Table of Contents

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549

FORM 10-Q

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

For the quarterly period ended March 31, 2020

or

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

For the transition period from to

Commission File Number: 001-37937

XENETIC BIOSCIENCES, INC.

(Exact name of registrant as specified in its charter)

Nevada	**45-2952962**
(State or other jurisdiction of incorporation or organization)	**(IRS Employer Identification No.)**

40 Speen Street, Suite 102
Framingham, Massachusetts 01701
(Address of principal executive offices and zip code)

781-778-7720
(Registrant's telephone number, including area code)

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, $0.001 par value per share	XBIO	The NASDAQ Stock Market LLC
Purchase Warrants	XBIOW	The NASDAQ Stock Market LLC

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files): Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, 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 13(a) of the Exchange Act. ☐

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

As of May 8, 2020, the number of outstanding shares of the registrant's common stock was 6,284,915.

XENETIC BIOSCIENCES, INC.
FORM 10-Q
QUARTERLY PERIOD ENDED MARCH 31, 2020

PART I – FINANCIAL INFORMATION

ITEM 1 - FINANCIAL STATEMENTS

XENETIC BIOSCIENCES, INC.
CONDENSED CONSOLIDATED BALANCE SHEETS

	March 31, 2020 (Unaudited)	December 31, 2019
ASSETS		
Current assets:		
Cash	$ 9,367,200	$ 10,367,920
Prepaid expenses and other	1,310,314	722,079
Total current assets	10,677,514	11,089,999
Property and equipment, net	166	757
Indefinite-lived intangible assets	9,243,128	9,243,128
Other assets	704,431	1,213,042
Total assets	$ 20,625,239	$ 21,546,926
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 1,051,137	$ 931,128
Accrued expenses and other current liabilities	456,164	484,029
Total current liabilities	1,507,301	1,415,157
Deferred tax liability	2,918,518	2,918,518
Total liabilities	4,425,819	4,333,675
Commitments (Note 10)		
Stockholders' equity:		
Preferred stock, 10,000,000 shares authorized		
Series B, $0.001 par value: 1,804,394 shares issued and outstanding as of March 31, 2020 and December 31, 2019	1,804	1,804
Series A, $0.001 par value: 970,000 shares issued and outstanding as of March 31, 2020 and December 31, 2019	970	970
Common stock, $0.001 par value; 12,500,000 shares authorized as of March 31, 2020 and December 31, 2019; 6,311,906 and 6,092,432 shares issued as of March 31, 2020 and December 31, 2019, respectively; 6,284,915 and 6,065,441 shares outstanding as of March 31, 2020 and December 31, 2019, respectively	6,311	6,092
Additional paid in capital	188,405,830	188,240,451
Accumulated deficit	(167,188,049)	(166,008,620)
Accumulated other comprehensive income	253,734	253,734
Treasury stock	(5,281,180)	(5,281,180)
Total stockholders' equity	16,199,420	17,213,251
Total liabilities and stockholders' equity	$ 20,625,239	$ 21,546,926

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

XENETIC BIOSCIENCES, INC.
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(Unaudited)

	Three Months Ended March 31,	
	2020	**2019**
Revenue:		
Royalty revenue	$ 56,749	$ –
Total revenue	56,749	–
Operating costs and expenses:		
Research and development	(359,651)	(463,782)
General and administrative	(927,880)	(863,373)
Total operating costs and expenses	(1,287,531)	(1,327,155)
Loss from operations	(1,230,782)	(1,327,155)
Other income (expense):		
Other expense	(134)	(245)
Interest income, net	51,487	150
Total other income (expense)	51,353	(95)
Net loss	$ (1,179,429)	$ (1,327,250)
Deemed dividend	–	(3,879,447)
Net loss applicable to common stockholders	$ (1,179,429)	$ (5,206,697)
Basic and diluted loss per share	$ (0.19)	$ (6.45)
Weighted-average shares of common stock outstanding, basic and diluted	6,233,331	806,976

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

XENETIC BIOSCIENCES, INC.
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(Unaudited)

THREE MONTHS ENDED MARCH 31, 2020

	Preferred Stock		Common Stock		Additional Paid in Capital	Accumulated Deficit	Accumulated Other Comprehensive Income	Treasury Stock	Total Stockholders' Equity
	Number of Shares	Par Value ($0.001)	Number of Shares	Par Value ($0.001)					
Balance as of January 1, 2020	2,774,394	$ 2,774	6,092,432	$ 6,092	$ 188,240,451	$ (166,008,620)	$ 253,734	$ (5,281,180)	$ 17,213,251
Share-based expense	–	–	–	–	165,598	–	–	–	165,598
Exercise of purchase warrants	–	–	219,474	219	(219)	–	–	–	–
Net loss	–	–	–	–	–	(1,179,429)	–	–	(1,179,429)
Balance as of March 31, 2020	2,774,394	$ 2,774	6,311,906	$ 6,311	$ 188,405,830	$ (167,188,049)	$ 253,734	$ (5,281,180)	$ 16,199,420

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

XENETIC BIOSCIENCES, INC.
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(Unaudited)

THREE MONTHS ENDED MARCH 31, 2019

	Preferred Stock		Common Stock		Additional Paid in Capital	Accumulated Deficit	Accumulated Other Comprehensive Income	Treasury Stock	Total Stockholders' Equity
	Number of Shares	Par Value ($0.001)	Number of Shares	Par Value ($0.001)					
Balance as of January 1, 2019	2,774,394	$ 2,774	810,856	$ 811	$ 168,170,244	$ (153,233,595)	$ 253,734	$ (5,281,180)	$ 9,912,788
Issuance of common stock and warrants in March 2019 registered direct offering, net of issuance costs	–	–	86,667	87	2,698,963	–	–	–	2,699,050
Deemed dividend related to Series B Preferred Stock down round provision	–	–	–	–	3,879,447	–	–	–	3,879,447
Accretion of deemed dividend related to Series B Preferred Stock down round provision	–	–	–	–	(3,879,447)	–	–	–	(3,879,447)
Share-based expense	–	–	–	–	216,513	–	–	–	216,513
Common stock awards to vendors	–	–	–	–	17,427	–	–	–	17,427
Net loss	–	–	–	–	–	(1,327,250)	–	–	(1,327,250)
Balance as of March 31, 2019	2,774,394	$ 2,774	897,523	$ 898	$ 171,103,147	$ (154,560,845)	$ 253,734	$ (5,281,180)	$ 11,518,528

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

XENETIC BIOSCIENCES, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)

	Three Months Ended March 31,	
	2020	**2019**
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net loss	$ (1,179,429)	$ (1,327,250)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation	591	1,458
Amortization of right of use asset	6,824	–
Gain on sale of property and equipment	–	(2,000)
Share-based expense	165,598	216,513
Vendor share-based expense	–	17,427
Changes in operating assets and liabilities:		
Prepaid expenses and other assets	(86,448)	(536,698)
Accounts payable, accrued expenses and other liabilities	92,144	376,028
Net cash used in operating activities	(1,000,720)	(1,254,522)
CASH FLOWS FROM INVESTING ACTIVITIES:		
Proceeds from sale of property and equipment	–	2,000
Net cash provided by investing activities	–	2,000
CASH FLOWS FROM FINANCING ACTIVITIES:		
Net proceeds from issuance of common stock and warrants	–	2,699,050
Net cash provided by financing activities	–	2,699,050
Net change in cash and restricted cash	(1,000,720)	1,446,528
Cash and restricted cash at beginning of period	10,367,920	638,115
Cash and restricted cash at end of period	$ 9,367,200	$ 2,084,643
SUPPLEMENTAL CASH FLOW INFORMATION:		
Cash paid for interest	$ –	$ 8
SUPPLEMENTAL SCHEDULE OF NON-CASH INVESTING AND FINANCING ACTIVITIES:		
Right of use asset acquired in exchange for lease liability	$ –	$ 43,330
Issuance of common stock from cashless exercise of purchase warrants	$ 219	$ –

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

1. The Company

Background

Xenetic Biosciences, Inc. ("Xenetic" or the "Company"), incorporated in the state of Nevada and based in Framingham, Massachusetts, is a biopharmaceutical company focused on progressing XCART™, a personalized Chimeric Antigen Receptor ("CAR") T platform technology engineered to target patient- and tumor-specific neoantigens. The Company is initially advancing cell-based therapeutics targeting the unique B-cell receptor on the surface of an individual patient's malignant tumor cells, for the treatment of B-cell lymphomas. The XCART technology, developed by the Scripps Research Institute in collaboration with the Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry, is believed to have the potential to significantly enhance the safety and efficacy of cell therapy for B-cell lymphomas by generating patient- and tumor-specific CAR T cells.

Additionally, Xenetic is leveraging its proprietary drug delivery platform, PolyXen®, by partnering with biotechnology and pharmaceutical companies. PolyXen is an enabling platform technology which can be applied to protein or peptide therapeutics. It employs the natural polymer polysialic acid to prolong a drug's circulating half-life and potentially improve other pharmacological properties. Xenetic incorporates its patented and proprietary technologies into a number of drug candidates currently under development with biotechnology and pharmaceutical industry collaborators to create what the Company believes will be the next-generation biologic drugs with improved pharmacological properties over existing therapeutics.

As used in this Quarterly Report on Form 10-Q ("Quarterly Report"), unless otherwise indicated, all references herein to "Xenetic," the "Company," "we" or "us" refer to Xenetic Biosciences, Inc. and its wholly owned subsidiaries.

The Company, directly or indirectly, through its wholly-owned subsidiaries, Hesperix S.A. ("Hesperix") and Xenetic Biosciences (U.K.) Limited ("Xenetic UK"), and the wholly-owned subsidiaries of Xenetic UK, Lipoxen Technologies Limited ("Lipoxen"), Xenetic Bioscience, Incorporated and SymbioTec, GmbH ("SymbioTec"), own various United States ("U.S.") federal trademark registrations and applications, and unregistered trademarks and service marks, including but not limited to XCART, OncoHist™, PolyXen, ErepoXen™, and ImuXen™, which are used throughout this Quarterly Report. All other company and product names may be trademarks of the respective companies with which they are associated.

Going Concern and Management's Plan

Management evaluates whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Company's ability to continue as a going concern within one year after the date that the financial statements are issued. The Company has incurred substantial losses since its inception and expects to continue to incur operating losses in the near-term. These factors raise substantial doubt about its ability to continue as a going concern. The Company believes that it has access to capital resources through possible public or private equity offerings, debt financings, corporate collaborations, related party funding, or other means to continue as a going concern. During 2019, the Company completed two stock offerings that resulted in $16.1 million of net proceeds to the Company. The Company believes that its existing resources will be adequate to fund the Company's operations through mid-2021. However, the Company anticipates it may need additional capital in the long-term to pursue its business initiatives. The terms, timing and extent of any future financing will depend upon several factors, including the achievement of progress in its clinical development programs, its ability to identify and enter into licensing or other strategic arrangements, and factors related to financial, economic and market conditions, many of which are beyond its control.

2. Summary of Significant Accounting Policies

Preparation of Interim Financial Statements

The accompanying condensed consolidated financial statements were prepared by the Company pursuant to the rules and regulations of the Securities and Exchange Commission ("SEC") and, in the opinion of management, include all normal and recurring adjustments necessary to present fairly the results of the interim periods shown. Certain information and footnote disclosures normally included in financial statements prepared in accordance with U.S. generally accepted accounting principles have been condensed or omitted pursuant to such SEC rules and regulations. Management believes that the disclosures made are adequate to make the information presented not misleading. The results for the interim periods are not necessarily indicative of results for the full year. The condensed consolidated financial statements contained herein should be read in conjunction with the consolidated financial statements and notes thereto included in the Company's Annual Report on Form 10-K for the year ended December 31, 2019 filed with the SEC on March 26, 2020 and amended on April 29, 2020.

On June 25, 2019, the Company effected a reduction, on a 1 for 12 basis, in its authorized common stock, par value $0.001, along with a corresponding and proportional decrease in the number of shares issued and outstanding (the "Reverse Stock Split"). On the effective date of the Reverse Stock Split, (i) every 12 shares of common stock were reduced to one share of common stock, with any fractional amounts rounded up to one share; (ii) the number of shares of common stock into which each outstanding warrant, restricted stock unit, or option to purchase common stock were proportionately reduced on the same basis as the common stock; (iii) the exercise price of each outstanding warrant or option to purchase common stock were proportionately increased on a 1 for 12 basis; and (iv) the number of shares of common stock into which each share of preferred stock could be converted were proportionately reduced on the same basis as the common stock. Unless otherwise indicated, all of the share numbers, share prices, and exercise prices have been adjusted, on a retroactive basis, to reflect this Reverse Stock Split.

Certain prior period amounts have been reclassified to conform to the presentation for the current period.

Principles of Consolidation

The condensed consolidated financial statements of the Company include the accounts of Hesperix, Xenetic UK and Xenetic UK's wholly owned subsidiaries: Lipoxen, Xenetic Bioscience, Incorporated, and SymbioTec. All intercompany balances and transactions have been eliminated in consolidation.

Basic and Diluted Net Loss per Share

The Company computes basic net loss per share by dividing net loss applicable to common stockholders by the weighted-average number of shares of the Company's common stock outstanding during the period. The Company computes diluted net loss per share after giving consideration to the dilutive effect of stock options that are outstanding during the period, except where such non-participating securities would be anti-dilutive.

For the three months ended March 31, 2020 and 2019, basic and diluted net loss per share are the same for each respective period due to the Company's net loss position. Potentially dilutive, non-participating securities have not been included in the calculations of diluted net loss per share, as their inclusion would be anti-dilutive.

Recent Accounting Standards

In November 2018, the Financial Accounting Standards Board ("FASB") issued ASU 2018-18, *Clarifying the Interaction between Topic 808 and Topic 606* . The guidance clarifies that certain transactions between collaborative arrangement participants should be accounted for as revenue under ASC 606 when the collaborative arrangement participant is a customer for a promised good or service that is distinct within the collaborative arrangement. The guidance also precludes entities from presenting amounts related to transactions with a collaborative arrangement participant that is not a customer as revenue, unless those transactions are directly related to third-party sales. ASU 2018-18 is effective in the first quarter of 2020 and should be applied retrospectively to January 1, 2018, when the Company adopted ASC 606. Early adoption is permitted. The new guidance was adopted on January 1, 2020 and it did not have a material effect on the Company's condensed consolidated financial statements.

In August 2018, the FASB issued ASU 2018-13, *Disclosure Framework – Changes to the Disclosure Requirements for Fair Value Measurement* The guidance eliminates, adds and modifies certain disclosure requirements for fair value measurements as part of its disclosure framework project. ASU 2018-13 is effective for annual reporting periods beginning after December 15, 2019 and interim periods within those annual periods and early adoption is permitted. The new guidance was adopted on January 1, 2020 and it did not have a material effect on the Company's condensed consolidated financial statements.

3. Significant Strategic Collaborations

The Company has entered into various research, development, license and supply agreements with Takeda Pharmaceuticals Co. Ltd. ("Takeda"), Serum Institute of India ("Serum Institute"), Pharmsynthez and SynBio LLC ("SynBio"), a wholly owned subsidiary of Pharmsynthez. The Company and its collaborative partners continue to engage in research and development activities with no resultant commercial products through March 31, 2020. In October 2017, the Company granted to Takeda the right to grant a non-exclusive sublicense to certain patents related to the Company's PolyXen technology that were previously exclusively licensed to Takeda in connection with products related to the treatment of blood and bleeding disorders. Royalty payments of approximately $57,000 earned on sales by the sublicensee during the fourth quarter of 2019 were recorded as revenue by the Company during the three months ended March 31, 2020. The Company's policy is to recognize royalty payments as revenue when they are reliably measurable, which is upon receipt of reports from Takeda. The Company receives these reports in the quarter subsequent to the actual sublicensee sales. There were no remaining performance obligations and all other revenue recognition criteria were met. There were no amounts recognized under this sublicense agreement during the three months ended March 31, 2019. No amounts were recognized as revenue related to the Serum Institute, Pharmsynthez or SynBio agreements during the three months ended March 31, 2020 and 2019.

4. Property and Equipment, net

Property and equipment, net consists of the following:

	March 31, 2020	December 31, 2019
Office and computer equipment	$ 42,289	$ 42,289
Furniture and fixtures	14,738	14,738
Property and equipment – at cost	57,027	57,027
Less accumulated depreciation	(56,861)	(56,270)
Property and equipment – net	$ 166	$ 757

Depreciation expense was approximately $1,000 for the three months ended March 31, 2020 and 2019, respectively.

5. Indefinite-Lived Intangible Assets

The Company's indefinite-lived intangible asset, OncoHist, is in-process research and development ("IPR&D") relating to the Company's business combination with SymbioTec in 2012. The carrying value of the IPR&D was approximately $9.2 million as of March 31, 2020 and December 31, 2019, respectively. IPR&D is required to be tested annually until the project is completed or abandoned. The IPR&D is not yet commercialized and, therefore, has not yet begun to be amortized as of March 31, 2020. The Company assesses IPR&D for impairment at least annually as of October 1 or when events or changes in circumstances indicate that the carrying value may be impaired. No impairment was recorded during the three months ended March 31, 2020 nor during the year ended December 31, 2019.

6. Fair Value Measurements

Accounting Standards Codification ("ASC") Topic 820, *Fair Value Measurement,* defines fair value as the price that would be received to sell an asset or be paid to transfer a liability in an orderly transaction between market participants at the measurement date. The Company applies the following fair value hierarchy, which prioritizes the inputs used to measure fair value into three levels and bases the categorization within the hierarchy upon the lowest level of input that is available and significant to the fair value measurement. Level 1 inputs are quoted prices in active markets for identical assets or liabilities that the reporting entity has the ability to access at the measurement date. Level 2 utilizes quoted market prices in markets that are not active, broker or dealer quotations, or alternative pricing sources with reasonable levels of price transparency. Level 3 inputs are unobservable inputs for the asset or liability in which there is little, if any, market activity for the asset or liability at the measurement date. The carrying amounts of certain of the Company's financial instruments approximates fair value due to their short maturities.

7. Stockholders' Equity

Warrants

In connection with certain of the Company's collaboration agreements and consulting arrangements, the Company has issued warrants to purchase shares of common stock as payment for services. As of each of March 31, 2020 and December 31, 2019, collaboration warrants to purchase 32,412 shares of common stock were outstanding. These warrants have an average weighted exercise price of $136.45 and expiration dates ranging from May 2020 through May 2021. No collaboration warrants were granted or exercised in connection with collaboration or consulting services during the three months ended March 31, 2020 and 2019, respectively.

In addition, the Company has outstanding warrants to purchase an aggregate of 439,083 and 658,557 shares of common stock in connection with debt and equity financing arrangements as of March 31, 2020 and December 31, 2019, respectively. These warrants have an average weighted exercise price of $40.24 and $31.16 as of March 31, 2020 and December 31, 2019, respectively, and expiration dates ranging from July 2020 through September 2026. There were no debt and equity financing warrants granted during the three months ended March 31, 2020, and warrants to purchase 129,084 shares of common stock were granted during the three months ended March 31, 2019. During the three months ended March 31, 2020, debt and equity financing warrants to purchase approximately 219,000 shares of common stock were exercised on a cashless one-for-one basis. No debt or equity financing warrants were exercised during the three months ended March 31, 2019.

8. Share-Based Expense

Total share-based expense related to stock options, restricted stock units ("RSUs") and common stock awards were approximately $0.2 million during the three months ended March 31, 2020 and 2019, respectively.

Share-based compensation expense is classified in the condensed consolidated statements of operations as follows:

	Three Months Ended March 31,	
	2020	2019
Research and development expenses	$ 13,358	$ 11,418
General and administrative expenses	152,240	222,522
	$ 165,598	$ 233,940

Employee Stock Options

There were no employee stock options or RSUs granted or exercised during the three months ended March 31, 2020 and 2019, respectively. The Company recognized a total of $0.2 million of compensation expense related to employee stock options during the three months ended March 31, 2020 and 2019, respectively.

Non-Employee Stock Options

The Company did not grant any non-employee stock options during the three months ended March 31, 2020 and 2019, respectively. The Company recognized approximately $4,000 of expense during the three months ended March 31, 2020. The Company did not recognize any expense related to non-employee stock options during the three months ended March 31, 2019.

Common Stock Awards

During the three months ended March 31, 2019, the Company granted 685 common stock awards based on the value of the professional services provided and the average stock price during the quarter. As all services were rendered during the three months ended March 31, 2019, approximately $17,000 of expense related to common stock awards was recognized. There were no common stock awards granted during the three months ended March 31, 2020. As of March 31, 2020, there were 8,341 common stock awards authorized but not issued.

9. Income Taxes

During the three months ended March 31, 2020 and 2019, there was no provision for income taxes as the Company incurred losses during both periods. Deferred tax assets and liabilities reflect the net tax effect of temporary differences between the carrying amount of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. The Company records a valuation allowance against its deferred tax assets as the Company believes it is more likely than not the deferred tax assets will not be realized. The valuation allowance against deferred tax assets was approximately $26.1 million and $25.9 million as of March 31, 2020 and December 31, 2019, respectively.

As of March 31, 2020 and December 31, 2019, the net deferred tax liability of $2.9 million on the condensed consolidated balance sheets is related to book and tax basis differences for intangible assets with indefinite lives. In accordance with ASC 740-10-30-18, the deferred tax liability related to the intangible assets cannot be used to offset deferred tax assets when determining the amount of the valuation allowance for deferred tax assets which are not more-likely-than-not to be realized. This results in a net deferred tax liability, even though the Company has a full valuation allowance on its other net deferred tax assets. This net deferred tax liability will continue to be reflected on the balance sheet until the related intangible assets are no longer held by the Company.

As of March 31, 2020 and December 31, 2019, the Company did not record any unrecognized tax positions.

10. Commitments

Supplemental cash flow information and non-cash activity related to our operating leases are as follows:

	Three Months Ended March 31, 2020
Operating cash flow information:	
Cash paid for amounts included in the measurement of lease liabilities	$ 6,824

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

	Balance Sheet Classification	March 31, 2020
Right-of-use assets	Prepaid expenses and other	$ 13,218
Current lease liabilities	Accrued expenses and other current liabilities	$ 13,218

11. Related Party Transactions

The Company has entered into various research, development, license and supply agreements with Serum Institute and Pharmsynthez (as well as SynBio, a wholly owned subsidiary of Pharmsynthez), each a related party whose relationship has not materially changed from that disclosed in the Company's Annual Report on Form 10-K for the year ended December 31, 2019 filed with the SEC on March 26, 2020 as amended on April 29, 2020.

On July 19, 2019, the Company acquired the XCART technology platform from Hesperix and Opko Pharmaceuticals LLC ("OPKO"). Dr. Dmitry Genkin, one of our directors and Chairman of Pharmsynthez, was a director and significant shareholder of Hesperix. In addition, the Company agreed to repay an approximate $225,000 loan that Dr. Genkin entered into with Hesperix. Mr. Adam Logal, one of our directors, is Senior Vice President, Chief Financial Officer, Chief Accounting Officer and Treasurer of OPKO Health, Inc., the parent company of OPKO.

During the third quarter of 2019, the Company entered into a sponsored research agreement with Pharmsynthez related to experiments identified by the Company to support its efforts as it prepares for initial tech transfer of the XCART methods to a future academic collaborator. Under the agreement, the Company made a $350,000 payment to Pharmsynthez during the third quarter of 2019, which is refundable on pro rata basis if the project is terminated prematurely as a result of Pharmsynthez failing to perform the work. The Company expensed approximately $0.1 million related to this agreement during the three months ended March 31, 2020. As of March 31, 2020 and December 31, 2019, approximately $0.1 million and $0.2 million, respectively, was recorded as an advanced payment and included in Prepaid expenses and other on the condensed consolidated balance sheets.

In October 2019, the Company entered into a loan agreement with Pharmsynthez (the "Pharmsynthez Loan"), pursuant to which the Company advanced Pharmsynthez an aggregate principal amount of up to $500,000 to be used for the development of a specific product under the August 2011 Stock Subscription and Collaborative Development of Pharmaceutical Products Agreement between the Company and SynBio. The Pharmsynthez Loan has a term of 15-months and accrues interest at a rate of 10% per annum. The Pharmsynthez Loan is guaranteed by all of the operating subsidiaries of Pharmsynthez, including SynBio and AS Kevelt, and is secured by all of the equity interests of the Company owned by Pharmsynthez and SynBio. The Company recognized approximately $13,000 of interest income related to this loan during the three months ended March 31, 2020. As of March 31, 2020, the Pharmsynthez Loan was included in Prepaid expenses and other on the condensed consolidated balance sheets. As of December 31, 2019, the Pharmsynthez Loan was included in Other assets on the condensed consolidated balance sheets.

12. Subsequent Events

The Company performed a review of events subsequent to the balance sheet date through the date the financial statements were issued and determined that there were no such events requiring recognition or disclosure in the financial statements. During March 2020, a global pandemic was declared by the World Health Organization related to the rapidly growing outbreak of a novel strain of coronavirus, or COVID-19. The pandemic has significantly affected economic conditions in the U.S., accelerating during the first half of March, as federal, state and local governments reacted to the public health crisis with mitigation measures, creating significant uncertainties in the U.S. economy. The Company is currently evaluating the effects of the COVID-19 pandemic on its business and while there has been no significant impact to the Company's operations to date, the Company at this time is uncertain of the impact this event may have on the Company's future operations. The extent to which the coronavirus pandemic affects our business, operations and financial results will depend on numerous evolving factors that we may not be able to accurately predict, and such uncertainty is expected to continue for some time.

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

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This report contains forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and Section 27A of the Securities Act of 1933, as amended. All statements contained in this Quarterly Report other than statements of historical fact, including statements regarding our future results of operations and financial position, our business strategy and plans, future revenues, projected costs, prospects and our objectives for future operations, are forward-looking statements. These forward-looking statements include, but are not limited to, statements concerning the anticipated effects and duration of the novel coronavirus, or COVID-19, global pandemic and the responses thereto, including the pandemic's impact on general economic and market conditions, as well as on our business, results of operations and financial condition; our plans to develop our proposed drug candidates; our expectations regarding the nature, timing and extent of clinical trials and proposed clinical trials including the timing of generating clinical data from these trials; our expectations regarding the timing for proposed submissions of regulatory filings, including but not limited to any Investigational New Drug ("IND") filing or any New Drug Application; the nature, timing and extent of collaboration arrangements; the expected results pursuant to collaboration arrangements including the receipts of future payments that may arise pursuant to collaboration arrangements; the outcome of our plans to obtain regulatory approval of our drug candidates; the outcome of our plans for the commercialization of our drug candidates; our plans to address certain markets, engage third party manufacturers, and evaluate additional drug candidates for subsequent commercial development, and the likelihood and extent of competition to our drug candidates; the development of the XCART™ Chimeric Antigen Receptor ("CAR") T technology; our plans to apply the XCART technology to advance cell-based therapeutics by targeting the unique B cell receptor on the surface of an individual patient's malignant tumor cells for the treatment of B-cell lymphomas; our beliefs regarding the expected results of the XCART technology, including its potential to significantly enhance the safety and efficacy of cell therapy for B-cell lymphomas by generating patient- and tumor-specific CAR T cells; and our anticipation that our primary focus will now be on advancing the XCART technology through regulatory approval and commercialization technology.

In some cases, these statements may be identified by terminology such as "may", "will", "should", "expect", "plan", "anticipate", "believe", "estimate", "predict", "potential", or "continue", or the negative of such terms and other comparable terminology. Although we believe that the expectations reflected in the forward-looking statements contained herein are reasonable, we cannot guarantee future results, the levels of activity, performance or achievements. These statements involve known and unknown risks and uncertainties that may cause our or our industry's results, levels of activity, performance or achievements to be materially different from those expressed or implied by forward-looking statements.

The Management's Discussion and Analysis of Financial Condition and Results of Operations (the "MD&A") should be read together with our condensed consolidated financial statements and related notes included elsewhere in this Quarterly Report. This Quarterly Report, including the MD&A, contains trend analysis and other forward-looking statements. Any statements in this Quarterly Report that are not statements of historical facts are forward-looking statements. These forward-looking statements made herein are based on our current expectations, involve a number of risks and uncertainties and should not be considered as guarantees of future performance.

Some factors that could cause actual results to differ materially include without limitation:

- the impact of natural disasters or public health emergencies, such as the COVID-19 global pandemic, on our financial condition and results of operations;
- our need to raise additional working capital in the future for the purpose of further developing our XCART technology and to continue as a going concern;
- our ability to finance our business;

- our ability to successfully execute, manage and integrate key acquisitions and mergers, including integration of the acquisition of the XCART technology;
- product development and commercialization risks, including our ability to successfully develop the XCART technology;
- the impact of adverse safety outcomes and clinical trial results for CAR-T cell therapies;
- our ability to secure and maintain a manufacturer for the XCART technology;
- our ability to successfully commercialize our current and future drug candidates;
- our ability to achieve milestone and other payments associated with our current and future co-development collaborations and strategic arrangements;
- the impact of new technologies on our drug candidates and our competition;
- changes in laws or regulations of governmental agencies;
- interruptions or cancellation of existing contracts;
- impact of competitive products and pricing;
- product demand and market acceptance and risks;
- the presence of competitors with greater financial resources;
- continued availability of supplies or materials used in manufacturing at the current prices;
- the ability of management to execute plans and motivate personnel in the execution of those plans;
- our ability to attract and retain key personnel;
- adverse publicity related to our products or the Company itself;
- adverse claims relating to our intellectual property;
- the adoption of new, or changes in, accounting principles;
- the costs inherent with complying with statutes and regulations applicable to public reporting companies, such as the Sarbanes-Oxley Act of 2002
- other new lines of business that the Company may enter in the future;
- general economic and business conditions, as well as inflationary trends; and
- other factors set forth in the Risk Factors section of our Annual Report on Form 10-K and in subsequent filings with the SEC.

These factors are not necessarily all of the important factors that could cause actual results to differ materially from those expressed in the forward-looking statements in this Quarterly Report. Other unknown or unpredictable factors also could have material adverse effects on our future results, including, but not limited to, those discussed in the section titled “Risk Factors.” The forward-looking statements in this Quarterly Report are made only as of the date of this Quarterly Report, and we do not undertake any obligation to publicly update any forward-looking statements to reflect subsequent events or circumstances. We intend that all forward-looking statements be subject to the safe-harbor provisions of the Private Securities Litigation Reform Act of 1995.

BUSINESS OVERVIEW

We are a biopharmaceutical company focused on progressing XCART™, a personalized CAR T platform technology engineered to target patient- and tumor-specific neoantigens. We are initially advancing cell-based therapeutics targeting the unique B-cell receptor on the surface of an individual patient’s malignant tumor cells, for the treatment of B-cell lymphomas. XCART has the potential to fuel a robust pipeline of the therapeutic assets targeting high-value oncology indications. The XCART technology, developed by the Scripps Research Institute in collaboration with the Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry, is believed to have the potential to significantly enhance the safety and efficacy of cell therapy for B-cell lymphomas by generating patient- and tumor-specific CAR T cells.

Additionally, we are leveraging our proprietary drug delivery platform, PolyXen®, by partnering with biotechnology and pharmaceutical companies. PolyXen is an enabling platform technology which can be applied to protein or peptide therapeutics. It employs the natural polymer polysialic acid to prolong a drug's circulating half-life and potentially improve other pharmacological properties.

We incorporate our patented and proprietary technologies into a number of drug candidates currently under development with biotechnology and pharmaceutical industry collaborators to create what we believe will be the next-generation biologic drugs with improved pharmacological properties over existing therapeutics. Our drug candidates have resulted from our research activities or that of our collaborators and are in the development stage. As a result, we continue to commit a significant amount of our resources to our research and development activities and anticipate continuing to do so for the near future. To date, none of our drug candidates have received regulatory marketing authorization in the United States ("U.S.") by the U.S. Food and Drug Administration ("FDA") nor in any other territories by any applicable agencies. We are receiving ongoing royalties pursuant to a license of our PolyXen technology to an industry partner.

We also have oncology therapeutic investigational drug candidate XBIO-101™ (sodium cridanimod) for the treatment of progestin resistant endometrial cancer. We have exclusive rights to develop and commercialize XBIO-101 worldwide, except for specified countries in the Commonwealth of Independent States. XBIO-101 has been granted orphan drug designation by the FDA for the potential treatment of progesterone receptor negative endometrial cancer in conjunction with progesterone therapy. We commenced a Phase 2 trial under an IND in 2017, with first patient dosed in October 2017. We closed patient enrollment in the trial in March 2019 as a result of slower than expected progress on the trial resulting from patient enrollment and retention challenges and have suspended further development of XBIO-101. We currently have no plans to continue development of XBIO-101.

Although we hold a broad patent portfolio, the focus of our internal development efforts during the three months ended March 31, 2020 and during 2019 was limited to winding down the XBIO-101 Phase 2 trial and preliminary development efforts associated with the XCART technology.

Critical Accounting Estimates

The preparation of our financial statements in conformity with U.S. generally accepted accounting principles ("U.S. GAAP") requires us to make estimates, judgments and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenue, costs and expenses during the reporting period. On an ongoing basis, we evaluate our estimates that are based on historical experience and on various other assumptions that we believe to be reasonable under the circumstances. The result of these evaluations forms the basis for making judgments about the carrying values of assets and liabilities and the reported amount of expenses that are not readily apparent from other sources. Because future events and their effects cannot be determined with certainty, actual results and outcomes could differ materially from our estimates, judgments and assumptions.

There has been no material change to our critical accounting estimates since those critical accounting estimates described in our Annual Report on Form 10-K for the year ended December 31, 2019 filed with the SEC on March 26, 2020, as amended on April 29, 2020.

Effects of the COVID-19 Pandemic

During March 2020, a global pandemic was declared by the World Health Organization related to the rapidly growing outbreak of a novel strain of coronavirus, or COVID-19. The pandemic has significantly affected economic conditions in the U.S., accelerating during the first half of March, as federal, state and local governments reacted to the public health crisis with mitigation measures, creating significant uncertainties in the U.S. economy. We are currently evaluating the effects of the COVID-19 pandemic on our business and while our operations were not materially affected during the first quarter of 2020 despite social distancing and other measures taken in response to the pandemic, the ultimate impact of the COVID-19 pandemic on our results of operations and financial condition is dependent on future developments, including the duration of the pandemic and the related extent of its severity, as well as its impact on macroeconomic conditions, which are uncertain and cannot be predicted at this time. If the global response to contain the COVID-19 pandemic escalates further or is unsuccessful, or if governmental decisions to ease pandemic related restrictions are ineffective, premature or counterproductive, we could experience a material adverse effect on our business, financial condition, results of operations and cash flows.

RESULTS OF OPERATIONS

Comparison of Quarter Ended March 31, 2020 and 2019

The comparison of our historical results of operations for the fiscal quarter ended March 31, 2020 to the fiscal quarter ended March 31, 2019 is as follows:

Description	Quarter Ended March 31, 2020	Quarter Ended March 31, 2019	Increase (Decrease)	Percentage Change
Revenues:				
Royalty revenue	$ 56,749	$ –	$ 56,749	100.0
Operating costs and expenses:				
Research and development	(359,651)	(463,782)	(104,131)	(22.5)
General and administrative	(927,880)	(863,373)	64,507	7.5
Total operating costs and expenses	(1,287,531)	(1,327,155)	(39,624)	(3.0)
Loss from operations	(1,230,782)	(1,327,155)	(96,373)	(7.3)
Other income (expense):				
Other expense	(134)	(245)	(111)	(45.3)
Interest income, net	51,487	150	51,337	34,224.7
Net loss	$ (1,179,429)	$ (1,327,250)	$ (147,821)	(11.1)

Revenue

For the three months ended March 31, 2020, revenue represented royalty revenue related to our right to sublicense agreement with Takeda Pharmaceuticals Co. Ltd. (“Takeda”). Royalty payments earned on sales by the sublicensee during the fourth quarter of 2019 were recorded as revenue by us during the three months ended March 31, 2020. We anticipate recognizing these royalty payments as revenue when they are reliably measurable, which is upon receipt of reports from Takeda. As the reported sales are not reliably measurable until we receive notification from Takeda, we expect to recognize revenue from these royalty payments in the quarter subsequent to the actual sales by the sublicensee. We did not recognize any revenue for the three months ended March 31, 2019.

Research and Development Expenses

Research & development (“R&D”) expenses for the three months ended March 31, 2020 decreased by $0.1 million, or 22.5% to $0.4 million from $0.5 million in the comparable quarter in 2019. The table below sets forth the R&D costs incurred by the Company by category of expense for the quarters ended March 31, 2020 and 2019:

	Quarter Ended,	
Category of Expense	March 31, 2020	March 31, 2019
Outside services and contract research organizations	$ 223,622	$ 354,345
Salaries and wages	89,842	79,285
Share-based expense	13,358	11,418
Other	32,829	18,734
Total research and development expense	$ 359,651	$ 463,782

The decrease in outside services and contract research organizations expense was primarily due to decreased spending on our XBIO-101 Phase 2 clinical trial during the three months ended March 31, 2020 as compared to the same period in the prior year. Costs related to the trial were generally lower as we closed patient enrollment during the first quarter of 2019 and suspended further development of XBIO-101. The decrease in XBIO-101 costs was partially offset by an increase in costs related to our XCART development efforts.

General and Administrative Expenses

General and administrative expenses for the three months ended March 31, 2020 was $0.9 million, increasing by approximately $0.1 million, or 7.5%, compared to the same period in the prior year, primarily due to increases related to investor relations and consulting costs. Investor relations costs increased as we increased our investor outreach activities during the first quarter of 2020 compared to the same period in the prior year. Consulting costs increased primarily due to costs related to our integration efforts related to the XCART technology.

Other Expense

Other expense was $134 for the three months ended March 31, 2020 compared to approximately $245 for the same period in 2019. This decrease in expense was primarily related to changes in foreign currency exchange rates during the first quarter of 2020 as compared to the same period in 2019.

Interest Income, net

Interest income, net increased to approximately $51,000 during the three months ended March 31, 2020 as compared to $150 for the same period in the prior year. This increase is primarily due to an increase in cash in the first quarter of 2020 as compared to the first quarter of 2019 due to the receipt of net proceeds of $13.4 million from our July 2019 public offering.

Liquidity and Capital Resources

We incurred a net loss of approximately $1.2 million for the three months ended March 31, 2020. We had an accumulated deficit of approximately $167.2 million at March 31, 2020 as compared to an accumulated deficit of approximately $166.0 million at December 31, 2019. Working capital was approximately $9.2 million at March 31, 2020 and $9.7 million at December 31, 2019, respectively. During the three months ended March 31, 2020, our working capital decreased by $0.5 million primarily due our net loss for the quarter. We expect to continue incurring losses for the foreseeable future and may need to raise additional capital or pursue other strategic alternatives in the long-term in order to continue the pursuit of our business plan.

Our principal source of liquidity consists of cash. At March 31, 2020, we had approximately $9.4 million in cash and $1.5 million in current liabilities. At December 31, 2019, we had approximately $10.4 million in cash and $1.4 million in current liabilities.

We have historically relied upon sales of our equity securities to fund our operations. From 2005 until March 31, 2020 we have raised approximately $76.0 million in proceeds from offerings of our common and preferred stock and received approximately $20.0 million from revenue producing activities. More than 90% of the milestone and sublicense revenue received to date has been from a single collaborator, Takeda. We expect the majority of our funding through equity or equity-linked instruments, debt financings, corporate collaborations, related party funding and/or licensing agreements to continue as a trend for the foreseeable future.

Management evaluates whether there are conditions or events, considered in the aggregate, that raise substantial doubt about our ability to continue as a going concern within one year after the date that the financial statements are issued. We have incurred substantial losses since our inception, and we expect to continue to incur operating losses in the near-term. These factors raise substantial doubt about our ability to continue as a going concern. We believe that we have access to capital resources through possible public or private equity offerings, debt financings, corporate collaborations, related party funding, or other means to continue as a going concern. During 2019, we completed two stock offerings that resulted in $16.1 million of net proceeds to us. We believe that our existing resources will be adequate to fund our operations through mid-2021. However, we anticipate we may need additional capital in the long-term to pursue our business initiatives. The terms, timing and extent of any future financing will depend upon several factors, including the achievement of progress in our clinical development programs, our ability to identify and enter into licensing or other strategic arrangements, and factors related to financial, economic and market conditions, many of which are beyond our control.

Cash Flows from Operating Activities

Cash flows used in operating activities for the three months ended March 31, 2020 totaled approximately $1.0 million, which was primarily due to our net loss for the period, offset by non-cash charges associated with share-based expense. Cash flows used in operating activities for the three months ended March 31, 2019 totaled approximately $1.3 million, which was primarily due to our net loss for the period, offset by non-cash charges associated with share-based expense.

Cash Flows from Investing Activities

There were no cash flows from investing activities for the three months ended March 31, 2020. Cash flows provided by investing activities for the three months ended March 31, 2019 totaled $2,000, which represented proceeds from the sale of property and equipment.

Cash Flow from Financing Activities

There were no cash flows from financing activities for the three months ended March 31, 2020. Cash flows provided by financing activities for the three months ended March 31, 2019 totaled approximately $2.7 million representing net proceeds from our registered direct offering in March 2019.

Contractual Obligations and Commitments

As of March 31, 2020, there were no material changes in our contractual obligations and commitments from those disclosed in our Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on March 26, 2020 as amended on April 29, 2020.

Off Balance Sheet Arrangements

We do not have any off-balance sheet financing arrangements that have or are reasonably likely to have a current or future material effect on our financial condition, change in financial condition, revenues or expenses, results of operations, liquidity, capital expenditures, or capital resources.

Recent Accounting Standards

See Note 2 in our Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on March 26, 2020 as amended on April 29, 2020 for a discussion of recent accounting standards.

Critical Accounting Policies and Estimates

Our condensed consolidated financial statements are prepared in accordance with U.S. GAAP. The preparation of our condensed consolidated financial statements requires us to make estimates, assumptions and judgments that affect the reported amounts of assets, liabilities, revenue, costs and expenses. We base our estimates and assumptions on historical experience and other factors that we believe to be reasonable under the circumstances. We evaluate our estimates and assumptions on an ongoing basis. Our actual results may differ from these estimates. There have been no material changes in our critical accounting policies from those disclosed in our Annual Report on Form 10-K for the year ended December 31, 2019 filed with the SEC on March 26, 2020 as amended on April 29, 2020.

ITEM 3 – QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are not required to provide the information required by this Item because we are a "smaller reporting company" (as defined in Rule 12b-2 of the Securities Exchange Act of 1934, as amended (the "Exchange Act")).

ITEM 4 – CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer (principal executive officer) and Chief Financial Officer (principal financial officer), evaluated the effectiveness of our disclosure controls and procedures as defined in Rules 13a-15(e) or 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 Quarterly Report.

Based on this evaluation, our management, including our Chief Executive Officer and Chief Financial Officer, concluded that as of the end of the period covered by this Quarterly Report, our disclosure controls and procedures are designed at a reasonable assurance level and are effective to provide reasonable assurance that information we are required to disclose in reports that we file or submit under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting that occurred during the period covered by this Quarterly Report that would have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II – OTHER INFORMATION

ITEM 1 – LEGAL PROCEEDINGS

We are not currently subject to any material legal proceedings, nor, to our knowledge, is any material legal proceeding threatened against us. From time to time, we may be a party to certain legal proceedings, incidental to the normal course of our business. While the outcome of these legal proceedings cannot be predicted with certainty, we do not expect that these proceedings will have a material effect upon our financial condition or results of operations.

ITEM 1A – RISK FACTORS

Except as provided below, there have been no material changes to the risk factors previously disclosed in our Annual Report on Form 10-K for the year ended December 31, 2019 filed with the SEC on March 26, 2020 as amended on April 29, 2020.

Our failure to meet the continued listing requirements of The Nasdaq Capital Market could result in a de-listing of our common stock. Failure to regain compliance with Nasdaq listing rules could affect the market price of our Common Stock and liquidity and reduce our ability to raise capital.

Currently, our Common Stock trades on the Nasdaq Capital Market. On April 20, 2020, the Company received a written notification (the "Notice") from the Listing Qualifications Department of the NASDAQ Stock Market LLC ("Nasdaq") notifying the Company that the closing bid price for its common stock had been below $1.00 for 30 consecutive business days and that the Company therefore is not in compliance with the minimum bid price requirement for continued inclusion on The Nasdaq Capital Market under Nasdaq Listing Rule 5550(a)(2) (the "Bid Price Requirement"). The Notice has no immediate effect on the listing of the Company's common stock on the Nasdaq Capital Market.

Under the Nasdaq Listing Rules, the Company has a period of 180 calendar days from the date of the Notice to regain compliance with the Bid Price Requirement. However, due to recent market conditions, on April 17, 2020, Nasdaq tolled the compliance periods for the Bid Price Requirement through June 30, 2020. As a result, the compliance period for the Bid Price Requirement will be reinstated on July 1, 2020 (the "Reinstatement Date"). Accordingly, the Company has 180 calendar days from the Reinstatement Date, or until December 28, 2020 (the "Compliance Date"), to regain compliance with the Bid Price Requirement. To regain compliance, the closing bid price of the Company's common stock must be at least $1.00 for a minimum of ten consecutive business days prior to the Compliance Date. In the event the Company does not regain compliance by the Compliance Date, the Company may be eligible for an additional 180 calendar day compliance period. To qualify for this second compliance period, the Company will be required to meet the continued listing requirement for market value of publicly held shares and all other initial listing standards for The Nasdaq Capital Market, with the exception of the Bid Price Requirement, and will need to provide written notice of its intention to cure the deficiency during the second compliance period, by effecting a reverse stock split, if necessary.

The Company intends to monitor the closing bid price of its common stock and may, if appropriate, consider available options to regain compliance with the Bid Price Requirement. However, there can be no assurance that the Company will be able to regain compliance with the Bid Price Requirement, or will otherwise be in compliance with other Nasdaq Listing Rules. If we fail to regain compliance with the Nasdaq Listing Rules, including the Bid Price Requirement, we could be delisted and our stock would be considered a penny stock under regulations of the SEC, and would therefore be subject to rules that impose additional sales practice requirements on broker-dealers who sell our securities. The additional burdens imposed upon broker-dealers by these requirements could discourage broker-dealers from effecting transactions in our common stock, which could severely limit the market liquidity of our common stock and stockholder's ability to sell our securities in the secondary market. If our common stock were to be delisted from the NASDAQ Capital Market, the liquidity of our common stock would be would be materially affected, which would decrease the attractiveness of our common stock to investors and result in a decline in the market price of our common stock. Also, it may be difficult for us to raise additional capital if we are not listed on a major exchange.

Our financial condition, results of operations, business and cash flow may be negatively affected by a public health crises such as the recent coronavirus (COVID-19) outbreak.

We may face risks related to health epidemics and pandemics or other outbreaks of communicable diseases. During March 2020, a global pandemic was declared by the World Health Organization related to the rapidly growing outbreak of a novel strain of coronavirus (COVID-19). The global spread of COVID-19 has created significant volatility, uncertainty and economic disruption, including significant volatility in the capital markets. The extent to which the COVID-19 pandemic affects our business, operations, financial results and the trading price of our common stock will depend on numerous evolving factors that we may not be able to accurately predict, including: the duration and scope of the pandemic; governmental and business actions that have been and continue to be taken in response to the pandemic (including mitigation efforts such as stay at home and other social distancing orders) and the impact of the pandemic on economic activity and actions taken in response (including stimulus efforts such as the Families First Coronavirus Act and the Coronavirus Aid, Relief, and Economic Security Act.).

Although the Company's operations were not materially affected in the first quarter of 2020 despite social distancing and other measures taken in response to the pandemic, the ultimate impact of the COVID-19 pandemic on our results of operations and financial condition is dependent on future developments, including the duration of the pandemic and the related extent of its severity, as well as its impact on macroeconomic conditions, which are uncertain and cannot be predicted at this time. If the global response to contain the COVID-19 pandemic escalates further or is unsuccessful, or if governmental decisions to ease pandemic related restrictions are ineffective, premature or counterproductive, we could experience a material adverse effect on our business, financial condition, results of operations and cash flows.

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

None.

ITEM 6 – EXHIBITS

The following exhibits are incorporated herein by reference or filed as part of this report.

EXHIBIT NUMBER	DESCRIPTION
31.1*	Certification of Jeffrey F. Eisenberg, Principal Executive Officer, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2*	Certification of James Parslow, Principal Financial Officer, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1**	Certifications of Jeffrey F. Eisenberg, Principal Executive Officer, and James Parslow, Principal Financial Officer, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS*	Inline XBRL Instance Document - The instance document does not appear in the interactive data file because its XBRL tags are embedded within the inline XBRL document.
101.SCH*	Inline XBRL Taxonomy Extension Schema Document
101.CAL*	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF*	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB*	Inline XBRL Taxonomy Extension Label Linkbase Document
101.PRE*	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104*	The cover page of this Quarterly Report on Form 10-Q for the quarter ended March 31, 2020, formatted in Inline XBRL (included within the Exhibit 101 attachments).
*	Filed herewith.
**	Exhibit 32.1 is being furnished and shall not be deemed to be "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or otherwise subject to the liability of that section, nor shall such exhibits be deemed to be incorporated by reference in any registration statement or other document filed under the Securities Act of 1933, as amended or the Securities Exchange Act of 1934, as amended, except as otherwise stated in such filing.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) 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.

XENETIC BIOSCIENCES, INC.

May 14, 2020

By: /S/ JEFFREY F. EISENBERG
Jeffrey F. Eisenberg
Chief Executive Officer
(Principal Executive Officer)

By: /S/ JAMES PARSLOW
James Parslow
Chief Financial Officer
(Principal Financial Officer and Principal Accounting Officer)

EXHIBIT 31.1

I, Jeffrey F. Eisenberg, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Xenetic Biosciences, Inc.;

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

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

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

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

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

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

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

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

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

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

Date: May 14, 2020

By: /s/ JEFFREY F. EISENBERG
Jeffrey F. Eisenberg
Chief Executive Officer
(Principal Executive Officer)

EXHIBIT 31.2

I, James Parslow, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Xenetic Biosciences, Inc.;

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

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

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

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

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

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

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

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

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

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

Date: May 14, 2020

By: /s/ JAMES PARSLOW
James Parslow
Chief Financial Officer
(Principal Financial and Principal Accounting Officer)

EXHIBIT 32.1

CERTIFICATION

Pursuant to the requirement set forth in Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended, (the "Exchange Act") and Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U.S.C. §1350), Jeffrey F. Eisenberg, Chief Executive Officer of Xenetic Biosciences, Inc. (the "Company"), and James Parslow, Chief Financial Officer of the Company, each hereby certifies that, to the best of his knowledge:

The Company's Quarterly Report on Form 10-Q for the period ended March 31, 2020, to which this Certification is attached as Exhibit 32.1 (the "Periodic Report"), fully complies with the requirements of Section 13(a) or Section 15(d) of the Exchange Act; and

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

Date: May 14, 2020

In Witness Whereof, the undersigned have set their hands hereto as of the 14th day of May 2020.

/s/ Jeffrey F. Eisenberg
Jeffrey F. Eisenberg
Chief Executive Officer

/s/James Parslow
James Parslow
Chief Financial Officer

"This certification accompanies the Form 10-Q to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of Xenetic Biosciences, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of the Form 10-Q), irrespective of any general incorporation language contained in such filing."