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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, 2017

☐ **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.)**

99 Hayden Ave, Suite 230
Lexington, Massachusetts 02421
(Address of principal executive offices and zip code)

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

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

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer" "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☐	Smaller reporting company	☒
(Do not check if a 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 check mark whether the registrant is a shell company (as defined in Exchange Act Rule 12b-2): Yes ☐ No ☒

As of May 11, 2017, the number of outstanding shares of the registrant's common stock was 8,717,541.

XENETIC BIOSCIENCES, INC.
FORM 10-Q
QUARTERLY PERIOD ENDED MARCH 31, 2017

PART 1 – FINANCIAL INFORMATION

ITEM 1 – FINANCIAL STATEMENTS

XENETIC BIOSCIENCES, INC.
CONDENSED CONSOLIDATED BALANCE SHEETS

	March 31, 2017 (Unaudited)	December 31, 2016
ASSETS		
Current assets:		
Cash	$ 4,323,511	$ 4,048,131
Restricted cash	66,510	66,510
Accounts receivable	–	3,000,000
Prepaid expenses and other	1,820,023	1,224,009
Total current assets	6,210,044	8,338,650
Property and equipment, net	40,083	42,366
Goodwill	3,283,379	3,283,379
Indefinite-lived intangible assets	9,243,128	9,243,128
Other assets	54,884	66,342
Total assets	$ 18,831,518	$ 20,973,865
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 1,368,529	$ 1,006,903
Accrued expenses	605,094	838,888
Other current liabilities	20,483	20,205
Total current liabilities	1,994,106	1,865,996
Deferred tax liability	2,918,518	2,918,518
Other liabilities	15,020	19,876
Total liabilities	4,927,644	4,804,390
Commitments and contingent liabilities (Note 10)		
Stockholders' equity:		
Preferred stock, 10,000,000 shares authorized		
Series B, $0.001 par value: 2,185,742 and 2,305,742 issued and outstanding as of March 31, 2017, and December 31, 2016, respectively	2,185	2,305
Series A, $0.001 par value: 970,000 shares issued and outstanding as of March 31, 2017, and December 31, 2016	970	970
Common stock, $0.001 par value; 45,454,546 shares authorized as of March 31, 2017, and December 31, 2016; 8,976,426 and 8,731,029 shares issued as of March 31, 2017 and December 31, 2016, respectively; 8,652,541 and 8,407,144 shares outstanding as of March 31, 2017 and December 31, 2016, respectively	8,975	8,730
Additional paid in capital	164,122,816	163,522,921
Accumulated deficit	(145,203,626)	(142,338,005)
Accumulated other comprehensive income	253,734	253,734
Treasury stock	(5,281,180)	(5,281,180)
Total stockholders' equity	13,903,874	16,169,475
Total liabilities and stockholders' equity	$ 18,831,518	$ 20,973,865

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,	
	2017	**2016**
Operating costs and expenses:		
Research and development	$ (1,221,144)	$ (429,281)
General and administrative	(1,634,533)	(1,422,366)
Loss from operations	(2,855,677)	(1,851,647)
Other non-operating income (expense):		
Change in fair value of derivative liability	–	136,014
Loss on issuance of hybrid debt instruments	–	(1,584,218)
Other expense	(9,356)	(26,414)
Interest income	–	14
Interest expense	(588)	(245,384)
Total other non-operating expense	(9,944)	(1,719,988)
Net loss	$ (2,865,621)	$ (3,571,635)
Basic and diluted loss per share	$ (0.34)	$ (0.78)
Weighted-average shares of common stock outstanding, basic and diluted	8,518,830	4,591,364

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,	
	2017	**2016**
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net loss	$ (2,865,621)	$ (3,571,635)
Adjustments to reconcile net loss to net cash provided by (used in) operating activities:		
Depreciation	7,712	9,082
Amortization of hybrid debt instrument discount	–	139,846
Non-cash interest expense	–	104,760
Share-based payments	650,275	477,888
Warrant expense for services	(15,346)	(249,218)
Vendor share-based payments	31,068	57,790
Change in fair value of derivative liability	–	(136,014)
Loss on issuance of hybrid debt instruments	–	1,584,218
Changes in operating assets and liabilities:		
Accounts receivable	3,000,000	–
Prepaid expenses and other assets	(584,556)	(43,931)
Accounts payable, accrued expenses and other liabilities	57,277	(147,719)
Net cash provided by (used in) operating activities	280,809	(1,774,933)
CASH FLOWS FROM INVESTING ACTIVITIES:		
Purchases of property and equipment	(5,429)	(14,613)
Net cash used in investing activities	(5,429)	(14,613)
CASH FLOWS FROM FINANCING ACTIVITIES:		
Proceeds from issuance of debt	–	3,500,000
Payments on loan from related party	–	(237,048)
Net cash provided by financing activities	–	3,262,952
Net change in cash, excluding restricted cash	275,380	1,473,406
Cash at beginning of period	4,048,131	132,229
Cash at end of period	$ 4,323,511	$ 1,605,635
SUPPLEMENTAL CASH FLOW INFORMATION:		
Cash paid for interest	$ 599	$ –
SUPPLEMENTAL SCHEDULE OF NON-CASH INVESTING AND FINANCING ACTIVITIES:		
Interest paid in common stock	$ –	$ 70,813
Issuance of warrants in connection with debt	$ –	$ 1,701,214
Recording of derivative liability in connection with debt	$ –	$ 3,346,423
Reclassification of common shares issuable to accounts payable	$ 65,977	$ –
Conversion of Series B preferred stock to common stock	$ 120	$ –
Issuance of common stock for promissory note converted in 2016	$ 125	$ –

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

XENETIC BIOSCIENCES, INC.
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(unaudited)

1. The Company

Background

Xenetic Biosciences, Inc. ("Xenetic" or the "Company)" incorporated in the state of Nevada and based in Lexington, Massachusetts, is a biopharmaceutical company focused on the discovery, research and development of next-generation biologic drugs and novel orphan oncology therapeutics. The Company's 200+ patent portfolio covers next-generation biologic drugs and novel oncology therapeutics and provides protection for Xenetic's current drug candidates and positions the Company well for strategic partnership and commercialization opportunities. The Company's objective is to leverage its portfolio to maximize out-license opportunities that generate working capital to both build incremental stockholder value and provide us with the funding necessary to clinically develop its orphan oncology drug candidate pipeline from preclinical through market launch.

Xenetic incorporates its patented and proprietary technologies into a number of drug candidates currently under development either in-house or with biotechnology and pharmaceutical collaborators in order to create what it believes will be next-generation biologic drugs and therapeutics. While the Company primarily focuses on researching and developing orphan oncology drugs, it also has significant interests in drugs being developed by its collaborators to treat, among other conditions, hemophilia and anemia.

Xenetic's lead drug candidate, XBIO-101 (formerly known as Virexxa™), is a small-molecule immunomodulator and interferon inducer, which has been shown to increase progesterone receptor (PrR) expression in endometrial tissue in preliminary studies. The Company has exclusive rights to develop and commercialize XBIO-101 worldwide, except for specified countries in the Commonwealth of Independent States, including Russia. XBIO-101 has been granted orphan drug designation by the U.S. Food and Drug Administration ("FDA") for the potential treatment of progesterone receptor negative endometrial cancer in conjunction with progesterone therapy. Patient recruitment for the Phase 2 trial for XBIO-101 is expected to commence in the second quarter of 2017.

Xenetic's lead proprietary technology is PolyXen™, an enabling platform technology designed for protein drug delivery. It uses the natural polymer polysialic acid ("PSA") to prolong the drug's half-life and potentially improve the stability of therapeutic peptides and proteins. The Company believes this technology may be used in a variety of drug candidates to enhance the properties of the therapeutic, potentially providing advantages over competing products.

Xenetic is engaged in a strategic exclusive collaboration with Shire plc ("Shire") with the primary objective of developing a novel series of polysialylated blood coagulation factors, including a next-generation factor VIII hemophilia A treatment. This collaboration relies on the Company's proprietary PolyXen technology to conjugate PSA to therapeutic blood-clotting factors, with the goal of improving the pharmacokinetic profile and extending the active half-life of these biologic molecules. Xenetic granted Shire a worldwide, exclusive, royalty-bearing license to its proprietary PolyXen technology for use in combination with Shire's proprietary molecules in the development of drug candidates designed for the treatment of blood and bleeding disorders. Shire is responsible for the costs and development of SHP656, an investigational, extended half-life factor VIII treatment being developed as a long-acting therapeutic for the treatment of hemophilia. Shire filed a Clinical Trial Application ("CTA") for the program in the fourth quarter of 2015 and commenced human clinical trials during the first quarter of 2016. In December 2016, the Company earned a $3.0 million milestone payment from Shire related to the advancement of the Phase 1/2 clinical trial of SHP656. Under the terms of the collaboration, most recently amended in January 2014, Xenetic is eligible to receive additional regulatory and sales target payments for total potential milestone receipts of up to $100 million plus royalties on sales. Shire is one of the Company's long-term stockholders, having invested $10 million in the Company in January 2014.

All of the Company's drug candidates have arisen from its research activities or those of its collaborators, and are in the development stage. Xenetic commits significant resources to its research and development activities. None of its drug candidates have yet received regulatory approval for marketing in the U.S. by the FDA or by any applicable agencies in other countries. The Company is also developing a broad pipeline of clinical candidates for next-generation biologics and novel oncology therapeutics in a number of orphan disease indications. Though the Company holds a broad intellectual property ("IP") portfolio, the current focus of its internal development efforts is XBIO-101 and PolyXen, in part due to capital constraints.

Xenetic directly, or indirectly through its wholly-owned subsidiaries, owns various U.S. federal trademark registrations and applications, and unregistered trademarks and service marks, including but not limited to Virexxa®, OncoHist™, PolyXen™, ErepoXen™, ImuXen™ and PulmoXen™. Altogether, the Company, directly or indirectly, holds more than 200 patents with 38 in the United States and in excess of 160 international patents, and has more than 65 pending patent applications worldwide.

Xenetic's patent portfolio spans four core proprietary technologies including two platforms, small molecules and biologics as further described below:

PolyXen	An enabling biological platform technology designed to extend the circulation in the human body of existing drug molecules, thereby creating potentially superior next-generation drug candidates. PolyXen is based on the concept of polysialylation and utilizes polysialic acid, or PSA, which is a biopolymer, comprising a chain of sialic acid molecules. PSA is a natural constituent of the human body, though the Company obtains its PSA from a bacterial source.
XBIO-101	A small molecule therapeutic with the potential to confer sensitivity to hormone therapeutics upon cancer cells that are otherwise insensitive to such treatments. XBIO-101 (sodium cridanimod) belongs to a class of low-molecular weight synthetic interferon inducers. In addition to its immunomodulatory properties, XBIO-101 has been shown to increase levels of progesterone receptor, or PrR, expression in tumor tissue of patients who are PrR deficient, and thus may restore sensitivity of non-responsive endometrial cancers to hormonal (e.g., progestin) therapy. Based on preclinical observations, XBIO-101 may also be therapeutically relevant in other hormone-resistant cancers, such as triple-negative breast cancer. XBIO-101 has been granted an orphan drug designation by the FDA, for treatment of progesterone receptor negative endometrial cancer in conjunction with progestin therapy.
OncoHist	A novel therapeutic platform technology that utilizes the properties of modified human histone H1.3 for targeted cell necrosis or apoptosis (programmed cell death), which may enable OncoHist to treat a broad range of cancer indications. OncoHist, unlike many competing oncology therapies, is based on a molecule occurring naturally in the human body, in the cell nucleus, and is therefore expected to be better tolerated and less immunogenic than other oncology therapies.
ImuXen	A novel liposomal co-entrapment encapsulation technology designed to maximize both cell and immune system mediated responses. The technology is based on the co-entrapment of the nominated antigen(s) in a liposomal vesicle. The technology when applied may create new vaccines and improve the use and efficacy of certain existing human vaccines.

Though the Company holds a broad IP portfolio, the current focus of its internal development efforts is XBIO-101 and PolyXen, in part due to capital constraints.

The Company's strategy is to develop drug candidates based on its proprietary technologies that are designed to address unmet needs, improve the performance of existing drugs, and create new patentable drug candidates. All of its drug candidates are in the development stage and none have yet received regulatory approval for marketing in the U.S. by the FDA or by any applicable agencies in other countries.

Going Concern and Management's Plan

The Company incurred a net loss of approximately $2.9 million for the three months ended March 31, 2017, and had an accumulated deficit of $145.2 million as of March 31, 2017. The Company's working capital was approximately $4.2 million as of March 31, 2017, and $6.5 million as of December 31, 2016. The Company expects to continue incurring losses for the foreseeable future and will need to raise additional capital in the near future to pursue its business plan and 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 or other means; however, it has not secured any commitment for new financing at this time. 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.

While these condensed consolidated financial statements have been prepared on a going concern basis, if the Company does not successfully raise additional working capital, there can be no assurance that the Company will be able to continue its operations and these conditions raise substantial doubt about its ability to continue as a going concern. The accompanying condensed consolidated financial statements do not include any adjustments related to the recoverability or classification of asset carrying amounts or the amounts and classification of liabilities that may result should the Company be unable to continue as a going concern.

Under such circumstances, the Company would have to further reduce the planned scale of, or possibly suspend some or all of its pre-clinical development initiatives and clinical trials performed by external service providers. In addition, the Company would have to reduce general and administrative expenses and delay or cease the purchase of clinical research services if and until the Company is able to obtain additional financing.

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 ("US GAAP") 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, 2016 filed with the SEC on March 31, 2017.

These condensed consolidated financial statements have been prepared on the assumption that the Company will be able to realize its assets and discharge its liabilities in the normal course of business. This assumption is presently uncertain and contingent upon the Company's ability to raise additional working capital. The financial statements do not include any adjustments relating to recoverability and classification of recorded asset amounts or the amounts and classification of liabilities that might be necessary should the Company be unable to continue as a going concern.

Reclassifications

Certain items previously reported in specific financial statement captions have been reclassified to conform to the current period presentation, including vendor share-based payments of $57,790 in the statements of cash flows. Such reclassifications do not materially impact previously reported net losses, total assets, liabilities or stockholders' equity (deficit).

Principles of Consolidation

The financial statements of the Company include the accounts of Xenetic Biosciences (UK) Limited and its wholly owned subsidiaries: Lipoxen Technologies Limited, Xenetic Bioscience, Incorporated, and SymbioTec GmbH ("SymbioTec"). All material intercompany balances and transactions have been eliminated in consolidation.

Recently Adopted Accounting Standards

In March 2016, the Financial Accounting Standards Board, or FASB, issued ASU 2016-09, *Compensation – Stock Compensation (Topic 718)* ("ASU 2016-09"). ASU 2016-09 simplifies several aspects of employee share-based payment accounting, including income tax consequences, classification of awards as either equity or liabilities, and classification on the statement of cash flows. ASU 2016-09 is effective for fiscal years beginning after December 15, 2016, including interim periods within that year. The Company adopted ASU 2016-09 effective January 1, 2017. The adoption of this standard did not have a material impact on the Company's financial statements or related disclosures as:

- There have been no stock option exercises as a US company and, therefore, there are no excess tax benefits related to windfalls. Moreover, the Company maintains a full valuation allowance and expects to do so for the foreseeable future.
- The Company has elected to account for forfeitures as they occur, which the Company adopted using a modified retrospective approach and there was no material cumulative effect adjustment to be recorded to opening retained earnings.
- The Company will classify cash paid to taxing authorities arising from the withholding of shares from employees in cash flows from financing activities.

3. Significant Strategic Drug Development Collaborations – Related Parties

The Company has entered into various research, development, license and supply agreements with Shire plc, Serum Institute of India ("Serum Institute"), its controlling stockholder PJSC Pharmsynthez ("Pharmsynthez") and SynBio LLC ("SynBio"), which is now 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, 2017. No amounts were recognized as revenue related to these agreements during the three months ended March 31, 2017 or 2016.

4. Property and Equipment, net

Property and equipment, net consists of the following:

	March 31, 2017	December 31, 2016
Laboratory equipment	$ 264,583	$ 264,583
Office and computer equipment	42,799	37,370
Leasehold improvements	26,841	26,841
Furniture and fixtures	20,263	20,263
Property and equipment – at cost	354,486	349,057
Less accumulated depreciation	(314,403)	(306,691)
Property and equipment – net	$ 40,083	$ 42,366

Depreciation expense was $7,712 and $9,082 for the three months ended March 31, 2017 and 2016, respectively.

5. Hybrid Debt Instrument

During 2015 and 2016 the Company entered into several financing arrangements which included the issuance of convertible notes and warrants to purchase shares of common stock. On July 1, 2015, the Company entered into a Securities Purchase Agreement (the "SPA") with Pharmsynthez providing for the issuance of a minimum of a $3.0 million, 10% Senior Secured Collateralized Convertible Promissory Note (the "SPA Note"). The SPA also provided for the issuance of certain warrants up to the amount of the SPA Note to purchase shares of common stock at the lesser of $6.60 per share and 120% of the price per share in the Company's next capital raise of at least $7 million (the "Exercise Price").

On November 13, 2015, the Company entered into an Asset Purchase Agreement (the "APA") with Pharmsynthez providing for the issuance of a minimum of a $3.5 million, 10% Senior Secured Collateralized Convertible Promissory Note (the "Initial APA Note") and the transfer to the Company of certain intellectual property rights with respect to XBIO-101 in exchange for, among other things, approximately 3.0 million shares of our common stock. The APA also provided for the issuance of certain warrants covering up to half the amount of the Initial APA Note to purchase shares of common stock at the Exercise Price. During the quarter ended March 31, 2016, the Company issued $3.5 million of convertible debt as well as the associated warrants, both in connection with the Initial APA Note. The convertible debt and its embedded debt-like features were recorded within current liabilities as a hybrid debt instruments. A $1.6 million loss was recorded upon the issuance of hybrid debt instruments. In addition, a $0.1 million gain was recorded during the three months ended March 31, 2016, reflecting the change in fair value of the hybrid debt instruments during the period.

On April 22, 2016, Pharmsynthez converted all convertible notes in the principal amount of $6.5 million plus accrued interest of approximately $0.2 million, issued by the Company to Pharmsynthez. The conversion rate was $4.95 per share. As such, the Company issued to Pharmsynthez 1,373,036 shares of common stock in connection with conversion of the convertible notes. The related embedded derivatives, which had been bifurcated from the host debt and accounted for separately, were settled by action of the conversion. As a result, there were no hybrid debt instruments outstanding at March 31, 2017 and December 31, 2016.

6. Fair Value Measurements

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 Company's cash and restricted cash are measured at fair value on a recurring basis and are classified as Level 1 in the fair value hierarchy. The carrying amount of certain of the Company's financial instruments approximate fair value due to their short maturities. The Company measures derivative liabilities at fair value on a recurring basis and are classified as Level 3 in the fair value hierarchy.

There were no financial instruments classified as Level 3 in the fair value hierarchy during the three months ended March 31, 2017. For the three months ended March 31, 2016, the following table provides a summary of the changes in fair value of the compound derivative measured at fair value on a recurring basis using significant unobservable inputs.

Balance as of January 1, 2016	$	3,544,222
Issuances of compound derivative instrument		3,346,423
Change in fair value of compound derivative instrument		(136,014)
Balance as of March 31, 2016	$	6,754,631

7. Stockholders' Equity

Common Stock

In connection with the November 2016 public offering and by action of the terms of the APA, a $500,000 10% convertible promissory note issued to our controlling stockholder, Pharmsynthez, in July 2016 was converted into shares of common stock. The associated 125,397 shares comprising both owed principal and interest were issued in March 2017.

During the three months ended March 31, 2017, 120,000 shares of Series B preferred stock were converted into 120,000 shares of common stock.

Warrants

In connection with the Company's issuance of the Initial APA Note in March 2016, the Company issued a warrant to purchase 353,540 shares of common stock at the Exercise Price (the "Initial APA Warrant"). The Initial APA Warrant has a five-year term and is exercisable commencing March 31, 2016. The fair value of the warrant was calculated using the Black-Scholes option pricing model. The key valuation assumptions used consist of the Company's stock price, a risk free rate of 1.42% and an expected volatility of 135%.

As of March 31, 2017, and December 31, 2016, there were warrants to purchase an aggregate of 3,522,225 shares of common stock at a weighted average exercise price of $4.30 outstanding which had been issued in connection with debt and equity financing arrangements.

8. Share-Based Compensation

Total share-based compensation related to stock options, common stock awards, and non-financing warrants was $0.7 million and $0.3 million during the three months ended March 31, 2017 and 2016, respectively.

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

	Three Months Ended March 31,	
	2017	2016
Research and development expenses	$ 109,533	$ (193,451)
Administrative expenses	556,464	479,911
	$ 665,997	$ 286,460

Employee Stock Options

During the three months ended March 31, 2017, the Company granted 175,000 employee stock options. The key valuation assumptions used consisted of the Company's stock price, a risk free rate of 0.19% and an expected volatility of 110%. During the three months ended March 31, 2016, the Company granted 12,122 employee stock options. The key valuation assumptions used consisted of the Company's stock price, a risk free rate of 0.54% and an expected volatility of 123%. During the three months ended March 31, 2017 and 2016, the Company extended the exercise expiration date of certain former employee stock option awards resulting in a change in incremental value of approximately $4,000 and $24,000, respectively, which was charged to administrative expense. The Company recognized a total of $0.6 million and $0.5 million of compensation expense related to employee stock options during the three months ended March 31, 2017 and 2016, respectively.

Non-Employee Stock Options

No non-employee stock options were granted and no non-employee stock options were exercised during the three months ended March 31, 2017 or 2016. The Company recognized $43,873 and ($971) of compensation expense related to non-employee stock options during the three months ended March 31, 2017 and 2016, respectively.

Common Stock Awards

During the three months ended March 31, 2017 and 2016, the Company granted 5,475 and 8,641 common stock awards, respectively, based on the value of the services provided and the average stock price during each respective quarter. As all services were rendered in each respective quarter, $31,068 and $57,790 of compensation expense related to common stock awards was recognized during each of the three month periods ended March 31, 2017 and 2016, respectively. All common stock awards were authorized but not issued as of March 31, 2017.

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 March 31, 2017 and December 31, 2016, warrants to purchase 646,249 shares of common stock were outstanding. The fair value of these warrants were determined at each issuance date using the Black-Scholes option pricing model. The warrants are subject to re-measurement at each reporting period until the measurement date is reached. Expense is recognized on a straight-line basis over the expected service period or at the date of issuance, if there is not a service period. The Company recognized a gain of $0.02 million on revaluation of warrants for the three months ended March 31, 2017. During the three months ended March 31, 2016, the Company recognized a gain of $0.2 million as a result of a reduction in estimated fair value of warrants. No warrants were issued in connection with collaboration agreements and consulting services during the three months ended March 31, 2017 and 2016.

9. Income Taxes

During the three months ended March 31, 2017 and 2016, 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 $24.4 million and $21.5 million as of March 31, 2017 and December 31, 2016, respectively.

As of March 31, 2017, and December 31, 2016, 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 that were acquired in the Company's January 2012 acquisition of SymbioTec. 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, 2017 and December 31, 2016, the Company did not record any unrecognized tax positions.

10. Commitments

In August 2013, the Company entered into an agreement to lease office and laboratory space in Lexington, Massachusetts under an operating lease with a commencement date of January 1, 2014 and a termination date of January 31, 2019. In connection with this lease, the Company is required to maintain a $66,000 letter of credit as a security deposit. In addition, the Company recorded $54,012 as prepaid rent as of March 31, 2017, with $24,551 recorded as a non-current asset. The Company also incurred a liability of $89,074 with respect to the Company's contribution to the landlord's leasehold improvements, of which $34,153 is outstanding as of March 31, 2017, with $15,008 recorded as a non-current liability, respectively. This liability is repayable as additional rent expense over the term of the lease and bears interest at 6%. The Company also leases office space in Miami, Florida, during 2017 requiring a total of $9,975 in payments through the lease termination in December 2017.

11. Related Party Transactions

The Company has entered into various research, development, license and supply agreements with Serum Institute and its controlling stockholder, Pharmsynthez (as well as SynBio, a wholly owned subsidiary of Pharmsynthez), each a related party whose relationship and ownership has not materially changed from that disclosed in the Company's Annual Report on Form 10-K for the years ended December 31, 2016 filed with the SEC on March 31, 2017, as amended on May 1, 2017, other than the acquisition of SynBio by Pharmsynthez.

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.

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

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This report contains both historical and forward-looking statements. The forward-looking statements in this quarterly report are not based on historical facts, but rather reflect the current expectations of our management concerning future results and events. These forward-looking statements include, but are not limited to, statements concerning our plans to continue the development of our proposed drug candidates; our expectations regarding the nature, timing and extent of clinical trials and proposed clinical 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 ("NDA"); 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.

As used in this 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.

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 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:

- Our need to raise additional working capital for the purpose of further developing our various drug candidates;
- Our ability to finance our business;
- Our ability to achieve milestone and other payments associated with our 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;
- product development and commercialization risks;
- 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;
- 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 new statutes and regulations applicable to public reporting companies, such as the Sarbanes-Oxley Act of 2002; and
- other new lines of business that the Company may enter in the future

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 have any obligation to publicly update any forward-looking statements to reflect subsequent events or circumstances.

BUSINESS OVERVIEW

We are a clinical-stage biopharmaceutical company focused on the discovery, research and development of next-generation biologic drugs and novel orphan oncology therapeutics. We have an extensive patent portfolio of over 200 issued patents and more than 65 pending patent applications in the United States and worldwide, which covers various aspects of our PolyXen platform technology and advanced polymer conjugate technologies, as well as our proprietary biologic drugs and novel oncology drug candidates. We believe our portfolio positions us well for strategic partnership and commercialization opportunities. Our objective is to maximize opportunities to out-license assets from our portfolio in order to generate working capital to both build long-term stockholder value and provide us with the funding necessary to clinically develop our orphan oncology drug candidate pipeline through market launch.

We are engaged in a strategic exclusive collaboration with Shire plc ("Shire") with the primary objective of developing a novel series of polysialylated blood coagulation factors, including a next-generation factor VIII hemophilia A treatment. This collaboration relies on our proprietary PolyXen technology to conjugate polysialic acid ("PSA") to therapeutic blood-clotting factors, with the goal of improving the pharmacokinetic profile and extending the active half-life of these biologic molecules. We granted Shire a worldwide, exclusive, royalty-bearing license to our proprietary PolyXen technology for use in combination with Shire's proprietary molecules in the development of drug candidates designed for the treatment of blood and bleeding disorders. Shire is responsible for the costs and development of SHP656, an investigational, extended half-life factor VIII treatment being developed as a long-acting therapeutic for the treatment of hemophilia. Shire filed a Clinical Trial Application ("CTA") for the program in the fourth quarter of 2015 and commenced human clinical trials during the first quarter of 2016. On January 6, 2017, we received a $3.0 million milestone payment from Shire related to the advancement of the Phase 1/2 clinical trial of SHP656. Under the terms of the collaboration, most recently amended in January 2014, we are eligible to receive additional regulatory and sales target payments for total potential milestone receipts of up to $100.0 million plus royalties on sales.

Xenetic is also developing a broad pipeline of clinical candidates for next-generation biologics and novel oncology therapeutics in a number of orphan disease indications. Though we hold a broad patent portfolio, the current focus of our internal development efforts is currently limited to research and development of our lead product candidate XBIO-101 and lead proprietary technology PolyXen because of capital constraints.

Critical Accounting Estimates

The preparation of our financial statements in conformity with U.S. generally accepted accounting principles requires management 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 amount of expenses during the reporting period. On an ongoing basis, we evaluate management's 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 could differ from our assumptions and estimates, and such differences could be material.

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, 2016 filed with the SEC on March 31, 2017.

RESULTS OF OPERATIONS

The comparison of our historical results of operations for the fiscal quarter ended March 31, 2017 to the fiscal quarter ended March 31, 2016 is as follows:

Description	Quarter Ended March 31, 2017	Quarter Ended March 31, 2016	Increase (Decrease)	Percentage Change
Research and development expenses	$ (1,221,144)	$ (429,281)	$ 791,863	184.5
General and administrative expenses	(1,634,533)	(1,422,366)	212,167	14.9
Loss from operations	(2,855,677)	(1,851,647)	1,004,030	54.2
Other income (expense):				
Change in fair value of derivative liability	–	136,014	136,014	100.0
Loss on issuance of hybrid debt instrument	–	(1,584,218)	(1,584,218)	(100.0)
Other expense	(9,356)	(26,414)	(17,058)	(64.6)
Interest income	–	14	14	100.0
Interest expense	(588)	(245,384)	(244,796)	(99.8)
Net loss	$ (2,865,621)	$ (3,571,635)	$ (706,014)	(19.8)

Research and Development

Overall, corporate research and development ("R&D") expenses for the quarter ended March 31, 2017 increased by $0.8 million, or 184.5% to $1.2 million from $0.4 million in the comparable quarter in 2016. The table below sets forth the R&D costs incurred by the Company, by category of expense, for the quarters ended March 31, 2017 and 2016:

	Quarter ended,	
Category of Expense	**March 31, 2017**	**March 31, 2016**
Outside services and Contract Research Organizations	$ 838,414	$ 423,517
Salaries and wages	187,986	128,559
Share-based compensation expense (income)	109,533	(193,451)
Other	85,211	70,656
Total research and development expense	$ 1,221,144	$ 429,281

The increase in R&D expenses during the three months ended March 31, 2017, compared to the same period in 2016 was primarily due the initiation of XBIO-101 phase 2 clinical trial, an increase in non-cash stock compensation and, to a lesser extent, the hiring of our Chief Scientific Officer who was appointed effective January 1, 2017. Excluding the change in share-based compensation, R&D expense increased approximately $0.5 million or 78.5%.

General and Administrative Expenses

General and administrative expenses increased by approximately $0.2 million or 14.9% for the quarter ended March 31, 2017, to $1.6 million from $1.4 million in the comparable quarter in 2016. The most significant drivers of the change were related to increases in personnel costs including salary, share-based compensation and travel. In December 2016, we hired our Chief Operating Officer and increased our investor and public relations outreach following our Nasdaq uplisting and capital raise in November 2016 and the receipt of the $3.0 million milestone payment from Shire.

Hybrid Debt Instruments

During the three months ended March 31, 2016, we recorded a net charge of approximately $1.7 million associated with hybrid debt instruments including changes in derivative fair value, issuance losses as well as the interest expense associated with the instruments. All hybrid debt instruments were settled in 2016 and none were issued or outstanding during the three months ended March 31, 2017.

Other Expense

Other expense decreased approximately $0.02 million, or 64.6% to $0.01 million for the three months ended March 31, 2017 from $0.02 million in the comparable quarter in 2016. This decrease is primarily related to changes in foreign currency exchange rates during the first quarter of 2016.

Interest Expense

Interest expense decreased by approximately $0.2 million, or 100%, to approximately $1,000 for the three months ended March 31, 2017, from approximately $0.2 million in the first quarter of 2016. The decrease is due to the settlement of all outstanding debt in connection with our November 2016 capital raise.

Liquidity and Capital Resources

We incurred a net loss of approximately $2.9 million for the three months ended March 31, 2017, and had an accumulated deficit of $145.2 million at March 31, 2017. Working capital was approximately $4.2 million and $6.5 million at March 31, 2017, and December 31, 2016, respectively. During the three months end March 31, 2017, our working capital decreased by $2.3 million due primarily to outflows for general operating costs and costs related to the initiation of our XBIO-101 phase 2 clinical trial. We expect to continue incurring losses for the foreseeable future and will need to raise additional capital to pursue our business plan and continue as a going concern.

Our principal source of liquidity consists of cash. At March 31, 2017, we had approximately $4.3 million in cash and $2.0 million in accounts payable and accrued expenses. At December 31, 2016, we had approximately $4.0 million in cash and $1.8 million in accounts payable and accrued expenses. The accounts payable and accrued expenses increased during the first quarter of 2017 as we initiated the XBIO-101 phase 2 clinical trial.

We have historically relied upon sales of our equity securities to fund our operations. Since 2005, we have raised approximately $60.0 million in proceeds from offerings of our common and preferred stock, including net proceeds of approximately $9.0 million from our underwritten public offering in November 2016 and $10 million raised from the sale of shares to Shire in January 2014 in a private placement. We have also received approximately $13 million from revenue producing activities from 2005 through March 31, 2017, including receipt of a $3 million milestone payment from Shire in January 2017. More than 90% of the milestone revenue received to date has been from a single collaborator, Shire. We expect the majority of our funding through equity or equity-linked instruments to continue as a trend for the foreseeable future.

We estimate that our existing resources and anticipated revenue we will earn in the first half of 2017 will be able to fund our planned operations, existing obligations and contractual commitments through the first half of 2017. This projection is based on our current expectations regarding current clinical development timelines, projected staffing expenses, working capital requirements, and capital expenditure plans and anticipated revenues. Given our current working capital constraints, we have attempted to minimize cash commitments and expenditures for external research and development and general and administrative services to the greatest extent practicable. We will need to raise additional working capital in the near future in order to fund our future operations.

We have no committed sources of additional capital. Our management believes that we have access to capital resources through possible public or private equity offerings, debt financings, corporate collaborations or other means; however, we have not secured any commitment for new financing at this time. The terms, timing and extent of any future financing will depend upon on 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.

Our 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. We will need to raise additional capital in order to sustain our operations. If we are unable to secure additional funds on a timely basis or on acceptable terms, we may be required to defer, reduce or eliminate significant planned expenditures, restructure, curtail or eliminate some or all of our development programs or other operations, reduce general and administrative expenses, and delay or cease the purchase of clinical research services, dispose of technology or assets, pursue an acquisition of our company by a third party at a price that may result in a loss on investment for our stockholders, enter into arrangements that may require us to relinquish rights to certain of our drug candidates, technologies or potential markets, file for bankruptcy or cease operations altogether.

We may be eligible to earn milestone revenue under agreements with our partners and, in particular, our agreement with Shire. In January 2017, we received a $3 million clinical development milestone payment from Shire. We may achieve a second clinical developmental milestone payment from Shire during 2017. However, even if we achieve this second milestone when expected, we will still be required to raise additional working capital during 2017 to pursue our business plan. Further, the achievement of these milestones are contingent on positive outcomes from Shire's clinical development efforts in connection with its factor VIII development program, SHP656. Due to the uncertainties and risks inherent in the clinical development process, we are unable to predict precisely when achievement of these milestones may occur, if ever.

We continue to seek appropriate out-license arrangements for our ErepoXen™ technology but are currently unable to reliably predict when we may enter into an agreement. Due to the uncertainties inherent in the clinical research process and unknown future market conditions, there can be no assurance our ErepoXen™ technology will lead to any future income.

Cash Flows Used in Operating Activities

Cash flows provided by operating activities for the quarter ended March 31, 2017 totaled approximately $0.3 million, which was primarily due to the receipt of a $3.0 million clinical milestone payment from Shire. This increase was substantially offset by our net loss of approximately $2.9 million, offset by non-cash charges of $0.7 million, and a $0.6 million of net prepayments to vendors related to the initiation of XBIO-101 phase 2 clinical trial.

Cash flows used in operating activities for the three months ended March 31, 2016 totaled approximately $1.8 million, which includes a net loss of approximately $3.6 million offset by approximately $1.7 million in non-cash charges related to the hybrid debt instrument (issuance loss, interest, amortization, and change in fair value) as well as a net non-cash charge of approximately $0.3 million for share-based compensation and warrants. In addition, there was approximately $0.2 million in net spending on current assets, accounts payable and accrued expenses.

Cash Flows from Investing Activities

For the three months ended March 31, 2017 and 2016, there were no significant cash sources or uses from investing activities.

Cash Flow from Financing Activities

For the three months ended March 31, 2017, there were no significant cash sources or uses from financing activities. During the three months ended March 31, 2016, we received $3.5 million in proceeds from issuance of $3.5 million 10% convertible secured promissory notes in connection with the APA.

Contractual Obligations and Commitments

As of March 31, 2017, 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, 2016, filed with the SEC on March 31, 2017.

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 Pronouncements

See Note 2 to the unaudited condensed consolidated financial statements in Part I, Item 1 of this Quarterly Report on Form 10-Q for a discussion of recent accounting pronouncements.

Critical Accounting Policies and Estimates

Our condensed consolidated financial statements are prepared in accordance with generally accepted accounting principles in the United States, or 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, 2016 filed with the SEC on March 31, 2017.

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 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 on Form 10-Q.

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 on Form 10-Q, 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 on Form 10-Q 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

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, 2016 filed with the SEC on March 31, 2017.

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

In March 2017, we issued 125,397 shares of the Company's common stock to Pharmsynthez, our controlling stockholder, in connection with the November 2016 conversion of its $500,000 convertible promissory note and related interest.

This issuance was made by us pursuant to an exemption from registration provided by (i) Section 4(a)(2) of the Securities Act, in that the transactions was between an issuer and sophisticated investor and did not involve any public offering and (ii) Regulation S promulgated under the Securities Act in that offers, sales and issuances were not made to persons in the United States and no directed selling efforts were made in the United States.

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
3.1	Articles of Incorporation (incorporated by reference to Exhibit 3.1 to the Registrant's Registration Statement on Form S-1 (File No. 333-178082) filed with the SEC on November 21, 2011).
3.2	Certificate of Amendment to Articles of Incorporation (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K (File No. 333-178082) filed with the SEC on February 12, 2013).
3.3	Certificate of Amendment to Articles of Incorporation (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K (File No. 333-178082) filed with the SEC on February 27, 2013).
3.4	Certificate of Amendment to Articles of Incorporation (incorporated by reference to Exhibit 3.1 to the Registrant's Quarterly Report on Form 10-Q (File No. 333-178082) filed with the SEC on January 10, 2014).
3.5	Certificate of Change Pursuant to NRS 78.209 (incorporated by reference to Exhibit 3.2 to the Registrant' s Quarterly Report on Form 10-Q (File No. 333-178082) filed with the SEC on January 10, 2014).
3.6	Certificate of Amendment to Articles of Incorporation (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K (File No. 333-178082) filed with the SEC on September 30, 2015.
3.7	Amended and Restated Bylaws (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K (File No. 001-37937) filed with the SEC on February 27, 2017).
3.8	Form of Amended and Restated Certificate of Designation of Preferences, Rights and Limitations of Series A Preferred Stock (incorporated by reference to Exhibit 3.8 of the Registrant's Registration Statement on Form S-1/A (File No. 333-211249) filed with the SEC on October 27, 2016).
3.9	Second Amended and Restated Certificate of Designation of Preferences, Rights and Limitations of Series B Preferred Stock (incorporated by reference to Exhibit 3.9 of the Registrant's Registration Statement on Form S-1/A (File No. 333-211249) filed with the SEC on October 31, 2016).
10.1+	Employment Agreement, dated January 1, 2017, by and between the Registrant and Curtis Lockshin (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K (File No. 001- 37937) filed with the SEC on January 4, 2017).
31.1*	Certification of Michael Scott Maguire, Principal Executive Officer, pursuant to Section 302 of the Sarbanes-Oxley Act of2002.
31.2*	Certification of James Parslow, Principal Financial Officer, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1**	Certifications of Michael Scott Maguire, Principal Executive Officer, and James Parslow, Principal Financial Officer, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

*	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
+	Indicates management contract or compensatory plan.

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 15, 2017

By: /S/ MICHAEL SCOTT MAGUIRE
Michael Scott Maguire
Chief Executive Officer and President
(Principal Executive Officer)

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

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+	Indicates management contract or compensatory plan.

EXHIBIT 31.1

I, Michael Scott Maguire, 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)) 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) 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

   (c) 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 15, 2017

By: /s/ Michael Scott Maguire
Michael Scott Maguire
Chief Executive Officer and President
(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)) 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) 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

   (c) 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 15, 2017

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), Michael Scott Maguire, 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 or her knowledge:

The Company's Quarterly Report on Form 10-Q for the period ended March 31, 2017, 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 15, 2017

In Witness Whereof, the undersigned have set their hands hereto as of the 15th day of May, 2017.

/s/ Michael Scott Maguire	/s/James Parslow
Michael Scott Maguire	James Parslow
Chief Executive Officer	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."