UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549

Form 10-K

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934.**
For the fiscal year ended December 31, 2015

☐ **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: 333-178082
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)

Title of Each Class	**Name of Each Exchange on Which Registered**
None	**None**

Securities registered pursuant to Section 12(b) of the Act:
None
Securities registered pursuant to Section 12(g) of the Act:
None

Indicate by check mark if the registrant is a well known seasoned issuer, as defined in Rule 405 of the Securities Act: Yes ☐ No ☒
Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act: Yes ☐ No ☒
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 if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§ 229.405) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K: Yes ☒ No ☐
Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting 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)
Indicate by check mark whether the registrant is a shell company (as defined in Exchange Act Rule 12b-2): Yes ☐ No ☒

The approximate aggregate market value of voting common stock held by non-affiliates of the registrant, based upon the last sale price of the registrant's common stock on the last business day of the registrant's most recently completed second fiscal quarter June 30, 2015 (based upon the shares of common stock at the closing sale price of the registrant's common stock listed as reported on the OTCQB), was approximately $9,500,000.

As of March 30, 2016 the number of outstanding shares of the registrant's common stock was 151,980,084.

DOCUMENTS INCORPORATED BY REFERENCE

The registrant intends to file a proxy statement pursuant to Regulation 14A or a Form 10-K/A, not later than 120 days after the close of the fiscal year ended December 31, 2015. Portions of such proxy statement or Form 10-K/A are incorporated by reference into Part III of this Annual Report on Form 10-K.

XENETIC BIOSCIENCES, INC.
2015 ANNUAL REPORT ON FORM 10-K

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CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This report contains both historical and forward-looking statements. The forward-looking statements in this annual 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.

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 annual report. This annual report, including the MD&A, contains trend analysis and other forward-looking statements. Any statements in this annual 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.

The single most pressing factor that could cause actual results to differ materially and adversely is our need to raise additional working capital for the purpose of further developing our various drug candidates.

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

- our ability to continue to finance our business, including our plans to complete a capital raise during 2016;
- our ability to successfully close on the transactions contemplated in the Asset Purchase Agreement (the "APA") entered into on November 13, 2015;
- our ability to complete a planned up-list to a national securities exchange;
- 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 (as defined below) itself;
- adverse claims relating to our Intellectual Property ("IP");
- 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 annual report. Other unknown or unpredictable factors also could have material adverse effects on our future results. The forward-looking statements in this annual report are made only as of the date of this annual report, and we do not have any obligation to publicly update any forward-looking statements to reflect subsequent events or circumstances. Please also refer to Item 1A - Risk Factors in this Annual Report on Form 10-K.

PART I

ITEM 1 – BUSINESS

Trademarks

Xenetic Biosciences, Inc.'s brand and product names, including but not limited to PolyXen™, Virexxa®, OncoHist™ and ImuXen™ contained in this document are trademarks, registered trademarks or service marks of Xenetic Biosciences, Inc. and or its subsidiaries in the United States of America ("USA" or "U.S.") and certain other countries. This document contains references to trademarks and service marks of other companies that are the property of their respective owners. As used in this annual report, unless otherwise indicated, all references herein to "Xenetic", the "Company", "we" or "us" refer to Xenetic Biosciences, Inc. and its wholly owned subsidiaries.

Significant Transactions and Recent Developments

Financing

On November 13, 2015, the Company entered into an Asset Purchase Agreement (the "APA") with AS Kevelt, an Estonian biotech company ("Kevelt") and OJSC Pharmsynthez ("Pharmsynthez", and together with Kevelt, "Sellers"). Pursuant to the APA, the Sellers will transfer to the Company certain intellectual property rights held by the Sellers with respect to Virexxa®, and the Company will receive the worldwide rights to develop, market and license Virexxa® for certain uses, except for excluded uses within the Commonwealth of Independent States (the "CIS"), in exchange for 111.5 million shares of Company common stock and certain other consideration. Virexxa® is a Phase II oncology drug candidate which is under investigation for the treatment of certain endometrial cancers. As part of this total consideration, the Company will also acquire Kevelt's U.S. Orphan Drug designation for the use of Virexxa® in the treatment of progesterone receptor negative endometrial cancer in conjunction with progesterone therapy.

The APA also contains a financing component wherein the Company received from Pharmsynthez up to $3.5 million in bridge financing commitments and a commitment of an additional $6.5 million in financing as part of a planned capital raise and up-list to a national securities exchange.

As of March 30, 2016, the Company has received $3.5 million of the $3.5 million bridge financing. In addition, the Company issued 11 million shares in November 2015 as a prepayment toward completing the APA transaction. However, transfer of all of the Virexxa ® intellectual property and development rights and issuance of 100.5 million shares of the total 111.5 million shares of the Company's common stock was not completed as of March 30, 2016. The Company expects these transfers, along with the balance of the transactions contemplated in the APA, to be consummated during the second quarter of 2016.

This is not intended to be a full description of the APA. Please refer to the SEC Form 8-K filed on November 16, 2015 for a more complete description of this transaction.

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 million, 10% Senior Secured Collateralized Convertible Promissory Note (the "SPA Note"). The SPA also provides for the issuance of certain warrants up to the amount of the SPA Note. In July 2015, the Company issued the SPA Note for $3 million plus a warrant to purchase 10 million shares of common stock (the "Warrant") in accordance with the terms of the SPA. The SPA Note carries a term of one year and is convertible, in whole or in part, at the option of Pharmsynthez into shares of common stock at a conversion price of $0.15. In the event that the SPA Note remains outstanding at April 1, 2016, Pharmsynthez shall be granted an additional warrant to purchase an additional number of shares of the Company's common stock equal to 50% of the number of shares issuable under the SPA Note. The Warrant has a five-year term and is exercisable commencing January 1, 2016. The SPA was amended in November concurrent with the execution of the APA.

This is not intended to be a full description of the SPA. Please refer to the SEC Form 8-K filed on July 3, 2015 for a more complete description of this transaction.

Acquisition

On January 23, 2014, the Company consummated an acquisition pursuant to a written plan of reorganization, in which we merged with Xenetic Biosciences (UK) Limited (formerly Xenetic Biosciences plc) ("Xenetic UK"), a company incorporated in England and Wales under the Companies Act of 1985, such that Xenetic UK became a wholly owned subsidiary of the Company (the "Acquisition"). Upon completion of the Acquisition, we acquired all issued and outstanding shares of capital stock of Xenetic UK. As a result, 132,545,504 shares of our common stock were newly issued and, immediately following the Acquisition, there were 136,045,504 shares of common stock issued and outstanding. At that time, because former Xenetic UK shareholders owned approximately 97% of the combined company on a fully diluted basis and all members of the combined company's executive management were from Xenetic UK, Xenetic UK was deemed to be the acquiring company for accounting purposes and the transaction was accounted for as a reverse acquisition in accordance with accounting principles generally accepted in the United States ("U.S. GAAP").

Prior to the Acquisition, the Company changed its name from General Sales and Leasing, Inc. to Xenetic Biosciences, Inc.

Stock Purchase Agreement

On January 29, 2014 the Company entered into a stock purchase agreement (the "Purchase Agreement") with Baxter Healthcare SA ("Baxter SA"), pursuant to which the Company sold to Baxter SA 10,695,187 shares of the Company's common stock, par value $0.01 per share, (the "Shares") for $10 million (the "Purchase Price") at a price of $0.935 per share yielding a market cap of approximately $140 million. During June 2015, in connection with the separation of its biopharmaceuticals business to form Baxalta Incorporated ("Baxalta"), Baxter assigned the Shares to Baxalta.

The Shares were sold in a private placement and were not registered under the Securities Act, or the securities laws of any state, and were offered and sold in reliance on the exemption from registration afforded by Section 4(a)(2) and Regulation D (Rule 506) under the Securities Act and corresponding provisions of state securities laws, which exempt transactions by an issuer not involving any public offering. Baxter SA is an "Accredited Investor" as such term is defined in Regulation D promulgated under the Securities Act. For a further discussion of the Purchase Agreement please refer to "Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities – Recent Sales of Unregistered Securities" in this Annual Report filed on Form 10-K.

Overview of Business

Xenetic Biosciences, Inc. is a clinical stage biopharmaceutical company that is focused on the research and development of certain pharmaceutical products for use in humans that incorporate the use of its patented and proprietary platform technologies that we believe will enable the creation of next-generation biologic drugs and novel oncology therapeutics with an emphasis primarily on orphan indications.

We hold more than 201 United States ("U.S.") and international patents in addition to certain proprietary rights to four core technologies that are designed to treat a variety of indications with potential use advantages over competing products, in addition we have approximately 90 pending patents. In June 2014, the U.S. Patent and Trademark Office (the "USPTO") has granted the Company U.S. Patent No. 8,735,557, entitled "Activated Sialic Acid Derivatives for Protein Derivatization and Conjugation," which contains claims that cover lead compound, ErepoXen™, and Xenetic's broader polysialic acid technologies.

The Company's core technologies are summarized below:

PolyXen™	An enabling technology that utilizes Polysialic Acid ("PSA"), a biopolymer, consisting of a chain of sialic acids, which is a natural constituent of the human body. PSA is designed to extend the half-life in circulation in the human body for a variety of existing drug molecules and, thereby, to create potentially superior next generation drug candidates.
Virexxa®	Virexxa®, sodium cridanimod, belongs to a class of low-molecular weight synthetic interferon inducers. In addition to its immunomodulatory properties, Virexxa® has been shown to increase levels of progesterone receptor expression in tumor tissue of patients who are progesterone receptor deficient, and thus may restore sensitivity of non-responsive endometrial cancers to hormonal (e.g. progestin) therapy. Based on preclinical observations, Virexxa® may also be therapeutically relevant in other hormone-resistant cancers, such as triple-negative breast cancer. Virexxa® has been granted an Orphan Drug Designation by the USFDA for use in conjunction with medroxyprogesterone in progesterone receptor negative endometrial cancer.
OncoHist™	A novel therapeutic platform that utilizes the properties of the human histone H1.3 ("H1.3") for the development of drug candidates for the treatment of 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 less toxic and immunogenic than other oncology therapies.
ImuXen™	A novel liposomal co-entrapment encapsulation technology designed to create new vaccines and improve the use and efficacy of certain existing vaccines for use in the human body. The technology is based on the co-entrapment of the nominated antigen(s) in a liposomal vesicle, a design that is intended to maximize both cell and immune system mediated responses.

All of the Company's current drug candidates are in the development stage and none has yet received regulatory approval for marketing in the U.S. by the U.S. Food and Drug Administration (the "FDA") or by any applicable agencies in other countries.

Our Business Strategy

Our strategy is to develop our orphan oncology drug candidates through to market launch. We plan to bring our orphan candidates to full and final regulatory approval and commercialization primarily in the U.S. and Europe. For the Company's PolyXen® based next generation biologics vested in our pipeline via its various collaborations, e.g. ErepoXen™, we will develop to a stage that will enable us to seek profitable out-licensing arrangements with major pharmaceutical companies for further development and eventual commercialization, in exchange for milestone payments and royalties from product sales. We are also pursuing outlicensing PolyXen® for use with a partner's proprietary molecule, e.g. Baxalta, in exchange for upfront payments, clinical milestones and royalties linked to sales. Our collaborative out-licensing agreements relating to the platforms are an integral part of our early-stage monetization strategy.

We advance our drug candidates through a combination of conducting our own in-house research and through the use of the outside services of contract manufacturing and research organizations in order to efficiently manage the Company's overheads. Continuous pipeline growth and advancement of outlicensed drug candidates is dependent, in part, on several important co-development collaborations and strategic arrangements. Together with our collaborative associates, Baxalta (formerly Baxter Healthcare Corporation), SynBio LLC ("SynBio"), a Russian pharmaceutical company and significant shareholder in the Company, OJSC ("Open Joint Stock Company") Pharmsynthez ("Pharmsynthez"), a Russian pharmaceutical company and Serum Institute of India Limited ("Serum Institute"), one of India's largest biotech companies and a shareholder in the Company, we are focused on developing our pipeline of next generation bio-therapeutics and novel orphan drugs in oncology based on the Company's PolyXen™, OncoHist™ and Virexxa® proprietary technologies.

Even with regard to our strategy of current and planned future co-development collaborations and out-licensing, we must raise significant additional capital in order to develop our drug candidates to the point of commercialization. Although we are optimistic, there can be no assurance that we will be successful in raising additional working capital. If not successful, our business could be adversely affected.

Reliance on Principal Customer

Since August 2005, Baxalta (formerly Baxter Healthcare Corporation) has been a principal customer of the Company, accounting for the substantial portion of the Company's revenue in years prior to 2014, through up-front payments and fee for services. Please refer to the agreement with Baxalta under the caption "Significant Co-Development Collaborations and Strategic Arrangements" below for further information regarding the importance of the Company's relationship with Baxalta.

Our Technologies

PolyXen™

PolyXen™ is a platform technology based on the concept of polysialylation. PSA is a polymer chain composed of sialic acids linked together. Sialic acid is found on the external membrane of a number of cell types in the body. In addition, it is a natural component expressed on the external membrane on a number of bacterial types. The chain of sialic acid molecules can be anywhere from four to over 200 individual sialic acid molecules in length. The Company uses the linear form of PSA called colominic acid. It is a natural, hydrophilic polymer isolated from a bacterial strain of E. coli K1. This natural glycan is negatively charged, non-toxic and is biodegradable. The PSA chain is extensively purified from large-scale bacterial cultures under Current Good Manufacturing Practices conditions, modified to specified sizes and then attached to defined sites on the therapeutic. Both the site of attachment and the length of the PSA chain can enhance the properties of the therapeutic.

The major effect of PSA addition to a therapeutic is to change the apparent hydrodynamic radius of the molecule. This physical alteration then changes a number of the biological characteristics of the therapeutic. The most noticeable, and perhaps the most relevant, is an extension of the lifetime of the therapeutic in blood circulation. This is due to the increase in the size of the drug, which results in a decrease in the clearance rate of the molecule in the kidney by glomerular filtration. In addition, studies have shown changes in other biological characteristics such as protease sensitivity and temperature sensitivity. An added benefit is that the conjugated molecules are less viscous in solution than comparable other technologies, providing the potential for easier injections and fewer injection site reactions. Furthermore, we believe that adding PSA to an existing marketed drug may allow for patent extension, thereby potentially creating a patent-protected next generation candidate.

The current standard for certain biologic delivery agents is Polyethylene Glycol (“PEG”) which is attached similarly to therapeutics. The mode of action between PSA and PEG is similar, increasing the apparent size of the molecule and thereby increasing the circulating time of the drug in the blood. PEGylation is a proven technology that can offer advantages in terms of pharmacokinetics and pharmacodynamics for therapeutics over non-modified, first generation molecules. There are a number of PEG-modified molecules on the market, in clinical trials and under development. However, PEGylation is considered to have limitations, such as non-biodegradability and, at high doses, may thereby result in intra-cellular accumulation, potentially leading to vacuole formation in the cells. In contrast, because PSA is a chain of sialic acids, which are natural constituents of the human body, it is biodegradable into individual sialic acid units. In addition, PEG in many cases has been shown to be immunogenic when coupled to proteins and can activate the complement system. PEG has also demonstrated limitations on a few select molecules. PSA has to date been shown to be non-immunogenic. We believe PSA may provide the advantages of PEG without many of its disadvantages, offering a potential advance over PEG molecules.

Virexxa®

Virexxa® (sodium cridanimod) belongs to a class of low-molecular weight immunomodulators, which have been relevant in a wide range of therapeutic areas (antiviral, antibacterial, antitumor, and anti-inflammatory). Sodium cridanimod is approved for marketing in the Russian Federation, and numerous CIS countries for the treatment of certain infectious diseases. Sodium cridanimod has been authorized and marketed in the Russian Federation and CIS states for more than 17 years and approximately 11,000,000 doses have been sold for non-cancer indications under certain brand names Neovir® and Primavir®. In addition there are 22 completed clinical trials conducted by others outside the U. S. that assessed the efficiency and safety of sodium cridanimod in certain non-cancer indications.

Our decision to investigate Virexxa® for the treatment of endometrial cancer was based in part on the history of sodium cridanimod in preclinical and clinical research conducted by others, as summarized below.

In addition to its immunomodulatory properties, Virexxa® has been shown to increase the levels of progesterone receptor ("PR") expression in the endometrial tumor tissue of patients who are PR deficient, and thus may have the potential to restore the sensitivity of non-responsive endometrial cancers to hormonal (e.g. progestin) therapy. At present, the clinical development program for Virexxa® includes an ongoing FDA IND-enabled Phase II study for Virexxa® in conjunction with progestin therapy in a population of patients with recurrent or persistent progesterone receptor negative ("PrR-") endometrial cancer. Virexxa® has been granted an Orphan Drug Designation by the FDA for use in conjunction with medroxyprogesterone in PrR- endometrial cancer.

Preclinical studies have shown that sodium cridanimod can increase interferon-alpha production by human immune cells and increase PR levels in endometrium. Furthermore, a Phase II clinical study conducted in patients with endometrial carcinoma has shown that sodium cridanimod significantly increases levels of PR expression in tumor tissue of patients who are PR deficient.

Virexxa® may also represent therapeutic opportunities in other hormone-resistant tumor types, such as triple-negative breast cancer.

OncoHist™

OncoHist™ is based on research covered under our patent portfolio related to novel functions of histones. Histone H1 has strong anti-proliferative properties against cancer cells of different histological origin. This has been demonstrated extensively for hematologic malignancies, such as leukemias, lymphomas, and myelomas, and for tumors from other tissues. Susceptibility of cells to the cytotoxic effect of histones is determined by the ability of histone H1 to selectively destabilize the tumor cell membrane, which results in cell death.

A novel form of the molecule was developed by the Company and a patent filed for the protection of the new chemical entity, N-bis-met-histone 1.3 (OncoHist™) in use against cancer, providing patent protection at least until 2027. The activity of the new molecule was tested on 58 tumor cell lines derived from various tissues. Hematopoietic tumor cell lines were found to be among the most sensitive cell lines. The mechanism of action appears to be novel, involving the binding of OncoHist™ to the cell membrane, which is completely different from that of other therapeutic agents on the market for hematopoietic cancers. Confirmatory work on this mode of action with more detailed analyses is being completed by Dana-Farber Cancer Institute ("Dana-Farber"). Hematopoietic tumor lines resistant to current chemotherapeutic agents have shown sensitivity to OncoHist™.

OncoHist's™ potency and potential to inhibit growth of cells from various histological origins were indicated through in-vitro testing against the U.S. National Cancer Institute 60 ("NCI-60"). OncoHist™ was awarded orphan drug designation (Orphan Medicinal Product Designation ("OMPD")) for treatment of AML by the European Commission in December 2007 and by the FDA in October 2008. OncoHist™ was awarded an additional OMPD status for Acute Lymphocytic Leukemia ("ALL") by the EMA.

A Phase I-II trial to evaluate the safety and tolerability of OncoHist™ was conducted in 2008 at Saarland University in Germany with 22 AML patients. Clinical effects were noted in seven patients with three partial remissions. Most notably, two patients who had received two treatment cycles each experienced stabilization of their disease for seven and 17 months, respectively.

A clinical safety trial with a planned 120 AML patients was in progress and being performed by SynBio in clinical centers in the Russian Federation. The aim of this trial was to examine the potential benefits of OncoHist™ in combination with standard HAM chemotherapy: high dose cytarabine with mitoxantrone. During execution of the SynBio AML trial, the Russian Ministry of Health issued changes in their standard of care for treating AML patients. High dose cytarabine chemotherapy was determined to offer no benefits in terms of efficacy as compared to lower dose therapy and was discontinued.

We have completed preclinical toxicity studies using clinical material supplied to us by SynBio. We have had a pre-IND meeting with the FDA and came to agreement with the FDA on characterization, clinical criteria and the inclusion of an additional disease indication in the Phase I study. In addition, we are planning to establish a second source supplier of OncoHist™ material suitable for humans in Phase I/II(a) clinical trials under cGMP. We intend to commence clinical trials in the U.S. during the second half of 2017. Sponsored research at Dana Farber Cancer Institute is helping to elucidate the mechanism of action of OncoHist™ as well as characterize the response of AML tumor lines to OncoHist™. Interim data has been presented at the American Society of Hematology meeting and publications are expected during second half 2016. Certain OncoHist™ clinical data, generated by SynBio, that is available to us for analysis has advanced our understanding of this drug candidate in a capital efficient manner.

Other Technologies

***ImuXen*™**

ImuXen™ is a patented platform technology based on the concept of simultaneous delivery of multiple Active Pharmaceutical Ingredients ("APIs") as antigens within the same liposome. The liposomes are composed of lipids that encapsulate an aqueous core. The APIs can be trapped in the core, be associated with the lipids, or both. Proteins, peptides, nucleic acids, polysaccharides and live or inactivated infectious agents can all be used as an API with the same liposome. Both the size and the lipid composition can be controlled which affects the biological properties of the liposome. Manufacturing involves the passive entrapment of the vaccine APIs by freeze drying commercially available liposomes with the antigens of interest.

Having multiple APIs formulated with the same liposome allows simultaneous delivery of the antigens to the same antigen-presenting cell. This may allow a more efficient immune response to all the agents presented. In addition, it is possible that multiple vaccines can be delivered with a single injection. Relevant pre-clinical studies have indicated a reduction in the dose required, a reduction in the number of doses required and a faster immune response time. This efficient immune response also may allow for use of antigens that traditionally give a poor antibody response.

This technology is not currently the focus of clinical development for the Company. However, through a license agreement with Pharmsynthez, there is a novel multiple sclerosis vaccine that is in clinical development in Russia.

A Phase I clinical trial to treat relapsing remitting multiple sclerosis and secondary progressive multiple sclerosis was completed by SynBio in the Russian Federation. Peptides corresponding to antigenic sections of basic myelin protein were encapsulated within liposomes to be used as the therapeutic agent (MyeloXen™). As an integral part of the Company's strategy, we await later stage clinical data on MyeloXen™ to determine whether to pursue this candidate in U. S. clinical trials for potential out-licensing.

Significant Co-Development Collaborations and Strategic Arrangements:

Baxalta Incorporated

In August 2005, the Company entered into an exclusive research, development, license and supply agreement with Baxter Healthcare SA ("Baxter SA") and Baxter Healthcare Corporation (together referred to as "Baxter") to develop products with an extended half-life of certain proteins and molecules using the Company's patent protected PolyXen™ technology whereby polysialic acid ("PSA" – a chain of polysialic acids) is conjugated with Baxter's proprietary molecule(s) designed to create a longer-acting haemophilia drug, a polysialylated recombinant Factor VIII ("rFVIII") protein than what is currently available on the market. Baxter also has rights that extend to treatments of the failure of blood to coagulate. Baxter commenced human clinical trials on this novel drug candidate during the first quarter of 2016.

During June 2015, in connection with the separation of its biopharmaceuticals business to form Baxalta Incorporated, Baxter assigned all of its rights and obligations under its existing agreement with the Company to Baxalta.

This agreement has been amended several times since 2005, most recently in January 2014. The January 2014 amendment provides for increased future development, regulatory, sales and deadline extension receipts, restructured target deadlines and royalty receipts on potential net sales. The Company is entitled to up to $100 million in potential development, regulatory, sales and deadline extension receipts, which are contingent on the performance of Baxter achieving certain milestones. The Company is also entitled to royalties on potential net sales.

In connection with this amendment, Baxter SA also made a $10 million equity investment at a price of $0.935 per share, which is a post money market cap of approximately $140 million in the Company in exchange for 10,695,187 shares of the Company's common stock during January 2014.

Through December 31, 2015, the Company and Baxter continued to engage in research and development activities. No amounts were recognized as revenue during the years ended December 31, 2015 and 2014. Since August 2005, the Company has received approximately $19 million from Baxter that includes milestone receipts, fees for services and a $10 million purchase of common stock of the Company in January 2014. The Company received a non-refundable $2 million payment from Baxter in 2010 and granted Baxter warrants to purchase approximately 4.6 million new shares of common stock of the Company in connection with the 2010 amendment to the Baxter Agreement.

Baxter has agreed to meet a number of clinical milestones with strict timelines under the 2014 amendment relating to: Clinical Trial Authorization ("CTA") submission, Final Clinical Study Report and Biologics License Application ("BLA") submission. Baxter submitted a CTA application to the UK Medicines and Healthcare Products Regulatory Agency in late 2015 and commenced human clinical trials during the first quarter of 2016 in connection with this collaboration. There are very limited provisions to further modify the Baxter Agreement. There can be no assurance if or when Baxter will actually achieve any of the remaining due diligence milestones.

Baxter is a related party of the Company, with a share ownership of approximately 8.0% of the total issued common stock as of December 31, 2015.

SynBio LLC

In August 2011 the Company entered into a stock subscription and collaborative development agreement with SynBio (the "Co-Development Agreement") pursuant to which the Company granted SynBio an exclusive license to develop, market and commercialize certain drug candidates utilizing molecules based on the Company's PolyXen™ and OncoHist™ technologies in the Russian market and the Commonwealth of Independent States (the "CIS") (including Armenia, Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Republic of Moldova, Tajikistan, Turkmenistan and Uzbekistan), collectively the "SynBio Market". In exchange for the Company granting to SynBio those certain license rights, SynBio granted an exclusive license to the Company to use any SynBio pre-clinical and clinical data generated by SynBio, at its own expense, in connection with those development efforts and to engage in the development and commercialization of drug candidates that may arise from the collaboration in any territory outside of Russia and the CIS based upon the Co-Development Agreement.

The Company hopes and expects to mitigate certain risks of drug development by reviewing human clinical data arising out of this collaboration with SynBio before the Company considers taking the particular drug candidate into FDA and EMA trials. Under the Co-Development Agreement, SynBio is responsible for progressing six new product candidates through human proof of concept trials in Russia as primary validation for the initiation of EMA/FDA clinical trials by the Company. The primary goal of the Co-Development Agreement is to research and develop drug candidates for planned commercialization using SynBio and the Company's combined respective expertise and technologies. Drug candidates must meet the success criteria as decided upon by a joint steering committee, which includes representation from both SynBio and the Company, where the Company has the right to appoint the Chair who has the casting vote. Once a potential drug candidate is selected, clinical trials will be separately conducted by each company in their respective territories with the goal to achieve regulatory approval of the products for commercial sale.

SynBio is wholly responsible for funding and conducting their own research and clinical development activities in Russia as the Company is wholly responsible for funding and conducting their own research and clinical development activities in the US, Europe and elsewhere ex-Russia and the ex-CIS regions. There are no milestones or other research related payments provided for under the Co-Development Agreement other than fees for the provision of each party's respective research supplies based on their technology and royalties payable to the Company based on SynBio sales. For the years ended December 31, 2015 and 2014, the Company recognized no supply service revenues in connection with the Co-Development Agreement.

Concurrent with entering into the Co-Development Agreement, the Company entered into a stock subscription agreement with SynBio pursuant to which the Company sold SynBio approximately 35.5 million shares of newly issued common stock for cash of approximately $18.6 million.

In furtherance of our co-development clinical objectives, on December 31, 2014 the Company granted to SynBio certain warrants that contain vesting triggers based on the achievement by SynBio of certain clinical development objectives within specific timeframes. This grant consisted of a warrant to purchase 6,745,000 new shares of common stock at an exercise price of $0.77 per share ("SynBio 2014 Warrant"). Simultaneously with the SynBio 2014 Warrant grant, the Company granted additional warrants to purchase 320,000 aggregate new shares of common stock to SynBio and Pharmsynthez non-director designees under the same terms and conditions of the SynBio 2014 Warrant. Pharmsynthez is a related party of SynBio and a collaboration partner of the Company. As part of this transaction, the warrant granted to SynBio in 2011 was canceled and of no further force and effect. The SynBio 2014 Warrant expires on December 30, 2019 and no warrants were exercised during the years ended December 31, 2015 and 2014.

Pursuant to the Relationship Deed signed concurrent with the 2011 Co-Development Agreement and subscription, the Company granted SynBio (as Controlling Shareholder) the right to appoint two directors to the extent their shareholding is greater than 40% in the Company. The Relationship Deed of 2011 was replaced in January 2014 with a Director Appointment Agreement containing that same provision. Further undertakings therein state that, as long as the Controlling Shareholder holds more than 25% of the Company's common stock, all transactions and relationships between it and the Company will, (a) be at arm's length and on a normal commercial basis; (b) it will not seek to exercise any day-to-day operational or managerial control over the business of the Company, nor, (c) influence any director or non-executive director in any way in regard to the conduct of the Company's business. The agreement contains further provisions relating, *inter alia*, to: nominee board appointments, conflicts of interest, acting in good faith and terms of confidentiality.

SynBio is a related party of the Company, with a share ownership of approximately 39.0% of the total issued common stock as of December 31, 2015.

Serum Institute of India Limited

In the period from 2004 through 2011, the Company entered into and amended certain license and supply agreements with Serum Institute. The original license agreement with Serum Institute was a collaborative Development and Manufacturing Arrangement ("DMA") to develop agreed upon potential commercial product candidates using the Company's PolyXen™ technology. Serum Institute then endeavored to further develop the potential commercial product candidates and eventually initiate pre-clinical and clinical trials at their own cost. The agreement was amended in 2011, resulting in the surrender of development rights for 14 potential commercial product candidates in 2012, which were vested to Serum Institute under the terms of the previous agreements, back to the Company.

Following the 2011 amendment, Serum Institute retained an exclusive license to use the Company's PolyXen™ technology to research and develop one potential commercial product, Polysialylated Erythropoietin ("PSA-EPO"). Serum Institute will be responsible for conducting all pre-clinical and clinical trials required to achieve regulatory approvals within territories outside of certain predetermined territories assigned to the Company, which include the US, the European Economic Area, and Japan, among other territories, at Serum Institute's own expense. The royalty payment schedule based on net revenues on the future commercial sales of PSA-EPO under the DMA was also modified as a result of the 2011 amendment. Royalty payments are payable by Serum Institute to the Company for net sales to certain customers in the Serum Institute sales territory. Royalty payments are payable by the Company to Serum Institute for net sales received by the Company over the term of the license. No royalty revenue or expense was recognized by the Company related to the Serum Institute arrangement during the years ended December 31, 2015 and 2014. There are no milestone or other research-related payments due under the DMA. Through December 31, 2015, the Company and Serum Institute continued to engage in research and development activities with no resultant commercial products.

In furtherance of our co-development clinical objectives, on December 31, 2014 the Company granted to Serum Institute certain warrants that contain vesting triggers based on the achievement by Serum Institute of certain clinical development objectives within specific timeframes. This grant consisted of a warrant to purchase 3,200,000 new shares of common stock at an exercise price of $0.77 per share ("Serum 2014 Warrant"). Simultaneously with the Serum 2014 Warrant grant, the Company granted additional warrants to purchase 160,000 aggregate new shares of common stock to Serum Institute non-director designees under the same terms and conditions of the Serum 2014 Warrant. The Serum 2014 Warrant expires on December 30, 2019 and no warrants were exercised during the years ended December 31, 2015 and 2014.

In addition, the DMA allows for Serum Institute to nominate a non-executive director to the Board of Directors of the Company as long as Serum Institute or its subsidiaries holds at least 6% of the Company's common stock. Serum Institute is a related party of the Company, with a share ownership of approximately 8.5% of the total issued common stock as of December 31, 2015.

OJSC Pharmsynthez

In November 2011, the Company entered into a collaborative research and development license agreement with OJSC Pharmsynthez (the "Pharmsynthez Arrangement") pursuant to which the Company granted an exclusive license to Pharmsynthez to develop, commercialize and market six product candidates based on the Company's PolyXen™ and ImuXen™ technology anywhere within Russia and the CIS. In exchange, Pharmsynthez granted an exclusive license to the Company to use any pre-clinical and clinical data developed by Pharmsynthez, within the scope of the Pharmsynthez Arrangement, and to engage in further research, development and commercialization of drug candidates in any territory outside of Russia and the CIS at the Company's own expense.

In accordance with the terms of the Pharmsynthez Arrangement, the Company licensed certain PolyXen™ and ImuXen™ technology rights for use in Russia and the CIS as well as certain clinical and research data developed by the Company on the six product candidates to Pharmsynthez.

The Company hopes and expects to mitigate certain risks of drug development by reviewing human clinical data arising out of this collaboration with Pharmsynthez before the Company takes the particular drug candidate into FDA and EMA trials, a strategy designed to mitigate drug development risks. Under the agreement, Pharmsynthez is responsible for progressing six new drug candidates through human proof of concept trials in Russia as primary validation prior to the initiation of EMA/FDA clinical trials by the Company outside of Russia. The license agreement will operate alongside the current arrangements which the Company has entered into with SynBio, discussed above.

A joint steering committee where the Company has the right to appoint the Chair who has the casting vote was established to facilitate the communication of scientific data and to assist generally with each party's research decisions and to monitor research and development progress under the Pharmsynthez Arrangement.

Pharmsynthez is wholly responsible for funding and conducting their own research and clinical development activities in Russia. The Company is wholly responsible for funding and conducting its own research and clinical development activities in the US, Europe and the rest of the world outside of Russia and the ex-CIS regions. There are no milestones or other research related payments provided for under the Co-Development Agreement other than royalties.

On July 1, 2015, the Company entered into a SPA with Pharmsynthez providing for the issuance of a minimum of a $3 million SPA Note. The SPA also provides for the issuance of certain warrants up to the amount of the SPA Note. In July 2015, the Company issued the SPA Note for $3 million plus a Warrant in accordance with the terms of the SPA. The SPA Note carries a term of one year and is convertible, in whole or in part, at the option of Pharmsynthez into shares of common stock at a conversion price of $0.15. In the event that the SPA Note remains outstanding at May 11, 2016, Pharmsynthez shall be granted an additional warrant to purchase an additional number of shares of the Company's common stock equal to 50% of the number of shares issuable under the SPA Note. The Warrant has a five-year term and is exercisable commencing January 1, 2016.

On November 13, 2015, the Company entered into an APA with Kevelt and Pharmsynthez. Pursuant to the APA, the Sellers will transfer to the Company certain intellectual property rights held by the Sellers with respect to Virexxa®, and the Company will receive the worldwide rights to develop, market and license Virexxa® for certain uses, except for excluded uses within the CIS, in exchange for 111.5 million shares of Company common stock and certain other consideration. Virexxa® is a Phase II oncology drug candidate which is under investigation for the treatment of certain endometrial cancers. As part of this total consideration, the Company will also acquire Kevelt's U.S. Orphan Drug designation for the use of Virexxa® in the treatment of progesterone receptor negative endometrial cancer in conjunction with progesterone therapy.

The APA also contains a financing component wherein the Company received from Pharmsynthez up to $3.5 million in bridge financing commitments and a commitment of an additional $6.5 million in financing as part of a planned capital raise and up-list to a national securities exchange.

As of March 30, 2016, the Company has received $3.5 million of the $3.5 million bridge financing. However, transfer of all of the Virexxa® intellectual property and development rights and issuance of 100.5 million shares of the total 111.5 million shares of the Company's common stock was not completed as of March 30, 2016. The Company expects these transfers, along with the balance of the transactions contemplated in the APA, to be consummated during the second quarter of 2016.

The SPA was amended in November 2015 concurrent with the execution of the APA in order to provide for the New Notes and the New Warrant.

Pharmsynthez is a related party of SynBio, which is related party of the Company. In addition, one of the Company's directors is also a director of SynBio and Pharmsynthez.

Tabular Summary of Drug Candidate Programs

Xenetic Corporate Programs

Product Candidate	Indication	Clinical Developer	Headquarters	Program Name/Developmental Stage
Virexxa®	**Endometrial Cancer**	**Xenetic**	**U.S.**	**VIR-EC-01**: US FDA IND-enabled Phase II trial in progress
ErepoXen™	Anemia	Xenetic	U.S.	**PSA-EPO-06**: ICH Compliant Phase II in-process being conducted in Australia, South Africa and New Zealand. Cohort III in progress
OncoHist™ AML	Acute Myeloid Leukemia	Xenetic	U.S.	**Onc-AML-01**: Pre-clinical studies and pre-IND meeting with the FDA is complete. Negotiations with contract manufacture and clinical research organizations are in progress

Xenetic Collaborative Partner Programs
(alphabetical by clinical developer)

Product Candidate	Indication	Clinical Developer	Headquarters	Program Name/Developmental Stage
Factor VIII	Hemophilia	Baxter	US	**PSA-FVIII**: CTA for a Phase I/II clinical trial was approved. Clinical trial commenced in Q1 2016
PulmoXen™	Cystic Fibrosis	Pharmsynthez	Russia	**PMO-CF-01**: Phase I completed. A Phase II clinical trial is expected to start Q4 2016
MyeloXen™	Multiple Sclerosis	Pharmsynthez	Russia	**IMU-MS-01**: Phase I dose ranging study is complete
ErepoXen™	Anemia	Serum Institute	India	**PSA-EPO-03**: Phase II(a) intravenous and subcutaneous human clinical trials conducted in India are complete. The study report is expected in Q2 2016
ErepoXen™	Anemia	SynBio	Russia	**PSA-EPO-05**: Russian Phase II(b)/III in progress
OncoHist™ AML	Acute Myeloid Leukemia	SynBio	Russia	**Onc-AML-02**: Russian Phase II is on hold pending protocol revision due to a change in Russian Standard of Care requirements
OncoHist™ NHL	Non-Hodgkins Lymphoma	SynBio	Russia	**Onc-NHL-01**: Russian Phase II dose ranging studies are completed in Russia

Most advanced product candidate in the Company pipeline: Virexxa®

Virexxa®

Virexxa® (sodium cridanimod) belongs to a class of low-molecular weight immunomodulators, which have been relevant in a wide range of therapeutic areas (antiviral, antibacterial, antitumor, and anti-inflammatory). Sodium cridanimod is approved for marketing in the Russian Federation, and numerous CIS countries for the treatment of certain infectious diseases. Sodium cridanimod has been authorized and marketed in the Russian Federation and CIS states for more than 17 years and approximately 11,000,000 doses have been sold for non-cancer indications under certain brand names Neovir® and Primavir®. In addition there are 22 completed clinical trials conducted by others outside the U. S. that assessed the efficiency and safety of sodium cridanimod in certain non-cancer indications.

Our decision to investigate Virexxa® for the treatment of endometrial cancer was based in part on the history of sodium cridanimod in preclinical and clinical research conducted by others, as summarized below.

In addition to its immunomodulatory properties, Virexxa® has been shown to increase the levels of progesterone receptor ("PR") expression in the endometrial tumor tissue of patients who are PR deficient, and thus may have the potential to restore the sensitivity of non-responsive endometrial cancers to hormonal (e.g. progestin) therapy. At present, the clinical development program for Virexxa® includes an ongoing FDA IND-enabled Phase II study for Virexxa® in conjunction with progestin therapy in a population of patients with recurrent or persistent progesterone receptor negative ("PrR-") endometrial cancer. Virexxa® has been granted an Orphan Drug Designation by the FDA for use in conjunction with medroxyprogesterone in PrR- endometrial cancer.

Preclinical studies have shown that sodium cridanimod can increase interferon-alpha production by human immune cells and increase PR levels in endometrium. Furthermore, a Phase II clinical study conducted in patients with endometrial carcinoma has shown that sodium cridanimod significantly increases levels of PR expression in tumor tissue of patients who are PR deficient.

Virexxa® may also represent therapeutic opportunities in other hormone-resistant tumor types, such as triple-negative breast cancer.

Second most advanced product candidate in the Company pipeline: ErepoXen™

The Company's drug candidate that is currently the second most advanced in its clinical pipeline is ErepoXen™ (polysialylated erythropoietin ("PSA-EPO")) which uses the Company's PolyXen™ technology for the treatment of anemia in Chronic Kidney Disease ("CKD") patients. ErepoXen™ is in a Company-sponsored Phase II escalating repeat subcutaneous dose-ranging study in Australia and New Zealand for pre-dialysis CKD patients. This trial is designed to be compliant with the International Conference on Harmonization of Technical Requirements for Registration of Pharmaceuticals for Human Use ("ICH"). ErepoXen™ has also been a co-development project with our long-established strategic partner, Serum Institute, and has finished a Phase II(a) clinical trial in India for intravenous administration to patients on dialysis. In addition, ErepoXen™ is also in a 150 patient Phase II(b)/III clinical trial in Russia to directly compare ErepoXen™ to Aranesp. The Company expects SynBio to enter the commercialization and marketing stage of ErepoXen™ in the Russian and CIS markets, as the first market launch for a PSA candidate.

The Company's commercialization strategy for ErepoXen™, being a potentially mainstream drug addressing a substantial global market, includes seeking an out-license arrangement for the continuing development of ErepoXen™ as either a Phase II(b) or Phase III candidate with a well-capitalized license partner more experienced at taking drug candidates through the latter stages of human clinical trials and better able to execute a global market launch. If successful, this strategy could:

(a) be the beginning of the monetization of the Company's IP investment to date in ErepoXen™ by way of an upfront license payment plus milestone payments as the product is advanced through the clinic; and
(b) potentially reduce the timeline for incoming royalty revenues if ErepoXen™ is taken to market by an already leading provider with an established market presence.

The ErepoXen™ strategy, when implemented, should have the effect of decreasing demands on the Company's own financial and working capital resources, allowing those resources to be applied towards the in-house development and marketing of new orphan and rare disease candidates where the Company is better able to maintain financial and clinical control throughout the process from pre-clinical development, through IND filing, human clinical trials, and potentially market approval and product launch.

Next most advanced product candidate in the Company pipeline: OncoHist™

The Company's next most advanced drug candidate is OncoHist™ AML. We have completed preclinical toxicity studies using clinical material supplied to us by SynBio. We have had a pre-IND meeting with the FDA and came to agreement with the FDA on characterization, clinical criteria and the inclusion of an additional disease indication in the Phase I study. In addition, we are planning to establish a second source supplier of OncoHist™ material suitable for humans in Phase I/II(a) clinical trials under cGMP. We hope to commence clinical trials in the U.S. during the second half of 2017. Sponsored research at Dana Farber Cancer Institute is helping to elucidate the mechanism of action of OncoHist™ as well as characterize the response of AML tumor lines to OncoHist™. Interim data has been presented at the American Society of Hematology meeting and publications are expected during the second half of 2016. Certain OncoHist™ clinical data, generated by SynBio, that is available to us for analysis has advanced our understanding of this drug candidate in a capital efficient manner.

Plans to commence clinical trials in the U.S. have been delayed due to insufficient working capital necessary to establish a source of cGMP material suitable for these trials.

Other product candidates in the Company pipeline

The Company believes certain additional orphan and non-orphan oncology drug candidates may be developed utilizing certain of our existing and future pre-clinical and clinical data. Specifically, we expect to be able to utilize the results from substantially all of our pre-clinical toxicity and certain other pre-clinical data generated in the development of OncoHist™ AML for several other blood cancer indications focused on orphan indications.

We also believe that the platform nature of our technologies should allow us to pursue additional drug candidates by leveraging certain existing and future scientific data to be developed under our PolyXen™, OncoHist™ and Virexxa® technology programs.

Xenetic Corporate Programs

VIR-EC-01: Xenetic Virexxa® Clinical Trial

At present, the clinical development program for Virexxa® (sodium cridanimod) includes an ongoing FDA IND-enabled Phase II study for Virexxa® in conjunction with progestin therapy in a population of subjects with recurrent or persistent progesterone receptor negative ("PrR-") recurrent or persistent endometrial cancer. This study is also active under the same IND in ex-U.S. sites in Belarus and Ukraine.

The study is an open-label, multicenter, single-arm Phase II study calling for a total of 58 subjects with documented evidence of PrR- endometrial cancer as determined by immunohistochemistry.

The primary objective of this study is to assess the antitumor activity of Virexxa® in conjunction with progestin therapy as measured by objective response rate (partial/complete) in women with progesterone receptor negative recurrent or persistent endometrial carcinoma not amenable to surgical treatment, radiotherapy, or chemotherapy.

Secondary objectives of the study include (a) to assess progression free survival, time to response , time to progression, duration of overall survival and Overall Disease Control Rate for subjects receiving Virexxa® and progestin therapy and (b) to evaluate the safety and tolerability of Virexxa® in conjunction with progestin therapy, as measured by adverse events, laboratory safety parameters, and cardiac safety assessments.

Additional translational objectives include to determine the efficacy of Virexxa® in combination with progestin on PrR levels in tumor tissue, to correlate changes of PrR- levels with efficacy parameters and to assess pharmacokinetic data for Virexxa® and progestins after a single-dose and multiple-dose administration.

PSA-EPO-06: Xenetic ErepoXen™ Clinical Trial

This is designed to be an ICH compliant Phase II open label clinical, sequential multiple dose finding study for subcutaneously administered PSA-EPO in CKD patients not on dialysis and not receiving erythropoiesis stimulating agents. It is being conducted in Australia, South Africa and New Zealand. Patients with hemoglobin levels between 8 and 10 grams per deciliter ("g/dL") were given the drug candidate once every two weeks. If the hemoglobin level increases to between 10 and 12 g/dL, the patient is moved to once every four weeks administration. The patient's pharmacodynamic, pharmacokinetic and immunogenic parameters are followed for the duration of the trial. Dose levels in an escalating form will then be administered. Safety and other parameters will be examined at the end of each dosing cohort before moving onto the next dose level. The first two cohorts of patients have been completed. There were no Serious Adverse Events ("SAEs") attributable to PSA-EPO reported thus far. The third cohort of patients at a higher dose level is in progress. The endpoint is to determine a dose of PSA-EPO that is safe and will move the patient's hemoglobin level into the 10 to 12 g/dL range.

The costs for this trial are being borne by the Company. Costs will be dependent on how many cohorts will be treated. The final results from the second cohort are expected to be reported during the first half of 2016. Clinical material was manufactured for the Company by Serum Institute. The trial is being run by Novotech Pty Limited ("Novotech") of Australia.

ONC-AML-01: Xenetic OncoHist™ Clinical Trial

The Company expects to submit an IND filing for Phase I/II(a) clinical trials for AML to the FDA and commence clinical trials, but not before the end of 2017. We expect this to be an open label increasing dose ranging study to assess the safety, tolerability and efficacy of OncoHist™ for adult patients with refractory or relapsed AML. This trial will be conducted in the US. Data from the previously completed work by Saarland University's Phase I clinical trial and the SynBio clinical trials will be used to aid in the design of the clinical protocol. We expect the Phase I/II(a) clinical trial material to be produced by a cGMP compliant manufacturing facility. Selection of the Clinical Research Organization ("CRO") to run the trial is in progress.

The costs for the clinical trial are being borne by the Company. The Company will need to raise additional capital prior to commencing Phase I/II(a) clinical trials. The OncoHist™ technology was acquired as part of the Company's acquisition of SymbioTec GmbH ("SymbioTec") in January 2012 and was valued at $9.6 million as of the acquisition date.

Xenetic Collaborative Partner Programs

Under the terms of the relevant license agreements with the various parties, the Company provides neither capital nor human resources to the clinical developments of the various product candidates thus licensed for development by our collaborative partners whose sole responsibility is to meet the timelines associated with each program. We use the data generated from these jurisdictions as a means of understanding the clinical validity-human response of the drug before pursuing FDA and EMA trials, this having been a long-established development strategy for the Company as a means of maximizing the development potential of the Company's product pipeline while minimizing the capital exposure associated with such objective.

Notwithstanding that there has been a history of delays in the clinical programs being pursued by our partners in both Russia and India, based on the data that has been available to us, we have accomplished this objective with both OncoHist™ and ErepoXen™, the two product candidates which are currently the primary focus of our efforts and upon which we are now devoting our capital and human resources. Accordingly, any program delays on these candidates outside the purview of the FDA or EMA will not have a negative impact on the Company pipeline.

PSA-FVIII: Baxter Factor VIII Pre-Clinical Program

PSA-recombinant Factor VIII has been developed as a long acting therapeutic to treat hemophilia A. Baxter is running this program, which is in the Clinical Trial phase. Baxter has agreed to meet strict due diligence time milestones based on: Clinical Trial Authorization submission in respect of Phase I/II clinical trials, Final Clinical Study Report Phase I/II and BLA submission all by fixed dates per the contract. The total cost of this program is being borne by Baxter. There can be no assurance if or when Baxter will actually achieve any of these due diligence milestones. Baxter filed a CTA for the program in Q4 2015 and commenced human clinical trials during the first quarter of 2016. The stated goal of Baxter is to have a significantly longer-acting FVIII to remain the world's leader in Hemophilia therapies.

PMO-CF-01: Pharmsynthez PulmoXen™ Clinical Trial

This is a Phase I(a) open label two dose safety study for inhaled PSA-DNase 1 in healthy volunteers and has been completed and reported on April 7, 2014. The study is being conducted in Russia. No adverse events were reported so far and lung function was reported to be normal. A clinical trial with CF patients is in start-up stage (regulatory applications). The total cost of the trial is being borne by Pharmsynthez. The trial is being run by a partner-sponsored CRO in Russia, Belarus and Ukraine.

If and when satisfactory human clinical data comes out of this collaboration, and provided that the Company is sufficiently confident that the drug candidate is well-tolerated and effective for this indication, the Company plans to pursue its own development program for this candidate. However, the Company would have to raise additional capital to pursue its own development of this drug candidate.

IMU-MS-01: Pharmsynthez MyeloXen™ Clinical Trial (Multiple Sclerosis)

This was a Phase I open label clinical sequential dose finding study for subcutaneously administered MyeloXen™ (liposomes containing peptides for basic myelin protein) in healthy volunteers and patients. This was a proof-of-concept study to show the influence of MyeloXen™ on catalytic anti-MBP levels and activities. The study was conducted in Russia and is complete. The study report is under final review to be submitted to the Russian MoH. The total cost for the clinical trial was borne by Pharmsynthez. The clinical material was manufactured by Pharmsynthez. The clinical trial was run by a partner-sponsored CRO in Russia.

If and when satisfactory clinical patient data comes out of this collaboration that provides the Company a level of comfort that the drug candidate is well-tolerated and effective, the Company plans to pursue its own development program for this candidate. However, the Company would have to raise additional capital to pursue its own development of this drug candidate.

PSA-EPO-03: Serum Institute ErepoXen™ Clinical Trial

This is a Phase II(a) open label clinical, sequential single dose finding study for intravenously administered PSA-EPO for CKD patients who are on dialysis. This trial follows the successful completion of two subcutaneous PSA-EPO clinical trials in India. The first was a Phase I single dose range finding study for subcutaneously administered PSA-EPO in healthy volunteers. The second was a Phase II single dose range finding study for subcutaneously administered PSA-EPO in CKD patients not on dialysis. All trials are being conducted in India. All three cohorts of patients have been completed. There were no Serious Adverse Events ("SAEs") attributable to PSA-EPO reported thus far. The final report on the trail is expected in Q1 2016. The endpoint of the trial is to determine the maximum tolerated single dose of PSA-EPO. The total cost of the clinical trial is being borne by Serum Institute and the clinical material was manufactured by Serum Institute. The clinical trial is being run by a partner-sponsored CRO in India.

PSA-EPO-05: SynBio ErepoXen™ (Epolong) Clinical Trial

This is a Phase II(b)/III open label clinical, randomized, comparative, multiple dose study for subcutaneously administered ErepoXen™ in CKD patients not on dialysis and not receiving erythropoiesis stimulating agents. Patients are compared to a control arm with Aranesp® (darbepoetin alfa). The study is being conducted in the Russian Federation by SynBio and is currently in progress. The total cost for this clinical trial is being borne by SynBio. The clinical material was manufactured by Serum Institute. The clinical trial is being run by a partner-sponsored CRO in Russia.

ONC-AML-02: SynBio Arahist-09 Clinical Trial

This was a Phase II open label two dose level, randomized comparative study to assess the safety, tolerability and efficacy of OncoHist™ in combination with HAM (high dose cytarabine chemotherapy) in adult patients with refractory or early relapsed AML. This study was conducted in Russia. Patients received one cycle of HAM regimen (one week) and one cycle of OncoHist™ regimen (three times per week for three weeks). The HAM regimen was based on the then current standard of care in Russia. This standard of care was changed by the Russian Ministry of Health and the study is on hold. The total cost of the trial was borne by SynBio. The clinical material for this OncoHist™ trial was manufactured at the Shemyakin Institute in Moscow for SynBio. The trial was run by a partner-sponsored CRO in Russia.

ONC-NHL-01: SynBio Anahoret Clinical Trial

This was a Phase II open label increasing dose ranging study to assess the safety, tolerability and efficacy of OncoHist™ as a single agent in treating NHL. This study was conducted in Russia. The trial is complete and the report submitted to the Russian MoH. It was shown that OncoHist™ was well tolerated in this trial. The total cost of the trial was borne by SynBio. The clinical OncoHist™ drug product was manufactured at the Shemyakin Institute in Moscow for SynBio. The trial was run by a partner-sponsored CRO in Russia.

If and when satisfactory clinical patient data comes out of this collaboration that provides the Company a level of comfort that the drug candidate is well-tolerated and effective, the Company plans pursue its own development program for this candidate. However, the Company would have to raise additional capital to pursue its own development of this drug candidate.

Patents and Proprietary Rights

The Company has several drug product candidates under development, each protected by patent and pending patent applications in the United States and the rest of the world.

Xenetic has received patent protection for several therapeutics that have been linked to a polysialic acid. These include PSA-erythropoietin, PSA-insulin and PSA-insulin like protein, PSA-Factor VIII, PSA-DNAse I and PSA-granulocyte colony stimulating factor. Further Xenetic's portfolio includes patents cover methods to prepare proteins that are linked to a polysialic acid. These patents include coverage for linking a PSA to a protein in a high pH solution and through a process for producing an aldehyde derivative of a sialic acid through the opening and oxidation of a sialic acid unit. The linkage can be at the N-terminus.

Xenetic has received patent protection for the production of PSA and the removal of endotoxin during the purification process. The removal of endotoxin occurs through, for instance, the addition of a high pH solution to the PSA and through a process to separate a polydisperse ionically charged polysaccharide, such as PSA, into fractions of different average molecular weight through the use, for instance, of a column and elution buffers with different and constant ionic strength and/or pH, resulting in a fractionated polysaccharide that has a molecular weight polydispersity of 1.1 or lower.

Xenetic also has patents that cover its OncoHist™ product. These include recently allowed patents covering the OncoHist™ composition and claims for the use of OncoHist™ to treat cancer, including leukemia. The OncoHist™ portfolio also includes patents that cover the use of a histone protein as an antibiotic and to threat thrombocytopenia and further as an antimicrobial component of a personal care product.

The Company's portfolio also includes in-licensed patents from Ploughshare Innovations, a licensing arm of the United Kingdom Department of Defense, in connection with MyeloXen™ technology. The Company has no current clinical development efforts ongoing at this time that fall within the bounds of the Ploughshare Innovations in-license. To the extent that such efforts are ongoing, such efforts are being undertaken by a collaborative partner, though the rights under the in-license (e.g. for the patents) lie with the Company and are subject to a sublicense provided to the collaborative partner. This includes a method used to entrap a water soluble drug within a liposome when the drug is mixed with a mono or disaccharide. This patent portfolio fits well with the Company's liposome patents and pending applications that include those that cover using liposomes with an entrapped complex of a DNA operatively encoding antigen to induce an immune response in a human or animal and methods to form liposomes.

The Company currently owns 201 US and international patents and over 90 pending patent applications that cover various aspects of our technologies. We have filed patent applications, and plan to file additional patent applications, covering various aspects of our PolyXen™ technology platform covering polysialylation and advanced polymer conjugate technologies, as well as proprietary product candidates including ErepoXen™ and PulmoXen™. Additionally, our patents and patent applications cover polymer architecture, drug conjugates, formulations, methods of manufacturing polymers and polymer conjugates and methods of administering polymer conjugates. In addition, our patent portfolio contains patents and patent applications that encompass our OncoHist™ technology platform including use of histones for the treatment of different cancers. The OncoHist™ patent portfolio, acquired as part of our acquisition of SymbioTec GmbH in January 2012, includes OncoHist™, a bis-Met histone. Our patent strategy is to file patent applications on innovations and improvements to cover a significant majority of the major pharmaceutical markets in the world. Generally, patents have a term of 20 years from the earliest priority date (assuming all maintenance fees are paid). In some instances, patent terms can be increased or decreased, depending on the laws and regulations of the country or jurisdiction that issued the patent.

We also rely on trade secret protection for our confidential and proprietary information. No assurance can be given that we can meaningfully protect our trade secrets. Others may independently develop substantially equivalent confidential and proprietary information or otherwise gain access to, or disclose, our trade secrets. Thus, while we rely on trade secret protection and other unpatented proprietary rights for important proprietary technologies, any loss of such rights could harm our business, results of operations and financial condition.

In certain situations where we work with drugs covered by one or more patents, our ability to develop and commercialize our technologies may be affected by limitations in our access to these proprietary drugs. Even if we believe we are free to work with a proprietary drug, we cannot guarantee that we will not be accused of, or be determined to be, infringing a third party's rights and be prohibited from working with the drug or found liable for damages. Any such restriction on access or liability for damages would have a material adverse effect on our business, results of operations and financial condition.

The patent positions of pharmaceutical and biotechnology companies, such as ours, are uncertain and involve complex legal and factual issues. There can be no assurance that patents that have issued will be held valid and enforceable in a court of law. Even for patents that are held valid and enforceable, the legal process associated with obtaining such a judgment is time consuming and costly. Additionally, issued patents can be subject to opposition or other proceedings that can result in the revocation of the patent or maintenance of the patent in amended form (and potentially in a form that renders the patent without commercially relevant and/or broad coverage). Further, our competitors may be able to circumvent and otherwise design around our patents. Even if a patent is issued and enforceable, because development and commercialization of pharmaceutical products can be subject to substantial delays, patents may expire early and provide only a short period of protection, if any, following the commercialization of a products encompassed by our patent(s). We may have to participate in interference proceedings declared by the U.S. Patent and Trademark Office, which could result in a loss of the patent and/or substantial cost to us. Further, we understand that if any of our pending patent applications do not issue, or are deemed invalid following issuance, we may lose valuable IP protection.

US and foreign patent rights and other proprietary rights exist that are owned by third parties and relate to pharmaceutical compositions and reagents, medical devices and equipment and methods for preparation, packaging and delivery of pharmaceutical compositions. We cannot predict with any certainty which, if any, of these rights will be considered relevant to our technology by authorities in the various jurisdictions where such rights exist, nor can we predict with certainty which, if any, of these rights will or may be asserted against us by third parties. We could incur substantial costs in defending ourselves and our partners against any such claims. Furthermore, parties making such claims may be able to obtain injunctive or other equitable relief, which could effectively block our ability to develop or commercialize some or all of our products in the US and in other countries and could result in the award of substantial damages. In the event of a claim of infringement, we or our partners may be required to obtain one or more licenses from third parties. There can be no assurance that we can obtain a license to any technology that we determine we require on reasonable terms, if at all, or that we could develop or otherwise obtain alternative technology. The failure to obtain licenses, if required, may have a material adverse effect on our business, results of operations and financial condition. Further, we may not be able to obtain IP licenses related to the development of our drug candidates on a commercially reasonable basis, if at all.

It is our policy to require our employees and consultants, outside scientific collaborators, sponsored researchers and other advisors who receive confidential information from us to execute confidentiality agreements upon the commencement of employment or consulting relationships with us. These agreements provide that all confidential information developed or made known to the individual during the course of the individual's relationship with us is to be kept confidential and not disclosed to third parties except in specific circumstances. The agreements provide that all inventions conceived by an employee shall be our property. There can be no assurance, however, that these agreements will provide meaningful protection or adequate remedies for our trade secrets in the event of unauthorized use or disclosure of such information.

Manufacturing and Supply

The Company does not maintain the capability to manufacture its own material necessary to support its drug candidate development programs nor does it intend to acquire such capability as part of its present business strategy. The Company currently has agreements in place with Serum Institute whereby Serum Institute produces clinical materials for use in the development of drug candidates involving our PolyXen™ technology. The Company is currently dependent on SynBio for clinical materials with respect to its OncoHist™ AML research programs. The Company is investigating second source alternative suppliers for its clinical materials. There can be no assurance that it will be successful or that if a second source is secured that it would be available on commercially reasonable terms or in a timely fashion should any disruption in supply from Serum Institute or SynBio occur.

Government Regulation

General

The development, testing, manufacture, labeling, marketing, and promotion of any drug, including all of our drug candidates, are subject to extensive regulation in the US by the FDA under the Federal Food, Drug and Cosmetic Act and by other federal, state, local and foreign government laws and regulations including in the UK, Germany, Russia and other countries in which we conduct business.

The NDA Review Process

The steps ordinarily required before a new drug, that is subject to NDA approval, may be marketed in the US include pre-clinical laboratory tests, further relevant testing, formulation studies, the submission to the FDA of an IND filing (which must become effective before clinical testing may commence) and adequate and well controlled clinical trials on human subjects to establish the safety and effectiveness of the drug for each indication for which FDA approval is sought. Satisfaction of FDA pre-market approval requirements typically takes several years and the actual time required may vary substantially based upon the type, complexity and novelty of the product, disease or condition for which the new drug is indicated.

Government regulation may delay or prevent marketing of potential products for a considerable period of time and requires substantial time, effort and financial resources on the part of a manufacturer. Success in early stage clinical trials does not assure success in later stage clinical trials. Data obtained from clinical activities is not always conclusive and may be susceptible to varying interpretations that could delay, limit, or prevent regulatory approval. Even if a product receives regulatory approval, later discovery of previously unknown problems with a product may result in restrictions on the product or even complete withdrawal of the product from the market.

Pre-clinical tests include laboratory evaluation of product chemistry and formulation, as well as additional relevant trials to assess the potential safety and efficacy of the product. The conduct of the pre-clinical tests and formulation of compounds for testing must comply with federal regulations and requirements. The results of pre-clinical testing are submitted to the FDA as part of an IND.

A 30 day waiting period after the filing of each IND is required prior to the commencement of clinical testing in humans. If the FDA has not commented on or questioned the IND within this 30 day period, clinical trials may begin. If the FDA has comments or questions, the questions must be answered to the satisfaction of the FDA before initial clinical testing can begin. In addition the FDA may, at any time, impose a clinical hold on ongoing clinical trials. If the FDA imposes a clinical hold, clinical trials cannot commence or recommence without FDA authorization and then only under terms authorized by the FDA. In some instances, the IND process can result in substantial delay and expense.

Clinical trials typically involve the administration of the IND to volunteers or patients under the supervision of a qualified investigator. Clinical trials must be conducted in compliance with federal regulations and requirements, under protocols detailing the objectives of the trial and the parameters to be used in monitoring safety and effectiveness. Each protocol involving testing on US subjects must be submitted to the FDA as part of the IND. The study protocol and informed consent information for patients in clinical trials must also be approved by the Institutional Review Board at each institution where the trials will be conducted.

Clinical trials to support NDAs for marketing approval are typically conducted in three sequential phases, but the phases may overlap. In Phase I, the initial introduction of the drug into healthy human subjects or patients, the drug is tested to assess metabolism, pharmacokinetics and pharmacological actions and safety, including side effects associated with increasing doses. Phase II usually involves trials in limited patient populations to determine dosage tolerance and optimum dosage, identify possible adverse effects and safety risks, and provide preliminary support for the efficacy of the drug in the indication being studied. If a compound demonstrates evidence of effectiveness and an acceptable safety profile in Phase II evaluations, Phase III trials are undertaken to further evaluate clinical efficacy and to further test for safety within an expanded patient population, typically at geographically dispersed clinical trial sites. It is possible that Phase I, Phase II, or Phase III testing of product candidates may not be completed successfully within any specified time period, if at all.

After successful completion of the required clinical testing, generally an NDA is prepared and submitted to the FDA. FDA approval of the NDA is required before marketing of the product may begin in the US. The NDA must include the results of extensive clinical and other testing and a compilation of data relating to the product's pharmacology, chemistry, manufacture, and controls. The cost of preparing and submitting an NDA is substantial. Under federal law, the submission of an NDA is additionally subject to a substantial application user fee (unless eligible for a waiver or reduction), which currently range from $1,084,550 to $2,169,100, and the manufacturer and/or sponsor under an approved NDA are also subject to annual product and establishment user fees, currently exceeding $104,000 per product and $554,000 per establishment. These fees are typically increased annually.

The FDA has 60 days from its receipt of an NDA to determine whether the application will be accepted for filing based on the agency's threshold determination that the NDA is sufficiently complete to permit substantive review. Once the submission is accepted for filing, the FDA begins an in-depth review of the NDA. Under federal law, the FDA has agreed to certain performance goals in the review of NDAs. The user fee goal for review of most non-priority applications is ten months. However, the review process is often significantly extended by FDA requests for additional information or clarification of information already provided in the submission. The FDA may also refer applications for novel drug products or drug products which present difficult questions of safety or efficacy to an advisory committee, typically a panel that includes clinicians and other experts, for review, evaluation, and a recommendation as to whether the application should be approved. The FDA is not bound by the recommendation of an advisory committee.

If FDA evaluations of the NDA and the manufacturing facilities and procedures, which typically involves an FDA on-site inspection, are favorable, the FDA may issue an approval letter or, in some cases, an approvable letter followed by an approval letter. An approvable letter generally contains a statement of specific conditions that must be met in order to secure final approval of the NDA. If and when those conditions have been met to the FDA's satisfaction, the FDA will typically issue an approval letter. An approval letter authorizes commercial marketing of the drug with specific prescribing information for specific indications in an approved label. If the FDA's evaluation of the NDA submission or manufacturing facilities is not favorable, the FDA may refuse to approve the NDA or issue a not approvable letter. The not approvable letter outlines the deficiencies in the submission and often requires additional testing or information in order for the FDA to reconsider the application. Even with submission of this additional information, the FDA ultimately may decide that the application does not satisfy the regulatory criteria for approval. With limited exceptions, the FDA may withhold approval of an NDA regardless of prior advice it may have provided or commitments it may have made to the sponsor. As a condition of NDA approval, the FDA may require post-approval testing and surveillance to monitor the drug's safety or efficacy and may impose other conditions, including labeling restrictions. Such labeling restrictions can materially impact the potential market and profitability of the drug. Once granted, product approvals can still be withdrawn if compliance with regulatory standards is not maintained or problems are identified following initial marketing.

Once the NDA is approved, a product will be subject to certain post-approval requirements, including requirements for adverse event reporting and submission of periodic reports. Persons responsible for manufacture or distribution are subject to FDA inspections to assess compliance with applicable statutory and regulatory requirements. The Food and Drug Administration Amendments Act of 2007 also provides the FDA enhanced post-marketing authority, including the authority to require post-marketing studies and clinical trials, labeling changes based on new safety information, and compliance with risk evaluations and mitigation strategies approved by the FDA.

Additionally, the FDA also strictly regulates the promotional claims that may be made about drug products. The FDA requires substantiation of any claims of superiority of one product over another including, in many cases, requirements that such claims be proven by adequate and well controlled head-to-head clinical trials. To the extent that market acceptance of the Company's products may depend on their superiority over existing therapies, any restriction imposed by FDA on the Company's ability to advertise or otherwise promote claims of superiority, or requirements to conduct additional expensive clinical trials to provide proof of such claims, could negatively affect the sales of the Company's products and/or its costs.

Orphan Drug Act

The Orphan Drug Act provides incentives to manufacturers to develop and market drugs for rare diseases and conditions affecting fewer than 200,000 persons in the US at the time of application for Orphan Drug Designation. The first developer to receive FDA marketing approval for an orphan drug is entitled to a seven year exclusive marketing period in the US for that product. However, a drug that the FDA considers to be clinically superior to, or different from, another approved orphan drug, even though for the same indication, may also obtain approval in the US during the seven year exclusive marketing period. In addition, holders of exclusivity for orphan drugs are expected to assure the availability of sufficient quantities of their orphan drugs to meet the needs of patients. Failure to do so could result in the withdrawal of marketing exclusivity for the drug.

Legislation similar to the Orphan Drug Act has been enacted in other countries outside the US, including the European Union ("EU"). The orphan legislation in the EU is available for therapies addressing chronic debilitating or life threatening conditions that affect five or fewer out of 10,000 persons or are financially not viable to develop. The market exclusivity period is for ten years, although that period can be reduced to six years if, at the end of the fifth year, available evidence establishes that the product is sufficiently profitable not to justify maintenance of market exclusivity. The market exclusivity may be extended to 12 years if sponsors complete a pediatric investigation plan agreed upon with the relevant committee of the EMA.

Pediatric Information

Under the Pediatric Research Equity Act of 2007 ("PREA"), NDAs or BLAs or supplements to NDAs or BLAs must contain data to assess the safety and effectiveness of the drug for the claimed indication(s) in all relevant pediatric sub-populations and to support dosing and administration for each pediatric sub-population for which the drug is safe and effective. The FDA may grant deferrals for submission of data or full or partial waivers. Unless otherwise required by regulation, PREA does not apply to any drug for an indication for which orphan drug designation has been granted. The Best Pharmaceuticals for Children Act ("BPCA"), provides sponsors of NDAs with an additional six month period of market exclusivity for all unexpired patent or non-patent exclusivity on all forms of the drug containing the active moiety if the sponsor submits results of pediatric studies specifically requested by the FDA under BPCA within required timeframes. The Biologics Price Competition and Innovation Act provides sponsors of BLAs an additional six month extension for all unexpired non-patent market exclusivity on all forms of the biologic containing the active moiety pursuant to the BPCA if the conditions under the BPCA are met.

Foreign Regulation

In addition to regulations in the U.S., we are subject to a variety of foreign regulatory requirements governing human clinical trials and marketing approval for drugs. The foreign regulatory approval process includes all of the risks associated with FDA approval set forth above, as well as additional country specific regulations. Whether or not we obtain FDA approval for a product, we must obtain approval of a product by the comparable regulatory authorities of foreign countries before we can commence clinical trials or marketing of the product in those countries. The approval process varies from country to country, and the time may be longer or shorter than that required for FDA approval. The requirements governing the conduct of clinical trials, product licensing, pricing and reimbursement vary greatly from country to country.

Environmental Regulation

In addition to being subject to extensive regulation by the FDA, the Company must also comply with environmental regulation insofar as such regulation applies to the Company or its drug candidates. Our costs of compliance with environmental regulation as applied to similar pharmaceutical companies are minimal, since we do not currently, nor do we intend to, engage in the production of any of our drug candidates. The Company currently uses unaffiliated manufacturers to produce all of its drug candidate material and receive final material from such manufacturer, without any involvement on our part in the manufacturing process at any stage of the process.

Although we believe that our safety procedures for using, handling, storing and disposing of our product candidate materials comply with the environmental standards required by state and federal laws and regulations, we cannot completely eliminate the risk of accidental contamination or injury from these materials. We do not carry a specific insurance policy to mitigate this risk to us or to the environment.

Employees & Consultants

At March 30, 2016 the Company employed seven full time and three part time persons. The Company is not a party to any collective bargaining agreement with its employees; nor are any of its employees a member of any labor unions. The Company is subject to certain statutory and contractual obligations in instances where it terminates U.K. based employees. These obligations, which are ordinary and customary in the U.K., generally range from one to six months wages for terminated employees and would not be expected to represent a material adverse effect to the Company.

To complement our own expert professional staff, we utilize specialists in regulatory affairs, pharmacovigilance, process engineering, manufacturing, quality assurance, clinical development and business development. These individuals include scientific advisors as well as independent consultants.

Competition

We are engaged in a rapidly evolving field. If our drug candidate development reaches the level of commercialization and marketing, we expect to compete primarily with established pharmaceutical companies such as Amgen Inc., Bristol-Myers Squibb Company, F. Hoffmann-La Roche Ltd, Nektar Therapeutics and others. We also expect to compete with established pharmaceutical companies as well as academic institutions and other smaller pharmaceutical companies during the drug development stage of our progress. Competition is intense and expected to increase.

The large and rapidly growing market for new drug therapies for use in humans is likely to attract new entrants. Numerous biotechnology and pharmaceutical companies are focused on developing new drug therapies and many of these companies have greater financial and other resources and development capabilities than we do. Our competitors also have greater collective experience in undertaking pre-clinical and clinical testing of products, obtaining regulatory approvals and manufacturing and marketing prescription pharmaceutical products. Accordingly, certain of these competitors may succeed in obtaining approval for drug products and therapies more rapidly than us.

In addition to competing with universities and other research institutions in the development of drug products, therapies, technologies and processes, we may compete with other companies in acquiring rights to products or technologies from universities. There can be no assurance that our products or product candidates will be more effective or achieve greater market acceptance than competitive products, or that these companies will not succeed in developing products and technologies that are more effective than those being developed for us or that would render our products and technologies less competitive or obsolete.

Available Information

Our website address is www.xeneticbio.com. The information in, or that can be accessed through, our website is not part of this Annual Report on Form 10-K. Our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K and amendments to those reports are available, free of charge, on or through our website as soon as practicable after we electronically file such forms, or furnish them to, the SEC. The public may read and copy any materials we file with the SEC at the SEC's Public Reference Room at 100 F Street, NE, Washington, D.C. 20549. Information on the operations of the Public Reference Room can be obtained by calling 1-800-SEC-0330. The SEC maintains an internet site that contains reports, proxy and information statements and other information regarding our filings at www.sec.gov.

In addition to disclosing current information pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 and for reports of information required to be disclosed by Regulation FD through our SEC filings, we also intend to disclose such current information through our investor relations website, press releases, public conference calls, webcasts and through various social media channels, including Facebook, Twitter, LinkedIn, Google+ and Chairman's Blog Profile.

Directors and Executive Officers

Set forth below is the name, age, position and brief account of the business experience of each of our executive officers and directors as of March 30, 2016:

Name	Age	Position
Michael Scott Maguire	52	President, Chief Executive Officer and Director
Dr. Dmitry Genkin	47	Director
Firdaus Jal Dastoor FCS	63	Director
Darlene Deptula-Hicks	58	Director
Roman Knyazev	35	Director
Dr. Roger Kornberg	68	Director

Michael Scott Maguire

Mr. Maguire has been President, Chief Executive Officer and Director of the Company since his appointment in 2004. His background is in life science and healthcare investment banking and he has advised many US and European companies on capital raisings and commercial development over his 26 year career. Mr. Maguire began his banking career with Merrill Lynch in 1987 in New York, and after receiving his MBA from the Babson Graduate School in 1993, he joined the healthcare division of W.R. Grace National Medical Care ("NMC") where he helped develop the international healthcare division. During his time in charge of international business development, he helped double NMC's international revenues through Mergers and Acquisitions. In 1996 he co-founded the Arthur Andersen global healthcare corporate finance practice based in London, a practice that he built to include a staff of 36 across the US and Europe, elevating to the role of managing director. Mr. Maguire is currently a director of Healthcare Capital Partners Limited, a healthcare corporate finance and proprietary investment boutique he co-founded in 2002 and a non-executive director of Renal Services (UK) Limited, a company focused on dialysis service provision in the U.K. Based on Mr. Maguire's experience within the biotechnology sector and his executive experience, specifically his experience as an executive officer at other companies, as well as his service on other boards of directors, the Board believes Mr. Maguire has the appropriate set of skills to serve as a member of our Board.

Dr. Dmitry Genkin

Dr. Genkin was appointed as a Director of the Company in September 2015. Dr. Genkin has the Russian equivalent of an MD in Internal Therapy and studied drug delivery under Professor Gregoriadis at The School of Pharmacy, University of London in 1992 and the Department of Clinical Pharmacology at Karolinska Hospital, Stockholm from 1992 until 1993. Since 1993, Dr. Genkin has headed a number of Russia's largest pharmaceutical companies including Pharmavit, which had 27% of the Russian pharmaceutical market. In 1998, he was awarded the silver medal by the Russian Natural Science Academy. Dr. Genkin is currently a partner and director of FDS Pharma and Chairman of Pharmsynthez, which is listed on the Moscow stock exchange. Based on Dr. Genkin's experience in the field of life sciences and biotechnology, the Board believes Dr. Genkin has the appropriate set of skills to serve as a member of our Board.

Firdaus Jal Dastoor, FCS

Mr. Dastoor was appointed as a Director of the Company in January 2014 pursuant to terms included in the Company's acquisition of Xenetic UK. Mr. Dastoor was appointed non-executive Director of Xenetic UK in July 2007. He has been a Fellow Member of The Institute of Company Secretaries of India since 2008 and began his career as a company secretary. He was Company Secretary of the Poonawalla Group until 1994. He then took on assignments involved in business development strategies and operations. Mr. Dastoor is on the board of several companies operating in the field of engineering products, life sciences and biotech, international trade, financial services and quality standards certifications. Currently, he is a Group Director of the Poonawalla Group of Companies in charge of Finance and Corporate Affairs. Based on Mr. Dastoor's experience in the field of life sciences and biotechnology, finance and business development, the Board believes Mr. Dastoor has the appropriate set of skills to serve as a member of our Board.

Darlene Deptula-Hicks

Ms. Deptula-Hicks was appointed to the Board of Directors of the Company in April 2014. Ms. Deptula-Hicks is a strategic senior financial executive with extensive experience in both public and private companies, including experience in fund raising, mergers and acquisitions, public and private offerings and with operational management focused in life sciences. Since September 2015, Ms. Deptula-Hicks is the Senior Vice President and Chief Financial Officer of Pieris Pharmaceuticals, Inc. (NASDAQ:PIRS). In November 2014, Ms. Deptula-Hicks was engaged as a financial consultant at Pieris Pharmaceuticals, Inc. pursuant to a consulting agreement with the financial advisory firm of Danforth Advisors, LLC. Prior to that and since June 2012, Ms. Deptula-Hicks served as Executive Vice President and Chief Financial Officer of Microline Surgical, Inc. From 2006 to 2011, Ms. Deptula-Hicks was the Executive Vice President, Chief Financial Officer, Treasurer and Secretary of ICAD, Inc. She received her Bachelor of Science in Accounting from Southern New Hampshire University and her MBA from Rivier College. Based upon her extensive financial experience including experience in fund raising, mergers, public companies and life sciences, the Board believes Ms. Deptula-Hicks has the appropriate set of skills to serve as a member of our Board.

Roman Knyazev

Mr. Knyazev was appointed to the Board of Directors of the Company in April 2014. Mr. Knyazev has been an Investment director for Rusnano Moscow since 2009 and is currently on the board of several biotechnology companies. In his current role, he provides technical expertise, asset valuation, financial modelling and business valuation as well as develops and presents investment strategies and project financing to clients. In 2003, he began his career as the Chief Financial Officer of Biotech Pharma Moscow where he gained experience in both the financial and management sector. Mr. Knyazev led the development and implementation of management accounting and budgeting processes as well as facilitated internal audits of regional branches. Mr. Knyazev is a Kauffman Fellow, Class 17, which is a Silicon Valley-based two year leadership program for venture capitalists and innovators of all kinds. Based on Mr. Knyazev's experience in clinical stage biotechnology companies, the Board believes Mr. Knyazev has the appropriate set of skills to serve as a member of our Board.

Dr. Roger Kornberg

Dr. Kornberg was appointed to the Board of Directors of the Company in February 2016. Dr. Kornberg is a member of the U.S. National Academy of Sciences and the Winzer Professor of Medicine in the Department of Structural Biology at Stanford University. He earned his bachelor's degree in chemistry from Harvard University in 1967 and his Ph.D. in chemical physics from Stanford in 1972. He became a postdoctoral fellow at the Laboratory of Molecular Biology in Cambridge, England and then an assistant professor of biological chemistry at Harvard Medical School in 1976, before moving to his present position as professor of structural biology at Stanford Medical School in 1978. In 2006, Dr. Kornberg was awarded the Nobel Prize in Chemistry in recognition for his studies of the molecular basis of Eukaryotic Transcription, the process by which DNA is copied to RNA. Dr. Kornberg is also the recipient of several awards, including the 2001 Welch Prize, the highest award granted in the field of chemistry in the United States, and the 2002 Leopald Mayer Prize, the highest award granted in the field of biomedical sciences from the French Academy of Sciences. Based on Dr. Kornberg's experience in the field of molecular biology, the Board believes Dr. Kornberg has the appropriate set of skills to serve as a member of our Board.

ITEM 1A – RISK FACTORS

We are not required to provide the information required by this Item because we are a smaller reporting company.

ITEM 1B – UNRESOLVED STAFF COMMENTS

None.

ITEM 2 – PROPERTIES

The Company occupies a facility consisting of approximately 4,000 square feet in the Ledgemont Technology Center in Lexington, Massachusetts. The premises are divided into approximately 50% laboratory and 50% office space and are leased by the Company's subsidiary, Xenetic Bioscience, Incorporated. The lease provides for an initial term of 61 months which commenced in January 2014 with an extension option of one additional five-year term. We believe that this space is adequate for the Company's current needs and that, if additional space is required, it can be obtained at commercially reasonable terms either within the Ledgemont Technology Center or nearby.

ITEM 3 – LEGAL PROCEEDINGS

None.

ITEM 4 – MINE SAFETY DISCLOSURES

Not applicable.

PART II

ITEM 5 – MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Our common stock is quoted under the symbol "XBIO" on the OTCQB operated by the OTC Markets Group, Inc. The criteria for listing on the OTCQB include that we remain current in our SEC reporting. Our reporting is presently current, and since inception, we have filed our SEC reports on time.

Only a limited market exists for our securities. There is no assurance that a regular trading market will develop, or if developed, that it will be sustained. Therefore, a shareholder may be unable to resell his securities in our company.

The following table sets forth the range of high and low prices for our common stock for each of the periods indicated as reported by the OTCQB. These quotations reflect inter-dealer prices, without retail mark-up, mark-down or commission and may not necessarily represent actual transactions.

Year ended December 31, 2014		High Price	Low Price
1st Quarter ended March 31, 2014	$	9.50$	0.31
2nd Quarter ended June 30, 2014		1.00	0.30
3rd Quarter ended September 30, 2014		0.99	0.51
4th Quarter ended December 31, 2014		0.68	0.18
Year Ended December 31, 2015			
1st Quarter Ended March 31, 2015	$	0.25$	0.20
2nd Quarter Ended June 30, 2015		0.24	0.18
3rd Quarter Ended September 30, 2015		0.47	0.20
4th Quarter Ended December 31, 2015		0.92	0.33

On March 15, 2016 the last sales price per share of our common stock was $0.29.

Penny Stock

The SEC has adopted rules that regulate broker-dealer practices in connection with transactions in penny stocks. Penny stocks are generally equity securities with a market price of less than $5.00, other than securities registered on certain national securities exchanges or quoted on the NASDAQ system, provided that the current price and volume information with respect to transactions in such securities is provided by the exchange or system. The penny stock rules require a broker-dealer, prior to a transaction in a penny stock, to deliver a standardized risk disclosure document prepared by the SEC, that: (a) contains a description of the nature and level of risk in the market for penny stocks in both public offerings and secondary trading; (b) contains a description of the broker's or dealer's duties to the customer and of the rights and remedies available to the customer with respect to a violation of such duties or other requirements of the securities laws; (c) contains a brief, clear, narrative description of a dealer market, including bid and ask prices for penny stocks and the significance of the spread between the bid and ask price; (d) contains a toll-free telephone number for inquiries on disciplinary actions; (e) defines significant terms in the disclosure document or in the conduct of trading in penny stocks; and (f) contains such other information and is in such form, including language, type size and format, as the SEC shall require by rule or regulation.

The broker-dealer also must provide, prior to effecting any transaction in a penny stock, the customer with (a) bid and offer quotations for the penny stock; (b) the compensation of the broker-dealer and its salesperson in the transaction; and (c) the number of shares to which such bid and ask prices apply, or other comparable information relating to the depth and liquidity of the market for such stock; and (d) a monthly account statement showing the market value of each penny stock held in the customer's account.

In addition, the penny stock rules require that prior to a transaction in a penny stock not otherwise exempt from those rules, the broker-dealer must make a special written determination that the penny stock is a suitable investment for the purchaser and receive the purchaser's written acknowledgment of the receipt of a risk disclosure statement, a written agreement as to transactions involving penny stocks, and a signed and dated copy of a written suitability statement.

These disclosure requirements may have the effect of reducing the trading activity for our common stock. Therefore, stockholders may have difficulty selling our securities.

Holders of Record

As of March 15, 2016 there were 426 holders of common stock of the Company of record.

Dividends

There are no restrictions in our articles of incorporation or bylaws that prevent us from declaring dividends. The Nevada Revised Statutes, however, do prohibit us from declaring dividends where after giving effect to the distribution of the dividend:

- We would not be able to pay our debts as they become due in the usual course of business; or
- Our total assets would be less than the sum of our total liabilities plus the amount that would be needed to satisfy the rights of shareholders who have preferential rights superior to those receiving the distribution.

The Company has never previously declared or paid any cash dividends on its common stock. We currently intend to retain earnings and profits, if any, to support our business strategy and do not intend to pay any cash dividends within the foreseeable future. Any future determination to pay cash dividends will be at the sole discretion of the Company's Board of Directors and will depend upon the financial condition of the Company, its operating results, capital requirements, general business conditions and any other factors that the Board of Directors deems relevant.

Recent Sales of Unregistered Securities

Issuances of Unregistered Shares of Common Stock

December 2015

In December 2015, the Company issued 500,000 shares of the Company's common stock to non-employee consultants in exchange for services provided to the Company. The Company recorded $221,000 as the aggregate amount of consideration received by the Company for the associated services.

The shares were not registered under the Securities Act, or the securities laws of any state, and were offered and sold in reliance on the exemption from registration afforded by Section 4(a)(2) and Regulation D (Rule 506) under the Securities Act and corresponding provisions of state securities laws, which exempt transactions by an issuer not involving any public offering.

November 2015

In November 2015, in consideration of the assignment of certain intellectual property rights by Dr. Dmitry Genkin and Kirill Surkhov (together "the Assignors") to Lipoxen Technologies Limited, the Company issued 11,000,000 shares of the Company's common stock to the Assignors pursuant to the terms of the APA. The Company recorded $3.74 million as the aggregate amount of consideration received by the Company for these certain intellectual property rights.

This issuance was made by the Company pursuant to an exemption from the registration either (a) under the Securities Act generally, in that the transactions are between an issuer and sophisticated investors and do not involve any public offering within the meaning of Section 4(a)(2) or (b) under Regulation S promulgated under the Securities Act in that offers, sales and issuances are not made to persons in the United States and no directed selling efforts are made in the United States.

August 2015

In August 2015, the Company issued 527,535 shares of the Company's common stock to non-employee consultants in exchange for services provided to the Company. The Company recorded $196,341 as the aggregate amount of consideration received by the Company for the associated services.

The shares were not registered under the Securities Act, or the securities laws of any state, and were offered and sold in reliance on the exemption from registration afforded by Section 4(a)(2) and Regulation D (Rule 506) under the Securities Act and corresponding provisions of state securities laws, which exempt transactions by an issuer not involving any public offering.

Issuances of Common Stock Warrants

Pharmsynthez Common Stock Warrant Issuances

In July 2015, the Company issued a $3 million 10% Senior Secured Collateralized Convertible Promissory Note (the "Note") plus a warrant to purchase 10 million shares of common stock to OJSC Pharmsythez. The net proceeds of approximately $3 million were used for general working capital needs of the Company.

This Note was issued in a private placement by the Company pursuant to an exemption from the registration either (a) under the Securities Act generally, in that the transactions are between an issuer and sophisticated investors and do not involve any public offering within the meaning of Section 4(a)(2) or (b) under Regulation S promulgated under the Securities Act in that offers, sales and issuances are not made to persons in the United States and no directed selling efforts are made in the United States.

SynBio LLC Common Stock Warrant Issuance

On December 31, 2014, the Company issued a warrant to purchase 6,745,000 shares of the Company's common stock, par value $0.01, to SynBio in furtherance of our co-development clinical objectives. The exercise price for the purchase of the warrant is $0.77 per share with a term of five years from the grant date. Simultaneously, warrants to purchase 320,000 shares of the Company's common stock, par value $0.01, were issued to SynBio and Pharmsynthez non-director designees under the same terms and conditions of the SynBio warrant. Pharmsynthez is a related party of SynBio, which is an affiliate of the Company. These warrants contain vesting triggers based on the achievement by SynBio of specific clinical development objectives.

Serum Institute of India Limited Common Stock Warrant Issuance

On December 31, 2014, the Company issued a warrant to purchase 3,200,000 shares of the Company's common stock, par value $0.01, to Serum Institute in furtherance of our co-development clinical objectives. The exercise price for the purchase of the warrant is $0.77 per share with a term of five years from the grant date. Simultaneously, warrants to purchase 160,000 shares of the Company's common stock, par value $0.01, were issued to Serum Institute non-director designees under the same terms and conditions of the Serum Institute warrant. These warrants contain vesting triggers based on the achievement by Serum Institute of specific clinical development objectives. Serum Institute is a related party of the Company.

Non-Employee Director Common Stock Warrant Issuance

On December 31, 2014, the Company issued a warrant to purchase 1,600,000 shares of the Company's common stock, par value $0.01, to a non-employee director for services provided to the Company. The exercise price for the purchase of the warrant is $0.77 per share with a term of five years from the grant date. This warrant was fully vested on the date of grant.

These warrants are issued by the Company pursuant to an exemption from the registration either (a) under the Securities Act generally, in that the transactions are between an issuer and sophisticated investors and do not involve any public offering within the meaning of Section 4(a)(2) or (b) under Regulation S promulgated under the Securities Act in that offers, sales and issuances are not made to persons in the United States and no directed selling efforts are made in the United States.

FDS Pharma ASS Intellectual Property Assignment and Share Issuance

On December 31, 2014, in consideration of the assignment of certain intellectual property rights by Dr. Dmitry Genkin and FDS Pharma ASS to Lipoxen Technologies Limited, the Company issued to FDS Pharma ASS 3,244,784 shares of the Company's common stock, par value $0.01 per share. FDS Pharma ASS is related party of SynBio, which is an affiliate of the Company.

These shares were issued in a private placement and were not registered under the Securities Act, or the securities laws of any state, and were offered and issued in reliance on the exemption from registration afforded by Regulation D under the Securities Act and corresponding provisions of state securities laws, which exempt transactions by an issuer not involving any public offering. FDS Pharma ASS is an "Accredited Investor" as such term is defined in Regulation D promulgated under the Securities Act.

Baxter SA Purchase Agreement – Unregistered Shares Sold in January 2014

On January 29, 2014, the Company entered into a Stock Purchase Agreement (the "Purchase Agreement") with Baxter SA, pursuant to which the Company sold to Baxter SA 10,695,187 shares of the Company's common stock, par value $0.01 per share (the "Shares") for $10 million (the "Purchase Price").

Pursuant to the Purchase Agreement, Baxter SA agreed that until the earlier of (i) three months after the effective date of the listing of the Company's common stock on the NASDAQ Stock Market; or (ii) January 29, 2015, Baxter SA would not assign, transfer, sell or dispose of the Shares to any party other than a wholly owned subsidiary. In addition, Baxter SA agreed that until the 12 month anniversary of the Lock-Up Expiration Date, it would not sell or offer to sell any shares of common stock of the Company in an amount that would exceed 15% of the daily trading volume of the Company's common stock on the principal market or exchange on which the Company's shares of common stock are traded, and in no event would Baxter SA sell or offer to sell more than 15% of the Shares in any one month period. During 2015, Baxter agreed in writing to a further lock-up period expiring in June 2016 and certain other related restrictions.

The Shares were sold in a private placement and were not registered under the Securities Act, or the securities laws of any state, and were offered and sold in reliance on the exemption from registration afforded by Section 4(a)(2) and Regulation D (Rule 506) under the Securities Act and corresponding provisions of state securities laws, which exempt transactions by an issuer not involving any public offering. Baxter SA is an "Accredited Investor" as such term is defined in Regulation D promulgated under the Securities Act.

Repurchases of Equity Securities of the Issuer

During 2015 and 2014, we did not repurchase any of our outstanding securities.

ITEM 6 – SELECTED FINANCIAL DATA

We are not required to provide the information required by this Item because we are a smaller reporting company.

ITEM 7 – MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

BUSINESS OVERVIEW

The Company is a clinical stage biopharmaceutical company that is focused on the research and development of certain pharmaceutical products for use in humans that incorporate the use of its patented and proprietary platform technologies that we believe will enable the creation of next-generation biologic drugs and novel oncology therapeutics with an emphasis primarily on orphan indications.

We hold more than 201 United States ("U.S.") and international patents in addition to certain proprietary rights to four core technologies that are designed to treat a variety of indications with potential use advantages over competing products, in addition we have approximately 90 pending patents. In June 2014, the U.S. Patent and Trademark Office (the "USPTO") has granted the Company U.S. Patent No. 8,735,557, entitled "Activated Sialic Acid Derivatives for Protein Derivatization and Conjugation," which contains claims that cover the compound, ErepoXen™, and Xenetic's broader polysialic acid technologies.

The Company's core technologies are summarized below:

PolyXen™	An enabling technology that utilizes Polysialic Acid ("PSA"), a biopolymer, consisting of a chain of sialic acids, which is a natural constituent of the human body. PSA is designed to extend the half-life in circulation in the human body for a variety of existing drug molecules and, thereby, to create potentially superior next generation drug candidates.
Virexxa®	Virexxa®, sodium cridanimod, belongs to a class of low-molecular weight synthetic interferon inducers. In addition to its immunomodulatory properties, Virexxa® has been shown to increase levels of progesterone receptor expression in tumor tissue of patients who are progesterone receptor deficient, and thus may restore sensitivity of non-responsive endometrial cancers to hormonal (e.g. progestin) therapy. Based on preclinical observations, Virexxa® may also be therapeutically relevant in other hormone-resistant cancers, such as triple-negative breast cancer. Virexxa® has been granted an Orphan Drug Designation by the USFDA for use in conjunction with medroxyprogesterone in progesterone receptor negative endometrial cancer.
OncoHist™	A novel therapeutic platform that utilizes the properties of the human histone H1.3 ("H1.3") for the development of drug candidates for the treatment of 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 less toxic and immunogenic than other oncology therapies.
ImuXen™	A novel liposomal co-entrapment encapsulation technology designed to create new vaccines and improve the use and efficacy of certain existing vaccines for use in the human body. The technology is based on the co-entrapment of the nominated antigen(s) in a liposomal vesicle, a design that is intended to maximize both cell and immune system mediated responses.

All of the Company's current drug candidates are in the development stage and none has yet received regulatory approval for marketing in the U.S. by the U.S. Food and Drug Administration (the "FDA") or by any applicable agencies in other countries.

Critical Accounting Estimates

The preparation of our financial statements in conformity with U.S. GAAP 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 our estimates that are based on historical experience and on various 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.

Management believes that the following accounting estimates are the most critical to aid in fully understanding and evaluating our reported financial results, and they require management's most difficult subjective or complex judgments, resulting from the need to make estimates about the effect of matters that are inherently uncertain. The following narrative describes these critical accounting estimates, the judgments and assumptions and the effect if actual results differ from these assumptions.

Revenue Recognition

We derive our revenue from our license and collaboration arrangements with pharmaceutical and biotechnology partners, some of which include royalty agreements based on potential net sales of approved commercial pharmaceutical products. Revenue from our collaborative partners are generally paid directly by the partners and are recognized on the accrual basis when all the following criteria are met: (i) persuasive evidence of an arrangement exists, (ii) delivery (or passage of title) has occurred or services have been rendered, (iii) the seller's price to the buyer is fixed or determinable, and (iv) collectability is reasonably assured.

The terms of our license agreements include delivery of an IP license to a collaboration partner. We may be compensated under license arrangements through a combination of non-refundable upfront receipts, development and regulatory objective receipts and royalty receipts on future product sales by partners. We make our best estimate of the period over which we expect to fulfil our performance obligations, which may include technology transfer assistance, research activities, clinical development activities, and manufacturing activities from development through the commercialization of the product. Given the uncertainties of these collaboration arrangements, significant judgment is required to determine the duration of the performance period.

Non-refundable upfront license fees received, whereby our continued performance or future obligations are considered inconsequential or perfunctory to the relevant licensed technology, are recognized as revenue upon delivery of the technology in accordance with U.S. GAAP. This determination requires significant judgment to assess the nature of any continuing obligations. Reimbursements for research and development services completed by us related to the collaboration agreements are recognized in operations as revenue on a gross basis.

We expect to receive royalty receipts in the future as products are sold. We expect to recognize royalty revenue in the period of sale, based on the underlying contract terms, provided that the reported sales are reliably measurable and we have no remaining performance obligations, assuming all other revenue recognition criteria are met.

Our license and collaboration agreements with certain collaboration partners could also provide for future receipts to us based solely upon the performance of the respective collaboration partner in consideration of milestone extensions or upon the achievement of specified sales volumes of approved drugs. For such receipts, we expect to recognize the receipts as revenue when earned under the applicable contract terms on a performance basis or ratably over the term of the agreement. These receipts may also be recognized as revenue when our continued performance or future obligations are considered inconsequential or perfunctory.

Embedded Derivatives Related to Debt Instruments

In our financing arrangements, we issue debt instruments that may include features that meet the criteria of embedded derivatives requiring bifurcation. The fair value of each embedded derivative is valued independently using a “with-and-without” method. The “with-and-without” methodology involves valuing the whole instrument on an as-is basis and then valuing the instrument without the individual embedded derivative. The difference between the entire instrument with all of the embedded derivatives compared to the instrument without the individual embedded derivative is the fair value of that individual derivative. The embedded derivatives are settled when the underlying debt instrument is settled. Therefore, there are three possible settlement mechanisms: the debt instrument can be converted into equity, repaid early, or held to maturity.

In connection with our July 2015 financing, we developed a set of potential outcomes resulting in the settlement of the SPA Note consisting of a future qualifying capital raise with conversion, default of the SPA Note, the SPA Note being converted to equity and the SPA Note being held to maturity. These were included in a valuation model utilizing Monte Carlo Simulations to develop the fair value of the embedded derivatives, which included a simulation of the Company’s stock price with consideration provided for the expected volatility of the Company, the expected life of the host instrument, and risk free rate. The assumptions used in calculating the fair value represents our best estimates and involves inherent uncertainties and the application of our judgment. As a result, the use of alternate assumptions would result in outcomes that could be materially different. Additionally, the Company is required to update its assumptions and estimates at each valuation date. Based on updated circumstances, factors and knowledge of the Company at future valuation dates, then applicable assumptions and estimates could result in material changes in the estimated fair value of the embedded derivatives.

Share-based Payments

Share-based payments includes grants of options to employees and non-employees to purchase shares of common stock, grants of Joint Share Ownership Plan ("JSOP") awards to employees, as well as agreements to issue common stock in exchange for services provided by non-employees. Currently, we utilize one option plan, the Xenetic Biosciences, Inc. Equity Incentive Plan pursuant to which we may grant options to purchase shares of common stock to employees and non-employees. Prior to the acquisition of Xenetic UK in January 2014, the Company had two option plans, the Lipoxen plc Unapproved Share Option Plan and the Xenetic Biosciences plc 2007 Share Option Scheme. Both of these plans were converted subsequent to year end to reflect the new shares of common stock issued related to the Acquisition. As part of the conversion, option holders under both plans have the right to subscribe for a number of shares of common stock in exchange for the cancellation and surrender by the option holder in a manner similar to which the shareholders prior to the Acquisition were given the right to acquire shares of common stock in the new company according to the terms of the Acquisition.

We measure share-based payments to employees in accordance with Financial Accounting Standards Board Accounting Standards Codification ("ASC") Topic 718, *Compensation – Stock Compensation* and to non-employees in accordance with ASC Topic 505*, Equity*. Stock option compensation expenses are based on the estimated fair value of the underlying option calculated using the Black-Scholes option pricing model, which requires the input of subjective assumptions and judgments, including estimating share price volatility and expected term of the awards. Our shares do not have a sufficient trading history for us to adequately assess the fair value of the stock option grants. Therefore, for all share-based payments, we determine the expected volatility based on a weighted-average of the historical volatility of a peer group of comparable publicly traded companies with product candidates in similar stages of development to our product candidates in conjunction with our historical volatility. We intend to consistently apply this methodology of using a peer group of comparable companies until the historical volatility of our own share price is relevant to measure expected volatility for future equity based awards. For employee stock options issued in 2014 that qualify as "plain vanilla" stock options in accordance with Staff Accounting Bulletin No. 110 ("SAB 110") issued by the SEC, the expected term is estimated using the simplified method, as defined in SAB 110. The Company has a limited history of stock option exercises, which does not provide a reasonable basis for the Company to estimate the expected term of employee stock options. For all other employee stock options, we estimate the expected life using judgment based on the anticipated research and development milestones of the Company's clinical projects and behavior of the Company's employees. The expected life of non-employee options is the contractual life of the option. The assumptions used in calculating the fair value of the stock option grants represent our best estimates and involve inherent uncertainties and the application of our judgment. As a result, if factors change and we use different assumptions, share-based payments expense could be materially different in the future.

For employee options that vest based solely on service conditions, the fair value measurement date is generally on the date of grant and the related compensation expense, less expense for expected forfeitures, is recognized on a straight-line basis over the requisite vesting period of the awards. For non-employee options, the fair value measurement date is the earlier of the date the performance of services is complete or the date the performance commitment has been reached. We generally determine that the fair value of the stock options is more reliably measurable than the fair value of the services received. Compensation expense related to stock options granted to non-employees that vest based solely on service conditions is subject to re-measurement at each reporting period until the options vest and is recognized on a straight-line basis over the estimated vesting period of the awards.

We estimate forfeitures at the time of grant and revise those estimates in subsequent periods if actual forfeitures differ from those estimates. During 2015 and 2014, we applied a forfeiture rate of 0% as we have not historically experienced forfeitures. Upon exercise, stock options are redeemed for newly issued shares of common stock.

The fair value of common stock awards issued in exchange for services provided by non-employees is generally determined by using the fair value of the services provided, as this provides the most reliable measure of the fair value of the awards. Share-based payments expense is recognized as services are rendered on a straight-line basis. The assumptions used in calculating the fair value of the common stock awards represent our best estimates and involve inherent uncertainties and the application of our judgment. As a result, if factors change and we use different assumptions, share-based payments expense related to the common stock awards could be materially different in the future.

Under the JSOP, shares of the Company are jointly purchased at fair market value by the participating executives and the trustees of the JSOP trust, with shares held in the JSOP trust. For U.S. GAAP purposes the awards are valued as employee options. The JSOP trust holds the shares of the JSOP until such time as the JSOP shares are vested and the participating executives exercise their rights under the JSOP. The JSOP trust is granted an interest bearing loan by the Company in order to fund the purchase of its interest in the JSOP shares. The loan held by the trust is eliminated on consolidation in the financial statements of the Company. The Company funded portion of the share purchase price is deemed to be held in treasury until such time as they are transferred to the employee and is recorded as a reduction in equity.

The exercise price of the JSOP "option" is deemed to be the market value of the shares at the date of issue. The awards vest based on certain market conditions, which require each tranche of shares to meet specific market share price hurdles, or change in control conditions, as defined by the plan. Under the JSOP and subject to the vesting of the participants' interest, participating executives will, when the JSOP shares are sold, be entitled to a share of the proceeds of sale equal to the growth in market value of the JSOP shares versus the exercise price, less simple interest on the original share purchase price, net of executives' cash contribution at inception, as agreed for each grant (the "Carry Charge"). The balance of the proceeds will remain to the benefit of the JSOP trust and be applied to the repayment of the loan originally made by the Company to the JSOP trust. Any funds remaining in the JSOP trust after settlement of the loan and any expenses of the JSOP trust are for the benefit of the Company.

We measure the fair value of JSOP awards using Monte Carlo simulations, which requires estimates based on the Company's judgment, as well as other assumptions. These estimates include the expected term of each tranche of the JSOP awards, which the Company determines to be the initial life of the awards, and expected volatility, which is based on a weighted average of the historical volatility of a peer group of comparable publicly traded companies with product candidates in similar stages of development to the Company's product candidates in conjunction with the historical volatility of Xenetic Biosciences plc's shares when traded on the U.K. AIM market. The Company has applied an expected dividend yield of 0% as the Company has not historically declared a dividend and does not anticipate declaring a dividend during the expected life of the awards. The risk-free rate is based upon the US Treasury yield curve in effect at the time of grant, with a term that approximates the expected life of the awards. The compensation expense is recorded over the expected life of the option, regardless of whether the awards vest. Having established the full value of the JSOP awards using the Monte Carlo simulation outlined above, a deduction is made in respect of the anticipated Carry Charge in order that the expense recorded in the financial statements only represents the participating executives' net interest in the awards. The assumptions used in calculating the fair value of the JSOP awards represent our best estimates and involve inherent uncertainties and the application of our judgment. As a result, if factors change and we use different assumptions, share-based payments expense related to the JSOP awards could be materially different in the future.

On exercise of the JSOP awards by the executives the Carry Charge due to the Company will be recognized as additional paid-in capital, arising from the sale of treasury stock.

Warrants

In connection with certain financing, consulting and collaboration arrangements, we issue warrants to purchase shares of the Company's common stock. Outstanding warrants are standalone instruments that are not puttable or mandatorily redeemable by the holder and are classified as equity awards. We measure the fair value of the awards using the Black-Scholes option pricing model, which requires the input of subjective assumptions and judgments, including estimating the expected term of the awards and the share price volatility, at each reporting period until the measurement date is reached. The expected term is deemed to be the contractual life of the warrant and we determine the expected volatility based on a weighted-average of the historical volatility of a peer group of comparable publicly traded companies with product candidates in similar stages of development to our product candidates in conjunction with our historical volatility.

All other warrants are recorded at fair value as compensation expense on a straight-line basis over the requisite service period or at the date of issuance, if there is not a service period or if service has already been rendered. For warrants that contain vesting triggers based on the achievement of certain objectives, the Company applies judgment to estimate the probability and timing of the achievement of those objectives. These estimates involve inherent uncertainties, and as a result, if the probability or timing of the achievement of those objectives change, expense related warrants could be materially different in the future.

Warrants issued to collaboration partners in conjunction with the issuance of common stock are recorded at fair value as a reduction in additional paid-in capital of the common stock issued.

Goodwill and Indefinite-lived Intangible Assets

Goodwill

Goodwill is not amortized but is reviewed for impairment annually as of October 1, or when events or changes in the business environment indicate that all, or a portion, of the carrying value of the reporting unit may no longer be recoverable. Under this method, we compare the fair value of our reporting unit to its carrying value. If the fair value is less than the carrying amount, a more detailed analysis is performed to determine if goodwill is impaired. An impairment loss, if any, is measured as the excess of the carrying value of goodwill over the fair value of goodwill. We also have the option to first assess qualitative factors to determine whether the existence of events or circumstances leads us to determine that it is more likely than not (that is, a likelihood of more than 50%) that goodwill is impaired. If we choose to first assess qualitative factors and it is determined that it is not more likely than not goodwill is impaired, we are not required to take further action to test for impairment. We also have the option to bypass the qualitative assessment and perform only the quantitative impairment test, which we may choose to do in some periods but not in others. As the option to perform the qualitative assessment is not a permanent election, we reassess this option during each annual impairment review.

We determine our reporting unit by identifying the components of our operating segment with similar economic characteristics based on quantitative and qualitative factors that have discrete financial information available. We determined that we have one reporting unit as of October 1, 2015 and 2014, the dates of our annual impairment reviews. Based on our annual impairment reviews, we used the quantitative method and determined no adjustment to the carrying value of goodwill would be necessary as the fair value of our reporting unit significantly exceeded its respective carrying value as of October 1, 2015 and 2014, respectively. If the fair value of our reporting unit were to be reduced by one-half, the fair value would still significantly exceed the carrying value of the reporting unit at October 1, 2015. There can be no assurance that future events will not result in an impairment of goodwill.

Indefinite-lived Intangible Assets

Our indefinite-lived intangible assets consist of acquired IPR&D. IPR&D intangible assets are considered indefinite-lived intangible assets until completion or abandonment of the associated research and development efforts. IPR&D is not amortized but is reviewed for impairment annually as of October 1, or when events or changes in the business environment indicate the carrying value may be impaired. If the fair value of the intangible asset is less than the carrying amount, we perform a quantitative test to determine the fair value. The impairment loss, if any, is measured as the excess of the carrying value of the intangible asset over its fair value. We also have the option to first assess qualitative factors to determine whether the existence of events or circumstances leads us to determine that it is more likely than not (that is, a likelihood of more than 50%) that our indefinite-lived intangible asset is impaired. If we choose to first assess qualitative factors and it is determined that it is not more likely than not our indefinite-lived intangible asset is impaired, we are not required to take further action to test for impairment. We also have the option to bypass the qualitative assessment and perform only the quantitative impairment test, which we may choose to do in some periods but not in others. As the option to perform the qualitative assessment is not a permanent election, we reassess this option during each annual impairment review. During 2015 and 2014, we used the quantitative method and determined the fair value of the indefinite-lived intangible asset exceeded its carrying value as of October 1, 2015 and 2014.

Significant judgments are inherent in the calculation of fair value. With the assistance of an independent third party, we calculated the fair value of our IPR&D by using the Multi-Period Excess Earnings Method (the "MPEEM") which is a form of the income approach. Under the MPEEM, the fair value of an intangible asset is equal to the present value of the asset's incremental after-tax cash flows (excess earnings) remaining after deducting the market rates of return on the estimated value of contributory assets (contributory charge) over its remaining useful life. This method requires us to make long-term projections of the amount and timing of income and expenses related to development and commercialization of the acquired intangible asset and assumptions regarding the rate of return on contributory assets, the weighted average cost of capital and the discount rate for estimated future after-tax cash flows. Specifically, this method took into account our estimates of future incremental milestone payments that may be achieved upon completion of clinical trial stages, regulatory approval and sales goals upon commercialization, as well as our expected royalty income based on sales upon commercialization. Projected expenses are based on our forecasted spend required to complete the development of our IPR&D, which will require the Company to raise further capital to fund the development. Our projections are estimates subject to change based on several factors including the results of clinical trials and delays in regulatory approval. The discount rate used is commensurate with the uncertainties associated with the economic estimates described above and reflects the stage of development, the time and resources needed to complete the development of the product and the risks of advancement through regulatory approval processes.

Key assumptions utilized in the fair valuation of our indefinite-lived intangible asset OncoHist™ are as follows:

- Discount rate – 47.5%
- Weighted average cost of capital – 16.0%
- Estimated aggregate milestone receipts – approximately $300 million
- Royalty rates – 10% of net sales

While we believe reasonable estimates and appropriate assumptions were utilized to calculate the fair value of OncoHist™, it is possible a material change could occur. Use of different estimates and judgments could yield materially different results in our analysis and could result in materially different asset values or expense.

There can be no assurance that we will be able to successfully develop and complete the acquired IPR&D program and profitably commercialize the underlying product candidates before our competitors develop and commercialize similar products, or at all. Moreover, if the acquired IPR&D program fails or is abandoned during development, then we may not realize the value we have estimated and recorded in our financial statements on the acquisition date, and we may also not recover the research and development investment made since the acquisition date to further develop that program. If such circumstances were to occur, our future operating results could be materially adversely impacted.

We did not record an impairment charge as a result of our goodwill or indefinite-lived intangible asset impairment tests in 2015 or 2014. We will continue to closely monitor the performance of our indefinite-lived intangible asset and reporting unit. If the business experiences adverse changes in our key assumptions and judgments, we will perform an interim goodwill and/or indefinite-lived intangible asset impairment analysis. There can be no assurance that future events will not result in an impairment of our goodwill or indefinite-lived intangible asset. As a result of the going concern uncertainty discussed under *Liquidity and Capital Resources* below, the recoverability and classification of the Company's intangible assets and goodwill could be adversely affected.

RESULTS OF OPERATIONS

The comparison of our historical results of operations for the year ended December 31, 2015 to the year ended December 31, 2014 is as follows:

Description	2015	2014	Increase (Decrease)	Percentage Change
Operating costs and expenses:				
Research and development	$ 3,434,016	$ 6,323,896	$ (2,889,880)	45.7
General and administrative	6,388,000	6,600,870	(212,870)	3.2
Loss from operations	(9,822,016)	(12,924,766)	(3,102,750)	24.0
Other income (expense):				
Change in fair value of derivative liability	(2,125,117)	-	2,125,117	100.0
Loss on disposal of subsidiaries	-	(1,069,675)	(1,069,675)	100.0
Other expense	(295,033)	(326,916)	(31,883)	9.8
Interest income	1,694	18,959	(17,265)	91.1
Interest expense	(266,999)	(4,706)	262,293	5,573.6
	(2,685,455)	(1,382,338)	1,303,117	94.3
Net loss	$ (12,507,471)	$ (14,307,104)	$ (1,799,633)	12.6

Revenue

The Company recorded no revenues for the years ended December 31, 2015 and 2014.

Cost of Revenue

The Company incurred no cost of revenue for the years ended December 31, 2015 and 2014.

Research and Development

The Company engages in independent research and development ("R&D") in connection with its various technologies. Overall, corporate R&D expenses for the year ended December 31, 2015 decreased by approximately $2.89 million, or 45.7% to $3.43 million from $6.32 million in 2014. The table below sets forth the R&D costs incurred by the Company, by category of expense, for the years ended December 31, 2015 and 2014:

	Year ended December 31,	
Category of Expense	2015	2014
Outside services and Contract Research Organizations	$ 1,794,523	$ 5,107,990
Share-based expense	886,805	141,634
Salaries and wages	491,623	729,082
Rents	89,354	78,076
Lab consumables	23,711	26,280
Other	148,000	240,834
Total research and development expense	$ 3,434,016	$ 6,323,896

Research and Development by Subsidiary Location

The decrease in R&D expenses in the U.S. during 2015 was primarily due to the planned deferral of IND-enabling preclinical work conducted in connection with the OncoHist™ program due to working capital constraints. The costs of conducting the ongoing ErepoXen™ human clinical trials in Australia, which are borne by the U.K. subsidiary Lipoxen, were relatively unchanged during 2015 as compared to 2014.

Research and Development by Category of Expense

Outside Services and Contract Research Organization Costs

The significant decrease in outside services and contract research organization costs of approximately $3.31 million, or 64.9% for the year ended December 31, 2015 is primarily due to the planned deferral of IND-enabling preclinical work conducted in connection with the OncoHist™ program due to working capital constraints. The costs of conducting the ongoing ErepoXen™ human clinical trials were relatively unchanged as the trials proceeded as planned, with costs of approximately $1.07 million and $1.12 in 2015 and 2014, respectively.

Share-based Expense

Share-based expense increased approximately $745,000 or 526.12% to $886,805 for the year ended December 31, 2015 from $141,634 for the prior year. The fluctuation is primarily due to the normal expensing of the fair value of stock option awards granted to R&D personnel in September 2015 and December 2014. The December 2014 grants did not have a significant impact on the 2014 shared-based payments expense.

Salaries and Wages

Salaries and wages decreased by approximately $237,000 or 32.6% to $491,623 for the year ended December 31, 2014 from $729,082 for the prior year. The decrease is due to the planned overall reduction in the number of scientific personnel following the closing of the U.K. lab facility. The layoffs of three U.K.-based scientific personnel at various points during 2014 were only partially offset by the hiring of two new scientists in the U.S. during the same year. The decrease is also partially related to certain non-recurring layoff costs incurred in 2014. There were no new R&D personnel hired in 2015.

Rents

Rent expense allocated to research and development increased approximately $11,000, or 14.1% to $89,354 from $78,076 for the year ended December 31, 2015 over the comparable period in 2014. During each period, the Company operated the same research and development facility, which shares its space with general and administrative employees. While the overall rent expense for this facility did not change during these periods, the expense allocated to research and development increased during the year ended December 31, 2015 due to a change in the Company's method of allocation.

Lab Consumables

The slight decrease of approximately $2,000 in lab consumables expense is due to normal fluctuations in the amount of those supplies required for in-house research activities.

Other

Other expenses decreased approximately $93,000, or 38.5%, to $148,000 for the year ended December 31, 2015 from $240,834 for the prior year. The decrease in other expense results from the net aggregate change of all miscellaneous costs, including an approximately $36,000 decrease in computer and equipment costs, approximately $30,000 decrease in recruiting costs and approximately $30,000 decrease in general travel costs.

General and Administrative

General and administrative ("G&A") expenses decreased by approximately $213,000, or 3.2%, to $6,388,000 for the year ended December 31, 2015 from $6,600,870 for the prior year. Although the total level of general and administrative costs did not change significantly, there were significant changes of certain expenses as follows. Stock compensation expense increased approximately $1.04 million due to the normal expensing of the fair value of stock option awards granted to G&A personnel in September 2015 and December 2014. This increase was offset by a decrease in consulting, accounting and legal professional service costs of approximately $810,000 due to certain non-recurring costs during 2014 related to the Company's transition to the U.S. as a U.S. public company and short term cost reduction initiatives. In addition, travel expenses and rent and utilities costs in 2015 decreased approximately $202,000 and $115,000, respectively, due to the closure of the U.K. office in March 2015.

All other general and administrative expenses resulted in a net decrease of approximately $121,000 for the year ended December 31, 2015 over the comparable period in 2014.

Change in Fair Value of Derivative Liability

The loss of approximately $2.1 million is recognized on the change in fair value of the Company's compound derivative instrument during the year ended December 31, 2015. This change is primarily driven by the change in our stock price from period to period. The Company did not have debt instruments with embedded derivatives outstanding during the comparable period in 2014.

Loss on Disposal of Subsidiaries

The loss on disposal of subsidiaries is related to one transaction, the Hive Out Agreement, during the year ended December 31, 2014. There were no disposals of subsidiaries during the year ended December 31, 2015.

Other Income (Expense)

Other expense decreased approximately $32,000, or 9.8% to $295,033 for the year ended December 31, 2015 from $326,916 in 2014. This decrease is primarily related to decreased foreign currency transaction expenses following the change in functional currency of the Company's foreign subsidiaries to the U.S. dollar in April 2015. This was offset by an approximately $60,000 loss recorded on the issuance of debt in July 2015.

Interest Income

Interest income decreased by approximately $17,000, or 91% to approximately $2,000 for the year ended December 31, 2015 from approximately $19,000 in 2014. The decrease is proportional to the decrease in average cash balances held by the Company during the period from January 1, 2014 to December 31, 2015 and is not due to any change in investment strategies.

Interest Expense

Interest expense increased by approximately $262,000, or 5,574%, to approximately $267,000 for the year ended December 31, 2015 from approximately $5,000 in 2014. The increase in interest expense is primarily due to interest charges associated with the SPA Note. There was not a similar promissory note in the comparable period in 2014. The Company also recognized interest expense related to a financing arrangement with the landlord of the Company's office and laboratory lease in the U.S., which commenced in January 2014.

Liquidity and Capital Resources

At December 31, 2015 and 2014 we had working capital deficits of approximately $3.2 million and $78,000, respectively. At December 31, 2015, we had approximately $0.13 million in cash and $3.3 million in accounts payable and accrued expenses. At December 31, 2014 we had cash and accounts payable and accrued expenses of $2.5 million and $2.3 million, respectively. Our working capital has been reduced in 2015 due to our net loss of $12.5 million that includes $5.3 million net cash used in operating activities comprised of approximately $1.8 million in consulting, legal and other professional service fees, approximately $1.5 million in salaries and wages, including scientific staff, approximately $1.3 million in program-specific clinical development costs and approximately $232,000 in rent and utilities expenses. The $1.8 million in consulting, legal and other professional service fees cash outflows in 2015 includes $0.9 million of costs that were incurred during 2014 but paid in 2015. The $1.3 million applied to external research and development and clinical program costs primarily related to our ErepoXen™ drug candidate.

We have historically relied upon equity financing to fund our operations. Since 2005, we have raised approximately $47 million in equity financing, including $10 million from the sale of shares to Baxter in January 2014, as well as received $10 million from revenue producing activities in the years prior to 2014. Approximately 90% of that revenue is from a single customer, Baxter, in connection with milestone receipts and fees for services. We expect the majority of our funding through equity or equity linked instruments to continue as a trend for the foreseeable future.

On July 1, 2015, the Company entered into the SPA with Pharmsynthez for the issuance of the SPA Note, which provided net proceeds of approximately $3 million in July 2015 for the general working capital needs of the Company.

In November 2015 we entered into the APA which included the 1 st amendment to the SPA (the "Amended SPA") wherein Pharmsynthez agreed to purchase from the Company up to $3.5 million of additional 10% Convertible Promissory Notes (the "APA Notes"). The APA contains a total financing commitment from Pharmsynthez in the amount of $10 million. The APA Notes represent bridge financing to be drawn down from this $10 million. As of March 30, 2016, the Company has received net proceeds of $3.5 million from the APA Notes, leaving a balance of $6.5 million in funding commitment from Pharmsynthez.

As of March 30, 2016 the Company will be required to raise additional working capital in order to meet its financial obligations for the next 12 months.

Pharmsynthez, as part of the APA, has agreed to invest $6.5 million (the "Additional Investment") as part of our planned total capital raise and planned up-list to a national securities exchange (the "Capital Raise"). The $6.5 million would be a draw down from Pharmsynthez's $10 million total financing commitment. The total amount of financing contemplated in the APA is $18.5 million consisting of $3.5 million in the APA Notes (which has been drawn down as of March 30, 2016), $6.5 million in the Additional Investment and a minimum of $8.5 million in other public offering proceeds. The Company believes this total financing will be sufficient for the Company to meet its financial obligations and to continue its planned operations for the next 12 months.

In the event that the Company is unable to cause a listing of its securities on a national securities exchange, after March 31, 2016, Pharmsynthez shall loan to the Company the Additional Investment on essentially similar terms as the APA Notes. This outcome would require the Company to seek additional financing and/or defer certain research and development activities in order to meet its financial obligations over the next 12 months.

The Company is optimistic that it will be successful in obtaining the financing contemplated in the APA; however, there can be no assurance that it will be able to do so or, if it is able to, that it can do so under commercially reasonable terms. Further, Pharmsynthez's $6.5 million commitment is an important factor in the Capital Raise. If Pharmsynthez becomes unable or unwilling to fulfill its $6.5 million commitment, the completion of the Capital Raise will be adversely affected. These financial statements have been prepared on a going concern basis; however, if we are unable to complete the Capital Raise for any reason, there will be substantial doubt about our ability to continue as a going concern.

Until we reach commercialization of our technology or receive significant and regular cash flows from our current collaborations or from planned out-licensing of our technology, we expect the trend of accessing capital markets to finance our working capital needs to continue.

The only significant cash receipts that we could expect from our current collaborations would be from Baxalta. Due to the uncertainties and risks inherent in the clinical development process, we are unable to predict precisely when those receipts may occur, if ever. We do not expect any significant receipts to become due within the next 12 months; however, there can be no assurance that future receipts will ever become due because they are contingent on positive outcomes from Baxalta's clinical development efforts in connection with the Factor VIII drug candidate.

We have commenced the process of seeking out-license arrangements for our ErepoXen™ technology but are currently unable to reliably predict when that process may result in 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 used in operating activities for the year ended December 31, 2015 totaled approximately $5.3 million. The $5.3 million includes net operating cash uses of approximately $1.78 million in consulting, legal and other professional service fees, approximately $1.54 million in salaries and wages, including scientific staff, approximately $1.25 million in program-specific clinical development costs and approximately $232,000 in rent and utilities expenses.

Cash flows used in operating activities for the year ended December 31, 2014 totaled approximately $12.3 million. The $12.3 million includes net operating cash uses of approximately $7.00 million in consulting, legal and other professional service fees, approximately $3.01 million in salaries and wages, including scientific staff, and approximately $1.80 million in program-specific clinical development costs.

Cash Flows from Investing Activities

Cash flows used in investing activities for the year ended December 31, 2015 included approximately $2,000 from the purchase of assets consisting of laboratory equipment, offset by approximately $8,000 derived from the disposition of certain property and equipment during the year.

Cash flows used in investing activities for the year ended December 31, 2014 included approximately $58,000 from the purchase of assets consisting of office furniture and fixtures and laboratory equipment, partially offset by approximately $5,500 derived from the disposition of certain property and equipment during the year.

Cash Flow from Financing Activities

For the year ended December 31, 2015, we raised $3.0 million and $0.1 million with the issuances of the SPA Note and a short-term promissory note, respectively. From the proceeds of the SPA Note, we repaid our $0.1 million short-term promissory note.

For the year ended December 31, 2014 we received $10 million in proceeds in exchange for the issuance of approximately 10.7 million shares of common stock to Baxter and we received approximately $102,000 in proceeds in connection with the exercise of stock options by the CEO of the company. The proceeds were applied toward our working capital needs during the year. During the year, we repaid approximately $286,000 on our loan to an affiliate of the Company.

Off Balance Sheet Arrangements

The Company has no off balance sheet financing arrangements. The Company has two facility lease obligations and written employment agreements with three key employees.

Recent Accounting Pronouncements

In March 2016, Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2016-06, *Derivatives and Hedging (Topic 815)* ("ASU 2016-06"). ASU 2016-06 clarifies the requirements for assessing whether contingent call or put options that can accelerate the payment of principal on debt instruments are clearly and closely related to their debt hosts. This guidance is effective for annual reporting periods beginning after December 15, 2016, including interim periods within those annual periods. Early application is permitted. The Company is currently evaluating the impact of this new standard.

In February 2016, FASB issued ASU 2016-02, *Leases (Topic 842)* ("ASU 2016-02"). ASU 2016-02 will require lessees to recognize a lease liability and a right-of-use asset for all leases, with the exception of short-term leases, at the commencement date. This guidance is effective for annual reporting periods beginning after December 15, 2018, including interim periods within those annual periods. Early application is permitted. The Company is currently evaluating the impact of this new standard.

In November 2015, FASB issued ASU 2015-17, *Income Taxes (Topic 740)* ("ASU 2015-17"). ASU 2015-17 simplifies the presentation of deferred income taxes by requiring that deferred tax assets and liabilities be classified as non-current in a classified statement of financial position. This guidance is effective for annual reporting periods beginning after December 15, 2016, including interim periods within those annual periods, with early adoption permitted. The Company early adopted ASU 2015-17 for the year ended December 31, 2015 on a prospective basis, as permitted. There was no impact of early adoption of ASU 2015-17 on the Company's consolidated financial statements previously reported.

In April 2015, FASB issued ASU 2015-03, *Interest – Imputation of Interest (Subtopic 835-30): Simplifying the Presentation of Debt Issuance Costs* ("ASU 2015-03"). ASU 2015-03 requires that debt issuance costs related to a recognized debt liability be presented in the balance sheet as a direct deduction from the carrying amount of that debt liability, consistent with debt discounts. This guidance is effective for annual reporting periods beginning after December 15, 2015, and interim periods within fiscal years beginning after December 15, 2016, with early adoption permitted. The Company early adopted ASU 2015-03 in July 2015, as permitted. There was no impact of early adoption of ASU 2015-03 on the Company's consolidated financial statements previously reported.

In August 2014, the FASB issued ASU 2014-15, *Presentation of Financial Statements – Going Concern (Subtopic 205-40)* ("ASU 2014-15"). ASU 2014-15 defines management's responsibility to evaluate whether there is substantial doubt about an organization's ability to continue as a going concern and provides guidance on the related footnote disclosures. This guidance is effective for annual reporting periods beginning after December 15, 2016, and interim periods within annual periods beginning after December 15, 2016. Early application is permitted. The Company is currently evaluating the impact of this new standard.

In May 2014, the FASB issued ASU 2014-09, *Revenue from Contracts with Customers (Topic 606)* ("ASU 2014-09"). ASU 2014-09 supersedes the revenue recognition requirements in Accounting Standards Codification ("ASC") Topic 605, *Revenue Recognition*, and most industry-specific guidance. The core principle of the guidance is that an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled to in exchange for those goods or services. In August 2015, the FASB issued ASU 2015-15, *Revenue from Contracts with Customers (Topic 606): Deferral of the Effective Date*, which defers the effective date of ASU 2014-09 for all entities by one year. This guidance is currently effective for annual reporting periods beginning after December 15, 2017, including interim periods within that reporting period, under either full or modified retrospective approach. Early application is permitted as of annual reporting periods beginning after December 15, 2016. The Company is currently evaluating the impact of this new standard on its revenue recognition policy.

The Company has considered other recent accounting pronouncements and concluded that they are either not applicable to the business, or that no material effect is expected on the consolidated financial statements as a result of future adoption.

ITEM 7A – 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.

Item 8 FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors and Shareholders of Xenetic Biosciences, Inc.

We have audited the accompanying consolidated balance sheet of Xenetic Biosciences, Inc. (the "Company") as of December 31, 2015, and the related consolidated statements of comprehensive loss, changes in stockholders' equity, and cash flows for the year ended December 31, 2015. Our audit also includes the financial statement schedule. These consolidated financial statements and schedule are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audit.

We conducted our audit in accordance with standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. We were not engaged to perform an audit of the Company's internal control over financial reporting. Our audit included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of Xenetic Biosciences, Inc. at December 31, 2015, and the consolidated results of its operations and its cash flows for the year ended December 31, 2015, in conformity with accounting principles generally accepted in the United States of America. Also, in our opinion, the related financial statement schedule, when considered in relation to the basic financial statements taken as a whole, presents fairly, in all material respects, the information set forth therein.

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the financial statements, the Company has had recurring net losses and continues to experience negative cash flows from operations. These conditions raise substantial doubt about its ability to continue as a going concern. Management's plans regarding those matters also are described in Note 1. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

/s/ Marcum LLP

Boston, MA

March 30, 2016

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors and Shareholders of Xenetic Biosciences, Inc.

We have audited the accompanying consolidated balance sheet of Xenetic Biosciences, Inc. (the "Company") as of December 31, 2014, and the related consolidated statements of comprehensive loss, changes in stockholders' equity, and cash flows for the year ended December 31, 2014. Our audit also includes the financial statement schedule. These financial statements and schedule are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. We were not engaged to perform an audit of the Company's internal control over financial reporting. Our audit included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Xenetic Biosciences, Inc. at December 31, 2014, and the consolidated results of its operations and its cash flows for the year ended December 31, 2014, in conformity with US generally accepted accounting principles. Also, in our opinion, the related financial statement schedule, when considered in relation to the basic financial statements taken as a whole, presents fairly, in all material respects, the information set forth therein.

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As disclosed in Note 1 to the Financial Statements, the Company's recurring losses from operations and its requirement to raise funds to continue operations beyond April 2015, raise substantial doubt about its ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 1. The 2014 consolidated financial statements do not include any adjustments to reflect the possible future effects on the recoverability and classification of assets or the amounts and classification of liabilities that may result from the outcome of this uncertainty.

/s/ Ernst & Young LLP

Reading, United Kingdom

April 15, 2015

XENETIC BIOSCIENCES, INC.
CONSOLIDATED BALANCE SHEETS

	December 31, 2015	December 31, 2014
ASSETS		
Current assets:		
Cash	$ 132,229	$ 2,507,401
Restricted cash	66,510	66,000
Prepayment on acquisition	3,744,517	–
Prepaid expenses and other	247,298	204,012
Total current assets	4,190,554	2,777,413
Property and equipment, net	62,021	119,449
Goodwill	3,283,379	3,465,157
Indefinite-lived intangible assets	9,243,128	9,754,857
Other assets	129,306	199,270
Total assets	$ 16,908,388	$ 16,316,146
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 1,788,521	$ 852,760
Accrued expenses	1,487,046	1,409,691
Hybrid debt instrument, net	3,652,749	–
Other current liabilities	19,098	41,472
Loans due to related parties	395,000	395,000
Total current liabilities	7,342,414	2,698,923
Deferred tax liability	2,918,518	3,080,097
Other liabilities	38,791	56,383
Total liabilities	10,299,723	5,835,403
Commitments and contingent liabilities (Note 14)	–	–
Stockholders' equity:		
Common stock, $0.001 par value; 1,500,000,000 and 215,456,000 shares authorized as of December 31, 2015 and December 31, 2014, respectively; 162,013,011 and 149,985,476 shares issued as of December 31, 2015 and December 31, 2014, respectively; 151,324,817 and 139,297,282 shares outstanding as of December 31, 2015 and December 31, 2014, respectively	162,013	149,986
Additional paid in capital	99,605,997	90,660,689
Accumulated deficit	(88,131,899)	(75,624,428)
Accumulated other comprehensive income	253,734	575,676
Treasury stock	(5,281,180)	(5,281,180)
Total stockholders' equity	6,608,665	10,480,743
Total liabilities and stockholders' equity	$ 16,908,388	$ 16,316,146

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

XENETIC BIOSCIENCES, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS

	YEAR ENDED DECEMBER 31,	
	2015	**2014**
Operating costs and expenses:		
Research and development	$ (3,434,016)	$ (6,323,896)
General and administrative	(6,388,000)	(6,600,870)
Loss from operations	(9,822,016)	(12,924,766)
Other income (expense):		
Change in fair value of derivative liability	(2,125,117)	–
Loss on disposal of subsidiaries	–	(1,069,675)
Other expense	(295,033)	(326,916)
Interest income	1,694	18,959
Interest expense	(266,999)	(4,706)
	(2,685,455)	(1,382,338)
Net loss	(12,507,471)	(14,307,104)
Other comprehensive loss from foreign currency translation adjustment	(321,942)	(324,578)
Total comprehensive loss	$ (12,829,413)	$ (14,631,682)
Net loss per share of common stock, basic and diluted	$ (0.09)	$ (0.11)
Weighted-average shares of common stock outstanding, basic and diluted	140,397,488	135,896,022

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

XENETIC BIOSCIENCES, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS

	YEAR ENDED DECEMBER 31,	
	2015	**2014**
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net loss	$ (12,507,471)	$ (14,307,104)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	56,115	88,689
Amortization of hybrid debt instrument discount	108,527	–
Non-cash interest expense	153,791	–
Share-based payments	2,594,113	1,513,238
Warrant expense for services	933,195	239,889
Change in fair value of derivative liability	2,125,117	–
Loss on issuance of hybrid debt instrument	59,612	–
Hybrid debt instrument issuance costs	(30,933)	–
Loss on disposal of subsidiaries	–	1,069,675
Fee paid on disposal of subsidiaries	–	(430,000)
Foreign currency translation	369,947	(353,952)
Other non-cash transactions	(127,875)	–
Changes in operating assets and liabilities:		
Other receivables, prepayments and other assets	21,227	(24,468)
Accounts payable, accrued expenses and other liabilities	943,909	(479,015)
Net cash used in operating activities	(5,300,726)	(12,683,048)
CASH FLOWS FROM INVESTING ACTIVITIES:		
Purchases of property and equipment	(1,663)	(57,669)
Disposition of property and equipment	7,882	5,487
Cash acquired from acquisition	–	43,502
Cash transferred in connection with Hive Out Agreement	–	(43,502)
Net cash provided by (used in) investing activities	6,219	(52,182)
CASH FLOWS FROM FINANCING ACTIVITIES:		
Proceeds from issuance of debt	3,100,000	–
Payments on debt	(100,000)	–
Proceeds from issuance of common stock	–	10,000,000
Proceeds from exercise of stock options	–	101,933
Payments on loan from related party	–	(286,124)
Net cash provided by financing activities	3,000,000	9,815,809
Effect of exchange rate change on cash	(80,665)	587,336
Net change in cash, excluding restricted cash	(2,375,172)	(2,332,085)
Cash at beginning of period	2,507,401	4,839,486
Cash at end of period	$ 132,229	$ 2,507,401
SUPPLEMENTAL CASH FLOW INFORMATION:		
Cash paid for interest	$ 592	$ 4,706
SUPPLEMENTAL SCHEDULE OF NON-CASH INVESTING AND FINANCING ACTIVITIES:		
Interest paid in common stock	$ 75,935	$ –
Non-cash issuance of common stock in connection with pending asset acquisition	$ 3,744,517	$ –
Non-cash issuance of warrants in connection with debt	$ 1,626,344	$ –
Non-cash recording of derivative liability in connection with debt	$ 1,419,105	$ –
Equity consideration transferred in the acquisition	$ –	$ 3,750,000
Repurchase and cancellation of common stock in disposal of subsidiaries	$ –	$ (3,750,000)

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

XENETIC BIOSCIENCES, INC.
CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY

	Common Stock		Additional		Accumulated Other Comprehensive		Total
	Number of Shares	Par Value ($0.001)	Paid in Capital	Accumulated Deficit	Income (Loss)	Treasury Stock	Stockholders' Equity
Balance as of January 1, 2014	130,575,516	$ 130,576	$ 75,175,039	$ (58,306,999)	$ 900,254	$ (5,281,180)	$ 12,617,690
Exercise of stock options	1,984,080	1,984	99,949	–	–	–	101,933
Issuance of common stock	13,939,971	13,940	10,797,256	–	–	–	10,811,196
Issuance of warrants	–	–	239,889	–	–	–	239,889
Deemed issuance of shares in reverse merger	13,500,000	13,500	3,736,500	–	–	–	3,750,000
Repurchase and cancellation of shares in Hive Out Agreement	(10,000,000)	(10,000)	(90,000)	(3,010,325)	–	–	(3,110,325)
Repurchase and cancellation of shares in Acquisition	(14,091)	(14)	14	–	–	–	–
Share-based payments	–	–	702,042	–	–	–	702,042
Net loss	–	–	–	(14,307,104)	–	–	(14,307,104)
Foreign currency translation	–	–	–	–	(324,578)	–	(324,578)
Balance as of December 31, 2014	149,985,476	$ 149,986	$ 90,660,689	$ (75,624,428)	$ 575,676	$ (5,281,180)	$ 10,480,743
Issuance of common stock	1,027,535	1,027	336,313	–	–	–	337,340
Issuance of common stock in connection with pending asset acquisition	11,000,000	11,000	3,733,517	–	–	–	3,744,517
Issuance of warrants	–	–	933,195	–	–	–	933,195
Issuance of warrants in connection with debt (net of issuance costs of $16,769)	–	–	1,609,575	–	–	–	1,609,575
Settlement of accrued interest in common stock	–	–	75,935	–	–	–	75,935
Share-based payments	–	–	2,256,773	–	–	–	2,256,773
Net loss	–	–	–	(12,507,471)	–	–	(12,507,471)
Foreign currency translation	–	–	–	–	(321,942)	–	(321,942)
Balance as of December 31, 2015	162,013,011	$ 162,013	$ 99,605,997	$ (88,131,899)	$ 253,734	$ (5,281,180)	$ 6,608,665

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

XENETIC BIOSCIENCES, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. The Company

Background

Xenetic Biosciences, Inc. (the "Company"), incorporated in the state of Nevada and based in Lexington, Massachusetts, is a clinical stage biopharmaceutical company that is focused on the discovery, development and planned commercialization of a new generation of human drug therapies for the treatment of a variety of conditions including anemia, refractory Acute Myeloid Leukemia, Cystic Fibrosis and certain other cancers based upon its proprietary and patented drug delivery platform systems and drug development collaborations with major third party pharmaceutical companies around the world.

The Company's core technologies include PolyXen™ a platform for creating next generation biologic drugs by extending the efficacy, safety and half-life of existing biologic drugs, OncoHist™, for the development of novel oncology drug therapies focused on orphan indications in humans, and ImuXen™, for the development of vaccines that can simultaneously deliver multiple active pharmaceutical ingredients. The Company is also developing a broad pipeline of drug candidates for next generation biologics and novel oncology therapeutics in a number of orphan disease indications.

Going Concern and Management's Plan

While these 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 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.

In March 2016, the Company engaged an investment banking firm to assist with a proposed sale of the Company's securities. The Company is optimistic that it will be successful in obtaining financing, however there can be no assurance that it will be able to do so or, if it is able to, that is can do so under commercially reasonable terms. In the event the Company is unsuccessful in this proposed sale, the Company will plan to rely upon proceeds from the sale of up to $6.5 million in securities to OJSC Pharmsynthez ("Pharmsynthez") as provided for in the AS Kevelt Asset Purchase Agreement.

AS Kevelt Asset Purchase Agreement

In November 2015, the Company entered into an Asset Purchase Agreement (the "APA") with AS Kevelt, an Estonian company ("Kevelt"), and Pharmsynthez, parent of Kevelt (together referred to as the "Sellers"). Pursuant to the APA, Kevelt will transfer to the Company certain intellectual property rights held by the Sellers with respect to the immunomodulatory product candidate Virexxa® held by Kevelt and the Sellers will grant the Company the worldwide right to develop, market and license Virexxa® for certain uses, except for excluded uses in Russia, the Commonwealth of Independent States and certain other countries. In consideration, the Company will issue to Pharmsynthez 100.5 million shares of its common stock. The APA also provides for the Company's issuance of 10% Senior Secured Convertible Promissory Notes of up to $3.5 million to Pharmsynthez (the "APA Notes") and certain warrants to purchase a number of shares equal to the issuable shares of the Company's stock upon conversion of the APA Notes. There is also a provision in the APA for the contingent sale of up to $6.5 million of the Company's common stock in the event of a qualifying capital raise. Also as part of the APA, Dr. Dmitry Genkin and Kirill Surkhov, shareholders and founders of Pharmsynthez, will assign a U.S. provisional patent application to the Company in exchange for 11 million shares of the Company's common stock. The Company issued 11 million shares in November 2015 as a prepayment toward completing the APA transaction, recording $3.74 million as the proportional fair value of the total consideration to be recorded upon the completion of the APA transaction.

In connection with the APA, certain terms in the Securities Purchase Agreement (the "SPA") with Pharmsynthez issued in July 2015 were modified. See Note 8, *Hybrid Debt Instrument*, for further discussion of the SPA. As of December 31, 2015, the APA was not yet consummated and is contingent upon the parties meeting their respective closing conditions as set forth in the APA. The APA transaction is expected to be completed during 2016.

2014 Business Combination

On January 23, 2014, the Company consummated a reverse merger (the "Acquisition") pursuant to a written plan of reorganization, in which the Company merged with Xenetic Biosciences (UK) Limited (formerly Xenetic Biosciences plc) ("Xenetic UK"), a company incorporated in England and Wales under the Companies Act of 1985, such that Xenetic UK became a wholly owned subsidiary of the Company. Upon completion of the Acquisition, the Company acquired all issued and outstanding shares of capital stock of Xenetic UK. As a result, 132,545,504 shares of the Company's common stock were newly issued and, immediately following the Acquisition, there were 136,045,504 shares of common stock issued and outstanding. At that time, because former Xenetic UK shareholders owned approximately 97% of the combined company on a fully diluted basis and all members of the combined company's executive management were from Xenetic UK, Xenetic UK was deemed to be the acquiring company for accounting purposes and the transaction was accounted for as a reverse acquisition in accordance with accounting principles generally accepted in the United States ("US GAAP").

Prior to the Acquisition, the Company changed its name from General Sales and Leasing, Inc. to Xenetic Biosciences, Inc. As used in these consolidated financial statements, unless otherwise indicated, all references herein to "Xenetic", the "Company", "we" or "us" refer to Xenetic Biosciences, Inc. and its wholly owned subsidiaries.

2. Summary of Significant Accounting Policies

Preparation of Financial Statements

These 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 in question 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.

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

Principles of Consolidation

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

Use of Estimates

The consolidated financial statements and accompanying notes are prepared in accordance with U.S. generally accepted accounting principles ("U.S. GAAP"). The preparation of the financial statements in accordance with US GAAP requires management to make estimates, judgments and assumptions that affect the reported amounts of assets and liabilities, the reported amounts of revenue and expenses in the financial statements and disclosures in the accompanying notes. Actual results and outcomes may differ materially from management's estimates, judgments and assumptions.

Change in Accounting Principle

During the second quarter of 2015, the Company elected to apply pushdown accounting to the Company's acquisition of SymbioTec that occurred in 2012. Pushdown accounting refers to the use of the acquirer's basis in the preparation of the acquiree's separate financial statements as the new basis of accounting for the acquiree. Application of pushdown accounting is treated as a change in accounting principle and was applied retrospectively to the Company's consolidated financial statements. This change resulted in no impact to the consolidated financial statements for the year ended December 31, 2015 or 2014.

Functional Currency Change

Effective April 1, 2015, the functional currency of the Company's foreign subsidiaries changed from the British Pound Sterling to the United States ("U.S.") dollar. The changes in the economic facts and circumstances that caused the functional currency to change to that of the parent company include: the closing of the Company's last office outside of the U.S. during the first quarter of 2015, a shift of financial dependence of the subsidiaries to the parent and the growth of the Company's operations in U.S. dollar-denominated expenses. The Company translated assets and liabilities of these foreign subsidiaries at the exchange rate in effect at the balance sheet date and included accumulated net translation adjustments in equity as a component of accumulated other comprehensive loss. The change in functional currency is applied on a prospective basis. Therefore, any gains and losses that were previously recorded in accumulated other comprehensive loss remain unchanged through March 31, 2015. Foreign currency transaction gains and losses are the result of exchange rate changes on transactions denominated in currencies other than the functional currency. The remeasurement of those foreign currency transactions is included in determining net income or loss for the period of exchange.

Foreign Currency Translation

The Company's reporting currency is U.S. dollars. During the years ended December 31, 2015 and 2014, the Company had operations in the U.S., United Kingdom ("U.K.") and Germany. Assets and liabilities of foreign operations were translated to U.S. dollars at the exchange rate in effect at the balance sheet date and revenue and expenses at the average exchange rate for the period. Gains and losses from the translation of the consolidated financial statements of foreign subsidiaries into U.S. dollars were included in stockholders' equity as a component of other comprehensive income. The Company did not record tax provisions or benefits for the net changes in foreign currency translation adjustments, as the Company intends to permanently reinvest undistributed earnings in its foreign subsidiaries. Following the change in the functional currency of the Company's foreign subsidiaries to the U.S. dollar on April 1, 2015, it is no longer necessary to record gains and losses from the translation of the consolidated financial statements of foreign subsidiaries from a foreign functional currency into the reporting currency.

Realized and unrealized gains and losses resulting from foreign currency transactions arising from exchange rate fluctuations on balances denominated in currencies other than the functional currencies, are recognized in "Other (expense) income" in the consolidated statements of comprehensive loss. Monetary assets and liabilities that are denominated in a currency other than the functional currency are re-measured to the functional currency using the exchange rate at the balance sheet date and gains or losses are recorded within the "Other income (expense)" section of the consolidated statements of comprehensive loss.

Correction of Identified Errors

During the second quarter of 2015, the Company identified an error in the consolidated financial statements related to the accounting for foreign currency matters. One of the Company's subsidiary's functional currency had been incorrectly designated as the Euro instead of British Pound Sterling during the period January 1, 2013 through March 31, 2015. As a result, certain applicable financial results of this entity were being translated to the reporting currency when they should have been first remeasured into the functional currency. In addition, the Company identified an error in the consolidated financial statements related to the pushdown accounting of that subsidiary. The new basis of accounting of the acquired entity formed as a result of the acquisition was not first remeasured into the functional currency before being translated to the reporting currency.

The correction of the errors identified above resulted in the recognition of foreign currency net gains and foreign currency translation net losses. We concluded that these adjustments were not material to the Company's financial position or results of operations for any of the prior periods presented. Therefore, we recognized the cumulative impact during the three months ended June 30, 2015, which resulted in a net gain in other income (expenses) in the consolidated statement of comprehensive loss of $0.24 million for the year ended December 31, 2015 and a cumulative impact in accumulated other comprehensive income in the consolidated balance sheet of $0.31 million as of June 30, 2015.

Fair Value of Financial Instruments

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. See Note 9, *Fair Value Measurements*, for discussion of the Company's fair value measurements.

Cash, Cash Equivalents and Investments

The Company considers all highly liquid investments with maturities of 90 days or less from the date of purchase to be cash equivalents. Investments with original maturities of greater than 90 days from the date of purchase but less than one year from the balance sheet date are classified as short-term investments, while investments with maturities of one year or beyond from the balance sheet date are classified as long-term investments. Management determines the appropriate classification of its cash equivalents and investment securities at the time of purchase and re-evaluates such determination as of each balance sheet date.

Restricted Cash

As of December 31, 2015 and 2014, restricted cash represents a certificate of deposit that matures annually, and secures the Company's outstanding letter of credit of $66,000 for the operating lease for office and laboratory space in Lexington, Massachusetts. The letter of credit is required to be maintained through the term of the lease, which expires in January 2019.

Concentration of Credit Risk

Financial instruments that subject the Company to concentrations of credit risk include cash and cash equivalents. The Company maintains cash and cash equivalents with various major financial institutions. The Company performs periodic evaluations of the relative credit standing of these financial institutions and limits the amount of credit exposure with any one institution.

Property and Equipment

The Company records property and equipment at cost less accumulated depreciation. Expenditures for major renewals and improvements which extend the life or usefulness of the asset are capitalized. Items of an ordinary repair or maintenance nature are charged directly to operating expense as incurred. The Company calculates depreciation using the straight-line method over the estimated useful lives of the assets:

Asset Classification	Estimated Useful Life
Laboratory equipment	3 years
Office and computer equipment	3 years
Leasehold improvements	5 years or the remaining term of the lease, if shorter
Furniture and fixtures	5 years

The Company eliminates the cost of assets retired or otherwise disposed of, along with the corresponding accumulated depreciation, from the related accounts, and the resulting gain or loss is reflected in the results of operations.

Indefinite-Lived Intangible Assets

Acquired indefinite-lived intangible assets consist of In-Process Research and Development ("IPR&D") related to the Company's business combination with SymbioTec, which was recorded at fair value on the acquisition date. IPR&D intangible assets are considered indefinite-lived intangible assets until completion or abandonment of the associated research and development efforts. Substantial additional research and development may be required before the Company's IPR&D reaches technological feasibility. Upon completion of the IPR&D project, the IPR&D assets will be amortized over their estimated useful lives.

In accordance with ASC Topic 350, *Intangibles - Goodwill and Other* ("ASC 350"), the Company assesses intangible assets with indefinite lives for impairment at least annually as of October 1, or when events or changes in the business environment indicate the carrying value may not be fully recoverable. The Company also has the option to first assess qualitative factors to determine whether the existence of events or circumstances leads to the determination that it is more likely than not (that is, a likelihood of more than 50%) that the acquired IPR&D is impaired. If the Company chooses to first assess the qualitative factors and it is determined that it is not more likely than not acquired IPR&D is impaired, the Company is not required to take further action to test for impairment. The Company also has the option to bypass the qualitative assessment and perform only the quantitative impairment test, which the Company may choose to perform in some periods but not in others.

No impairment was recorded during the years ended December 31, 2015 and 2014.

Goodwill

Goodwill is comprised of the purchase price of business combinations in excess of the fair value assigned at acquisition to the net tangible and identifiable intangible assets acquired. Goodwill is not amortized, but in accordance with ASC 350, the Company assesses goodwill for impairment at least annually, or when events or changes in the business environment indicate the carrying value may not be fully recoverable. The Company also has the option to first assess qualitative factors to determine whether the existence of events or circumstances leads to the determination that it is more likely than not (that is, a likelihood of more than 50%) that goodwill is impaired. If the Company chooses to first assess qualitative factors and it is determined that it is not more likely than not goodwill is impaired, the Company is not required to take further action to test for impairment. The Company also has the option to bypass the qualitative assessment and perform only the quantitative impairment test, which the Company may choose to do in some periods but not in others. The Company performs its annual impairment review as of October 1.

No impairment was recorded during the years ended December 31, 2015 and 2014.

Impairment of Long-Lived Assets

In accordance with ASC Topic 360 *Property, Plant and Equipment*, the Company reviews long-lived assets to be held and used, including property and equipment, for impairment whenever events or changes in circumstances indicate that the carrying amount of the assets or asset group may not be fully recoverable. No such impairments were recorded during the years ended December 31, 2015 and 2014.

Evaluation of recoverability is based on an estimate of undiscounted future cash flows resulting from the use of the asset or asset group and its eventual disposition. Impairment, if any, is calculated as the amount by which an asset's carrying value exceeds its fair value, typically using discounted cash flows to determine fair value.

Embedded Derivatives Related to Debt Instruments

Embedded derivatives that are required to be bifurcated from their host contract are evaluated and valued separately from the host contract (i.e., the debt instrument). Features of the Company's debt instrument that meet the definition of a derivative and the criteria for separate accounting include the conversion feature and certain put options. Embedded derivatives are valued individually and recorded as a compound derivative. The compound derivative is presented together with the host debt instrument and the related debt discount on a combined basis. Changes in the estimated fair value of the bifurcated embedded derivatives are reported as gains and losses in the consolidated statement of comprehensive loss each reporting period.

Revenue Recognition

The Company enters into supply, license and collaboration arrangements with pharmaceutical and biotechnology partners, some of which include royalty agreements based on potential net sales of approved commercial pharmaceutical products. The Company recognizes revenue in accordance with the authoritative guidance, ASC Topic 605, *Revenue Recognition*. The Company recognizes revenue when all of the following criteria are met: (i) persuasive evidence of an arrangement exists, (ii) delivery (or passage of title) has occurred or services have been rendered, (iii) the seller's price to the buyer is fixed or determinable, and (iv) collectability is reasonably assured.

The terms of the Company's license agreements include delivery of an Intellectual Property ("IP") license to a collaboration partner. The Company may be compensated under license arrangements through a combination of non-refundable upfront payments, development and regulatory objective payments and royalty payments on future product sales by partners. Non-refundable upfront payments and development and regulatory objective payments received by the Company in license and collaboration arrangements that include future obligations, such as supply obligations, are recognized ratably over the Company's expected performance period under each respective arrangement. The Company makes its best estimate of the period over which the Company expects to fulfil the Company's performance obligations, which may include technology transfer assistance, research activities, clinical development activities, and manufacturing activities from development through the commercialization of the product. Given the uncertainties of these collaboration arrangements, significant judgment is required to determine the duration of the performance period. Non-refundable upfront license fees received, whereby continued performance or future obligations are considered inconsequential or perfunctory to the relevant licensed technology, are recognized as revenue upon delivery of the technology.

The Company expects to recognize royalty revenue in the period of sale, based on the underlying contract terms, provided that the reported sales are reliably measurable and the Company has no remaining performance obligations, assuming all other revenue recognition criteria are met.

Reimbursements for research and development services completed by the Company related to the collaboration agreements are recognized in operations as revenue on a gross basis.

The Company's license and collaboration agreements with certain collaboration partners could also provide for future payments to the Company based solely upon the performance of the respective collaboration partner in consideration of deadline extensions or upon the achievement of specified sales volumes of approved drugs. For such payments, the Company expects to recognize the payments as revenue when earned under the applicable contract terms on a performance basis or ratably over the term of the agreement. These payments may also be recognized as revenue when continued performance or future obligations by the Company are considered inconsequential or perfunctory.

Research and Development Expenses

Research and development expenses consist of expenses incurred in performing research and development activities, including compensation and benefits, facilities expenses, overhead expenses, clinical trial and related clinical manufacturing expenses, fees paid to clinical research organizations and clinical manufacturing organizations and other outside expenses. The Company expenses research and development costs as incurred. The Company expenses upfront, non-refundable payments made for research and development services as obligations are incurred. The value ascribed to intangible assets acquired but which have not met capitalization criteria is expensed as research and development at the time of acquisition.

Share-based Payments

Stock options

The Company grants share-based payments in the form of options to employees and non-employees, Joint Share Ownership Plan ("JSOP") awards to employees, as well as agreements to issue common stock in exchange for services provided by non-employees. The Company measures share-based payments to employees in accordance with ASC Topic 718, *Compensation – Stock Compensation* and to non-employees in accordance with ASC Topic 505, *Equity*.

Stock option compensation expenses are based on the fair value of the option calculated using the Black-Scholes option pricing model. Determining the appropriate fair value model and related assumptions requires judgment, including estimating share price volatility and expected terms of the awards. The expected volatility rates are estimated based on the actual volatility of the Company and of comparable public companies over the expected term. The expected terms represent the time that options are expected to be outstanding. The Company estimates forfeitures at the time of grant and revises those estimates in subsequent periods if actual forfeitures differ from those estimates. The Company has not paid dividends and does not anticipate paying cash dividends in the foreseeable future and, accordingly, uses an expected dividend yield of zero. The risk-free interest rate is based on the rate of US Treasury securities with maturities consistent with the estimated expected term of the awards. Upon exercise, stock options are redeemed for newly issued shares of common stock.

For employee options that vest based solely on service conditions, the fair value measurement date is generally on the date of grant and the related compensation expense, less expense for expected forfeitures, is recognized on a straight-line basis over the requisite vesting period of the awards.

For non-employee options, the fair value measurement date is the earlier of the date the performance of services is complete or the date the performance commitment has been reached. The Company generally determines that the fair value of the stock options is more reliably measurable than the fair value of the services received. Compensation expense related to stock options granted to non-employees that vest based solely on service conditions is subject to re-measurement at each reporting period until the options vest and is recognized on a straight-line basis over the requisite vesting period of the awards.

Common stock awards

The Company grants common stock awards to non-employees in exchange for services provided. The Company generally measures the fair value of these awards using the fair value of the services provided as it is a more reliable measure of the fair value of the awards. The fair value measurement date of these awards is generally the date the performance of services is complete. The fair value of the awards is recognized on a straight-line basis as services are rendered. The share-based payments related to common stock awards for the settlement of services provided by non-employees is recorded on the consolidated statement of comprehensive loss in the same manner and charged to the same account as if such settlements had been made in cash.

Joint Share Ownership Plan awards

The Company measures the fair value of JSOP awards using Monte Carlo simulations based on the terms of the plan, which includes vesting conditions based on the achievement of certain market conditions in the form of share price hurdles. Determination of the appropriate fair value model and related assumptions requires judgment, including estimating share price volatility and the expected term of the awards. Accordingly, the Company recognizes compensation expense related to its JSOP awards using a graded vesting model.

Warrants

In connection with certain financing, consulting and collaboration arrangements, the Company issues warrants to purchase shares of its common stock. The outstanding warrants are standalone instruments that are not puttable or mandatorily redeemable by the holder and are classified as equity awards. The Company measures the fair value of the awards using the Black-Scholes option pricing model as of the measurement date. Warrants issued to collaboration partners in conjunction with the issuance of common stock are initally recorded at fair value as a reduction in additional paid-in capital of the common stock issued.

All other warrants are recorded at fair value as expense over the requisite service period or at the date of issuance, if there is not a service period. Warrants granted in connection with ongoing arrangements are more fully described in Note 11, *Stockholders' Equity*.

Income Taxes

The Company accounts for income taxes using the liability method in accordance with ASC Topic 740, *Income Taxes*. Under this method, deferred tax assets and liabilities are determined based on temporary differences resulting from the different treatment of items for tax and financial reporting purposes. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to reverse. Additionally, the Company must assess the likelihood that deferred tax assets will be recovered as deductions from future taxable income. The Company evaluates the recoverability of its deferred tax assets on a quarterly basis.

Basic and Diluted Net Loss per Share

The Company computes basic net loss per share by dividing net loss attributable to common stockholders by the weighted-average number of shares of 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. The Company's JSOP awards, prior to exercise, are considered treasury shares by the Company and thus do not impact the Company's net loss per share calculation. As of December 31, 2015 and 2014, there were 10,688,194 JSOP awards issued.

Basic and diluted net loss per share are the same for the years ended December 31, 2015 and 2014 as the Company was in a 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. As of December 31, 2015 and 2014, approximately 12.03 million and 11.87 million potentially dilutive securities were deemed anti-dilutive.

Segment Information

Operating segments are identified as components of an enterprise about which separate discrete financial information is available for evaluation by the chief operating decision maker, who is the Company's Chief Executive Officer, in making decisions on how to allocate resources and assess performance. The Company views its operations and manages its business in one operating segment.

Operating Leases

The Company leases an administrative and laboratory facility under an operating lease. Lease agreements may include rent holidays, rent escalation clauses and tenant improvement allowances. The Company recognizes scheduled rent increases on a straight-line basis over the lease term beginning with the date the Company takes possession of the leased space.

Acquisitions

The Company has a history of engaging in acquisition transactions that require the Company to evaluate whether the transaction meets the criteria of a business combination and, in some cases, whether it meets the definition of a reverse merger. For those acquisitions that meet the criteria for a reverse merger, the Company evaluates the entities involved to distinguish the appropriate accounting acquirer and acquiree according to ASC 805. If the transaction does not meet the business combination requirements, the transaction is accounted for as an asset acquisition or recapitalization and no goodwill is recognized. If the acquisition meets the definition of a business combination, the Company allocates the purchase price, including any contingent consideration, to the assets acquired and the liabilities assumed at their estimated fair values as of the date of the acquisition with any excess of the purchase price paid over the estimated fair value of net assets acquired recorded as goodwill. The fair value of the assets acquired and liabilities assumed is typically determined by using either estimates of replacement costs or discounted cash flow valuation methods.

When determining the fair value of tangible assets acquired, the Company estimates the cost to replace the asset with a new asset, taking into consideration such factors as age, condition and the economic useful life of the asset. When determining the fair value of intangible assets acquired, the Company uses judgment to estimate the applicable discount rate, growth rates and the timing and amount of future cash flows. The fair value of assets acquired and liabilities assumed is typically determined using the assistance of an independent third party specialist.

Business combination related costs are expensed in the period in which the costs are incurred and the services are received. Asset acquisition related costs are generally capitalized as a component of cost of the assets acquired.

Recent Accounting Pronouncements

In March 2016, Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2016-06, *Derivatives and Hedging (Topic 815)* ("ASU 2016-06"). ASU 2016-06 clarifies the requirements for assessing whether contingent call or put options that can accelerate the payment of principal on debt instruments are clearly and closely related to their debt hosts. This guidance is effective for annual reporting periods beginning after December 15, 2016, including interim periods within those annual periods. Early application is permitted. The Company is currently evaluating the impact of this new standard.

In February 2016, FASB issued ASU 2016-02, *Leases (Topic 842)* ("ASU 2016-02"). ASU 2016-02 will require lessees to recognize a lease liability and a right-of-use asset for all leases, with the exception of short-term leases, at the commencement date. This guidance is effective for annual reporting periods beginning after December 15, 2018, including interim periods within those annual periods. Early application is permitted. The Company is currently evaluating the impact of this new standard.

In November 2015, FASB issued ASU 2015-17, *Income Taxes (Topic 740)* ("ASU 2015-17"). ASU 2015-17 simplifies the presentation of deferred income taxes by requiring that deferred tax assets and liabilities be classified as non-current in a classified statement of financial position. This guidance is effective for annual reporting periods beginning after December 15, 2016, including interim periods within those annual periods, with early adoption permitted. The Company early adopted ASU 2015-17 for the year ended December 31, 2015 on a prospective basis, as permitted.

In April 2015, FASB issued ASU 2015-03, *Interest – Imputation of Interest (Subtopic 835-30): Simplifying the Presentation of Debt Issuance Costs* ("ASU 2015-03"). ASU 2015-03 requires that debt issuance costs related to a recognized debt liability be presented in the balance sheet as a direct deduction from the carrying amount of that debt liability, consistent with debt discounts. This guidance is effective for annual reporting periods beginning after December 15, 2015, and interim periods within fiscal years beginning after December 15, 2016, with early adoption permitted. The Company early adopted ASU 2015-03 in July 2015, as permitted. There was no impact of early adoption of ASU 2015-03 on the Company's consolidated financial statements previously reported.

In August 2014, the FASB issued ASU 2014-15, *Presentation of Financial Statements – Going Concern (Subtopic 205-40)* ("ASU 2014-15"). ASU 2014-15 defines management's responsibility to evaluate whether there is substantial doubt about an organization's ability to continue as a going concern and provides guidance on the related footnote disclosures. This guidance is effective for annual reporting periods beginning after December 15, 2016, and interim periods within annual periods beginning after December 15, 2016. Early application is permitted. The Company is currently evaluating the impact of this new standard.

In May 2014, the FASB issued ASU 2014-09, *Revenue from Contracts with Customers (Topic 606)* ("ASU 2014-09"). ASU 2014-09 supersedes the revenue recognition requirements in Accounting Standards Codification ("ASC") Topic 605, *Revenue Recognition*, and most industry-specific guidance. The core principle of the guidance is that an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled to in exchange for those goods or services. In August 2015, the FASB issued ASU 2015-15, *Revenue from Contracts with Customers (Topic 606): Deferral of the Effective Date*, which defers the effective date of ASU 2014-09 for all entities by one year. This guidance is currently effective for annual reporting periods beginning after December 15, 2017, including interim periods within that reporting period, under either full or modified retrospective approach. Early application is permitted as of annual reporting periods beginning after December 15, 2016. The Company is currently evaluating the impact of this new standard on its revenue recognition policy.

The Company has considered other recent accounting pronouncements and concluded that they are either not applicable to the business, or that no material effect is expected on the consolidated financial statements as a result of future adoption.

3. Acquisitions

2014 Business Combination

On January 23, 2014, the Company completed the Acquisition transaction with Xenetic UK which resulted in the Company acquiring all of the issued and outstanding common stock of Xenetic UK. The Acquisition was accounted for as a reverse acquisition under the acquisition method of accounting per ASC 805, with Xenetic UK treated as the accounting acquirer and the Company treated as the "acquired" company for financial reporting purposes. This was determined based on the following facts: (i) after the reverse merger, former shareholders of Xenetic UK held a majority of the voting interest of the combined company; (ii) former Board of Directors of Xenetic UK possess majority control of the Board of Directors of the combined company; and (iii) members of the management of Xenetic UK are responsible for the management of the combined company. As such, the financial statements of Xenetic UK are treated as the historical financial statements of the combined company.

The fair value of the consideration transferred in the reverse merger was $3.75 million. This was calculated as the number of shares of common stock that Xenetic UK would have had to issue in order for the Company's shareholders to hold the same equity interest in the combined entity immediately following the acquisition (approximately 9.2%), multiplied by the estimated fair value of the Company's common stock on the acquisition date (£0.06 per share). The estimated fair value of the Company's common stock was based on the price of the Company's stock on the acquisition date, which was actively traded on the Alternative Investments Market of the London Stock Exchange in the United Kingdom. In addition, Xenetic UK incurred approximately $3 million of transaction costs related to the reverse merger. The Company recognized approximately $0.5 million of transaction costs related to the reverse merger in general and administrative expenses on the consolidated statement of comprehensive loss during the year ended December 31, 2014. No transaction costs related to the reverse merger were recognized during the year ended December 31, 2015.

As of December 31, 2014, the Company finalized the purchase accounting for the Acquisition. Management determined the purchase price allocations based on estimates of the fair values of all assets acquired and liabilities assumed. The Company believe that such information provides a reasonable basis for estimating the fair values of assets acquired and liabilities assumed. The fair values of the acquired assets and liabilities assumed are as follows:

Cash	$	43,502
Accounts receivable		145
Prepaid expenses		8,643
Property, plant and equipment		331,500
Accounts payable		(354,079)
Accrued expenses		(36,146)
Long-term debt		(372,813)
Total identifiable net assets		(379,248)
Goodwill		4,129,248
Total	$	3,750,000

Following the Acquisition, an Agreement of Conveyance, Transfer and Assignment of Subsidiaries and Assumption of Obligations (the "Hive Out Agreement") was executed, whereupon 10,000,000 outstanding shares of common stock held by Oxbridge Technology Partners SA ("Oxbridge") were returned to the Company and recorded as treasury shares and were subsequently canceled. In exchange, Oxbridge acquired all issued and outstanding shares of both of the Company's former operating subsidiaries, Shift It Media Co. and General Aircraft, Inc. (the "Disposed Subsidiaries"), including all assets and liabilities connected with the businesses transferred. In addition, the Company disposed of the associated goodwill. The Hive Out Agreement also required a payment to Oxbridge of $430,000, which was paid by the Company shortly after the Acquisition.

The Company recorded this divestiture as a separate transaction from the Acquisition that results in the disposal of two of the Company's subsidiaries. The Disposed Subsidiaries did not record any operations in the combined entity following the Acquisition before they were disposed and these financial statements do not reflect the historical financial statements of the Disposed Subsidiaries as they were previously owned by the accounting acquiree. Accordingly, there are no balances to be recorded as discontinued operations on the statement of comprehensive loss. As a result of the divestiture of the Disposed Subsidiaries, the Company recorded a loss on disposal of subsidiaries of $1,069,675 during the year ended December 31, 2014.

Due to the nature of the Acquisition and related Hive Out Agreement, the transaction did not result in any adjustments with a continuing impact on the Company's results of operations.

2015 Asset Purchase Agreement

In November 2015, the Company entered into the APA with Kevelt and Pharmsynthez, parent of Kevelt. Pursuant to the APA, the Sellers will transfer to the Company certain intellectual property rights held by the Sellers with respect to the immunomodulatory product candidate Virexxa® held by Kevelt and the Sellers will grant the Company the worldwide right to develop, market and license Virexxa® for certain uses except for excluded uses in Russia, the Commonwealth of Independent States and certain other countries. In consideration, the Company will issue to Pharmsynthez 100.5 million shares of the Company's common stock. Also as part of the APA, Dr. Dmitry Genkin and Kirill Surkhov, shareholders and founders of Pharmsynthez, will assign a U.S. provisional patent application to the Company in exchange for 11 million shares of the Company's common stock.

During December 2015, the 11 million shares were issued to Dr. Genkin and Mr. Surkhov under the terms of the APA. However, as of December 31, 2015, the APA transaction was not yet consummated and is contingent upon the parties meeting their respective closing conditions as set forth in the APA. As a result, the Company recorded approximately $3.74 million, the fair value of the proportional consideration provided, as a prepayment within current assets on the consolidated balance sheet as of December 31, 2015.

The APA also provides for the Company's issuance of 10% Senior Secured Convertible Promissory Notes of up to $3.5 million to Pharmsynthez and certain warrants to purchase shares of the Company's common stock. In connection with the APA, certain terms in the SPA with Pharmsynthez issued in July 2015 were modified. See Note 8, *Hybrid Debt Instrument*, for discussion of the SPA and Note 11, *Stockholders' Equity*, for discussion of the warrants.

There is also a provision in the APA for the contingent sale of up to $6.5 million of the Company's common stock in the event of a qualifying capital raise.

The APA transaction is expected to be completed during 2016.

4. Significant Strategic Drug Development Collaborations - Related Parties

Baxalta Incorporated

In August 2005, the Company entered into an exclusive research, development, license and supply agreement with Baxter Healthcare SA ("Baxter SA") and Baxter Healthcare Corporation (together referred to as "Baxter") to develop products with an extended half-life of certain proteins and molecules using the Company's patent protected PolyXen™ technology whereby polysialic acid ("PSA" – a chain of polysialic acids) is conjugated with Baxter's proprietary molecule(s) to create a new generation of drugs to treat the failure of blood to coagulate in the therapeutic treatment of blood and bleeding disorders, such as hemophilia. The lead candidate in this collaboration is a longer-acting form of a recombinant Factor VIII ("rFVIII") protein. During June 2015, in connection with the separation of its biopharmaceuticals business to form Baxalta Incorporated ("Baxalta"), Baxter assigned all of its rights and obligations under its existing agreement with the Company to Baxalta.

This agreement has been amended several times since 2005, most recently in January 2014. The January 2014 amendment provides for increased future development, regulatory, sales and deadline extension receipts, restructured target deadlines and royalty receipts on potential net sales. The Company is entitled to up to $100 million in potential development, regulatory, sales and deadline extension receipts, which are contingent on the performance of Baxalta achieving certain milestones. The Company is also entitled to royalties on potential net sales varying by country of sale. The Company's right to receive these royalties in any particular country will expire upon the later of ten years after the first commercial sale of the product in that country or the expiration of patent rights in that particular country. In connection with this amendment, Baxter SA also made a $10 million equity investment in the Company in exchange for 10,695,187 shares of the Company's common stock during January 2014.

Through December 31, 2015, the Company and Baxalta continued to engage in research and development activities with no resultant commercial products. The Company did not recognize revenue in connection with this collaboration during the years ended December 31, 2015 and 2014.

Baxalta is a related party of the Company, with a share ownership of approximately 8.0% and 8.7% of the total issued common stock of the Company as of December 31, 2015 and 2014, respectively.

SynBio LLC

In August, 2011, SynBio LLC ("SynBio") and the Company entered into a stock subscription and collaborative development of pharmaceutical products agreement (the "Co-Development Agreement"). The Company granted an exclusive license to SynBio to develop pharmaceutical products using certain molecule(s) based on SynBio's technology and the Company's proprietary technology (PolyXen™, OncoHist™ and ImuXen™) that prolongs the active life and/or improves the pharmacokinetics of certain therapeutic proteins and peptides (as well as conventional drugs). In return, SynBio granted an exclusive license to the Company to use the pre-clinical and clinical data generated by SynBio in certain agreed products and engage in the development of commercial candidates.

SynBio and the Company are each responsible for funding their own research activities. There are no milestone or other research-related payments due under the agreement other than fees for the supply of each company's respective research supplies based on their technology, which, when provided, are due to mutual convenience and not representative of an ongoing or recurring obligation to supply research supplies. Most recently, similar to the Company's agreement with Baxalta, Serum Institute of India Limited ("Serum Institute") has agreed to directly provide the research supplies to SynBio, where the Company is not liable for any failure to supply the research supplies as a result of any act or fault of Serum Institute's. Upon successful commercialization of any resultant products, the Company is entitled to receive royalties on sales in certain territories and pay royalties to SynBio for sales outside those certain territories.

Through December 31, 2015, the Company and SynBio continued to engage in research and development activities with no resultant commercial products. The Company did not recognize revenue in connection with the Co-Development Agreement during the years ended December 31, 2015 and 2014.

SynBio is an affiliate of the Company, with a share ownership of approximately 39.0% and 41.6% of the total issued common stock of the Company as of December 31, 2015 and 2014, respectively. On December 31, 2014, the Company granted SynBio a warrant to purchase 6,745,000 shares of common stock in connection with ongoing collaborative activities. See Note 9, *Stockholders' Equity*, for further information on the warrant.

Serum Institute of India Limited

In the period from 2004 through 2011, the Company entered into and amended certain license and supply agreements with Serum Institute. The original license agreement with Serum Institute was a collaborative Development and Manufacturing Arrangement ("DMA") to develop agreed upon potential commercial product candidates using the Company's PolyXen™ technology. Serum Institute then endeavored to further develop the potential commercial product candidates and eventually initiate pre-clinical and clinical trials at their own cost. The agreement was amended in 2011, resulting in the surrender of development rights for 14 potential commercial product candidates in 2012, which were vested to Serum Institute under the terms of the previous agreements, back to the Company.

Following the 2011 amendment, Serum Institute retained an exclusive license to use the Company's PolyXen™ technology to research and develop one potential commercial product, Polysialylated Erythropoietin ("PSA-EPO"). Serum Institute will be responsible for conducting all pre-clinical and clinical trials required to achieve regulatory approvals within the certain predetermined territories at Serum Institute's own expense. The royalty payment schedule based on net revenues on the future commercial sales of PSA-EPO under the DMA was also modified as a result of the 2011 amendment. Royalty payments are payable by Serum Institute to the Company for net sales to certain customers in the Serum Institute sales territory. Royalty payments are payable by the Company to Serum Institute for net sales received by the Company over the term of the license. There are no milestone or other research-related payments due under the DMA.

Through December 31, 2015, the Company and Serum Institute continued to engage in research and development activities with no resultant commercial products. No royalty revenue or expense was recognized by the Company related to the Serum Institute arrangement during the years ended December 31, 2015 and 2014.

Serum Institute is a related party of the Company, with a share ownership of approximately 8.5% and 9.2% of the total issued common stock of the Company as of December 31, 2015 and 2014, respectively. On December 31, 2014, the Company granted Serum Institute a warrant to purchase 3,200,000 shares of common stock in connection with ongoing collaborative activities. See Note 9, *Stockholders' Equity*, for further information on the warrant.

OJSC Pharmsynthez

In November 2011, the Company entered into a collaborative research and development license agreement with OJSC Pharmsynthez (the "Pharmsynthez Arrangement") pursuant to which the Company granted an exclusive license to Pharmsynthez to develop, commercialize and market six product candidates based on the Company's PolyXen™ and ImuXen™ technology in certain territories. In exchange, Pharmsynthez granted an exclusive license to the Company to use any pre-clinical and clinical data developed by Pharmsynthez, within the scope of the Pharmsynthez Arrangement, and to engage in further research, development and commercialization of drug candidates outside of certain territories at the Company's own expense.

In July 2015, the Company entered into the SPA with Pharmsynthez providing for the issuance of certain promissory notes and certain warrants to purchase shares of the Company's common stock. See Note 8, *Hybrid Debt Instrument*, for discussion of the SPA and Note 11, *Stockholders' Equity*, for discussion of the warrants.

In November 2015, the Company entered into the APA with the Sellers. Pursuant to the APA, Kevelt will transfer to the Company certain intellectual property rights with respect to the immunomodulatory product candidate Virexxa® held by Kevelt. See Note 3, *Acquisitions*, for further discussion of the APA. The APA also provides for the Company's issuance of certain promissory notes and certain warrants to purchase shares of the Company's common stock. See Note 11, *Stockholders' Equity*, for discussion of the warrants.

Pharmsynthez is a related party of SynBio, which is an affiliate of the Company. In addition, one of the Company's directors is also a director of SynBio and Pharmsynthez.

5. Property and Equipment, net

Property and equipment, net consists of the following:

	December 31, 2015	December 31, 2014
Laboratory equipment	$ 249,969	$ 254,150
Office and computer equipment	35,190	189,459
Leasehold improvements	26,841	92,354
Furniture and fixtures	20,263	50,150
Property and equipment	332,263	586,113
Less accumulated depreciation	(270,242)	(466,664)
Property and equipment – net	$ 62,021	$ 119,449

In connection with the closing of the London office in March 2015, the Company disposed of approximately $247,000 of depreciated fixed assets with a net book value of approximately $6,000 for cash proceeds of approximately $8,000, resulting in a gain of approximately $2,000. Depreciation expense was $48,750 and $83,863 for the years ended December 31, 2015 and 2014, respectively.

6. Goodwill and Indefinite-Lived Intangible Assets

Goodwill

A reconciliation of the change in the carrying value of goodwill is as follows:

Balance as of January 1, 2014	$ 3,665,199
Acquired from acquisitions	4,129,248
Disposed with Hive Out Agreement	(4,129,248)
Foreign currency translation	(200,042)
Balance as of December 31, 2014	$ 3,465,157
Foreign currency translation	(181,778)
Balance as of December 31, 2015	$ 3,283,379

The goodwill acquired from the Acquisition was disposed in connection with the Hive Out Agreement. See Footnote 3, *Acquisitions*, for further discussion on the Acquisition and the Hive Out Agreement. As of October 1, 2015 and 2014, the dates of the Company's annual impairment review, the fair value of the Company's goodwill balance significantly exceeded its carrying value.

Indefinite-Lived Intangible Assets

The Company's acquired indefinite-lived intangible asset, OncoHist™, is IPR&D relating to the Company's business combination with SymbioTec in 2012. The carrying value of OncoHist™ was $9.24 million and $9.75 million as of December 31, 2015 and 2014, respectively. No impairment was recorded during the years ended December 31, 2015 and 2014. The changes in the carrying value reflected herein are solely comprised of the effects of changes in foreign currency.

OncoHist™ is not yet commercialized and has not yet begun to be amortized as of December 31, 2015.

7. Accrued Expenses

Accrued expenses consist of the following:

	December 31, 2015	December 31, 2014
Accrued payroll and benefits	$ 625,289	$ 67,120
Accrued professional fees	413,945	574,186
Accrued research costs	145,026	573,879
Accrued interest	77,857	–
Other	224,929	194,506
	$ 1,487,046	$ 1,409,691

8. Hybrid Debt Instrument

Securities Purchase Agreement

On July 1, 2015, the Company entered into the SPA with Pharmsynthez providing for the issuance of a minimum of a $3 million 10% Senior Secured Collateralized Convertible Promissory Note (the "SPA Note"). The SPA also provides for the issuance of certain warrants up to the amount of the SPA Note. See Note 11, *Stockholders' Equity*, for discussion of the accounting treatment of the warrants. The convertible debt and its embedded debt-like features have been recorded on the face of the consolidated balance sheet within current liabilities as an aggregate hybrid debt instrument with a balance of $3.7 million as of December 31, 2015.

On July 1, 2015, the Company issued the SPA Note for $3 million plus a warrant to purchase 10 million shares of common stock in accordance with the terms of the SPA. In the event the SPA Note remains outstanding at April 1, 2016, Pharmsynthez will be granted an additional warrant to purchase $10 million shares of common stock. The SPA Note carries a term of one year and is convertible, in whole or in part, at the option of Pharmsynthez into shares of common stock at a conversion price of $0.15. The SPA Note bears interest at the rate of 10% annually, payable quarterly in cash or, at the Company's option, in shares of common stock at the lessor of $0.15 or the then applicable conversion price. At any point after six months following the issuance of the SPA Note, but before the maturity date of the SPA Note, the Company has the option of prepayment of the SPA Note and any accrued interest. If the Company exercises the prepayment option, the Company is obligated to pay the outstanding principal amount of the SPA Note and accrued interest multiplied by 115%. If the SPA Note is converted or redeemed, prior to the maturity date, the Company will pay cash to Pharmsynthez equal to the interest that would have accrued from the conversion or redemption date to the maturity date.

Upon a qualifying capital raise in which the Company obtains financing of $7 million or greater ("Capital Raise"), Pharmsynthez has the option to either redeem the SPA Note for cash at the balance of principal plus accrued interest multiplied by 115% or convert the principal plus accrued interest multiplied by 115% into common stock at the effective conversion price. In the event of default, as defined under the terms of the SPA Note, all obligations will be immediately due and payable and the interest rate will increase to 18% annually. The Company determined these two features represent contingent put options for Pharmsynthez.

The Company concluded the two contingent put option features related to a Capital Raise and event of default, the SPA Note conversion feature and the ability for interest to be paid in shares of common stock feature each meet the definition of a derivative under ASC Topic 815, *Derivatives and Hedging* ("ASC 815"), and require bifurcation and accounting as embedded derivatives. The four embedded derivatives, which were bifurcated and individually fair valued by the Company, have been recorded as a compound derivative within the Hybrid Debt Instrument. The Company calculated the fair values of each individual embedded derivative by taking the difference between the fair value of the SPA Note with each embedded derivative and the fair value of the SPA Note without the individual embedded derivative. The Company calculated the fair values using the discounted present value of each embedded derivative value as determined by Monte Carlo Simulations. The key valuation assumptions used consist of the Company's stock price, the risk free interest rate and expected volatility. The embedded derivatives were recorded within the Hybrid Debt Instrument as a compound derivative liability at an estimated fair value of $1.4 million at issuance and created an offsetting debt discount on the consolidated balance sheet that will be amortized over the life of the SPA Note using the effective interest rate method.

The fair value of the compound derivative is remeasured at each report date until settled, with changes in fair value recognized in the consolidated statement of comprehensive loss as a gain or loss on derivative. The fair value of the compound derivative increased $2.1 million since issuance to $3.5 million as of December 31, 2015. This change was recognized as a loss in Other Expense in the consolidated statement of comprehensive loss for the year ended December 31, 2015.

The key assumptions used to calculate the estimated fair value of the compound derivative liability at issuance and as of December 31, 2015 are as follows:

	December 31, 2015	July 1, 2015
Company stock price	$ 0.51	$ 0.22
Expected volatility (%)	105%	115%
Risk-free interest rate (%)	0.65%	0.28%

The offset to debt arising from the recording of the compound derivative liability, the warrants and the associated issuance costs exceeded the debt proceeds by approximately $60,000. This amount was recorded as a loss in Other Expense in the consolidated statement of comprehensive loss for the year ended December 31, 2015.

Interest expense related to the SPA Note of approximately $154,000 was recognized in Interest Expense in the consolidated statement of comprehensive loss for the year ended December 31, 2015. Of this amount, approximately $78,000 is recorded as accrued interest on the hybrid debt instrument and approximately $76,000 was settled in shares of issuable common stock as of December 31, 2015, as provided in the APA.

The Company also evaluated the provision in the SPA Note that increases the annual interest rate in the event of default and concluded that the initial value of this contingent feature is immaterial to the consolidated financial statements as of December 31, 2015. The Company will evaluate the value of this contingent feature at each reporting period.

Asset Purchase Agreement

In November 2015, the Company entered into the APA with Kevelt and Pharmsynthez providing for the issuance of 10% Senior Secured Convertible Promissory Notes of up to $3.5 million to Pharmsynthez (the "APA Notes") and warrants to purchase a number of shares of the Company's common stock equal to 50% of the number of shares issuable under the APA Notes. In the event that the APA Notes remain outstanding at May 11, 2016, Pharmsynthez shall be granted an additional warrant to purchase an additional number of shares of the Company's common stock equal to 50% of the number of shares issuable under the APA Notes. The APA Notes will be issued under similar terms and conditions as the SPA Note. No APA Notes were issued by the Company during the year ended December 31, 2015.

9. 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 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's derivative liabilities are measured at fair value on a recurring basis and are classified as Level 3 in the fair value hierarchy.

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 during the year ended December 31, 2015.

Balance as of January 1, 2015	$ –
Issuance of compound derivative instrument	(1,419,105)
Change in fair value of compound derivative instrument	(2,125,117)
Balance as of December 31, 2015	$ (3,544,222)

There were no financial instruments classified as Level 3 in the fair value hierarchy during the year ended December 31, 2014.

10. Income Taxes

The Company accounts for income taxes using the liability method under ASC Topic 740, *Income Taxes*. Under this method, deferred tax assets and liabilities are determined based on temporary differences resulting from the different treatment of items for tax and financial reporting purposes. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to reverse. Additionally, the Company must assess the likelihood that deferred tax assets will be recovered as deductions from future taxable income. The Company has provided a full valuation allowance on the Company's deferred tax assets because the Company believes it is more likely than not that its deferred tax assets will not be realized. The Company evaluates the recoverability of its deferred tax assets on a quarterly basis. Currently, there is no provision for income taxes as the Company has incurred losses to date.

The components of (loss) before income taxes are as follows:

	Year ended December 31,	
	2015	2014
Domestic (U.S.)	$ (7,724,418)	$ (4,040,654)
Foreign (U.K.)	(4,767,363)	(10,003,427)
Foreign (Germany)	(15,690)	(263,023)
Loss before income taxes	$ (12,507,471)	$ (14,307,104)

The reconciliation of income tax provision (benefit) at the U.S. corporation tax rate, being the rate applicable to the country of domicile of Xenetic Biosciences, Inc. to net income tax provision (benefit) is as follows:

	Year ended December 31,	
	2015	2014
Federal	$ (4,252,540)	$ (4,860,256)
State	(276,601)	(145,209)
Increase in tax losses not recognized	2,238,879	4,949,805
Permanent differences, net	800,891	(1,529,190)
Mark to market	722,540	–
Foreign rate differential	502,357	1,184,770
Share-based payments, net	308,888	505,035
Other	–	7,273
Enhanced research and development tax credits	(44,414)	(112,228)
Net provision (benefit) for income taxes	$ –	$ –

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. Significant components of the Company's deferred tax assets are as follows:

	Year ended December 31,	
	2015	2014
Deferred tax assets:		
U.K. net operating loss carryforwards	$ 9,402,398	$ 9,198,798
U.K. capital loss carryforwards	1,775,932	1,874,254
U.S. federal net operating loss carryforwards	1,659,050	923,816
Share-based payments	1,313,226	52,320
Enhanced research and development tax credits	852,272	786,342
Germany net operating loss carryforwards	401,906	393,638
U.S. state net operating loss carryforwards	422,622	233,825
Accrued expenses	44,557	157,329
Depreciation	25,823	37,703
Other	4,998	115,384
Total deferred tax assets before valuation allowance	15,902,784	13,773,409
Deferred tax liabilities:		
Indefinite-lived intangible asset	(2,918,518)	(3,080,096)
Debt discount	(578,346)	–
Total deferred tax liabilities	(3,496,864)	(3,080,096)
Less valuation allowance	(15,324,438)	(13,773,409)
Total net deferred tax liability	$ (2,918,518)	$ (3,080,096)

For the years ended December 31, 2015 and 2014, the Company had U.K. net operating loss carryforwards of $47.01 million and $45.99 million, respectively, U.S. federal net operating loss carryforwards of $5.30 million and $2.95 million, respectively, U.S. state net operating loss carryforwards of $5.28 million and $2.92 million, respectively, and Germany net operating loss carryforwards of approximately $1.27 million and $1.25 million, respectively. The U.K. and Germany net operating loss carryforwards can be carried forward indefinitely. The U.S. federal and state net operating loss carryforwards begin to expire in 2032.

The Company's ability to use its operating loss carryforwards and tax credits generated in the U.S. to offset future taxable income is subject to restrictions under Section 382 of the United States Internal Revenue Code (the "Internal Revenue Code"). These restrictions may limit the future use of the operating loss carryforwards and tax credits if certain ownership changes described in the Internal Revenue Code occur. Future changes in stock ownership may occur that would create further limitations on the Company's use of the operating loss carryforwards and tax credits. In such a situation, the Company may be required to pay income taxes, even though significant operating loss carryforwards and tax credits exist.

The Company's ability to use its operating loss carryforwards and tax credits generated in the U.K. are subject to restrictions under U.K. tax legislation. These regulations may limit the future use of operating loss carryforwards if there is a change in ownership and a change in the nature or conduct of the business carried on by the Company, and in certain circumstances where there is a change in the nature or conduct of the business only. In such cases the carryforwards would cease to be available to set against future income.

The Company's ability to use its operating loss carryforwards and tax credits generated in Germany are also subject to restrictions under German tax legislation. These regulations may limit the future use of operating loss carryforwards if there is a change in ownership. In such cases the carryforwards would cease to be available to set against future income.

As of December 31, 2015 and 2014, the Company did not record any uncertain tax positions. As of January 1, 2014, the Company had recorded an uncertain tax position due to a claim for research and development tax credits with a full valuation allowance. During 2014, the Company determined that it is unable to obtain and compile the necessary information to support and defend the recoverability of the research and development tax credits, resulting in the write-off of the previously fully reserved balance. The changes to uncertain tax positions for 2015 and 2014 were as follows:

	Year ended December 31,	
	2015	**2014**
Uncertain tax benefits as of January 1	$ –	$ 185,961
Gross adjustments in tax positions	–	(185,961)
Uncertain tax positions as of December 31	$ –	$ –

The Company files income tax returns in the U.S. federal tax jurisdiction and Massachusetts state tax jurisdiction, and certain foreign tax jurisdictions. The Company is subject to examination by the U.S. federal, state, foreign, and local income tax authorities for calendar tax years ending 2012 through 2015 due to available net operating loss carryforwards and research and development tax credits arising in those years. The Company has not been notified of any examinations by the Internal Revenue Service or any other tax authorities as of December 31, 2015. The Company has not recorded any interest or penalties for unrecognized tax benefits since its inception.

Potential 382 Limitation

The Company's net operating loss and tax credit carryforwards are subject to review and possible adjustment by the Internal Revenue Service. The Company's ability to utilize our net operating loss ("NOL") and alternative minimum tax ("AMT") and research and development credit ("R&D") carryforwards may be substantially limited due to ownership changes that may have occurred or that could occur in the future, as required by Section 382 of the Internal Revenue Code of 1986, as amended (the "Code"), as well as similar state provisions. These ownership changes may limit the amount of NOL, AMT and R&D credit carryforwards that can be utilized annually to offset future taxable income and tax, respectively. In general, an ownership change, as defined in Section 382 of the Code, results from a transaction or series of transactions over a three-year period resulting in an ownership change of more than 50% of the outstanding stock of a company by certain stockholders or public groups.

The Company has not completed a study to assess whether one or more ownership changes have occurred since we became a loss corporation as defined in Section 382 of the Code, but we believe that it is likely that an ownership change has occurred. If we have experienced an ownership change, utilization of the NOL, AMT and R&D credit carryforwards would be subject to an annual limitation, which is determined by first multiplying the value of our common stock at the time of the ownership change by the applicable long-term, tax-exempt rate, and then could be subject to additional adjustments, as required. Any such limitation may result in the expiration of a portion of the NOL, AMT or R&D credit carryforwards before utilization. Until a study is completed and any limitation known, no amounts are being considered as an uncertain tax position or disclosed as an unrecognized tax benefit under ASC 740. Any carryforwards that expire prior to utilization as a result of such limitations will be removed from deferred tax assets with a corresponding adjustment to the valuation allowance. Due to the existence of the valuation allowance, it is not expected that any potential limitation will have a material impact on our operating results.

From time to time the Company may be assessed interest or penalties by major tax jurisdictions, namely the state of Massachusetts. As of December 31, 2015, the Company had no material unrecognized tax benefits and no adjustments to liabilities or operations were required. No interest and penalties have been recognized by the Company to date.

The Company net operating loss carryforwards are subject to review and possible adjustment by the Internal Revenue Service and are subject to certain limitations in the event of cumulative changes in the ownership interest of significant stockholders over a three-year period in excess of 50%.

11. Stockholders' Equity

Common Stock

Each share of common stock entitles the holder to one vote on all matters submitted to a vote of the Company's stockholders. Common stockholders are entitled to dividends when and if declared by the Board of Directors. In the event of any voluntary or involuntary liquidation, dissolution or winding-up of the Company, the holders of common stock are entitled to share ratably in the assets of the Company available for distribution.

On September 30, 2015, the Company filed an Amendment to the Articles of Incorporation with the Secretary of State of the State of Nevada to increase the authorized shares of common stock of the Company and change the par value per share of common stock (the "Amendment"). The Amendment authorizes the Company to issue 1,500,000,000 shares of Common Stock and changes the par value to $0.001 per share. Prior periods have been reclassified to reflect the change in the par value per share to conform to the presentation in the present period.

On January 30, 2014, the Company announced the amendment of the licensing agreement with Baxter in which certain financial and timing aspects of the agreement were modified. As a result, the Company is entitled to receive certain amounts in development, regulatory and sales milestone payments as well as increased royalties on potential net sales. In addition, Baxter SA made a direct equity investment of $10 million in cash in exchange for 10,695,187 shares of the Company's common stock. During June 2015, in connection with the separation of its biopharmaceuticals business to form Baxalta Incorporated ("Baxalta"), Baxter assigned all of its rights and obligations under its existing agreement with the Company to Baxalta.

In December 2015, 11 million shares of new common stock were issued to Dr. Genkin and Mr. Surkhov in connection with the APA. As a result, the Company recorded approximately $3.74 million, the fair value of the proportional consideration provided, as a prepayment within current assets on the consolidated balance sheet as of December 31, 2015.

Warrants

In connection with the Company's collaboration and consultant agreements and financing arrangements, the Company issues warrants to purchase shares of common stock. These warrants were fair valued at 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.

Warrants Related to Collaboration and Consulting Agreements

In 2010, the Company granted Baxter SA a warrant to purchase 4,588,298 new shares of common stock. During June 2015, in connection with the separation of its biopharmaceuticals business to form Baxalta, Baxter assigned the warrant to Baxalta. The warrant was exercisable immediately after issuance and had an initial expiration date of June 30, 2015, which the Company expects to extend subsequent to December 31, 2015. These warrants, which were fair valued at $932,000 at the time of issuance, were not exercised during the years ended December 31, 2015 and 2014.

In 2011, the Company granted SynBio a warrant to purchase 3,545,600 new shares of common stock, which was exercisable two years after issuance and expires on December 2, 2016 ("SynBio 2011 Warrant"). On December 31, 2014, SynBio was granted a warrant to purchase 6,745,000 new shares of common stock at an exercise price of $0.77 per share ("SynBio 2014 Warrant"). The SynBio 2014 Warrant is exercisable in four equal tranches, each with separate non-market, performance-based vesting criteria. The Company uses its judgment to assess the probability and timing of SynBio achieving this vesting criteria and estimated that it is not probable that the vesting criteria for any tranche will be achieved. As a result, the Company did not recognize expense related to this warrant during the years ended December 31, 2015 and 2014. These judgments are reassessed at each reporting period until the measurement date is reached. Upon issuance of the SynBio 2014 Warrant on December 31, 2014, the SynBio 2011 Warrant was canceled and of no further force and effect.

In connection with the SynBio 2014 Warrant grant, warrants to purchase 320,000 aggregate new shares of common stock were issued to SynBio and Pharmsynthez non-director designees ("SynBio Partner Warrants") on December 31, 2014 under the same terms and conditions of the SynBio 2014 Warrant. The Company estimated that it is not probable that the vesting criteria for any trance will be achieved and, as a result, the Company did not recognize expense related to the SynBio Partner Warrants during the years ended December 31, 2015 and 2014. The SynBio 2014 Warrant and SynBio Partner Warrants expire on December 30, 2019 and no warrants were exercised during the years ended December 31, 2015 and 2014.

On December 31, 2014, the Company granted Serum Institute a warrant to purchase 3,200,000 new shares of common stock at an exercise price of $0.77 per share ("Serum Institute 2014 Warrant"). The Serum Institute 2014 Warrant, which was fair valued at approximately $480,000 at the time of issuance, is exercisable in two equal tranches, each with separate non-market, performance-based vesting criteria. The Company uses its judgment to assess the probability and timing of Serum Institute achieving this vesting criteria and estimated that it is probable that the vesting criteria will be achieved for each tranche. These judgments are reassessed at each reporting period until the measurement date is reached.

In connection with the Serum Institute 2014 Warrant grant, warrants to purchase 160,000 aggregate new shares of common stock were issued to Serum Institute employees ("Serum Institute Partner Warrants") on December 31, 2014 under the same terms and conditions of the Serum Institute 2014 Warrant. The Serum Institute Partner Warrants were fair valued at approximately $24,000 at the time of issuance. The Company recognized warrant expense of $706,500 and zero during the years ended December 31, 2015 and 2014, respectively, related to the Serum Institute 2014 Warrant and Serum Institute Partner Warrants. The Serum Institute 2014 Warrant and Serum Institute Partner Warrants expire on December 30, 2019 and no warrants were exercised during the years ended December 31, 2015 and 2014.

On December 31, 2014, the Company granted a non-employee director a warrant to purchase 1,600,000 new shares of common stock at an exercise price of $0.77 per share for services provided to the Company. The warrant is a standalone instrument that is not puttable or mandatorily redeemable by the holder and is classified as an equity award. The Company determined that the fair value of the warrant is more reliably measureable than the fair value of the services received. As a result, the warrant was fair valued at approximately $240,000 at the time of issuance. As performance was completed and the measurement date reached at the time of issuance, the Company recorded expense of approximately $240,000 to general and administrative expenses in the consolidated statement of comprehensive loss during the year ended December 31, 2014. The warrant is exercisable two years after issuance and expires on December 30, 2019.

In August 2015, the Company issued a warrant to purchase approximately 833,000 shares of common stock to a consultant upon engagement of services to be provided to the Company. The warrant has a term of five years and an exercise price of $0.77. The warrant is a standalone instrument that is not puttable or mandatorily redeemable by the holder and is classified as an equity award. The Company determined that the fair value of the warrant is more reliably measureable than the fair value of the services received. As a result, the warrant was fair valued at approximately $227,000 at the time of issuance using the Black-Scholes option pricing model. As all services were completed as of December 31, 2015, the warrant expense was recognized during the year ended December 31, 2015.

Key assumptions used in the Black-Scholes option pricing model for warrants related to collaboration and consultant agreements granted during the years ended December 31, 2015 and 2014 are as follows:

	2015	2014
Weighted-average expected dividend yield (%)	–	–
Weighted-average expected volatility (%)	104.81	103.32
Weighted-average risk-free interest rate (%)	1.03	0.96
Weighted-average expected life of option (years)	5.00	5.00
Weighted-average exercise price ($)	0.77	0.77
Model used	Black-Scholes	Black-Scholes

Warrants Related to Financing Arrangements

In connection with the Company's issuance of the SPA Note on July 1, 2015, the Company issued a warrant to purchase 10 million shares of common stock in accordance with the terms of the SPA (the "Warrant"). The Warrant has a five-year term and is exercisable commencing January 1, 2016. The exercise price per share under the Warrant is the lessor of $0.20 or 120% of the Capital Raise price, in the event there is a Capital Raise. If the SPA Note is not repaid or converted on or before six months from the date of issuance, the Holder will be issued an additional warrant to purchase 10 million shares of common stock under the same terms as the Warrant (the "Contingent Warrant", or together referred to as the "Warrants"). The Company determined there is a high probability that the SPA Note will not be repaid or converted within the period six months from the date of issuance, resulting in the issuance of the Contingent Warrant. As such, the Company concluded the Contingent Warrant is considered to be issued and outstanding as of the SPA Note issuance date in accordance with ASC 815. The fair values of the Warrants were 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 1.70% and an expected volatility of 125%. Using an allocation of the SPA Note proceeds between the relative fair values of the Warrants and the SPA Note, the Company recorded the Warrants at a value of $1.6 million on the consolidated balance sheet as equity paid-in-capital. This created a debt discount of $1.6 million that will amortize from the date of issuance through the term of the SPA Note.

In November 2015, the Company entered into the APA with Kevelt and Pharmsynthez, which provided for the issuance of certain warrants to purchase a number of share of the Company's common stock equal to 50% of the number of shares issuable under the APA Notes. In the event that the APA Notes remain outstanding at May 11, 2016, Pharmsynthez shall be granted an additional warrant to purchase an additional number of shares of the Company's common stock equal to 50% of the number of shares issuable under the APA Notes. The warrants will be issued under the same terms and conditions as the warrants under the SPA. No warrants under the APA were issued by the Company during the year ended December 31, 2015.

12. Share-Based Payments

Total share-based payments related to employee and non-employee stock options, common stock awards and JSOP awards was $2,594,113 and $1,513,238 for the years ended December 31, 2015 and 2014, respectively.

Share-based payments is classified in the consolidated statements of comprehensive loss as follows:

	Year Ended December 31,	
	2015	2014
Research and development expenses	$ 229,964	$ 952,829
General and administrative expenses	2,364,149	560,409
	$ 2,594,113	$ 1,513,238

Stock Option Modifications

Prior to the Acquisition in 2014, the Company had two incentive stock plans, the Lipoxen plc Unapproved Share Option Plan (the "2000 Stock Plan") and the Xenetic Biosciences plc 2007 Share Option Scheme (the "2007 Stock Plan"). Subsequent to the Acquisition, the 2000 and 2007 Stock Plans were converted to reflect the new shares issued by the Company under the Scheme of Arrangement related to the Acquisition. As part of the conversion, option holders under the 2000 and 2007 Stock Plan have the right to subscribe for a number of shares of common stock in the Company (the "Replacement Option Shares") in exchange for the cancellation and surrender by the option holder of the original options granted by the 2000 and 2007 Stock Plans. The number of Replacement Option Shares is determined in the same manner in which the shareholders of Xenetic UK were given the right to acquire shares of common stock in the Company according to the Acquisition. The aggregate exercise price payable in U.S. dollars for Replacement Option Shares is the same as the aggregate exercise price in pounds sterling of the original options, using a foreign currency exchange rate for pounds sterling into U.S. dollars quoted by Barclays Bank plc at 12 noon Greenwich Mean Time ("GMT") on January 23, 2014, the date of the Acquisition. The conversion of the options is treated as an option modification. The Company accounted for the option modification under ASC Topic 718, *Compensation – Stock Compensation*, and determined the option modification did not result in incremental stock compensation cost that is material to the Company's results of operations during the year ended December 31, 2014.

During the year ended December 31, 2015, the Company modified 688,408 employee stock option awards to extend the expiry dates through March 31, 2016. The Company accounted for the option modification under ASC Topic 718, *Compensation – Stock Compensation*, and as a result, recognized $25,008 in incremental compensation expense during the year ended December 31, 2015.

Stock Options

The Company grants stock option awards to employees and non-employees with varying vesting terms under the Xenetic Biosciences, Inc. Equity Incentive Plan ("Stock Plan"). The Company measures the fair value of stock option awards using the Black-Scholes option pricing model, which uses the assumptions noted in the tables below, including the risk-free interest rate, expected term, share price volatility, dividend yield and forfeiture rate. The risk-free interest rate is based upon the U.S. Treasury yield curve in effect at the time of grant, with a term that approximates the expected life of the option. For employee stock options issued in 2015 and 2014 that qualify as "plain vanilla" stock options in accordance with Staff Accounting Bulletin No. 110 ("SAB 110"), the expected term is based on the simplified method, as defined by SAB 110. The Company has a limited history of stock option exercises, which does not provide a reasonable basis for the Company to estimate the expected term of employee stock options. For all other employee stock options, the Company estimates the expected life using judgment based on the anticipated research and development milestones of the Company's clinical projects and behaviour of the Company's employees. The expected life of non-employee options is the contractual life of the option. The Company determines the expected volatility based on a blended volatility rate of its own historical volatility with that of comparable publicly traded companies with product candidates in similar therapeutic areas and stages of nonclinical and clinical development to the Company's product candidates. The Company has applied an expected dividend yield of 0% as the Company has not historically declared a dividend and does not anticipate declaring a dividend during the expected life of the options. Further, the Company has applied a forfeiture rate of 0% as the Company has not historically experienced forfeitures.

Employee Stock Options

During the years ended December 31, 2015 and 2014, 16.3 million and 1.08 million total stock options to purchase shares of common stock were granted under the Stock Plan, respectively, with a weighted average grant date fair value per option share of $0.28 and $0.23, respectively. During the year ended December 31, 2014, 1,984,080 stock options were exercised and cash received from those stock option exercises was $101,933. No stock options were exercised during the year ended December 31, 2015.

During the year ended December 31, 2015 and 2014, 5.33 million and 0.68 million total stock options vested, with total fair values of $1,391,450 and $115,864, respectively. As of December 31, 2015, there was $2,931,117 of unrecognized share-based payments related to employee stock options that are expected to vest. The Company expects to recognize this expense over a weighted-average period of approximately 2 years.

Key assumptions used in the Black-Scholes option pricing model for options granted to employees during the years ending December 31, 2015 and 2014 are as follows:

	Year Ended December 31,	
	2015	**2014**
Weighted-average expected dividend yield (%)	–	–
Weighted-average expected volatility (%)	124.17	103.36
Weighted-average risk-free interest rate (%)	0.44	1.48
Weighted-average expected life of option (years)	2.50	5.33
Weighted-average exercise price ($)	0.42	0.31
Model used	Black-Scholes	Black-Scholes

The following is a summary of employee stock option activity for the years ended December 31, 2015 and 2014:

	Number of shares	Weighted-average exercise price	Weighted-average remaining life (years)	Aggregate intrinsic value
Outstanding as of January 1, 2014	5,222,430	0.47		
Granted	1,080,000	0.31		
Exercised	(1,984,080)	0.05		$ 509,622
Expired	(132,422)	0.93		
Outstanding as of December 31, 2014	4,185,928	0.62	6.86	$ 80,338
Granted	16,300,000	0.42		
Expired	(51,072)	0.47		
Outstanding as of December 31, 2015	20,434,856	0.46	8.92	$ 1,915,942
Vested or expected to vest as of December 31, 2015	20,434,856	0.46	8.92	$ 1,915,942
Exercisable as of December 31, 2014	2,630,024	$ 0.60	5.48	$ 80,338
Exercisable as of December 31, 2015	7,913,567	$ 0.52	7.78	$ 688,343

A summary of the status of the Company's non-vested employee stock option shares as of December 31, 2015 and the changes during the year ended December 31, 2015 is as follows:

	Number of shares	Weighted-average grant date fair value
Balance as of January 1, 2015	1,555,904	$ 0.15
Granted	16,300,000	$ 0.28
Vested	(5,334,615)	$ 0.26
Balance as of December 31, 2015	12,521,289	$ 0.28

Non-Employee Stock Options

Share-based payments expense related to stock options granted to non-employees is recognized as the services are rendered on a straight-line basis. The Company determined that the fair value of the stock options is more reliably measurable than the fair value of the services received. Compensation expense related to stock options granted to non-employees is subject to re-measurement at each reporting period until the options vest.

During the years ended December 31, 2015 and 2014, 1 million and 0.48 million non-employee stock options were granted under the Stock Plan, respectively, with a weighted average grant date fair value per option share of $0.40 and $0.23, respectively. No non-employee stock options were exercised during years ended December 31, 2015 and 2014.

During the year ended December 31, 2015 and 2014, 0.59 million and 0.26 million total stock options vested, with total fair values of $195,575 and $62,121, respectively. As of December 31, 2015, there was $263,778 of unrecognized share-based payments related to non-employee stock options that are expected to vest. The Company expects to recognize this expense over a weighted-average period of approximately 1.5 years.

Key assumptions used in the Black-Scholes option pricing model for non-employees options during the years ended December 31, 2015 and 2014 are as follows:

	Year Ended December 31,	
	2015	2014
Weighted-average expected dividend yield (%)	–	–
Weighted-average expected volatility (%)	120.51	116.22
Weighted-average risk-free interest rate (%)	1.54	1.62
Weighted-average expected life of option (years)	10.00	7.60
Weighted-average exercise price ($)	0.42	0.39
Model used	Black-Scholes	Black-Scholes

The following is a summary of non-employee stock option activity for the years ended December 31, 2015 and 2014:

	Number of shares	Weighted-average exercise price	Weighted-average remaining life (years)	Aggregate intrinsic value
Outstanding as of January 1, 2014	415,520	$ 0.52	5.90	$ 49
Granted	480,000	0.25		
Outstanding as of December 31, 2014	895,520	0.39	7.60	$ 159
Granted	1,000,000	0.42		
Outstanding as of December 31, 2015	1,895,520	0.41	8.23	$ 220,764
Vested or expected to vest as of December 31, 2015	1,895,520	0.41	8.23	$ 220,764
Exercisable as of December 31, 2014	383,664	$ 0.42	6.40	$ 159
Exercisable as of December 31, 2015	972,926	$ 0.41	7.37	$ 119,164

A summary of the status of the Company's non-vested non-employee stock option shares as of December 31, 2015 and the changes during the year ended December 31, 2015 is as follows:

	Number of shares	Weighted-average grant date fair value
Balance as of January 1, 2015	511,856	$ 0.21
Granted	1,000,000	$ 0.40
Vested	(589,262)	$ 0.33
Balance as of December 31, 2015	922,594	$ 0.36

Common Stock Awards

The Company granted common stock awards to several non-employees in exchange for services provided. The Company measures the fair value of these awards using the fair value of the services provided or the fair value of the awards granted, whichever is more reliably measurable. The fair value measurement date of these awards is generally the date the performance of services is complete. The fair value of the awards is recognized as services are rendered on a straight-line basis.

A summary of the Company's common stock awards granted and issued during the years ended December 31, 2015 and 2014 are as follows:

	Number of shares
Balance as of January 1, 2014	460,116
Granted	3,432,190
Issued	(3,244,784)
Balance as of December 31, 2014	647,522
Granted	1,135,280
Issued	(1,027,535)
Balance as of December 31, 2015	755,267

The Company granted 1,135,280 and 187,406 shares of common stock during the years ended December 31, 2015 and 2014, respectively, in exchange for professional services. As all services were rendered in each respective period, expense related to common stock awards of $392,661 and $102,000 was recognized during the years ended December 31, 2015 and 2014, respectively.

In December 2014, 3,244,784 shares of new common stock were granted and issued to FDS Pharma ASS ("FDS") in consideration for the performance of services and termination of a prior collaboration agreement between Lipoxen and FDS. The Company determined that the fair value of the shares of common stock granted is more reliably measurable than the fair value of the services received. The Company assessed the fair value of one share of common stock on the measurement date to be $0.25. As performance by FDS was complete at the issuance date, the Company recorded expense of approximately $812,000 to research and development expense in the consolidated statement of comprehensive loss during the year ended December 31, 2014. FDS is a related party of SynBio, an affiliate of the Company.

Joint Share Ownership Plan

In 2010 and 2012, the Company issued 1,701,913 and 8,986,281 JSOP awards, respectively, to two senior executives under the JSOP. Under the JSOP, shares in the Company are jointly purchased at fair market value by the participating executives and the trustees of the JSOP trust, with such shares held in the JSOP trust. For US GAAP purposes the awards were valued as employee options and recorded as a reduction in equity as treasury shares until such time as they are exercised by the employee.

During 2011, the 2010 JSOP awards fully vested under the terms of the JSOP due to a significant change in beneficial ownership of the Company and the related compensation charges were fully recorded during periods prior to 2013 related to this accelerated vesting. During the first quarter of 2014, the 2012 JSOP awards fully vested under the terms of the JSOP due the achievement of specific share price hurdles and the related compensation charges were fully recorded during the first quarter of 2014 related to this accelerated vesting. As of December 31, 2014, all JSOP awards were fully vested. The Company recognized zero and $344,905, respectively, of JSOP compensation expense during the years ended December 31, 2015 and 2014. As of December 2015 and 2014, there were 10,688,194 JSOP awards issued.

13. Employee Benefit Plans

The Company has a defined contribution 401(k) savings plan (the "401(k) Plan"). The 401(k) Plan covers substantially all U.S. employees, and allows participants to defer a portion of their annual compensation on a pre-tax basis. Company contributions to the 401(k) Plan may be made at the discretion of the Board of Directors. During the year ended December 31, 2015 and 2014, the Company made contributions of approximately $34,000 and $32,000, respectively, to the 401(k) Plan.

In the U.K., the Company has adopted a defined contribution plan (the "UK Plan") which qualifies under the rules established by HM Revenue & Customs. The UK Plan generally allows all U.K. employees to contribute a minimum of 3% of salary with no maximum limit. The Company contributes to the plan between 8% and 12% of the employee's salary, depending upon seniority of the employee. The Company, at its discretion, may also contribute to an employee's personal pension plan. The Company paid total contributions of approximately $144,000 and $108,000 during the years ended December 31, 2015 and 2014, respectively.

14. Commitments and Contingent Liabilities

Lease

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. With the execution of this lease, the Company is required to maintain a $66,000 letter of credit as a security deposit, which is classified as a current asset within the consolidated balance sheet. In connection with the Lexington lease, the Company recorded $90,838 as prepaid rent as of December 31, 2015, with $61,377 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 $56,538 is outstanding as of December 31, 2015, with $38,791 recorded as a non-current liability. This liability is repayable as additional rent expense over the term of the lease and bears interest at 6%. In addition, the Company leased office space in London, U.K. during 2014 and 2015. The U.K. lease was terminated in March 2015 in accordance with the terms of the lease.

The Company's contractual commitments under all non-cancelable operating leases as of December 31, 2015 are as follows:

As of December 31,	Total Operating Leases
2016	$ 98,645
2017	102,604
2018	106,563
2019	8,908
Total minimum lease payments	$ 316,720

Rent expense is calculated on a straight-line basis over the term of the lease. Rent expense under the Company's operating leases was $134,875 and $172,821 for the years ended December 31, 2015 and 2014, respectively.

Employment Agreements

The Company has contingent bonus compensation agreements with certain of the Company's employees. The bonuses become payable upon the achievement of certain capital raise and stock listing metrics. The amount of contingent bonuses that may be paid out in future periods is a range of approximately $380,000 to $680,000 as of December 31, 2015.

15. Related Party Transactions

In May 2011, the Company received a short term unsecured loan facility of up to $1.7 million from SynBio, an affiliate of the Company, of which $395,000 was outstanding as of December 31, 2015 and 2014, respectively. A payment of $286,124 on the outstanding loan was made to SynBio during the year ended December 31, 2014. No payments were made during the year ended December 31, 2015. The loan had an interest rate of 8.04% per annum as of the date of grant, with interest payable upon repayment of the loan, which was to be seven months after the closing date of the loan. During 2012, the loan matured and it was agreed by both parties that the loan can be called due with full repayment of the outstanding principal including accrued interest upon future agreement by both parties. It was also agreed as of July 1, 2012 that no further interest on the outstanding loan balance would be accrued. The loan is recorded in "Loans due to related parties" within current liabilities as of December 31, 2015 and 2014. The loan does not bear interest at the prevailing market rate for instruments with similar characteristics.

During the years ended December 31, 2015 and 2014, the Company received research and consulting services from a non-employee director of the Company. The total amount of services received was $72,594 and $74,582 for the years ended December 31, 2015 and 2014, respectively, with $17,791 and zero included in accounts payable on the consolidated balance sheet as of December 31, 2015 and 2014, respectively.

During the years ended December 31, 2015 and 2014, the Company also received consulting services from a firm owned by a non-employee director of the Company. The total amount of services received was $4,000 and $133,381 for the years ended December 31, 2015 and 2014, respectively, with zero and $51,708 included in accounts payable on the consolidated balance sheet as of December 31, 2015 and 2014, respectively.

Please refer to Note 4, *Significant Strategic Drug Development Collaborations,* and Note 11, *Stockholder's Equity*, for details on arrangements with collaboration partners and non-employee directors that are also related parties.

16. 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, except as disclosed herein, that there were no other such events requiring recognition or disclosure in the financial statements.

During the first quarter of 2016, the Company received total proceeds of $3.5 million in connection with the APA financing arrangement. The APA provided for the issuance of certain warrants to purchase a number of share of the Company's common stock equal to 50% of the number of shares issuable under the APA Notes. The Warrant has a five-year term and is exercisable commencing March 31, 2016. The exercise price per share under the Warrant is the lessor of $0.20 or 120% of the Capital Raise price, in the event there is a Capital Raise. If the APA Note is not repaid or converted on or before six months from the date of issuance, the Holder will be issued an additional warrant under the same terms as the Warrant.

XENETIC BIOSCIENCES, INC.

SCHEDULE II

VALUATION AND QUALIFYING ACCOUNTS

FOR THE YEARS ENDED DECEMBER 31, 2015 AND 2014

Valuation Allowance on Deferred Tax Assets	Balance Beginning of Period	Additions (Deductions) Charged to (from) Income Tax Expense	Other Changes to Valuation Allowance	Balance End of Period
2015	$ (13,773,409)	(1,551,029)	-	$ (15,324,438)
2014	$ (9,521,260)	(4,252,149)	-	$ (13,773,409)

ITEM 9 – CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

The Company, as reported in its Current Report filed on Form 8-K on June 25, 2015, changed its accountants to Marcum LLP. The Company has no disagreements with the current or predecessor accountants on any accounting and financial disclosure matters.

ITEM 9A – CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), as of the end of the period covered by this Annual Report on Form 10-K.

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 Annual Report on Form 10-K, 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.

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Rule 13a-15(f) of the Exchange Act. Management under the supervision and with the participation of our Chief Executive Officer and Chief Financial Officer, conducted an assessment of the design and effectiveness of our internal control over financial reporting as of the end of the period covered by this Annual Report on Form 10-K. In making its assessment of internal control over financial reporting, management used the criteria set forth by the Committee of Sponsoring Organizations ("COSO") of the Treadway Commission in *Internal Control — Integrated Framework*. Based on this assessment, our management concluded that, as of the end of the period covered by this Annual Report on Form 10-K, our internal control over financial reporting was effective based on the criteria set forth by COSO of the Treadway Commission in *Internal Control — Integrated Framework*.

This annual report does not include an attestation report of our registered public accounting firm regarding internal control over financial reporting. Management's report was not subject to attestation by our registered public accounting firm pursuant to an exemption for non-accelerated filers set forth in Section 989G of the Dodd-Frank Wall Street Reform and Consumer Protection Act.

Changes in Internal Control Over Financial Reporting

There have been no changes in our internal control over financial reporting that occurred during the period covered by this Annual Report on Form 10-K that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Limitations on Effectiveness of Controls and Procedures

In designing and evaluating the disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. The Company's internal control over financial reporting includes those policies and procedures that:

(1) Pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the Company's assets;
(2) Provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that the Company's receipts and expenditures are being made only in accordance with authorizations of the Company's management and directors; and
(3) Provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the Company's assets that could have a material effect on the financial statements.

Management, including the Company's Chief Executive Officer and Chief Financial Officer, does not expect that the Company's internal controls will prevent or detect all errors and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of internal controls can provide absolute assurance that all control issues and instances of fraud, if any, have been detected. Also, any evaluation of the effectiveness of controls in future periods are subject to the risk that those internal controls may become inadequate because of changes in business conditions, or that the degree of compliance with the policies or procedures may deteriorate.

ITEM 9B – OTHER INFORMATION

None.

PART III

ITEM 10 – DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by this Item is incorporated by reference from the Company's proxy statement for the 2016 annual meeting of stockholders or a Form 10-K/A, to be filed with the Securities and Exchange Commission within 120 days of the end of the Company's fiscal year ended December 31, 2015, except for certain information with respect to our executive officers, which is included in "Part I – Item 1" of this Annual Report on Form 10-K under the caption "Directors and Executive Officers".

ITEM 11 – EXECUTIVE COMPENSATION

The information required by this Item is incorporated by reference from the Company's proxy statement for the 2016 annual meeting of stockholders or a Form 10-K/A, to be filed with the Securities and Exchange Commission within 120 days of the end of the Company's fiscal year ended December 31, 2015.

ITEM 12 – SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required by this Item is incorporated by reference from the Company's proxy statement for the 2016 annual meeting of stockholders or a Form 10-K/A, to be filed with the Securities and Exchange Commission within 120 days of the end of the Company's fiscal year ended December 31, 2015.

ITEM 13 – CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by this Item is incorporated by reference from the Company's proxy statement for the 2016 annual meeting of stockholders or a Form 10-K/A, to be filed with the Securities and Exchange Commission within 120 days of the end of the Company's fiscal year ended December 31, 2015.

ITEM 14 – PRINCIPAL ACCOUNTING FEES AND SERVICES

The information required by this Item is incorporated by reference from the Company's proxy statement for the 2016 annual meeting of stockholders or a Form 10-K/A, to be filed with the Securities and Exchange Commission within 120 days of the end of the Company's fiscal year ended December 31, 2015.

PART IV

ITEM 15 – EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) The following is filed as part of this Annual Report on Form 10-K:

- *Consolidated Financial Statements:* The consolidated financial statements and report of independent registered public accounting firm required by this item are included in Part II, Item 8;

- *Financial Statement Schedules:* Schedule II, Valuation and Qualifying Accounts, is included in Part II, Item 8.

All other schedules are omitted because they are not applicable or not required, or because the required information is shown either in the consolidated financial statements or in the notes thereto.

(b) **Exhibits: The attached list of exhibits in the "Exhibit Index" immediately preceding the exhibits to this Annual Report on Form 10-K is incorporated herein by reference in response to this item.**

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.

March 30, 2016 By: /s/ MICHAEL SCOTT MAGUIRE
Michael Scott Maguire
Chief Executive Officer and President

POWER OF ATTORNEY AND SIGNATURES

We, the undersigned officers and directors of Xenetic Biosciences, Inc., hereby severally constitute and appoint Michael Scott Maguire, our true and lawful attorney, with full power to him, to sign for us in our names in the capacities indicated below, all amendments to this report, and generally to do all things in our names and on our behalf in such capacities to enable Xenetic Biosciences, Inc. to comply with the provisions of the Securities Exchange Act of 1934, as amended, and all requirements of the Securities and Exchange Commission.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities indicated below on the 30th day of March, 2016.

Signature	**Title(s)**
/S/ MICHAEL SCOTT MAGUIRE Michael Scott Maguire	President, Chief Executive Officer and Director (Principal Executive Officer)
/S/ FIRDAUS JAL DASTOOR FCS Firdaus Jal Dastoor FCS	Director
/S/ DMITRY GENKIN Dmitry Genkin	Director
/S/ ROMAN KNYAZEV Roman Knyazev	Director
/S/ DARLENE DEPTULA-HICKS Darlene Deptula-Hicks	Director
/S/ ROGER KORNBERG Roger Kornberg	Director

EXHIBIT INDEX

EXHIBIT NUMBER	DESCRIPTION
10.01	Form of Asset Purchase Agreement, dated as of November 13 2015, by and among Xenetic Biosciences, Inc., Lipoxen Technologies, LTD, a U.K. corporation, AS Kevelt, an Estonian company and OJSC Pharmsynthez (1)
10.02	Form of Ten Percent Senior Secured Convertible Promissory Note (1)
10.03	Form of Common Stock Purchase Warrant (1)
10.04	Form of Management Common Stock Purchase Warrant (1)
10.05	Form of Amended and Restated Ten Percent Senior Secured Convertible Promissory Note (1)
10.06	Form of Amended and Restated Common Stock Purchase Warrant (1)
10.07	Form of Amendment to Securities Purchase Agreement (1)
10.08	Form of Amendment to Registration Rights Agreement (1)
10.09	Form of Amendment to Security Agreement (1)
10.10	Form of Amendment to Subsidiary Guarantee (1)
10.11	Form of Transition Services and Resupply Agreement (1)
10.12	Securities Purchase Agreement (2)
10.13	Ten Percent Senior Secured Collateralized Convertible Promissory Note, dated July 1, 2015 (2)
10.14	Registration Rights Agreement (2)
10.15	Security Agreement (2)
10.16	Subsidiary Guarantee (2)
10.17	Common Stock Purchase Warrant (2)
10.18	Form of Assignment and Assumption Agreement (2)
31.1 *	Certification of Michael Scott Maguire, Principal Executive Officer, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2 *	Certification of Michael Scott Maguire, Principal Financial Officer, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.1 **	Certifications of Michael Scott Maguire, Chief Executive Officer and Chief Financial Officer, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101 *	The following materials from Xenetic Biosciences, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2015, formatted in XBRL (Extensible Business Reporting Language): (i) the Consolidated Balance Sheets, (ii) the Consolidated Statements of Comprehensive Loss, (iii) the Consolidated Statements of Cash Flows, (iv) the Consolidated Statements of Changes in Stockholders' Equity, and (v) Notes to Consolidated Financial Statements.

(1) Incorporated by reference to Current Report on Form 8-K filed November 13, 2015
(2) Incorporated by reference to Current Report on Form 8-K filed July 3, 2015
* Filed herewith
** Furnished herewith

EXHIBIT 31.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO EXCHANGE ACT RULES 13a-14(a) AND 15d-14(a),
AS ADOPTED PURSUANT TO
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Michael Scott Maguire, certify that:

1. I have reviewed this Annual Report on Form 10-K 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 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 and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

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

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

Dated: March 30, 2016

By: /s/ Michael Scott Maguire
Michael Scott Maguire
Principal Executive Officer and President

EXHIBIT 31.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER
PURSUANT TO EXCHANGE ACT RULES 13a-14(a) AND 15d-14(a),
AS ADOPTED PURSUANT TO
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Michael Scott Maguire, certify that:

1. I have reviewed this Annual Report on Form 10-K 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 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 and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

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

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

Dated: March 30, 2016

By: /s/ Michael Scott Maguire
Michael Scott Maguire
Principal Financial Officer

EXHIBIT 32.1

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

In connection with the Annual Report of Xenetic Biosciences, Inc. (the "Company") on Form 10K for the fiscal year ended December 31, 2015, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, the undersigned officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of my knowledge:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: March 30, 2016

By: /s/ Michael Scott Maguire
Michael Scott Maguire
Chief Executive Officer, President and Chief Financial Officer