notifying the Company that it was not in compliance with the minimum bid price requirements set forth in Nasdaq Listing Rule 5550(a)(2) for continued listing on The Nasdaq Capital Market, because the bid price of the Company's common stock had closed below the minimum $1.00 per share for the 30 consecutive business days prior to the date of the Notification Letter. In accordance with Nasdaq listing rules, the Company was afforded 180 calendar days, or until May 13, 2019, to regain compliance with Nasdaq Listing Rule 5550(a)(2).

The Company was unable to regain compliance with the bid price requirement by May 13, 2019. Pursuant to Nasdaq Listing Rule 5810(c)(3)(A)(ii), on May 14, 2019, Nasdaq granted the Company an additional 180 calendar days, or until November 11, 2019, to regain compliance with the bid price requirement. The Nasdaq determination was based on the Company meeting the continued listing requirement for market value of publicly held shares and all other applicable requirements for initial listing on the Capital Market, with the exception of the bid price requirement, and the Company's written notice of its intention to cure the deficiency during the second compliance period by effecting a reverse stock split, if necessary.

To regain compliance, the bid price of the Company's common stock must have a closing bid price of at least $1.00 per share for a minimum of 10 consecutive business days at any time during the second 180-day compliance period. The Company intends to monitor the closing bid price of its common stock and may, if appropriate, consider implementing available options, including a reserve stock split, to regain compliance with the minimum bid price requirement under the Nasdaq listing rules.

ITEM 6. EXHIBITS

EXHIBIT INDEX

Exhibit Number	Description	Incorporated by Reference Herein	
		Form	Date
31.1	Sarbanes-Oxley Act Section 302 Certification of Chief Executive Officer and Chief Financial Officer.*		
32.1	Sarbanes-Oxley Act Section 906 Certification of Chief Executive Officer and Chief Financial Officer.*		
10.1	Employment Agreement, dated April 22, 2019, between Phio Pharmaceuticals Corp. and John A. Barrett, Ph.D. * **		
101	The following financial information from the Quarterly Report on Form 10-Q of Phio Pharmaceuticals Corp. for the quarter ended March 31, 2019, formatted in XBRL (eXtensible Business Reporting Language): (1) Condensed Consolidated Balance Sheets as of March 31, 2019 and December 31, 2018; (2) Condensed Consolidated Statements of Operations for the Three Months Ended March 31, 2019 and 2018; (3) Condensed Consolidated Statements of Stockholders' Equity for the Three Months Ended March 31, 2019 and 2018; (4) Condensed Consolidated Statements of Cash Flows for the Three Months Ended March 31, 2019 and 2018; and (5) Notes to Condensed Consolidated Financial Statements (Unaudited).*		

* Filed herewith.
** Indicates a management contract or compensatory plan or arrangement.

SIGNATURES

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

Phio Pharmaceuticals Corp.

By: /s/ Gerrit Dispersyn
Gerrit Dispersyn, Dr. Med. Sc.
President and Chief Executive Officer

Date: May 14, 2019

Exhibit 10.1

EMPLOYMENT AGREEMENT

This Employment Agreement (the "Agreement") is entered into as of March 26, 2019 by and between Phio Pharmaceuticals Corp. (the "Company"), a Delaware corporation, and John Barrett, Ph.D., (the "Executive"), an individual and resident of the State of Massachusetts.

1. Employment. Subject to the terms and conditions set forth in this Agreement, the Company hereby offers, and the Executive hereby accepts, employment as the Company's Chief Development Officer.

2. Term. The Executive's employment shall commence on April 22, 2019, the Effective Date (the "Effective Date"), and shall continue until terminated pursuant to Section 5 hereof (the "Term").

3. Capacity and Performance.

(a) During the Term, the Executive shall be employed by the Company on a full-time basis and shall perform the duties and responsibilities of his position and such other duties and responsibilities on behalf of the Company and its Affiliates as may be reasonably designated from time to time by the Board of Directors of the Company (the "Board") or by its chairman or other designee. The Executive's office shall be located at the Company's principal place of business.

(b) During the Term, the Executive shall devote his full business time and his best efforts, business judgment, skill and knowledge exclusively to the advancement of the business and interests of the Company and its Affiliates and to the discharge of his duties and responsibilities hereunder. The Executive shall not engage in any other business activity or serve in any industry, trade, professional, governmental or academic position during the Term, except as may be expressly approved in advance by the Board in writing. Notwithstanding the foregoing, the Executive may serve on the boards of directors of other companies that are not Competitive (the "Other Boards"); provided that: (i) commencing three months after the Effective Date, the Executive may serve on no more than three Other Boards; and (ii) commencing six months after the Effective Date, the Executive may serve on no more than two Other Boards.

4. Compensation and Benefits. As compensation for all services performed by the Executive during the Term and subject to the Executive's performance of his duties and obligations to the Company and its Affiliates, pursuant to this Agreement or otherwise, the Company shall provide the Executive with the following compensation and benefits:

(a) Base Salary and Bonus.

(i) During the Term, the Company shall pay the Executive a base salary at the rate of $315,000 per annum, payable in accordance with the payroll practices of the Company for its executives and subject to adjustment from time to time by the Board, in its sole discretion, subject to the Executive's rights under Section 5(e)(ii) (such base salary, as from time to time adjusted, the "Base Salary").

(ii) The Executive shall be eligible to receive an annual performance bonus, to be awarded at the discretion of the Compensation Committee of the Board (the "Compensation Committee"), for the achievement of certain Company and Executive performance goals, which goals will be established annually by the Compensation Committee. The target bonus for achieving these goals shall be equal to thirty (30%) percent of the Base Salary.

(b) Stock Awards.

Initial Inducement Restricted Stock Unit Award. On the Effective Date the Company shall grant to the Executive a Restricted Stock Unit award as an inducement material to Executive's entry into employment with the Company in accordance with Nasdaq Listing Rule 5635(c)(4). The Restricted Stock Unit Award shall give the Executive the conditional right to receive 222,991 shares of common stock of the Company (the "Initial Award"), without payment. The Initial Award shall become vested in equal annual installments over four (4) years beginning on the first anniversary of the Effective Date of the Agreement; provided, in each case, that the Executive remains in the employ of the Company through each such annual vesting date. The Initial Award shall be subject to such additional terms and conditions as shall be set forth in an award agreement.

(ii) Discretionary Grants. In addition to the Initial Award contemplated under Section 4 (b)(i), at the sole discretion of the Compensation Committee, Executive shall be eligible for additional grants of other equity awards.

(c) Paid Time Off. During the Term, the Executive shall be entitled to earn paid time off at the rate of 20 days per year. Paid time off, which may be taken for any reason including vacation, sick leave and personal leave, may be taken at such times and intervals as shall be determined by the Executive, subject to the reasonable business needs of the Company. Paid time off shall otherwise be governed by the policies of the Company, as in effect from time to time. The number of paid "time off" days will accrue per pay period and will stop accruing once 20 days have been accrued (with such accrual to recommence once the number of paid "time off" days accrued by the Executive drops below 20 days). The Executive may take paid time off even if his number of accrued paid time off days is insufficient to cover such days, so long as the Executive's negative paid time off balance does not exceed a balance of 7 days. Notwithstanding the foregoing, in the event that the Executive's employment is terminated while the Executive has a negative time off balance, the Executive shall be liable to the Company for the value of such negative balance, which may be deducted from his Final Compensation.

(d) Other Benefits. During the term hereof, the Executive shall be entitled to participate in any and all employee benefit plans from time to time in effect for employees of the Company generally, except to the extent any such employee benefit plan is in a category of benefit otherwise provided to the Executive (e.g., a severance pay plan). Such participation shall be subject to the terms of the applicable plan documents and generally applicable Company policies. The Company may alter, modify, add to or delete its employee benefit plans at any time as it, in its sole judgment, determines to be appropriate, without recourse by the Executive.

(e) Business Expenses. The Company shall pay or reimburse the Executive for all reasonable and necessary business expenses incurred or paid by the Executive in the performance of his duties and responsibilities hereunder, subject to any maximum annual limit and other restrictions on such expenses set by the Board and to such reasonable substantiation and documentation as may be specified by the Company from time to time.

(f) Retirement Benefits. Executive will be entitled to participate in the 401(k) plan and any other qualified or nonqualified deferred compensation plans in which other executives of the Company generally are eligible to participate, in each case as in effect from time to time and subject to the terms and conditions thereof.

5. Termination of Employment and Severance Benefits. The Executive's employment hereunder shall terminate under the following circumstances:

(a) Death. In the event of the Executive's death during the Term, the Executive's employment shall immediately and automatically terminate. In such event, the Company shall pay any Final Compensation to the Executive's designated beneficiary or, if no beneficiary has been designated by the Executive in writing, to his estate.

(b) Disability.

(i) The Company may terminate the Executive's employment hereunder, upon notice to the Executive, in the event that the Executive becomes disabled through any illness, injury, accident or condition of either a physical or psychological nature and, as a result, is unable to perform substantially all of his duties and responsibilities hereunder, notwithstanding the provision of any reasonable accommodation, for a total of ninety (90) days, whether or not consecutive, during any period of three hundred and sixty-five (365) consecutive calendar days. In the event of such termination, the Company shall have no further obligation to the Executive, other than for payment of Final Compensation.

(ii) The Board may designate another employee to act in the Executive's place during any period of the Executive's disability. Notwithstanding any such designation, the Executive shall continue to receive the Base Salary in accordance with Section 4(a) and benefits in accordance with Section 4(d), to the extent permitted by the then-current terms of the applicable benefit plans, until the Executive becomes eligible for disability income benefits under the Company's disability income plan or until the termination of his employment, whichever shall first occur.

(iii) While receiving disability income payments under the Company's disability income plan, the Executive shall not be entitled to receive any Base Salary under Section 4(a) hereof, but shall continue to participate in Company benefit plans in accordance with Section 4(d) and the terms of such plans, until the termination of his employment.

(iv) If any question shall arise as to whether during any period the Executive is disabled through any illness, injury, accident or condition of either a physical or psychological nature so as to be unable to perform substantially all of his duties and responsibilities hereunder, the Executive may, and at the request of the Company shall, submit to a medical examination by a physician selected by the Company to whom the Executive or his duly appointed guardian, if any, has no reasonable objection to determine whether the Executive is so disabled and such determination shall for the purposes of this Agreement be conclusive of the issue. If such question shall arise and the Executive shall fail to submit to such medical examination, the Company's determination of the issue shall be binding on the Executive.

(c) By the Company for Cause. The Company may terminate the Executive's employment hereunder for Cause at any time upon written notice to the Executive setting forth in reasonable detail the nature of such Cause. The following, as determined by the Board in its reasonable judgment, shall constitute "Cause" for termination:

(i) The Executive's repeated failure or repeated refusal to perform (other than by reason of disability), or gross negligence in the performance of, his material duties and responsibilities to the Company or any of its Affiliates;

(ii) Material breach by the Executive of any provision of this Agreement or any other agreement with the Company or any of its Affiliates or any material policy of the Company or any of its Affiliates applicable to the Executive; provided that the first occurrence of any particular breach shall not constitute Cause unless the Executive has failed to cure such breach within ten days after receiving written notice from the Board stating the nature of such breach;

(iii) The Executive's conviction of, or plea of guilty or nolo contendere to, any felony;

(iv) The Executive's act of fraud;

(v) The Executive's act or omission that, in the reasonable determination of the Company, indicates alcohol or drug abuse by the Executive; or

(vi) The Executive's act or personal conduct that, in the judgment of the Board (or a committee of the Board), gives rise to a material risk of liability of the Executive or the Company under federal or applicable state law for discrimination, or sexual or other forms of harassment, or other similar liabilities to subordinate employees.

Upon the giving of notice of termination of the Executive's employment hereunder for Cause, the Company shall have no further obligation to the Executive, other than for Final Compensation.

(d) By the Company Other Than for Cause. The Company may terminate the Executive's employment hereunder other than for Cause at any time upon written notice to the Executive.

(i) In the event of such termination without Cause, in addition to Final Compensation, subject to Section 5(d)(iii) and provided that no benefits are payable to the Executive under a separate severance agreement as a result of such termination, then during the period of six months following the date of termination, the Company shall continue to pay the Executive the Base Salary at the rate in effect on the date of termination and, subject to any employee contribution applicable to the Executive on the date of termination, shall continue to contribute (on a taxable basis) to the premium cost of the Executive's participation in the Company's group medical and dental plans (unless prohibited by law), provided that the Executive is entitled to continue such participation under applicable law and plan terms.

(ii) Notwithstanding and in lieu of the compensation set forth in Section 5(d)(i), in the event of a termination without Cause within 12 months following a Change of Control, in addition to Final Compensation, subject to Section 5(d)(iii) and provided that no benefits are payable to the Executive under a separate severance agreement as a result of such termination, then: (A) during the period of 12 months following the date of termination, the Company shall continue to pay the Executive the Base Salary at the rate in effect on the date of termination; (B) the vesting of a portion of the Executive's outstanding equity awards granted by the Company shall accelerate, with such acceleration to be equal to the greater of 50% of the unvested portion of all such outstanding awards or the portion that would have vested over the twenty four (24) months from the termination date; and (C) subject to any employee contribution applicable to the Executive on the date of termination, shall continue to contribute (on a taxable basis) to the premium cost of the Executive's participation in the Company's group medical and dental plans (unless prohibited by law), provided that the Executive is entitled to continue such participation under applicable law and plan terms. For purposes of this Agreement, "Change in Control" shall mean: (x) an acquisition of any securities of the Company (the "Securities") by any "person" (as the term "person" is used for purposes of Section 13(d) or Section 14(d) of the Securities Exchange Act of 1934, as amended (the "1934 Act"), immediately after which such person has "beneficial ownership" (within the meaning of Rule 13d-3 promulgated under the 1934 Act) ("Beneficial Ownership") of 50% or more of the shares of the Company's common stock (as determined on a fully-diluted, as-converted basis) without the approval of the Board; (y) a merger or consolidation in which holders of the Capital Stock immediately prior to such transaction hold or are entitled to acquire, immediately after the consummation of the merger or consolidation, less than 50% of the surviving entity's common stock (as determined on a fully-diluted, as-converted basis); or (z) the sale of all or substantially all of the Company's assets. For purposes of this Section 5(d)(ii), "Capital Stock" shall mean the Company's common stock and any other Company securities that are convertible into or exercisable for the Company's common stock.

(iii) Any obligation of the Company to the Executive hereunder, other than for Final Compensation, is conditioned on the Executive signing a timely and effective release of claims in the form provided by the Company (the "Employee Release") and delivering it to the Company by the deadline specified therein, and the Employee Release taking effect by its terms, within 60 calendar days following the date his employment terminates. Any severance payments to which the Executive is entitled hereunder shall be payable in accordance with the normal payroll practices of the Company, with the first payment, which shall be retroactive to the day immediately following the date the Executive's employment is terminated, being due and payable on the Company's next regular payday for executives that follows the expiration of 60 calendar days from the date the Executive's employment terminates. The release of claims required for separation benefits in accordance with this Section 5(d)(iii) creates legally binding obligations on the part of the Executive and the Company and its Affiliates therefore advise the Executive to seek the advice of an attorney before signing it.

(e) By the Executive for Good Reason. The Executive may terminate his employment hereunder for Good Reason by: (A) providing notice to the Company specifying in reasonable detail the condition giving rise to the Good Reason no later than 30 days following the occurrence of that condition; (B) providing the Company a period of 60 days to remedy the condition and so specifying in the notice; and (C) terminating his employment for Good Reason within 30 days following the expiration of the period to remedy if the Company fails to remedy the condition. The following, occurring without the Executive's consent, shall constitute "Good Reason" for termination by the Executive:

(i) a material reduction of the Executive's regular responsibilities from those typically assigned to a Chief Development Officer of a similarly situated biotechnology company;

(ii) a reduction in the Base Salary set forth in Section 4 hereof by more than 10% in any calendar year, unless such reduction is in proportion with any Company-wide reductions in base salary for all executive officers of the Company;

(iii) the Company's material breach of any material term of the Agreement; provided that the first occasion of any particular breach shall not constitute such Good Reason unless the Company has failed to cure such breach within 60 days after receiving written notice from the Executive stating the nature of such breach; or

(iv) Relocation of the Company's principal executive offices of a distance in excess of 50 miles from its location at the Effective Date.

In the event of a termination of employment in accordance with this Section 5(e), the Executive will be entitled to receive the same pay and benefits he would have been entitled to receive had he been terminated by the Company other than for Cause in accordance with Section 5(d) above; provided that the Executive satisfies all conditions to such entitlement, including without limitation the signing of the Employee Release as set forth in Section 5(d).

(f) Timing of Payments and Section 409A.

(i) Notwithstanding anything to the contrary in this Agreement, if at the time of the Executive's termination of employment, the Executive is a "specified employee," as defined below, any and all amounts payable under this Section 5 on account of such separation from service that would (but for this provision) be payable within six months following the date of termination, shall instead be paid on the next business day following the expiration of such six (6) month period or, if earlier, upon the Executive's death; except (A) to the extent of amounts that do not constitute a deferral of compensation within the meaning of Treasury regulation Section 1.409A-1(b) (including without limitation by reason of the safe harbor set forth in Section 1.409A-1(b)(9)(iii), as determined by the Company in its reasonable good faith discretion); (B) benefits which qualify as excepted welfare benefits pursuant to Treasury regulation Section 1.409A-1(a)(5); or (C) other amounts or benefits that are not subject to the requirements of Section 409A of the Internal Revenue Code ("Section 409A").

(ii) For purposes of this Agreement, all references to "termination of employment" and correlative phrases shall be construed to require a "separation from service" (as defined in Section 1.409A-1(h) of the Treasury regulations after giving effect to the presumptions contained therein), and the term "specified employee" means an individual determined by the Company to be a specified employee under Treasury regulation Section 1.409A-1(i).

(iii) Each payment made under this Agreement shall be treated as a separate payment and the right to a series of installment payments under this Agreement is to be treated as a right to a series of separate payments.

(iv) The Executive's right to reimbursement for business expenses hereunder shall be subject to the following additional rules: (i) the amount of expenses eligible for reimbursement during any calendar year shall not affect the expenses eligible for reimbursement in any other taxable year; (ii) reimbursement shall be made not later than December 31 of the calendar year following the calendar year in which the expense was incurred; and (iii) the right to reimbursement is not subject to liquidation or exchange for any other benefit.

(v) In no event shall the Company have any liability relating to any payment or benefit under this Agreement failing to comply with, or be exempt from, the requirements of Section 409A.

6. Effect of Termination. The provisions of this Section 6 shall apply to any termination of the Executive's employment hereunder:

(a) The Company shall pay to the Executive: (i) any Base Salary earned but not paid during the final payroll period of the Executive's employment through the date of termination; (ii) pay for any paid time off earned but not used through the date of termination; (iii) any bonus compensation awarded for the year preceding that in which termination occurs, but unpaid on the date of termination; and (iv) any business expenses incurred by the Executive but un-reimbursed on the date of termination, provided that such expenses and required substantiation and documentation are submitted within 60 days of termination and that such expenses are reimbursable under Company policy (all of the foregoing, "Final Compensation"). The Company shall have no further obligation to the Executive hereunder except as set forth in Section 5(d) or Section 5(e). Any Base Salary or pay for earned but unused paid time off shall be payable at the time provided by applicable law. Any bonus due for the preceding year shall be payable at the time provided for at the time such bonus is awarded. Any business expenses shall be payable not later than 90 days following the date of termination.

(b) Payment by the Company of Final Compensation and any Base Salary and contributions to the cost of the Executive's continued participation in the Company's group health and dental plans that may be due the Executive in each case under the applicable termination provision of Section 5 shall constitute the entire obligation of the Company to the Executive hereunder. The Executive shall promptly give the Company notice of all facts necessary for the Company to determine the amount and duration of its obligations in connection with any termination pursuant to Section 5(d) or Section 5(e) hereof.

(c) Except for any right of the Executive to continue medical and dental plan participation in accordance with applicable law, benefits shall terminate pursuant to the terms of the applicable benefit plans based on the date of termination of the Executive's employment without regard to any continuation of Base Salary or other payment to the Executive following such date of termination.

(d) Provisions of this Agreement shall survive any termination if so provided herein or if necessary or desirable to accomplish the purposes of other surviving provisions, including without limitation the obligations of the Executive under Sections 7, 8 and 9 hereof. The obligation of the Company to make payments to or on behalf of the Executive under Section 5(d) or Section 5(e) hereof is expressly conditioned upon the Executive's continued full performance of obligations under Sections 7, 8 and 9 hereof. The Executive recognizes that, except as expressly provided in Section 5(d) or Section 5(e), no compensation is earned after termination of employment.

7. Confidential Information.

(a) The Executive acknowledges that the Company and its Affiliates continually develop Confidential Information, that the Executive may develop Confidential Information for the Company or its Affiliates and that the Executive may learn of Confidential Information during the course of employment. The Executive will comply with the policies and procedures of the Company and its Affiliates for protecting Confidential Information and shall not disclose to any Person or use, other than as required by applicable law or for the proper performance of his duties and responsibilities to the Company and its Affiliates, any Confidential Information obtained by the Executive incident to his employment or other association with the Company or any of its Affiliates. The Executive understands that this restriction shall continue to apply after his employment terminates, regardless of the reason for such termination. The confidentiality obligation under this Section 7 shall not apply to information which is generally known or readily available to the public at the time of disclosure or becomes generally known through no wrongful act on the part of the Executive or any other person having an obligation of confidentiality to the Company or any of its Affiliates. Notwithstanding the foregoing, if Executive makes a confidential disclosure of a trade secret or other Confidential Information to a government official or an attorney for the sole purpose of reporting a suspected violation of law, or in a court filing under seal, Executive shall not be held liable under this Agreement or under any federal or state trade secret law for such a disclosure.

(b) All documents, records, tapes and other media of every kind and description relating to the business, present or otherwise, of the Company or its Affiliates and any copies, in whole or in part, thereof (the "Documents"), whether or not prepared by the Executive, shall be the sole and exclusive property of the Company and its Affiliates. The Executive shall safeguard all Documents and shall surrender to the Company at the time his employment terminates, or at such earlier time or times as the Board or its designee may specify, all Documents then in the Executive's possession or control.

8. Assignment of Rights to Intellectual Property. The Executive shall promptly and fully disclose all Intellectual Property to the Company. The Executive hereby assigns and agrees to assign to the Company (or as otherwise directed by the Company) the Executive's full right, title and interest in and to all Intellectual Property. The Executive agrees to execute any and all applications for domestic and foreign patents, copyrights or other proprietary rights and to do such other acts (including without limitation the execution and delivery of instruments of further assurance or confirmation) requested by the Company to assign the Intellectual Property to the Company and to permit the Company to enforce any patents, copyrights or other proprietary rights to the Intellectual Property. The Executive will not charge the Company for time spent in complying with these obligations. All copyrightable works that the Executive creates shall be considered "work made for hire" and shall, upon creation, be owned exclusively by the Company. The Executive's obligation to assist the Company in obtaining and enforcing patents for Intellectual Property in any and all countries shall continue beyond the termination of the Executive's employment with the Company, but the Company shall compensate the Executive at a reasonable, standard hourly rate following such termination for time directly spent by Executive at the Company's request for such assistance.

9. Restricted Activities. The Executive agrees that the following restrictions on his activities during and after his employment are necessary to protect the good will, Confidential Information, trade secrets and other legitimate interests of the Company and its Affiliates:

(a) During the Term, the Executive will not undertake any outside activity, whether or not Competitive with the business of the Company or its Affiliates that could reasonably give rise to a conflict of interest or otherwise interfere with his duties and obligations to the Company or any of its Affiliates.

(b) During the Term and for the Restricted Period, the Executive shall not, directly or indirectly, whether as owner, partner, investor, consultant, agent, employee, co-venturer or otherwise: (i) engage in any Competitive activity within the United States or any other country in which the Company has conducted discovery, development or commercialization activities for any Product or has sought patent protection for any Product, in either case as of the date of such termination; or (ii) undertake any planning for any Competitive business. Specifically, but without limiting the foregoing, the Executive agrees not to engage in any manner in any activity that is directly or indirectly Competitive or potentially Competitive and further agrees not to work or provide services, in any capacity, whether as an employee, independent contractor or otherwise, whether with or without compensation, to any Person who is engaged in any business that is Competitive. The foregoing, however, shall not prevent the Executive's passive ownership of one percent (1%) or less of the equity securities of any publicly traded company. For purposes of this Agreement: (A) the "Restricted Period" shall be the six months following the date of termination; and (B) the term "Competitive" shall mean either (i) the discovery, development or commercialization of any therapeutics or diagnostics utilizing any technology relating to the interference of RNA or otherwise relating to the expression, or non-expression, of targeted genes or genetic pathways; or (ii) the discovery, development or commercialization of any therapeutics or diagnostics for the same or related biological target for the treatment of the same diseases, disorders or conditions using technology relating to the interference of RNA or otherwise relating to the expression, or non-expression, of targeted genes or genetic pathways. During the Restricted Period, the Executive will not directly or indirectly (a) solicit or encourage any customer of the Company or any of its Affiliates to terminate or diminish its relationship with them; or (b) seek to persuade any such customer or prospective customer of the Company or any of its Affiliates to conduct with anyone else any business or activity which such customer or prospective customer conducts or could conduct with the Company or any of its Affiliates; provided that these restrictions shall apply (y) only with respect to those Persons who are or have been a customer of the Company or any of its Affiliates at any time within the immediately preceding two-year period or whose business has been solicited on behalf of the Company or any of the Affiliates by any of their officers, employees or agents within said two year period, other than by form letter, blanket mailing or published advertisement; and (z) only if the Executive has performed work with such Person during his employment with the Company or one of its Affiliates or been introduced to, or otherwise had contact with, such Person as a result of his employment or other associations with the Company or one of its Affiliates or has had access to Confidential Information which would assist in the Executive's solicitation of such Person.

(c) During the Restricted Period, the Executive will not, and will not assist any other Person to (a) hire or solicit for hiring any employee of the Company or any of its Affiliates or seek to persuade any employee of the Company or any of its Affiliates to discontinue employment; or (b) solicit or encourage any independent contractor providing services to the Company or any of its Affiliates to terminate or diminish its relationship with them. For the purposes of this Agreement, an "employee" of the Company or any of its Affiliates is any person who was such at any time within the preceding two years.

10. Notification Requirement. Until 45 days after the conclusion of the Restricted Period, the Executive shall give notice to the Company of each new business activity he undertakes, at least ten days prior to beginning any such activity. Such notice shall state the name and address of the Person for whom such activity is undertaken and the nature of the Executive's business relationship(s) and position(s) with such Person. The Executive shall provide the Company with such other pertinent information concerning such business activity as the Company may reasonably request in order to determine the Executive's continued compliance with his obligations under Sections 7, 8 and 9 hereof.

11. Enforcement of Covenants. The Executive acknowledges that he has carefully read and considered all the terms and conditions of this Agreement, including the restraints imposed upon him pursuant to Sections 7, 8 and 9 hereof. The Executive agrees without reservation that each of the restraints contained herein is necessary for the reasonable and proper protection of the good will, Confidential Information, trade secrets and other legitimate interests of the Company and its Affiliates; that each and every one of those restraints is reasonable in respect to subject matter, length of time and geographic area; and that these restraints, individually or in the aggregate, will not prevent him from obtaining other suitable employment during the period in which the Executive is bound by these restraints. The Executive further agrees that he will never assert, or permit to be asserted on his behalf, in any forum, any position contrary to the foregoing. The Executive further acknowledges that, were he to breach any of the covenants contained in Sections 7, 8 or 9 hereof, the damage to the Company would be irreparable. The Executive therefore agrees that the Company, in addition to any other remedies available to it, shall be entitled to preliminary and permanent injunctive relief against any breach or threatened breach by the Executive of any of said covenants, without having to post bond and to recover its reasonable attorneys' fees and costs incurred in securing such relief. The Executive agrees that the Restricted Period shall be tolled, and shall not run, during any period of time in which he is in violation of the terms thereof, in order that the Company and its Affiliates shall have all of the agreed-upon temporal protection recited herein. The parties further agree that, in the event that any provision of Section 7, 8 or 9 hereof shall be determined by any court of competent jurisdiction to be unenforceable by reason of its being extended over too great a time, too large a geographic area or too great a range of activities, such provision shall be deemed to be modified to permit its enforcement to the maximum extent permitted by law.

12. Conflicting Agreements. The Executive hereby represents and warrants that the execution of this Agreement and the performance of his obligations hereunder will not breach or be in conflict with any other agreement to which the Executive is a party or is bound and that the Executive is not now subject to any covenants against competition or similar covenants or any court order or other legal obligation that would affect the performance of his obligations hereunder. The Executive will not disclose to or use on behalf of the Company any proprietary information of a third party without such party's consent.

13. Definitions. Words or phrases which are initially capitalized or are within quotation marks shall have the meanings provided in this Section and as provided elsewhere herein. For purposes of this Agreement, the following definitions apply:

(a) "Affiliates" means all persons and entities directly or indirectly controlling, controlled by or under common control with the Company, where control may be by management authority, contract or equity interest.

(b) "Confidential Information" means any and all information of the Company and its Affiliates that is not generally known by those with whom the Company or any of its Affiliates competes or does business, or with whom the Company or any of its Affiliates plans to compete or do business and any and all information, publicly known in whole or in part or not, which, if disclosed by the Company or any of its Affiliates would assist in competition against them. Confidential Information includes without limitation such information relating to (i) the development, research, testing, manufacturing, marketing and financial activities of the Company and its Affiliates; (ii) the Products; (iii) the costs, sources of supply, financial performance and strategic plans of the Company and its Affiliates; (iv) the identity and special needs of the customers of the Company and its Affiliates; and (v) the people and organizations with whom the Company and its Affiliates have business relationships and the nature and substance of those relationships. Confidential Information also includes any information that the Company or any of its Affiliates has received, or may receive hereafter, belonging to customers or others with any understanding, express or implied, that the information would not be disclosed.

(c) "Intellectual Property" means inventions, discoveries, developments, methods, processes, compositions, works, concepts and ideas (whether or not patentable or copyrightable or constituting trade secrets) conceived, made, created, developed or reduced to practice by the Executive (whether alone or with others, whether or not during normal business hours or on or off Company premises) during the Executive's employment and during the period of six months immediately following termination of his employment that relate to either the Products or any prospective activity of the Company or any of its Affiliates or that make use of Confidential Information or any of the equipment or facilities of the Company or any of its Affiliates.

(d) "Person" means an individual, a corporation, a limited liability company, an association, a partnership, an estate, a trust and any other entity or organization, other than the Company or any of its Affiliates.

(e) "Products" mean all products and product candidates planned, researched, developed, tested, manufactured, sold, licensed, leased or otherwise distributed or put into use by the Company or any of its Affiliates, together with all related services provided or planned by the Company or any of its Affiliates, during the Executive's employment with the Company or any of its Affiliates.

14. Withholding. All payments made by the Company under this Agreement shall be reduced by any tax or other amounts required to be withheld by the Company under applicable law.

15. Assignment. Neither the Company nor the Executive may make any assignment of this Agreement or any interest herein, by operation of law or otherwise, without the prior written consent of the other; provided, however, that the Company may assign its rights and obligations under this Agreement without the consent of the Executive in the event that the Executive is transferred to a position with any of the Affiliates or in the event that the Company shall hereafter effect a reorganization, consolidate with, or merge into, any Person or transfer all or substantially all of its properties or assets to any Person. This Agreement shall inure to the benefit of and be binding upon the Company and the Executive, their respective successors, executors, administrators, heirs and permitted assigns.

16. Severability. If any portion or provision of this Agreement shall to any extent be declared illegal or unenforceable by a court of competent jurisdiction, then the remainder of this Agreement, or the application of such portion or provision in circumstances other than those as to which it is so declared illegal or unenforceable, shall not be affected thereby, and each portion and provision of this Agreement shall be valid and enforceable to the fullest extent permitted by law.

17. Waiver. No waiver of any provision hereof shall be effective unless made in writing and signed by the waiving party. The failure of either party to require the performance of any term or obligation of this Agreement, or the waiver by either party of any breach of this Agreement, shall not prevent any subsequent enforcement of such term or obligation or be deemed a waiver of any subsequent breach.

18. Notices. Any and all notices, requests, demands and other communications provided for by this Agreement shall be in writing and shall be effective when delivered in person, consigned to a reputable national courier service or deposited in the United States mail, postage prepaid, registered or certified, and addressed to the Executive at his last known address on the books of the Company or, in the case of the Company, at its principal place of business, attention of the Chairman of the Board, or to such other address as either party may specify by notice to the other actually received.

19. Entire Agreement. This Agreement constitutes the entire agreement between the parties and supersedes all prior communications, agreements and understandings, written or oral, with respect to the terms and conditions of the Executive's employment with the Company, other than any obligations owed to the Company or its predecessor with respect to confidentiality, non-competition, intellectual property, and proprietary information, all of which shall continue in force.

20. Amendment. This Agreement may be amended or modified only by a written instrument signed by the Executive and by an expressly authorized representative of the Company.

21. Headings. The headings and captions in this Agreement are for convenience only and in no way define or describe the scope or content of any provision of this Agreement.

22. Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be an original and all of which together shall constitute one and the same instrument.

23. Governing Law. This is a Massachusetts contract and shall be construed and enforced under and be governed in all respects by the laws of the Commonwealth of Massachusetts, without regard to the conflict of laws principles thereof.

[Signature page follows immediately.]

IN WITNESS WHEREOF, this Agreement has been executed as a sealed instrument by the Company, by its duly authorized representative, and by the Executive, as of the date first above written.

THE EXECUTIVE:

By: /s/ John Barrett
Name: John Barrett, Ph.D.

PHIO PHARMACEUTICALS CORP.

By: /s/ Gerrit Dispersyn
Name: Gerrit Dispersyn, Dr. Med. Sc.
Title: President & CEO

[Signature Page to John Barrett Employment Agreement]

Exhibit 31.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER AND CHIEF FINANCIAL OFFICER PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Gerrit Dispersyn, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Phio Pharmaceuticals Corp.;

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. I am responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) 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, 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 my 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 that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. I have disclosed, based on my most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of 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 controls over financial reporting.

Dated: May 14, 2019

/s/ Gerrit Dispersyn
Gerrit Dispersyn, Dr. Med. Sc.
President and Chief Executive Officer
(as Principal Executive and Financial Officer)

Exhibit 32.1

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of Phio Pharmaceuticals Corp. (the "Company") for the period ended March 31, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned officer of the Company certifies, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that to his knowledge:

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

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

/s/ Gerrit Dispersyn
Gerrit Dispersyn, Dr. Med. Sc.
President and Chief Executive Officer
(as Principal Executive and Financial Officer)

May 14, 2019