PRESSURE BIOSCIENCES INC
Form 10-K
March 22, 2017

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-K

(Mark One)

[X] Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

For the fiscal year ended December 31, 2016 or

[ ] Transition Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

For the transition period from _____ to _____

Commission file number 000-21615

PRESSURE BIOSCIENCES, INC.

(Exact Name of Registrant as Specified in its Charter)

Massachusetts (State or Other Jurisdiction of Incorporation or Organization)	**04-2652826** (I.R.S. Employer Identification No.)
14 Norfolk Avenue **South Easton, Massachusetts** (Address of Principal Executive Offices)	**02375** (Zip Code)

(508) 230-1828
(Registrant's Telephone Number, Including Area Code)

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

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

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

(Title of Class)
Common Stock, par value $.01 per share

Preferred Share Purchase Rights

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes [ ] No [X]

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act.

Yes [ ] No [X]

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 [X] 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 during the preceding 12 months (or for such shorter period that registrant was required to submit and post such files.

Yes [X] No [ ]

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K 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. [ ]

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 [X]
(Do not check if smaller reporting company)	

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes [ ] No [X]

The aggregate market value of the voting and non-voting common stock held by non-affiliates of the registrant as of June 30, 2016 was $10,076,490 based on the closing price of $0.38 per share of Pressure BioSciences, Inc. common stock as quoted on the OTCQB Marketplace on that date.

As of March 17, 2017, there were 31,639,839 shares of the registrant’s common stock outstanding.

Documents Incorporated by Reference

N/A.

TABLE OF CONTENTS

Introductory Comment

Throughout this Annual Report on Form 10-K, the terms “we,” “us,” “our,” “the Company,” “our Company,” and “PBI,” refer Pressure BioSciences, Inc., a Massachusetts corporation, and unless the context indicates otherwise, also includes our wholly-owned subsidiary.

PART I

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the “Securities Act”) and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). In some cases, forward-looking statements are identified by terms such as “may,” “will,” “should,” “could,” “would,” “expects,” “plans,” “anticipates,” “believes,” “estimates,” “projects,” “predicts,” “potential” and si expressions intended to identify forward-looking statements. Such statements include, without limitation, statements regarding:

- our need for, and our ability to raise, additional equity or debt financing on acceptable terms, if at all;
- our need to take additional cost reduction measures, cease operations or sell our operating assets, if we are unable to obtain sufficient additional financing;
- our belief that we will have sufficient liquidity to finance normal operations for the foreseeable future;
- the options we may pursue in light of our financial condition;
- the amount of cash necessary to operate our business;
- the anticipated uses of grant revenue and the potential for increased grant revenue in future periods;
- our plans and expectations with respect to our continued operations;
- the expected increase in the number of pressure cycling technology (*“PCT”)* and constant pressure (*“CP”*) based units that we believe will be installed and the expected increase in revenues from the sale of consumable products and extended service contracts;
- our belief that PCT has achieved initial market acceptance in the mass spectrometry and other markets;
- the expected development and success of new instrument and consumables product offerings;
- the potential applications for our instrument and consumables product offerings;
- the expected expenses of, and benefits and results from, our research and development efforts;
- the expected benefits and results from our collaboration programs, strategic alliances and joint ventures;
- our expectation of obtaining additional research grants from the government in the future;
- our expectations of the results of our development activities funded by government research grants;
- the potential size of the market for biological sample preparation;
- general economic conditions;
- the anticipated future financial performance and business operations of our company;

- our reasons for focusing our resources in the market for genomic, proteomic, lipidomic and small molecule sample preparation;
- the importance of mass spectrometry as a laboratory tool;
- the advantages of PCT over other current technologies as a method of biological sample preparation in biomarker discovery, forensics, and histology, as well as for other applications;
- the capabilities and benefits of our PCT sample preparation system, consumables and other products;
- our belief that laboratory scientists will achieve results comparable with those reported to date by certain research scientists who have published or presented publicly on PCT and our other products;
- our ability to retain our core group of scientific, administrative and sales personnel; and
- our ability to expand our customer base in sample preparation and for other applications of PCT and our other products.

These forward-looking statements are only predictions and involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from any future results, levels of activity, performance or achievements, expressed or implied, by such forward-looking statements. Also, these forward-looking statements represent our estimates and assumptions only as of the date of this Annual Report on Form 10-K. Except as otherwise required by law, we expressly disclaim any obligation or undertaking to release publicly any updates or revisions to any forward-looking statement contained in this Annual Report on Form 10-K to reflect any change in our expectations or any change in events, conditions or circumstances on which any of our forward-looking statements are based. Factors that could cause or contribute to differences in our future financial and other results include those discussed in the risk factors set forth in Part I, Item 1A of this Annual Report on Form 10-K as well as those discussed elsewhere in this Annual Report on Form 10-K. We qualify all of our forward-looking statements by these cautionary statements.

ITEM 1. BUSINESS.

Throughout this document we use the following terms: Barocycler®, PULSE®, and BioSeq®, which are registered trademarks of the Company. We also use the terms ProteoSolve™, ProteoSolveLRS™, the Power of PCT™, the PCT Shredder™, HUB440™, HUB880™, micro-Pestle™, PCT-HD™, Barozyme™ and BaroFlex™ Strips, all of which are unregistered trademarks of the Company.

Overview

We are focused on solving the challenging problems inherent in biological sample preparation, a crucial laboratory step performed by scientists worldwide working in biological life sciences research. Sample preparation is a term that refers to a wide range of activities that precede most forms of scientific analysis. Sample preparation is often complex, time-consuming and, in our belief, one of the most error-prone steps of scientific research. It is a widely-used laboratory undertaking – the requirements of which drive what we believe is a large and growing worldwide market. We have developed and patented a novel, enabling technology platform that can control the sample preparation process. It is based on harnessing the unique properties of high hydrostatic pressure. This process, which we refer to as Pressure Cycling Technology, or PCT, uses alternating cycles of hydrostatic pressure between ambient and ultra-high levels i.e., 20,000 psi or greater to safely, conveniently and reproducibly control the actions of molecules in biological samples, such as cells and tissues from human, animal, plant and microbial sources.

PCT is an enabling platform technology based on a physical process that had not previously been used to control bio-molecular interactions. PCT uses internally developed instrumentation that is capable of cycling pressure between ambient and ultra-high levels at controlled temperatures and specific time intervals, to rapidly and repeatedly control the interactions of bio-molecules, such as proteins, DNA, RNA, lipids and small molecules. Our laboratory instrument family, the Barocycler®, and our internally developed consumables product line, which include our unique MicroTubes, MicroCaps, MicroPestles, BaroFlex and PULSE® (Pressure Used to Lyse Samples for Extraction) Tubes, and application specific kits (containing consumable products and reagents), together make up our PCT SPS.

In 2015, together with an investment bank, we formed a subsidiary called Pressure BioSciences Europe (“PBI Europe”) in Poland. We have 49% ownership interest with the investment bank retaining 51%. Throughout 2016, PBI Europe did not have any operating activities and we cannot reasonably predict when operations will commence. Therefore, we don’t have control of the subsidiary and did not consolidate them in our financial statements.

Patents

PBI has 14 United States granted patents and one foreign granted patent (Japan: 5587770, EXTRACTION AND PARTITIONING OF MOLECULES) covering multiple applications of PCT in the life sciences field. PBI also has 19 pending patents in the USA, Canada, Europe, Australia, China, Japan, and Taiwan. PCT employs a unique approach that we believe has the potential for broad use in a number of established and emerging life sciences areas, which include, but are not limited to:

- biological sample preparation – including but not limited to sample extraction, homogenization, and digestion - in such study areas as genomic, proteomic, lipidomic, metabolomic and small molecule;
- pathogen inactivation;
- protein purification;
- control of chemical reactions, particularly enzymatic; and
- immunodiagnostics.

We are also the exclusive distributor, throughout the Americas, for Constant Systems, Ltd,'s ("CS") cell disruption equipment, parts, and consumables. CS, a British company located several hours northwest of London, England, has been providing niche biomedical equipment, related consumable products, and services to a global client base since 1989. CS designs, develops, and manufactures high pressure cell disruption equipment required by life sciences laboratories worldwide, particularly disruption systems for the extraction of proteins. The CS equipment provides a constant and controlled cell disruptive environment, giving the user superior, constant, and reproducible results whatever the application. CS has over 900 units installed in over 40 countries worldwide. The CS cell disruption equipment has proven performance in the extraction of cellular components, such as protein from yeast, bacteria, mammalian cells, and other sample types.

The CS pressure-based cell disruption equipment and our PCT-based instrumentation complement each other in several important ways. While both the CS and our technologies are based on high pressure, each product line has fundamental scientific capabilities that the other does not offer. Our PCT Platform uses certain patented pressure mechanisms to achieve small-scale, molecular level effects. CS's technology uses different, proprietary pressure mechanisms for larger-scale, non-molecular level processing. In a number of routine laboratory applications, such as protein extraction, both effects can be critical to success. Therefore, for protein extraction and a number of other important scientific applications, we believe laboratories will benefit by using the CS and our products, either separately or together.

Primary Fields of Use and Application for PCT

Sample preparation is widely regarded as a significant impediment to research and discovery and sample extraction is generally regarded as one of the key parts of sample preparation. The process of preparing samples for genomic, proteomic, lipidomic, and small molecule studies includes a crucial step called sample extraction or sample disruption. This is the process of extracting biomolecules such as nucleic acid i.e., DNA and/or RNA, as well as proteins, lipids, or small molecules from the plant or animal cells and tissues that are being studied. Our current commercialization efforts are based upon our belief that pressure cycling technology provides a superior solution for sample extraction when compared to other available technologies or procedures and thus might significantly improve the quality of sample preparation, and thus the quality of the test result.

Within the broad field of biological sample preparation, in particular sample extraction, we focus the majority of our PCT and constant pressure ("CP") product development efforts in three specific areas: biomarker discovery (primarily through mass spectrometric analysis), forensics and histology. We believe that our existing PCT and CP-based instrumentation and related consumable products fill an important and growing need in the sample preparation market for the safe, rapid, versatile, reproducible and quality extraction of nucleic acids, proteins, lipids, and small molecules from a wide variety of plant, animal, and microbiological cells and tissues.

Biomarker Discovery - Mass Spectrometry

A biomarker is any substance (e.g., protein, DNA) that can be used as an indicator of the presence or absence of a particular disease-state or condition, and/or to measure the progression and effects of therapy. Biomarkers can help in the diagnosis, prognosis, therapy, prevention, surveillance, control, and cure of diseases and medical conditions.

A mass spectrometer is a laboratory instrument used in the analysis of biological samples, often focused on proteins, in life sciences research. It is frequently used to help discover biomarkers. According to a recently published market

report by Transparency Market Research, “Spectrometry Market (Atomic, Molecular and Mass Spectrometry) - Global Scenario, Trends, Industry Analysis, Size, Share & Forecast 2011 – 2017,” the global spectrometry market was worth $10.2 billion in 2011 and is expected to reach $15.2 billion in 2017, growing at a compound annual growth rate of 6.9% from 2011 to 2017. In the overall global market, the North American market is expected to maintain its lead position in terms of revenue until 2017 and is expected to have approximately 36.2% of the market revenue share in 2017, followed next by Europe. We believe PCT and CP-based products offer significant advantages in speed and quality compared with current techniques used in the preparation of samples for mass spectrometry analysis.

Forensics

The detection of DNA has become a part of the analysis of forensic samples by laboratories and criminal justice agencies worldwide in their efforts to identify the perpetrators of violent crimes and missing persons. Scientists from the University of North Texas and Florida International University have reported improvements in DNA yield from forensic samples (e.g., bone and hair) when using the PCT platform in the sample preparation process. We believe that PCT may be capable of differentially extracting DNA from sperm cells and female epithelial cells captured in swabs collected from rape victims and subsequently stored in rape kits. We also believe that there are many completed rape kits that remain untested for reasons such as cost, time and quality of results. We further believe that the ability to differentially extract DNA from sperm and not epithelial cells could reduce the cost of such testing, while increasing the quality, safety and speed of the testing process.

Histology

The most commonly used technique worldwide for the preservation of cancer and other tissues for long-term storage and subsequent pathology evaluation is to process them into formalin-fixed, paraffin-embedded ("FFPE") samples. We believe that the quality and analysis of FFPE tissues is highly problematic, and that PCT offers significant advantages over current processing methods, including standardization, speed, biomolecule recovery, and safety.

Our customers include researchers at academic laboratories, government agencies, biotechnology companies, pharmaceutical companies and other life science institutions in the United States, Europe, and in Asia. Our goal is to continue aggressive market penetration in these target groups. We also believe that there is a significant opportunity to sell and/or lease additional Barocycler® instrumentation to additional laboratories at current customer institutions.

If we are successful in commercializing PCT in applications beyond our current focus area of genomic, proteomic, lipidomic, and small molecule sample preparation, and if we are successful in our attempts to attract additional capital, our potential customer base could expand to include hospitals, reference laboratories, pharmaceutical manufacturing plants and other sites involved in each specific application. If we are successful in forensics, our potential customers could be forensic laboratories, military and other government agencies. If we are successful in histology (extraction of biomolecules from FFPE tissues), our potential customers could be pharmaceutical companies, hospitals, and laboratories focused on drug discovery or correlation of disease states.

Developments

We reported a number of accomplishments in 2016:

On January 12, 2016 SCIEX, a global leader in life science analytical technologies (Framingham, MA) and a wholly-owned subsidiary of the Danaher Corporation (NYSE: DHR), announced an exclusive co-marketing agreement with us to improve protein quantification in complex samples.

On February 3, 2016 SCIEX and Children's Medical Research Institute (Sydney, Australia) announced they had joined forces to advance the promise of precision medicine. The partners stated they would benefit from SCIEX's exclusive collaborators, including Pressure BioSciences, and our PCT platform for increased protein quantitation and reproducibility.

On March 31, 2016, in connection with the seventh and final closing (the *"Final Closing*") of a private placement debt financing pursuant to the Subscription Agreements, dated as of January, 11, 2016, January 20, 2016, January 29, 2016, February 26, 2016, March 10, 2016, March 17, 2016, March 24, 2016 and March 31, 2016 by and among us and various individuals (each, a "*Purchaser*" and together "*Purchasers*"), including all five members of our Board of Directors, we sold and issued to the Purchasers Senior Secured Convertible Debentures (the "*Debentures*") and warrants to purchase shares of common stock equal to 50% of the number of shares issuable pursuant to the subscription amount (the "*Warrants*") for an aggregate purchase price of $1,419,549 (the "*Purchase Price*") for the Final Closing, bringing the total raised in the Offering to $6,329,549. For the Final Closing, we netted $1,304,049 in cash after taking into account fees related to the offering. Of this amount, an aggregate of $164,549 was invested by the five members of our Board of Directors. For the entire private placement offering, we netted an aggregate of $5,101,049 in cash in the aggregate after subtracting $568,000 in fees and $660,000 in debt conversions into this private placement.

On July 13, 2016, we announced the unveiling of the newest addition to our product line based on our powerful PCT platform, the 2320EXTREME (2320EXT"). The product unveiling took place during the annual conference of the American Society for Mass Spectrometry ("*ASMS*") in San Antonio, Texas.

On July 21, 2016, we announced the initial shipment of our 2320EXT instrument to an Australian cancer research group (ProCan) named by the White House as a collaborator in the U.S.'s "Cancer Moonshot" initiative.

On October 28, 2016, an accredited investor (the "*Investor*") purchased from us a promissory note in the aggregate principal amount of up to $2,000,000 (the "*Revolving Note*") due and payable on the earlier of October 28, 2017 (the "*Maturity Date*") or on the seventh business day after the closing of a Qualified Offering (as defined in the Revolving Note). Although the Revolving Note is dated October 26, 2016, the transaction did not close until October 28, 2016, when we received its initial $250,000 advance pursuant to the Revolving Note. As a result, on the same day and pursuant to the Revolving Note, we issued to the Investor a Common Stock Purchase Warrant to purchase 625,000 shares of our common stock at an exercise price per share equal to $0.40 per share. The Investor is obligated to provide us with advances of $250,000 under the Revolving Note, but the Investor shall not be required to advance more than $250,000 in any individual fifteen (15) day period and no more than $500,000 in the thirty (30) day period immediately following the date of the initial advance. Notwithstanding the fifteen (15) day period limitation, on November 2, 2016, November 23, 2016, December 6, 2016, and December 16, 2016, we received $1,000,000 pursuant to the Revolving Note and we issued to the Investor additional warrants to purchase a total of 2,500,000 shares of our common stock at $0.40 per share (each warrant gives the Investor the right to purchase 625,000 shares of our common stock. The terms of the Warrants are identical except for the exercise date, issue date, and termination date. Interest on the principal balance of the Revolving Note shall be paid in full on the Maturity Date, unless otherwise paid prior to the Maturity Date.

Liquidity

Management has developed a plan to continue operations. This plan includes controlling expenses, streamlining operations, and obtaining capital through equity and/or debt financing. We have been successful in raising cash through debt and equity offerings in the past and as described in this annual report. We issued a promissory note in the aggregate principal amount of up to $2,000,000 in October 2016 that we can draw funds from, and, through March 1, 2017, we have drawn down the entire $2 million ($750,000 subsequent to December 31, 2016). We have efforts in place to continue to raise cash through debt and equity offerings.

Although we have successfully completed equity financings and reduced expenses in the past, we cannot assure our investors that our plans to address these matters in the future will be successful. Additional financing may not be available to us on a timely basis or on terms acceptable to us, if at all. In the event we are unable to raise sufficient funds on terms acceptable to us, we may be required to:

- severely limit or cease our operations or otherwise reduce planned expenditures and forego other business opportunities, which could harm our business. The accompanying financial statements do not include adjustments that may be required in the event of the disposal of assets or the discontinuation of the business;
- obtain financing with terms that may have the effect of diluting or adversely affecting the holdings or the rights of the holders of our capital stock; or
- obtain funds through arrangements with future collaboration partners or others that may require us to relinquish rights to some or all of our technologies or products.

Corporate Information

We were incorporated in the Commonwealth of Massachusetts in August 1978 as Boston Biomedica, Inc. In September 2004, we completed the sale of Boston Biomedica’s core business units and began to focus exclusively on the development and commercialization of the PCT platform. Following this change in business strategy, we changed our legal name from Boston Biomedica, Inc. to Pressure BioSciences, Inc. We began operations as PBI in February 2005, research and development activities in April 2006, early marketing and selling activities of our Barocycler® instruments in late 2007, and active marketing and selling of our PCT-based instrument platform in 2012.

Available Information

Our Internet website address is http://www.pressurebiosciences.com. Through our website, we make available, free of charge, reports we file with the Securities and Exchange Commission ("*SEC*"), which include, but are not limited to, our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and any and all amendments to such reports, as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. These SEC reports can be also accessed through the investor relations section of our website. The information found on our website is not part of this or any other report we file with or furnish to the SEC.

You may read and copy any materials we file with the SEC at the SEC's Public Reference Room at 100 F Street, NE, Washington, DC 20549. You may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC also maintains an Internet website that contains reports, proxy and information statements and other information regarding Pressure BioSciences and other issuers that file electronically with the SEC. The SEC's Internet website address is http://www.sec.gov.

Sample Preparation for Genomic, Proteomic, Lipidomic and Small Molecule Studies

The Market

Since February 2005, we have focused substantially all of our research and development and commercialization efforts on sample preparation for genomic, proteomic, lipidomic, and small molecule studies. This market is comprised of academic and government research institutions, biotechnology and pharmaceutical companies, and other public and private laboratories that are engaged in studying genomic, proteomic and small molecule material within plant and animal cells and tissues. We elected to initially focus our resources in the market of genomic, proteomic and small molecule sample preparation because we believe it is an area that:

- is a rapidly growing market;
- has a large and immediate need for better technology;
- is comprised mostly of research laboratories, which are subject to minimal governmental regulation;
- is the least technically challenging application for the development of our products;
- is compatible with our technical core competency; and
- we currently have strong patent protection.

We believe that our existing PCT and CP-based instrumentation and related consumable products fill an important and growing need in the sample preparation market for the safe, rapid, versatile, reproducible and quality extraction of nucleic acids, proteins and small molecules from a wide variety of plant and animal cells and tissues.

Biomarker Discovery - Mass Spectrometry

A biomarker is any substance (e.g., protein, DNA) that can be used as an indicator of the presence or absence of a particular disease-state or condition, and to measure the progression and effects of therapy. Biomarkers can help in the diagnosis, prognosis, therapy, prevention, surveillance, control, and cure of diseases and medical conditions.

A mass spectrometer is a laboratory instrument used in the analysis of biological samples, often focused on proteins, in life sciences research. It is frequently used to help discover biomarkers. According to a recently published market report by Transparency Market Research, "Spectrometry Market (Atomic, Molecular and Mass Spectrometry) - Global Scenario, Trends, Industry Analysis, Size, Share & Forecast 2011 – 2017," the global spectrometry market was worth $10.2 billion in 2011 and is expected to reach $15.2 billion in 2017, growing at a compound annual growth rate of 6.9% from 2011 to 2017. In the overall global market, the North American market is expected to maintain its lead position in terms of revenue until 2017 and is expected to have approximately 36.2% of the market revenue share in 2017, followed by Europe. We believe PCT and CP-based products offer significant advantages in speed and quality compared with current techniques used in the preparation of samples for mass spectrometry analysis.

Our plan is to focus primarily on the application of PCT-enhanced protein extraction and CP-based digestion for the mass spectrometry market and the advantages of PCT and CP in this market, and on the use of PCT and CP in biomarker discovery, soil and plant biology, counter bio-terrorism and tissue pathology applications.

Forensics

The detection of DNA has become a part of the analysis of forensic samples by laboratories and criminal justice agencies worldwide in their efforts to identify the perpetrators of violent crimes and missing persons. Scientists from the University of North Texas and Florida International University have reported improvements in DNA yield from forensic samples (e.g., bone and hair) using PCT in the sample preparation process. We believe that PCT may be capable of differentially extracting DNA from sperm cells and female epithelial cells in swabs collected from rape victims and stored in rape kits. We also believe that there are many completed rape kits that remain untested for reasons such as cost, time and quality of results. We further believe that the ability to differentially extract DNA from sperm and not epithelial cells could reduce the cost of such testing, while increasing the quality, safety and speed of the testing process.

Histology

The most commonly used technique worldwide for the preservation of cancer and other tissues for subsequent pathology evaluation is formalin-fixation followed by paraffin-embedding, or FFPE. We believe that the quality and analysis of FFPE tissues is highly problematic, and that PCT offers significant advantages over current processing methods, including standardization, speed, biomolecule recovery, and safety.

Sample Extraction Process

The process of preparing samples for genomic, proteomic and small molecule studies includes a crucial step called sample extraction or sample disruption. This is the process of extracting nucleic acid i.e., DNA and/or RNA, proteins or small molecules from the plant or animal cells and tissues that are being studied. Sample preparation is widely regarded as a significant impediment to research and discovery and sample extraction is generally regarded as one of the key parts of sample preparation. Our current commercialization efforts are based upon our belief that pressure cycling technology provides a superior solution to sample extraction compared with other available technologies or procedures and can thus significantly improve the quality of sample preparation, and thus the quality of the test result.

Company Products

We believe our PCT and CP products allow researchers to improve scientific research studies in the life sciences field. Our products are developed with the expectation of meeting or exceeding the needs of research scientists while enhancing the safety, speed and quality that is available to them with existing sample preparation methods.

Barocycler® Instrumentation

Our Barocycler® product line consists of laboratory instrumentation that subjects a sample to cycles of pressure from ambient to ultra-high levels (20,000 psi or greater) and then back to ambient, in a precisely controlled manner.

Our instruments (the 2320EXT, the Barozyme-HT48, the Barocycler® NEP3229, the HUB440 and the HUB880) use cycles of high, hydrostatic pressure to quickly and efficiently break up the cellular structures of a specimen to release proteins, nucleic acids, lipids and small molecules from the specimen into our consumable processing tubes, referred to as our PULSE® Tubes and MicroTubes. Our instruments have temperature control options (on-board heating or

chilling via internal heating jacket or external circulating water-bath), automatic fill and dispensing valves, and an integrated micro-processor keypad or a laptop computer. The microprocessor or laptop computer are capable of saving specific PCT protocols, so the researcher can achieve maximum reproducibility for the preparation of nucleic acids, proteins, lipids, or small molecules from various biological samples. Our Barocycler® instruments and our consumable products make up our PCT Sample Preparation System.

Barocycler® 2320EXT - The Barocycler® 2320EXT weighs approximately 80lbs, has a maximum pressure of 45,000 psi, and can process either up to 16 MicroTubes simultaneously or one PULSE® Tube. The working temperature range is 4 – 95ºC and is controlled via an on-board electric heating jacket or external circulating water bath. All tests are entered and recorded on a touch screen interface. Information from each test run (pressure profile, cycle number, and temperature) is recorded and can be stored on the instrument, on a USB drive, or networked into the user's lab. Pressure profiles can be manipulated in a number of ways, including static high pressure holds and pressure ramp programs. The Barocycler® 2320EXT is pneumatic, and requires an input air source of only 100psi to reach and cycle at high pressure.

The Barocycler® 2320EXT was developed to support the PCT-HD/PCT-SWATH application. PCT-HD enables faster, less cumbersome and higher quality processing of biopsy tissues. With homogenization, extraction, and digestion of proteins occurring in a single PCT MicroTube under high pressure, this protocol can yield analytical results in under four hours from the start of tissue processing. PCT-HD was developed by our scientists and engineers in collaboration with Professor Ruedi Aebersold and Dr. Tiannan Guo of the Institute of Molecular Systems Biology, ETH Zurich, and the University of Zurich, both in Zurich, Switzerland. Drs. Aebersold and Guo combined PCT-HD with SCIEX's SWATH-Mass Spectrometry – calling the resulting method "PCT-SWATH".

Barocycler® NEP3229 – The Barocycler® NEP3229 contains two units – a user interface and a power source – comprised primarily of a 1.5 horsepower motor and pump assembly (hydraulic). Combined, the two components of the NEP3229 weigh approximately 350 pounds. The Barocycler® NEP3229 is capable of processing up to three samples simultaneously using our specially designed, single-use PULSE® Tubes and up to 48 samples simultaneously using our specially-designed MicroTubes.

Barozyme HT48 - The Barozyme HT48 is a high throughput, bench-top instrument designed for accelerated enzymatic digestion of proteins at high pressure. A typical protein digestion time using the enzyme trypsin (a common yet important laboratory procedure) can be reduced from often requiring an overnight incubation to achieve completion, to under one hour when the digestion procedure is carried out with PCT. The Barozyme HT48 uses an air-pressure-to-liquid-pressure proprietary intensifier system, with a pressure amplification ratio of 160:1, to reach an output pressure of 20,000 psi. The Barozyme HT48 is capable of processing up to 48 samples at a time in six single-use BaroFlex 8-well Strips in the Barozyme Sample Carrier.

Barocycler® HUB440 –We believe the Barocycler® HUB440 is the first portable, ready to use, "plug-and-play" high pressure generator for the laboratory bench. The Barocycler® HUB440 is capable of creating and controlling hydrostatic pressure from 500 psi to 58,000 psi. It is computer controlled and runs on software that was specially-written by us in LabVIEW (software from National Instruments Corporation). We own the rights and have a license to use the specialty LabVIEW software. We believe that over the coming years, the Barocycler® HUB440 may become the main instrument in our pressure-based instrument line.

Barocycler® HUB880 - The Barocycler® HUB880 is one of our new instruments; it is expected to be available for sale during 2017. It is a compact, portable, bench-top, ultra-high pressure generator that uses an air pressure-to-liquid pressure intensifier allowing the user to generate fluid pressure as high as 100,000 psi with input air pressure of just 126 psi. The HUB880 can be operated through a simple front panel or controlled using an optional external Data Acquisition and Control Module for dynamic pressure control. We believe that the HUB880 will be well accepted by scientists that need to achieve super high pressure, such as those working in the food safety and vaccine industries.

The Shredder SG3 –The Shredder SG3 is a low shear mechanical homogenization system for use with tough, fibrous and other difficult-to-disrupt tissues and organisms. The Shredder SG3 System uses a variety of Shredder PULSE®

Tubes to directly and rapidly grind a biological sample which, when combined with selected buffers, can provide effective extraction of proteins, DNA, RNA, lipids and small molecules from tissues and organisms. The Shredder SG3 is also used to isolate intact and functional mitochondria from tissues. The Shredder SG3 features a three position force setting lever, which enables the operator to select and apply reproducible force to the sample during the shredding process and eliminates the need for the operator to exert force for long periods when processing one or more samples.

Barocycler® Consumable Products

PCT MicroTubes – PCT MicroTubes are made from a unique fluoropolymer, fluorinated ethylene propylene (FEP). FEP is highly inert and retains its integrity within an extremely wide temperature range (-200oC to +100oC). MicroTubes hold a maximum total volume of 150 microliters. PCT MicroTubes must be used with either PCT-MicroCaps or PCT-MicroPestles.

PCT-MicroCaps – PCT MicroCaps are made from polytetraflouroethylene (PTFE). The PCT MicroCaps are available in three sizes to accommodate total sample volume: 50, 100 and 150uL. 50uL MicroCaps are used with samples ≤50uL, 100uL MicroCaps are used with samples between 50-100uL, and 150uL MicroCaps are used with samples between 100-150uL.

PCT-Micro-Pestle - PCT µPestles are made from Polytetrafluoroethylene (PTFE), a synthetic fluoropolymer of tetrafluoroethylene, also known as Teflon (by DuPont Co). PTFE is practically inert; the only chemicals known to affect it are certain alkali metals and most highly-reactive fluorinating agents. PCT µPestles, in conjunction with PCT MicroTubes, are designed to enhance the extraction of proteins, lipids, DNA, RNA and small molecules from minute amounts (0.5 – 3.0 mg) of solid tissue in extraction reagent volumes as low as 20-30 µL. PCT MicroTubes and PCT µPestles use PCT to effectively disrupt soft tissues and lyse their cells. As a result, the tissue sample trapped between the MicroTube end and the µPestles tip is crushed on every pressure cycle. This mechanical action, combined with the extraction ability of the buffer under high pressure, results in highly effective tissue homogenization and extraction.

PCT µPestles and PCT MicroTubes, together with a PBI Barocycler®, comprise the PCT Micro-Pestle System, which provides a fast, safe, and efficient means of extraction from extremely small amounts of solid samples such as soft animal tissues or biopsies. The PCT µPestle System can be used in any PBI Barocycler®.

BaroFlex 8-well Processing Strips - BaroFlex 8-well Strips are used in the Barozyme HT48 (for pressure-enhanced enzymatic digestion at 20,000 psi). BaroFlex 8-well Strips are made of special high density polyethylene (HDPE) and hold up to 140µl when capped with the BaroFlex Cap Strips or Mats. BaroFlex 8-Cap Strips and BaroFlex 24-Cap Mats are made of silicone. These single-use caps are designed to seal BaroFlex 8-well Strips tightly and to prevent fluid exchange between the sample and the Barozyme chamber fluid during pressure cycling. The silicone caps are available as strips of eight, or mats of 24 caps.

We believe our development of these various consumable products has helped, and will continue to help, drive the adoption of PCT within the life sciences market.

Company Services

Government Grants and Contracts

We view federal agency grants to be an important part of our business plan. These types of grants allow us to bill the federal agency for work that we are planning to perform as part of the development and commercialization of our technology. We generally start by submitting initial grant requests that are in response to requests for proposals ("*RFPs*") from the federal government through their Small Business Innovation Research ("*SBIR*") program. Initial ("*SBIR Phase I*") grants are meant to fund approved research projects for six months, and generally have budgets of approximately $100,000 to $150,000. Because our work in SBIR Phase I grants has been successful, we have applied, and may in the future apply for larger National Institutes of Health ("NIH") SBIR Phase II grants. Such larger grants are typically for a two-year period and can offer as much as $1,000,000 to support significant research projects in areas we would otherwise expect to support with internal funds should SBIR Phase II grants not be awarded. To date, we

have been awarded five NIH SBIR Phase I grants and three SBIR Phase II grants. The data on three of the NIH SBIR Phase I grants were the basis for the submission, and subsequent award. Of the three NIH SBIR Phase II grants awarded to us: one was in the approximate amount of $845,000 in August 2008, the second was in the approximate amount of $850,000 in September 2011, and the third award was in the approximate amount of $1,020,000 awarded in November 2014. All five of the NIH SBIR Phase I grants and the August 2008 and September 2011, NIH SBIR Phase II grants have been completed.

The 2008 SBIR Phase II grant (2R44GM079059) was awarded to us by the NIH for work in the area of using PCT to extract proteins, sub-cellular molecular complexes, and organelles, with the expectation that these studies might ultimately lead to the release of a new, commercially available PCT-based system, with validated protocols, end-user kits, and other consumables intended for the extraction of clinically important protein biomarkers, sub-cellular molecular complexes, and organelles from human and animal tissues. The 2011 SBIR II contract (W81XWH-10-C-0-175) was awarded to us by the U.S. Army for the development of a universal method for the inactivation, extraction, and enrichment of pathogens in diagnostic samples, including arthropod hosts of military importance. The work covered by this grant was significant in helping us develop the Barozyme HT48 High Throughput System. The 2014 SBIR Phase II grant (2R44HG007136) was awarded to us by the National Human Genome Research Institute of the NIH. Entitled “High Pressure Sample Preparation Instrumentation for DNA Sequencing”, this grant allowed us to develop the Barocycler HUB880, an automated, high-throughput, high pressure system (instrument and consumables), to enable significantly better control of DNA fragmentation - a critical step in the preparation of samples for Next Generation Sequencing platforms. This system was based on significant technological advancements over the classic hydrodynamic DNA shearing approach that has been successfully and widely used in the field of DNA sequencing for many years.

Extended Service Contracts

We offer extended service contracts on our laboratory instrumentation to all of our customers. These service contracts allow a customer who purchases a Barocycler® instrument to receive on-site scheduled preventative maintenance, on-site repair and replacement of all worn or defective component parts, and telephone support, all at no incremental cost for the life of the service contract. We offer one-year and four-year extended service contracts to customers who purchase Barocycler® instruments.

Other Fields of Use and Applications for PCT

Our research and development efforts have shown that, in addition to genomic, proteomic, lipidomic, and small molecule sample preparation, PCT is potentially beneficial in a number of other areas of the life sciences, including pathogen inactivation, protein purification, control of chemical (particularly enzymatic) reactions, and immunodiagnostics. Other applications in the sample preparation market include forensics and histology, as discussed above. Our pursuit of these markets, however, depends on a number of factors, including our success in commercializing PCT in the area of sample preparation, our judgment regarding the investment required to be successful in these areas, the value of these markets to PBI, and the availability of sufficient financial resources. Below is a brief explanation of each of these additional potential applications and a short description of why we believe PCT can be used to improve scientific studies in these areas.

Pathogen Inactivation

Biological products intended for human use, such as blood, vaccines and drugs, are put through rigorous processing protocols in an effort to minimize the potential of that product to transmit disease. These protocols may include methods to remove infectious materials such as pre-processing testing, filtration or chromatography, or methods to inactivate infectious agents that are not captured in the removal steps such as pasteurization, irradiation and solvent detergent inactivation. Notwithstanding current diligence in both the removal and inactivation steps, significant concern remains that some pathogens (e.g., bacteria and viruses) capable of transmitting infection to recipients may not be removed or inactivated with current procedures. In addition, some removal and inactivation methods may not be useful because of cost, safety, ease-of-use or other practical concerns. To that end, we believe that a new inactivation method is needed that can safely, rapidly and inexpensively inactivate pathogens in blood, vaccines and drugs without the need for chemical or other potentially toxic additives. We believe we have successfully generated proof-of-concept that PCT can satisfy this need. We believe that compared with current procedures, a process that uses PCT has the potential to increase safety and yield, lower cost and decrease the potential side effects of current methods. We have been issued U.S. patents for this PCT-dependent inactivation technology.

Protein Purification

Many vaccines and drugs are comprised of proteins. These proteins need to be purified from complex mixtures as part of the manufacturing process. Current purification techniques often result in the loss of a significant amount of the protein. Therefore, any method that could increase the amount of protein being recovered in the purification step, could subsequently lead to a reduction in cost to the manufacturer. We believe we have successfully generated proof-of-concept that PCT can satisfy this need. We believe that compared with current purification procedures, a process that uses PCT has the potential to increase protein recovery, increase the quality of the product, and lower production costs. We have been issued U.S. and in this area.

Control of Chemical (Particularly Enzymatic) Reactions

Chemical reactions encompass many important interactions in nature. Methods used to control chemical reactions could have a positive effect on the quality, speed, and overall result of the reaction. The control and detection of chemical reactions is particularly useful in the biotechnology field for synthesizing and characterizing such molecules as nucleic acids and polypeptides. We believe that PCT offers distinct advantages in controlling chemical reactions over current methods, since PCT can provide precise, automated control over the timing and synchronization of chemical reactions, particularly enzymatic reactions. We have been issued U.S patents in this area.

Immunodiagnostics

Many tests used in the clinical laboratory today are based on the formation of a complex between two proteins, such as an antigen and an antibody. Such "immunodiagnostic" methods are used for the detection of infectious agents such as the human immunodeficiency virus ("*HIV*"), hepatitis viruses, West Nile virus, and others, as well as for endocrine, drug testing and cancer diagnostics. We have generated proof-of-concept that PCT may be used to control biomolecular interactions between proteins, such as antigens and antibodies. We believe this capability may provide a greater degree of sensitivity and quantitative accuracy in immunodiagnostic testing than that offered by methods that are available today. We have been issued U.S. patents in this area.

Customers

Our customers include researchers at academic laboratories, government agencies, biotechnology companies, pharmaceutical firms, and other life science institutions in North, Central, and South America; Europe; and Asia. Our goal is to continue aggressive market penetration to target groups in these geographical areas. We also believe that there is a significant opportunity to sell and/or lease additional Barocycler® instrumentation to additional laboratories at current customer institutions.

If we are successful in commercializing PCT in applications beyond our current focus area of genomic, proteomic, lipidomic, and small molecule sample preparation, and if we are successful in our attempts to attract additional capital, our potential customer base could expand to include hospitals, reference laboratories, pharmaceutical manufacturing plants, and other sites involved in each specific application. If we are successful in forensics, our potential customers could be forensic laboratories, military and other government agencies. If we are successful in histology (extraction of biomolecules from FFPE tissues), our potential customers could be pharmaceutical companies, hospitals, and laboratories focused on drug discovery or correlation of disease states.

Competition

We compete with companies that have existing technologies for the extraction of nucleic acids, proteins, lipids, and small molecules from cells and tissues, including methods such as mortar and pestle grinding, sonication, rotor-stator homogenization, French Press, bead beating, freezer milling, enzymatic digestion, and chemical dissolution. We believe that there are a number of significant issues related to the use of these methods, including: complexity, sample containment, cross-contamination, shearing of biomolecules of interest, limited applicability to different sample types, ease-of-use, reproducibility, and cost. We believe that our PCT Sample Preparation System offers a number of significant advantages over these methods, including:

labor reduction	versatility
temperature control	efficiency
precision	simplicity
reproducibility	safety

To be competitive in the industry, we believe we must be able to clearly and conclusively demonstrate to potential customers that our products provide these improved performance capabilities. We strongly believe that our PCT Sample Preparation System is a novel and enabling system for genomic, proteomic, and small molecule sample preparation. As such, many users of current manual techniques will need to be willing to challenge their existing methods of sample preparation and invest time to evaluate a method that could change their overall workflow in the sample preparation process, prior to adopting our technology.

Further, we are aware that the cost of the PCT Sample Preparation System may be greater than the cost of many of the other methods currently employed. Consequently, we are focusing our sales efforts on those product attributes that we believe will be most important and appealing to potential customers; namely versatility, reproducibility, quality, and safety.

Manufacturing and Supply

CBM Industries (Taunton, MA) has recently become the manufacturer of the Barocycler® 2320EXT. CBM is ISO 13485:2003 and 9001:2008 Certified. CBM provides us with precision manufacturing services that include management support services to meet our specific application and operational requirements. Among the services provided by CBM to us are:

- CNC Machining
- Contract Assembly & Kitting
- Component and Subassembly Design
- Inventory Management
- ISO certification

At this time, we believe that outsourcing the manufacturing of our new Barocycler® 2320EXT to CBM is the most cost-effective method for us to obtain ISO Certified, CE and CSA Marked instruments. CBM's close proximity to our South Easton, MA facility is a significant asset enabling interactions between our Engineering, R&D, and Manufacturing groups and their counterparts at CBM. CBM was instrumental in helping PBI achieve CE Marking on our Barocycler 2320EXT, as announced on February 2, 2017.

Although we currently manufacture and assemble the Barozyme HT48, Barocycler® HUB440, the SHREDDER SG3, and most of our consumables at our South Easton, MA facility, we plan to take advantage of the established relationship with CBM and transfer manufacturing of the entire Barocycler® product line, future instrument, and other products to CBM.

The Barocycler® NEP3229, launched in 2008, and manufactured by the BIT Group, will be phased out over the next several years and replaced by the new state-of-the-art Barocycler® HUB and Barozyme HT product lines.

Research and Development

Our research and development activities are split into two functional areas: Applications Development and Engineering.

1. *Applications Development R&D*: Our highly educated and trained staff has years of experience in molecular and cellular biology, virology, and proteomics. Our team of scientists focuses on the development and continued improvement of the PCT Sample Preparation System and on PCT-dependent genomic, proteomic, lipidomic, and small molecule sample preparation applications. Dr. Alexander Lazarev, our vice president of Applications Research & Development, meets regularly with our sales, marketing, and engineering staff to discuss market needs and trends. Our applications research and development team is responsible for the technical review of all scientific collaborations, for the support of our marketing and sales departments through the generation of internal data in a number of areas of market interest, and in the development of commercially-viable PCT-dependent products.

2. *Engineering R&D:* Our engineering research and development team is focused on the design and development of new and improved instrumentation and consumable products to support the commercialization of PCT. Our engineering department is led by Dr. Edmund Ting, our senior vice president of Engineering. The primary focus of our engineering group is to develop and continually improve our line of PCT-based instruments and consumables, ensure seamless production processes, help perform installations and field service, and work with our application scientists to enhance our PCT-based systems for the mass spectrometry and other markets.

Collaboration Program

Our Collaboration Program is an important element of our business strategy. Initiating a collaboration with a researcher involves the installation of a Barocycler® instrument for an agreed upon period of time of approximately three to twelve months, a financial commitment that is beneficial to both the collaborator and PBI, and the execution of an agreed upon work plan. Our primary objectives for entering into a collaboration agreement include:

- the development of a new application for PCT and CP in sample preparation;
- the advancement and validation of our understanding of PCT and CP within an area of life sciences in which we already offer products;
- the demonstration of the effectiveness of PCT and CP by specific research scientists, particularly Key Opinion Leaders ("*KOLs*"), who we believe can have a positive impact on market acceptance of PCT; and
- the expectation of peer-reviewed publications and/or presentations at scientific meetings by a third party, especially a KOL, on the merits of PCT and CP.

Since we initiated our collaboration program, third party researchers have cited the use of our PCT platform in multiple publications and presentations. We believe that this program has provided and continues to provide us with independent and objective data about PCT from well-respected laboratories in the United States and throughout the rest of the world. We believe this program has been responsible for the sale of multiple Barocycler instruments over the past few years, and will continue to help to increase the sales of instrument systems in the future.

Product Pipeline

The following instruments are in our research and development pipeline:

- *Barocycler® FFPE Protein Extraction Instrument System* - A PCT-based system offering the enhanced extraction of proteins from FFPE samples using a modified Barocycler® instrument that combines the advantages of pressure cycling, high temperature, and certain reagents.
- *XstreamPCT™ HPLC Digestion Module* - For automated, in-line, on-demand PCT-enhanced protein digestion; the first module in our PCT-based HPLC platform.

Sales and Marketing

Our marketing and sales function is led by Dr. Nathan Lawrence, our vice president of Marketing and Sales. Dr. Lawrence oversees and directs marketing and sales activities such as trade show attendance and sponsorship, on-line advertising, website maintenance and improvement, search engine optimization, creation and dissemination of a PCT newsletter, market research initiatives, the arrangement of on-location seminars, lectures, and demonstrations of PCT capabilities, and the supervision of our one-person sales force. Dr. Lawrence is also responsible for the overall coordination of our collaboration programs, from initial set-up, research plan design, and training, service, and data analysis. Some of these responsibilities are shared with other departments such as Research and Development, but marketing and sales drives the collaborative process. Dr. Lawrence is also responsible for the continued coordination and support of our foreign distribution partners.

Our sales and marketing efforts are centered on using the independent data developed and disseminated by our collaboration partners to help drive the installed base of our PCT Sample Preparation System. The development of scientific data by our partners and our internal researchers provides our sales and marketing staff with additional tools that are essential in selling a paradigm-shifting, new technology such as PCT.

Sales

Direct US Sales Force

Our domestic sales force currently consists of two part-time salespersons. We have committed to a plan to increase the number of full-time sales professionals in early 2017 by a minimum of two additional full-time staff. We expect to hire additional sales and marketing personnel throughout 2017, with a goal that our sales and marketing department will have a minimum of six staff focused on sales and two on marketing by the end of 2017.

Marketing Strategy

We recognize that our enabling pressure cycling technology (PCT) is novel. Consequently, the power of PCT is not yet generally known by researchers. Our first goal is to greatly broaden the awareness of PCT and its applications among scientists and to ensure they know that this technology exists through our Barocycler® family of high-pressure instruments and requisite consumables. To accomplish this expansion of knowledge about PCT and the subsequent adoption of our PCT-based products, we have developed and are implementing a multi-faceted approach to marketing the PCT platform.

Key Opinion Leaders and Publications

To initially reach scientists, we have established collaborations with key opinion leaders (KOL) who recognized early the potential for PCT and went on to report their discoveries in peer reviewed journals. Among the KOLs working with us is Dr. Ruedi Aebersold (Head of the Department of Biology, ETH, Zurich). Dr. Aebersold, a pioneer in proteomics, worked with our scientists and engineers to develop PCT-SWATH (aka PCT-HD), a superior method for the extraction and preparation of proteins for the downstream analysis by mass spectrometry. Other KOLs include Dr. Jennifer van Eyk (Director of *Advanced Clinical Biosystems Institute in the Department of Biomedical Sciences* Cedar Sinai, Los Angeles, CA) and Dr. Wayne Hubble (Jules Stein Professor at the University of California, LA). Dr. van Eyk is a recognized expert in the causes of heart disease and is using PCT in her attempt to discover cardiac disease biomarkers. Dr. Hubble, a member of the National Academy of Science, is a leader in the field of electron

paramagnetic resonance (EPR). He uses PCT in his studies of protein-protein interactions, so very important in the discovery of drugs and drug design. The publications and presentations of these and other world class scientists have been invaluable in gaining initial entry of PCT in several areas of research. In addition to publications by our KOLs, there are also many peer reviewed publications from dozens of other scientists discussing the advantages of the PCT platform in bio-molecule sample preparation. To this end, we do all we can to disseminate the work of these scientists in an effort to increase the exposure of PCT to the worldwide research community.

Broadcasting PCT and Our Products

1. We attend, exhibit, and present at top scientific meetings such as the American Society of Mass Spectrometry (ASMS) and both the US and International meetings of the Human Proteome Organization (HUPO). These meetings are an opportunity to present our technology and to showcase our products to scientists who require sample preparation in their research studies.

2. Routine and timely “blast” emails to scientists in our database. Topics include new PCT-related publications, announcements of meetings, product advertisements, and a monthly newsletter. The database we use is proprietary, as it has been built from attending scientific meetings and searching the internet for relevant publications and contact information.

3. We manage our database with SalesForce, a state-of-the-art Customer Relationship Management (CRM) system. Through SalesForce, we employ the marketing automation software Pardot to manage our email blasts. Pardot enables us to assess open rates, levels of interest, and to create automatic and constant contact with potential clients.

4. We use social media platforms like LinkedIn, Twitter and Facebook to broadcast publications, webinars, our presence at scientific meetings, and press releases. Social media enables us to easily reach scientists world-wide.

5. In 2016, we significantly upgraded our website. The upgraded website contains a state-of-the art search engine that enables researchers to rapidly find PCT-related publications and products.

6. The website contains videos of our products. In 2016, we contracted with BioCompare to produce a high quality video showing PCT-HD and the uses of our Barocycler® 2320EXT and the MicroTube System.

7. Our scientists regularly present their findings and discuss our products at scientific sessions at regional, national, and international scientific conferences, and at corporate, government, and academic laboratories.

8. In addition to electronic advertising, we have used and will continue to use print media to showcase our products.

In 2017, we plan to expand our Marketing team to support these and additional initiatives.

Foreign Distributor Network

Exclusive Agreements

Currently, we have distribution arrangements covering China, Poland, 24 countries in Europe, and Japan. We expect the following agreements will be extended during 2017 for a minimum of at least two additional years.

In May of 2014, we entered into a three-year distribution agreement with Powertech Technology Co, Ltd., of China, pursuant to which we were granted Powertech Technology exclusive distribution rights to all of our products in China.

In February 2016, we entered into a three-year distribution agreement with *bioanalytic* of Poland, pursuant to which PBI granted *bioanalytic* exclusive distribution rights to all of our products in Poland.

In September of 2016, we entered into a three-year distribution agreement with Vita Co. of Japan, pursuant to which we were granted Vita Co. exclusive distribution rights to all of our products in Japan.

In September of 2016, we entered into a distribution agreement with I&L GmbH, of Germany pursuant, to which were granted I&L, exclusive distribution rights to all of our products in the countries designated as Western Europe (Andorra, Austria, Belgium, Denmark, Finland, France, Germany, Gibraltar, Greece, Iceland, Italy, Ireland, Liechtenstein, Luxembourg, Malta, Monaco, Norway, Netherlands, Portugal, San Marino, Spain, Sweden, Switzerland, and the United Kingdom)

Non-Exclusive and Other Distribution Agreements

In November 2011, we entered into a distributor agreement with OROBOROS Instruments Corp. ("*OROBOROS*") of Austria pursuant to which we were granted OROBOROS non-exclusive world-wide distribution rights to our Shredder SG3 System and related products.

In June 2013, CS and PBI signed an expanded Distribution Agreement that made us the exclusive distributor of CS products throughout all of the Americas until 2019.

In January 2016, SCIEX, a global leader in life science analytical technologies, announced an exclusive two-year co-marketing agreement with PBI. In their press release, SCIEX stated that the relationship with us will uniquely position SCIEX to address a major challenge in complex sample preparation by marketing a complete solution to increase the depth, breadth, and reproducibility of protein extraction, digestion, and quantitation in all tissue types, including challenging samples like tumors. Under the agreement, PBI and SCIEX will promote PCT Sample Preparation Systems such as PCT-HD with SWATH® Acquisition-based next generation proteomics, TripleTOF® Systems, QTRAP® Systems, and Triple Quad Systems. This focus on improved sample preparation, a crucial step performed in research laboratories worldwide, will enable scientists to extract more proteins reproducibly from complex sample types, potentially yielding superior biological insights and discoveries.

Intellectual Property

We believe that protection of our patents and other intellectual property is essential to our business. Subject to the availability of sufficient financial resources, our practice is to file patent applications to protect technology, inventions, and improvements to inventions that are important to our business development. We also rely on trade secrets, know-how, and technological innovations to develop and maintain our potential competitive position.

PBI has 14 United States granted patents and one foreign granted patent (Japan: 5587770, EXTRACTION AND PARTITIONING OF MOLECULES) covering multiple applications of PCT in the life sciences field. Our issued patents expire between 2017 and 2032. PBI also has 19 pending patents in the USA, Canada, Europe, Australia, China, and Taiwan. Our failure to obtain and maintain adequate patent protection may adversely affect our ability to enter into, or affect the terms of, any arrangement for the marketing or sale of any of our PCT products. It may also allow our competitors to duplicate our products without our permission and without compensation.

License Agreements Relating to Pressure Cycling Technology

BioMolecular Assays, Inc.

In 1996, we acquired our initial equity interest in BioSeq, Inc., which at the time was developing our original pressure cycling technology. BioSeq, Inc. acquired its pressure cycling technology from BioMolecular Assays, Inc. under a technology transfer and patent assignment agreement. In 1998, we purchased all of the remaining outstanding capital stock of BioSeq, Inc., and at such time, the technology transfer and patent assignment agreement was amended to require us to pay BioMolecular Assays, Inc., a 5% royalty on our sales of products or services that incorporate or utilize the original pressure cycling technology that BioSeq, Inc. acquired from BioMolecular Assays, Inc. We are also required to pay BioMolecular Assays, Inc. 5% of the proceeds from any sale, transfer or license of all or any portion of the original pressure cycling technology. These payment obligations terminated March 7, 2016. During the years ended December 31, 2016 and 2015, we incurred approximately $6,963 and $31,301, respectively, in royalty expense associated with our obligation to BioMolecular Assays, Inc.

In connection with our acquisition of BioSeq, Inc., we licensed certain limited rights to the original pressure cycling technology back to BioMolecular Assays, Inc. This license is non-exclusive and limits the use of the original pressure cycling technology by BioMolecular Assays, Inc. solely for molecular applications in scientific research and development and in scientific plant research and development. BioMolecular Assays, Inc. is required to pay us a royalty equal to 20% of any license or other fees and royalties, but not including research support and similar payments, it receives in connection with any sale, assignment, license or other transfer of any rights granted to BioMolecular Assays, Inc. under the license. BioMolecular Assays, Inc. was required to pay us these royalties until

the expiration in March 2016 of the patents held by BioSeq, Inc. since 1998. We have not received any royalty payments from BioMolecular Assays, Inc. under this license.

Battelle Memorial Institute

In December 2008, we entered into an exclusive patent license agreement with the Battelle Memorial Institute ("*Battelle*"). The licensed technology is the subject of a patent application filed by Battelle in 2008 and relates to a method and a system for improving the analysis of protein samples, including through an automated system utilizing pressure and a pre-selected agent to obtain a digested sample in a significantly shorter period of time than current methods, while maintaining the integrity of the sample throughout the preparatory process. In addition to royalty payments on net sales on "licensed products," we are obligated to make minimum royalty payments for each year that we retain the rights outlined in the patent license agreement and we are required to have our first commercial sale of the licensed products within one year following the issuance of the patent covered by the licensed technology. After re-negotiating the terms of the contract in 2013, the minimum annual royalty was $1,200 in 2014 and $2,000 in 2015; the minimum royalties are $3,000 in 2016, $4,000 in 2017 and $5,000 in 2018 and each calendar year thereafter during the term of the agreement.

Regulation

Many of our activities are subject to regulation by governmental authorities within the United States and similar bodies outside of the United States. The regulatory authorities may govern the collection, testing, manufacturing, safety, efficacy, labeling, storage, record keeping, transportation, approval, advertising, and promotion of our products, as well as the training of our employees.

Currently, all of our commercialization efforts are focused in the area of genomic, proteomic, lipidomic, and small molecule sample preparation. We do not believe that our current Barocycler® products used in sample preparation are considered "medical devices" under the United States Food, Drug and Cosmetic Act (the "*FDA Act*") and we do not believe that we are subject to the law's general control provisions that include requirements for registration, listing of devices, quality regulations, labeling and prohibitions against misbranding and adulteration. We also do not believe that we are subject to regulatory inspection and scrutiny. If, however, we are successful in commercializing PCT in applications beyond our current focus area of genomic, proteomic, lipidomic, and small molecule sample preparation, such as protein purification, pathogen inactivation and immunodiagnostics, our products may be considered "medical devices" under the FDA Act, at which point we would be subject to the law's general control provisions and regulation by the FDA that include requirements for registration listing of devices, quality regulations, labeling, and prohibitions against misbranding and adulteration. The process of obtaining approval to market these devices in the other potential applications of PCT would be costly and time consuming and could possibly prohibit us from pursuing such markets.

Some of our devices may also become subject to the European Pressure Equipment Directive, which requires certain pressure equipment meet certain quality and safety standards. We do not believe that we are currently subject to this directive because our Barocycler® instruments are below the threshold documented in the text of the directive. If our interpretation were to be challenged, we could incur significant costs defending the challenge, and we could face production and selling delays, all of which could harm our business.

We self-certified that our Barocycler® instrumentation was electromagnetically compatible, or "CE" compliant, which means that our Barocycler® instruments meet the essential requirements of the relevant European health, safety and environmental protection legislation. In order to maintain our CE Marking, a requirement to sell equipment in many countries of the European Union, we are obligated to uphold certain safety and quality standards. Due to outsourcing manufacturing to CBM, an ISO certified contract manufacturer, we believe compliance with CE and other required marks and certifications is well controlled.

Employees

At December 31, 2016, we had nine (9) full-time employees and four (4) part-time employees. All employees enter into confidentiality agreements intended to protect our proprietary information. We believe that our relations with our employees are good. None of our employees are represented by a labor union. Our performance depends on our ability to attract and retain qualified professional, scientific and technical staff. The level of competition among employers for skilled personnel is high. Subject to our limited financial resources, we attempt to maintain employee benefit plans to enhance employee morale, professional commitment and work productivity and provide an incentive for employees to remain with us.

ITEM 1A. RISK FACTORS.

This Annual Report on Form 10-K contains forward-looking statements that involve risks and uncertainties, such as statements of our objectives, expectations and intentions. The cautionary statements made in this Annual Report on Form 10-K should be read as applicable to all forward-looking statements wherever they appear in this report. Our actual results could differ materially from those discussed herein. Factors that could cause or contribute to such differences include those discussed below, as well as those discussed elsewhere in this Annual Report on Form 10-K.

Risks Related To Our COMPANY

We have received an opinion from our independent registered public accounting firm expressing substantial doubt regarding our ability to continue as a going concern.

The audit report issued by our independent registered public accounting firm on our audited consolidated financial statements for the fiscal year ended December 31, 2016 contains an explanatory paragraph regarding our ability to continue as a going concern. The audit report states that our auditing firm has substantial doubt in our ability to continue as a going concern due to the risk that we may not have sufficient cash and liquid assets at December 31, 2016 to cover our operating and capital requirements for the next twelve-month period; and if sufficient cash cannot be obtained, we would have to substantially alter, or possibly even discontinue, operations. The accompanying consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Management has developed a plan to continue operations. This plan includes continued control of expenses and obtaining equity or debt financing. Although we have successfully completed equity financings and reduced expenses in the past, we cannot assure you that our plans to address these matters in the future will be successful.

The factors described above could adversely affect our ability to obtain additional financing on favorable terms, if at all, and may cause investors to have reservations about our long-term prospects, and may adversely affect our relationships with customers. There can be no assurance that our auditing firm will not issue the same opinion in the future. If we cannot successfully continue as a going concern, our stockholders may lose their entire investment.

Our revenue is dependent upon acceptance of our products by the market. The failure of such acceptance will cause us to curtail or cease operations.

Our revenue comes from the sale of our products. As a result, we will continue to incur operating losses until such time as sales of our products reach a mature level and we are able to generate sufficient revenue from the sale of our products to meet our operating expenses. There can be no assurance that customers will adopt our technology and products, or that businesses and prospective customers will agree to pay for our products. In the event that we are not able to significantly increase the number of customers that purchase our products, or if we are unable to charge the necessary prices, our financial condition and results of operations will be materially and adversely affected.

Our business could be adversely affected if we fail to implement and maintain effective disclosure controls and procedures and internal control over financial reporting.

We concluded that as of December 31, 2016, our disclosure controls and procedures and our internal control over financial reporting were not effective. We have determined that we have limited resources for adequate personnel to prepare and file reports under the Securities Exchange Act of 1934 within the required time periods and that material weaknesses in our internal control over financial reporting exist relating to our accounting for complex equity transactions. If we are unable to implement and maintain effective disclosure controls and procedures and remediate the material weaknesses in a timely manner, or if we identify other material weaknesses in the future, our ability to produce accurate and timely financial statements and public reports could be impaired, which could adversely affect our business and financial condition. We identified a lack of sufficient segregation of duties. Specifically, this material weakness is such that the design over these areas relies primarily on detective controls and could be strengthened by adding preventive controls to properly safeguard assets. In addition, investors may lose confidence in our reported information and the market price of our common stock may decline.

We have a history of operating losses, anticipate future losses and may never be profitable.

We have experienced significant operating losses in each period since we began investing resources in PCT and CP. These losses have resulted principally from research and development, sales and marketing, and general and administrative expenses associated with the development of our PCT business. During the year ended December 31, 2016, we recorded a net loss applicable to common shareholders of $2,706,984, or ($0.10) per share, as compared with $7,438,492, or ($0.36) per share, of the corresponding period in 2015. We expect to continue to incur operating losses until sales of PCT and CP products increase substantially. We cannot be certain when, if ever, we will become profitable. Even if we were to become profitable, we might not be able to sustain such profitability on a quarterly or annual basis.

If we are unable to obtain additional financing, business operations will be harmed and if we do obtain additional financing then existing shareholders may suffer substantial dilution.

We need substantial capital to implement our sales distribution strategy for our current products and to develop and commercialize future products using our pressure cycling technology products and services in the sample preparation area, as well as for applications in other areas of life sciences. Our capital requirements will depend on many factors, including but not limited to:

the problems, delays, expenses, and complications frequently encountered by early-stage companies;

market acceptance of our pressure cycling technology products and services for sample preparation;

the success of our sales and marketing programs; and

changes in economic, regulatory or competitive conditions in the markets we intend to serve.

We expect the net proceeds from an expected equity offering, along with our current cash position, will enable us to fund our operating expenses and capital expenditure requirements for at least the next 36 months. Thereafter, unless we achieve profitability, we anticipate that we will need to raise additional capital to fund our operations and to otherwise implement our overall business strategy. We currently do not have any contracts or commitments for additional financing. There can be no assurance that financing will be available in amounts or on terms acceptable to us, if at all. Any additional equity financing may involve substantial dilution to then existing shareholders.

If adequate funds are not available or if we fail to obtain acceptable additional financing, we may be required to:

severely limit or cease our operations or otherwise reduce planned expenditures and forego other business opportunities, which could harm our business;

obtain financing with terms that may have the effect of substantially diluting or adversely affecting the holdings or the rights of the holders of our capital stock; or

obtain funds through arrangements with future collaboration partners or others that may require us to relinquish rights to some or all of our technologies or products.

Our financial results depend on revenues from our pressure cycling technology products and services, and from government grants.

We currently rely on revenues from PCT, CP, and CS technology products and services in the sample preparation area and from revenues derived from grants awarded to us by governmental agencies, such as the National Institutes of Health. We have been unable to achieve market acceptance of our product offerings to the extent necessary to achieve significant revenue. Competition for government grants is very intense, and we can provide no assurance that we will continue to be awarded grants in the future. If we are unable to increase revenues from sales of our pressure cycling technology products and services and government grants, our business will fail.

We may be unable to obtain market acceptance of our pressure cycling technology products and services.

Many of the initial sales of our pressure cycling technology products and services have been to our collaborators, following their use of our products in studies undertaken in sample preparation for genomics, proteomics, lipidomics, and small molecules studies. Later sales have been to key opinion leaders. Our technology requires scientists and researchers to adopt a method of sample extraction that is different from existing techniques. Our PCT sample preparation system is also more costly than most existing techniques. Our ability to obtain market acceptance will depend, in part, on our ability to demonstrate to our potential customers that the benefits and advantages of our technology outweigh the increased cost of our technology compared with existing methods of sample extraction. If we are unable to demonstrate the benefits and advantages of our products and technology as compared with existing technologies, we will not gain market acceptance and our business will fail.

Our business may be harmed if we encounter problems, delays, expenses, and complications that often affect companies that have not achieved significant market acceptance.

Our pressure cycling technology business continues to face challenges in achieving market acceptance. If we encounter problems, delays, expenses and complications, many of which may be beyond our control or may harm our business or prospects. These include:

availability of adequate financing;

unanticipated problems and costs relating to the development, testing, production, marketing, and sale of our products;

delays and costs associated with our ability to attract and retain key personnel; and

competition.

The sales cycle of our pressure cycling technology products is lengthy. We have incurred and may continue to incur significant expenses and we may not generate any significant revenue related to those products.

Many of our current and potential customers have required between three and six months or more to test and evaluate our pressure cycling technology products. This increases the possibility that a customer may decide to cancel its order or otherwise change its plans, which could reduce or eliminate our sales to that potential customer. As a result of this lengthy sales cycle, we have incurred and may continue to incur significant research and development, selling and marketing, and general and administrative expense related to customers from whom we have not yet generated any revenue from our products, and from whom we may never generate the anticipated revenue if a customer is not

satisfied with the results of the evaluation of our products or if a customer cancels or changes its plans.

Our business could be harmed if our products contain undetected errors or defects.

We are continuously developing new and improving our existing, pressure cycling technology products in sample preparation and we expect to do so in other areas of life sciences depending upon the availability of our resources. Newly introduced products can contain undetected errors or defects. In addition, these products may not meet their performance specifications under all conditions or for all applications. If, despite internal testing and testing by our collaborators, any of our products contain errors or defects or fail to meet customer specifications, then we may be required to enhance or improve those products or technologies. We may not be able to do so on a timely basis, if at all, and may only be able to do so at considerable expense. In addition, any significant reliability problems could result in adverse customer reaction, negative publicity or legal claims and could harm our business and prospects.

Our success may depend on our ability to manage growth effectively.

Our failure to manage growth effectively could harm our business and prospects. Given our limited resources and personnel, growth of our business could place significant strain on our management, information technology systems, sources of manufacturing capacity and other resources. To properly manage our growth, we may need to hire additional employees and identify new sources of manufacturing capabilities. Failure to effectively manage our growth could make it difficult to manufacture our products and fill orders, as well as lead to declines in product quality or increased costs, any of which would adversely impact our business and results of operations.

Our success is substantially dependent on the continued service of our senior management.

Our success is substantially dependent on the continued service of our senior management, specifically our Chief Executive Officer, Richard T. Schumacher. The loss of the services of any of our senior management could make it more difficult to successfully operate our business and achieve our business goals. In addition, our failure to retain existing engineering, research and development, operations, and marketing/sales personnel could harm our product development capabilities and customer and employee relationships, delay the growth of sales of our products, and result in the loss of key information, expertise, or know-how.

We may not be able to hire or retain the number of qualified personnel, particularly engineering and sales personnel, required for our business, which would harm the development and sales of our products and limit our ability to grow.

Competition in our industry for senior management, technical, sales, marketing, finance and other key personnel is intense. If we are unable to retain our existing personnel, or attract and train additional qualified personnel, either because of competition in our industry for such personnel or because of insufficient financial resources, our growth may be limited. Our success also depends in particular on our ability to identify, hire, train and retain qualified engineering and sales personnel with experience in design, development and sales of laboratory equipment.

Our reliance on a single third party for all of our manufacturing, and certain of our engineering, and other related services could harm our business.

We currently solely rely on CBM Industries, a third party contract manufacturer, to manufacture our Barocycler 2320EXT instrumentation, provide manufacturing expertise, and manage the majority of our sub-contractor supplier relationships for this instrument. Because of our dependence on one manufacturer, our success will depend, in part, on the ability of CBM to manufacture our products cost effectively, in sufficient quantities to meet our customer demand, if and when such demand occurs, and meeting our quality requirements. If CBM experiences manufacturing problems or delays, or if CBM decides not to continue to provide us with these services, our business may be harmed. While we believe other contract manufacturers are available to address our manufacturing and engineering needs, if we find it necessary to replace CBM, there will be a disruption in our business and we would incur additional costs and delays that would harm our business.

Our failure to manage current or future alliances or joint ventures effectively may harm our business.

We have entered into business relationships with four distribution partners and one co-marketing partner, and we may enter into additional alliances, joint ventures or other business relationships to further develop, market and sell our pressure cycling technology product line. We may not be able to:

- identify appropriate candidates for alliances, joint ventures or other business relationships;
- assure that any candidate for an alliance, joint venture or business relationship will provide us with the support anticipated;
- successfully negotiate an alliance, joint venture or business relationship on terms that are advantageous to us; or
- successfully manage any alliance or joint venture.

Furthermore, any alliance, joint venture or other business relationship may divert management time and resources. Entering into a disadvantageous alliance, joint venture or business relationship, failing to manage an alliance, joint venture or business relationship effectively, or failing to comply with any obligations in connection therewith, could harm our business and prospects.

We may not be successful in growing our international sales.

We cannot guarantee that we will successfully develop our international sales channels to enable us to generate significant revenue from international sales. We currently have four international distribution agreements that cover 24 countries in Europe, Asia and Australia. We have generated limited sales to date from international sales and cannot guarantee that we will be able to increase our sales. As we expand, our international operations may be subject to numerous risks and challenges, including:

- multiple, conflicting and changing governmental laws and regulations, including those that regulate high pressure equipment;
- reduced protection for intellectual property rights in some countries;
- protectionist laws and business practices that favor local companies;
- political and economic changes and disruptions;
- export and import controls;
- tariff regulations; and
- currency fluctuations.

Our operating results are subject to quarterly variation. Our operating results may fluctuate significantly from period to period depending on a variety of factors, including but not limited to the following:

- our ability to increase our sales of our pressure cycling technology products for sample preparation on a consistent quarterly or annual basis;
- the lengthy sales cycle for our products;
- the product mix of the Barocycler® instruments we install in a given period, and whether the installations are completed pursuant to sales, rental or lease arrangements, and the average selling prices that we are able to command for our products;
- our ability to manage our costs and expenses;
- our ability to continue our research and development activities without incurring unexpected costs and expenses; and
- our ability to comply with state and federal regulations without incurring unexpected costs and expenses.

Our instrumentation operates at high pressures and may therefore become subject to certain regulations in the European Community. Regulation of high pressure equipment may limit or hinder our development and sale of future instrumentation.

Our Barocycler® instruments operate at high pressures. If our Barocycler® instruments exceed certain pressure levels, our products may become subject to the European Pressure Equipment Directive, which requires certain pressure equipment meet certain quality and safety standards. We do not believe that we are subject to this directive because our Barocycler® instruments are currently below the threshold documented in the text of the directive. If our interpretation were to be challenged, we could incur significant costs defending the challenge, and we could face production and selling delays, all of which could harm our business.

We expect that we will be subject to regulation in the United States, such as by the Food and Drug Administration, and overseas, if and when we begin to invest more resources in the development and commercialization of PCT in applications outside of sample preparation for the research field.

Our current pressure cycling technology products in the area of sample preparation for the research field are not regulated by the FDA. Certain applications in which we intend to develop and commercialize pressure cycling technology, such as protein purification, pathogen inactivation and immunodiagnostics, are expected to require regulatory approvals or clearances from regulatory agencies, such as the FDA, prior to commercialization, when we expand our commercialization activities outside of the research field. We expect that obtaining these approvals or clearances will require a significant investment of time and capital resources and there can be no assurance that such investments will receive approvals or clearances that would allow us to commercialize the technology for these applications.

If we are unable to protect our patents and other proprietary technology relating to our pressure cycling technology products, our business will be harmed.

Our ability to further develop and successfully commercialize our products will depend, in part, on our ability to enforce our patents, preserve our trade secrets, and operate without infringing the proprietary rights of third parties. PBI has 14 United States granted patents and 1 foreign granted patent (Japan: 5587770, EXTRACTION AND PARTITIONING OF MOLECULES) covering multiple applications of PCT in the life sciences field. The patents expire between 2017 and 2032. PBI also has 19 pending patents in the USA, Canada, Europe, Australia, China, and Taiwan. There can be no assurance that (a) any patent applications filed by us will result in issued patents; (b) patent protection will be secured for any particular technology; (c) any patents that have been or may be issued to us will be valid or enforceable; (d) any patents will provide meaningful protection to us; (e) others will not be able to design around our patents; and (f) our patents will provide a competitive advantage or have commercial value. The failure to obtain adequate patent protection would have a material adverse effect on us and may adversely affect our ability to enter into, or affect the terms of, any arrangement for the marketing or sale of any product.

Our patents may be challenged by others.

We could incur substantial costs in patent proceedings, including interference proceedings before the United States Patent and Trademark Office, and comparable proceedings before similar agencies in other countries, in connection with any claims that may arise in the future. These proceedings could result in adverse decisions about the patentability of our inventions and products, as well as about the enforceability, validity, or scope of protection afforded by the patents.

If we are unable to maintain the confidentiality of our trade secrets and proprietary knowledge, others may develop technology and products that could prevent the successful commercialization of our products.

We rely on trade secrets and other unpatented proprietary information in our product development activities. To the extent we rely on trade secrets and unpatented know-how to maintain our competitive technological position, there can be no assurance that others may not independently develop the same or similar technologies. We seek to protect our trade secrets and proprietary knowledge, in part, through confidentiality agreements with our employees, consultants, advisors and contractors. These agreements may not be sufficient to effectively prevent disclosure of our confidential information and may not provide us with an adequate remedy in the event of unauthorized disclosure of such information. If our employees, consultants, advisors, or contractors develop inventions or processes independently that may be applicable to our products, disputes may arise about ownership of proprietary rights to those inventions and processes. Such inventions and processes will not necessarily become our property, but may remain the property of those persons or their employers. Protracted and costly litigation could be necessary to enforce and determine the scope of our proprietary rights. Failure to obtain or maintain trade secret protection, for any reason, could harm our business.

If we infringe on the intellectual property rights of others, our business may be harmed.

It is possible that the manufacture, use or sale of our pressure cycling technology products or services may infringe patent or other intellectual property rights of others. We may be unable to avoid infringement of the patent or other intellectual property rights of others and may be required to seek a license, defend an infringement action, or challenge the validity of the patents or other intellectual property rights in court. We may be unable to secure a license on terms and conditions acceptable to us, if at all. Also, we may not prevail in any patent or other intellectual property rights litigation. Patent or other intellectual property rights litigation is costly and time-consuming, and there can be no assurance that we will have sufficient resources to bring any possible litigation related to such infringement to a successful conclusion. If we do not obtain a license under such patents or other intellectual property rights, or if we are found liable for infringement, or if we are unsuccessful in having such patents declared invalid, we may be liable for significant monetary damages, may encounter significant delays in successfully commercializing and developing our pressure cycling technology products, or may be precluded from participating in the manufacture, use, or sale of our pressure cycling technology products or services requiring such licenses.

We may be unable to adequately respond to rapid changes in technology and the development of new industry standards.

The introduction of products and services embodying new technology and the emergence of new industry standards may render our existing pressure cycling technology products and related services obsolete and unmarketable if we are unable to adapt to change. We may be unable to allocate the funds necessary to improve our current products or introduce new products to address our customers' needs and respond to technological change. In the event that other companies develop more technologically advanced products, our competitive position relative to such companies would be harmed.

We may not be able to compete successfully with others that are developing or have developed competitive technologies and products.

A number of companies have developed, or are expected to develop, products that compete or will compete with our products. We compete with companies that have existing technologies for the extraction of nucleic acids, proteins and small molecules from cells and tissues, including but not limited to methods such as mortar and pestle, sonication, rotor-stator homogenization, French press, bead beating, freezer milling, enzymatic digestion, and chemical dissolution.

We are aware that there are additional companies pursuing new technologies with similar goals to the products developed or being developed by us. Some of the companies with which we now compete, or may compete in the future, have or may have more extensive research, marketing, and manufacturing capabilities, more experience in genomics and proteomics sample preparation, protein purification, pathogen inactivation, immunodiagnostics, and DNA sequencing and significantly greater technical, personnel and financial resources than we do, and may be better positioned to continue to improve their technology to compete in an evolving industry. To compete, we must be able to demonstrate to potential customers that our products provide improved performance and capabilities. Our failure to compete successfully could harm our business and prospects.

We will need to increase the size of our organization, and may experience difficulties in managing growth.

We are a small company with a minimal number of employees. We expect to experience a period of expansion in headcount, facilities, infrastructure and overhead and anticipate that further expansion will be required to address potential growth and market opportunities. Future growth will impose significant added responsibilities on members of management, including the need to identify, recruit, maintain and integrate new managers. Our future financial performance and its ability to compete effectively will depend, in part, on its ability to manage any future growth effectively.

Provisions in our articles of organization and bylaws may discourage or frustrate stockholders' attempts to remove or replace our current management.

Our articles of organization and bylaws contain provisions that may make it more difficult or discourage changes in our management that our stockholders may consider to be favorable. These provisions include:

a classified board of directors;

advance notice for stockholder nominations to the board of directors;

limitations on the ability of stockholders to remove directors; and

a provision that allows a majority of the directors to fill vacancies on the board of directors.

These provisions could prevent or frustrate attempts to make changes in our management that our stockholders consider to be beneficial and could limit the price that our stockholders might receive in the future for shares of our common stock.

The costs of compliance with the reporting obligations of the Exchange Act, and with the requirements of the Sarbanes-Oxley Act of 2002 and the Dodd-Frank Wall Street Reform and Consumer Protection Act, may place a strain on our limited resources and our management's attention may be diverted from other business concerns.

As a result of the regulatory requirements applicable to public companies, we incur legal, accounting, and other expenses that are significant in relation to the size of our Company. In addition, the Sarbanes-Oxley Act of 2002 and the Dodd-Frank Wall Street Reform and Consumer Protection Act, as well as rules subsequently implemented by the SEC and OTC Markets Group, Inc., have required changes in corporate governance and financial disclosure practices of public companies, some of which are currently applicable to us and others will or may become applicable to us in the future. These rules and regulations have increased and will continue to increase our legal and financial compliance costs and may make some activities more time-consuming. These requirements have placed and will continue to place a strain on our systems and on our management and financial resources.

Certain of our net deferred tax assets could be substantially limited if we experience an ownership change as defined in the Internal Revenue Code.

Certain of our net operating losses ("*NOLs*") give rise to net deferred tax assets. Our ability to utilize NOLs and to offset our future taxable income and/or to recover previously paid taxes would be limited if we were to undergo an "ownership change" within the meaning of Section 382 of the Internal Revenue Code (the "*Code*"). In general, an "ownership change" occurs whenever the percentage of the stock of a corporation owned by "5 percent shareholders," within the meaning of Section 382 of the Code, increases by more than 50 percentage points over the lowest percentage of the stock of such corporation owned by such "5 percent shareholders" at any time over the preceding three years.

An ownership change under Section 382 of the Code would establish an annual limitation on the amount of NOLs we could utilize to offset our taxable income in any single taxable year to an amount equal to (i) the product of a specified rate, which is published by the U.S. Treasury, and the aggregate value of our outstanding stock plus; and (ii) the amount of unutilized limitation from prior years. The application of these limitations might prevent full utilization of the deferred tax assets attributable to our NOLs. We may have or will have experienced an ownership change as defined by Section 382 through the sale of equity and, therefore, we will consider whether the sale of equity units will result in limitations of our net operating losses under Section 382 when we start to generate taxable income. However, whether a change in ownership occurs in the future is largely outside of our control, and there can be no assurance that such a change will not occur.

RISKS RELATING TO OWNERSHIP OF OUR SECURITIES

The holders of our Common Stock could suffer substantial dilution due to our corporate financing practices.

The holders of our common stock could suffer substantial dilution due to our corporate financing practices, which, in the past few years, have included private placements and a registered direct offering. As of December 31, 2016, we have issued shares of Series A Convertible Preferred Stock, Series B Convertible Preferred Stock, Series C Convertible Preferred Stock, Series D Convertible Preferred Stock, Series E Convertible Preferred Stock, Series G Convertible Preferred Stock, Series H Convertible Preferred Stock, Series H2 Convertible Preferred Stock, Series J Convertible Preferred Stock and Series K Convertible Preferred Stock.

As of December 31, 2016, all of the shares of Series A Convertible Preferred Stock, Series B Convertible Preferred Stock, Series C Convertible Preferred Stock, and Series E Convertible Preferred Stock had been converted into shares of common stock. As of December 31, 2016 only shares of Series D Convertible Preferred Stock, Series G Convertible Preferred Stock, Series H Convertible Preferred Stock, Series H2 Convertible Preferred Stock, Series J Convertible Preferred Stock and Series K Convertible Preferred Stock were outstanding. Further, in connection with those private placements and the Series D registered direct offering, we issued warrants to purchase common stock. In addition, as of December 31, 2016, we had issued notes convertible into common stock at prices ranging from $0.28 to $0.45 per common share. If all of the outstanding shares of Series D Convertible Preferred Stock, Series G Convertible Preferred Stock, Series H Convertible Preferred Stock, Series H2 Convertible Preferred Stock, Series J Convertible Preferred Stock and Series K Convertible Preferred Stock were converted into shares of common stock and all outstanding options and warrants to purchase shares of common stock were exercised and all notes were converted, each as of December 31, 2016, an additional 73,515,600 shares of common stock would be issued and outstanding. This additional issuance of shares of common stock would cause immediate and substantial dilution to our existing stockholders and could cause a significant reduction in the market price of our common stock.

Sales of a significant number of shares of our common stock in the public market or the perception of such possible sales, could depress the market price of our common stock.

Sales of a substantial number of shares of our common stock in the public markets, which include an offering of our preferred stock or common stock could depress the market price of our common stock and impair our ability to raise capital through the sale of additional equity or equity-related securities. We cannot predict the effect that future sales of our common stock or other equity-related securities would have on the market price of our common stock.

Our share price could be volatile and our trading volume may fluctuate substantially.

The price of common stock has been and may in the future continue to be extremely volatile. Many factors could have a significant impact on the future price of our shares of common stock, including:

- our inability to raise additional capital to fund our operations, whether through the issuance of equity securities or debt;
- our failure to successfully implement our business objectives;
- compliance with ongoing regulatory requirements;
- market acceptance of our products;
- technological innovations and new commercial products by our competitors;

changes in government regulations;

general economic conditions and other external factors;

actual or anticipated fluctuations in our quarterly financial and operating results; and

the degree of trading liquidity in our shares of common stock.

A decline in the price of our shares of common stock could affect our ability to raise further working capital and adversely impact our ability to continue operations.

The relatively low price of our shares of common stock, and a decline in the price of our shares of common stock, could result in a reduction in the liquidity of our common stock and a reduction in our ability to raise capital. Because a significant portion of our operations has been and will continue to be financed through the sale of equity securities, a decline in the price of our shares of common stock could be especially detrimental to our liquidity and our operations. Such reductions and declines may force us to reallocate funds from other planned uses and may have a significant negative effect on our business plans and operations, including our ability to continue our current operations. If the price for our shares of common stock declines, it may be more difficult to raise additional capital. If we are unable to raise sufficient capital, and we are unable to generate funds from operations sufficient to meet our obligations, we will not have the resources to continue our operations.

The market price for our shares of common stock may also be affected by our ability to meet or exceed expectations of analysts or investors. Any failure to meet these expectations, even if minor, may have a material adverse effect on the market price of our shares of common stock.

If we issue additional securities in the future, it will likely result in the dilution of our shares of existing stockholders.

As of December 31, 2016, there were 30,999,839 shares of common stock issued and outstanding. Similarly, at such time, there were no shares of Series A Junior Participating Preferred Stock; Series A Convertible Preferred Stock; Series B Convertible Preferred Stock; Series C Convertible Preferred Stock; and Series E Convertible Preferred Stock. As of December 31, 2016 there were 300 shares of Series D Convertible Preferred Stock issued and outstanding and convertible into 750,000 shares of common stock, 86,570 shares of Series G Convertible Preferred Stock issued and outstanding convertible into 865,700 shares of common stock, 10,000 shares of Series H Convertible Preferred Stock issued and outstanding convertible into 1,000,000 shares of common stock, 21 shares of Series H2 Convertible Preferred Stock issued and outstanding convertible into 2,100,000 shares of common stock, 3,521 shares of Series J Convertible Preferred Stock issued and outstanding convertible into 3,521,000 shares of common stock, and 6,816 shares of Series K Convertible Preferred Stock issued and outstanding convertible into 6,816,000 shares of common stock.

As of December 31, 2016, there were outstanding options and warrants to purchase an aggregate of 31,728,945 shares of common stock; and convertible debt convertible into 26,733,955 shares of common stock. From time to time, we also may increase the number of shares available for issuance in connection with our equity compensation plan, we may adopt new equity compensation plans, and we may issue awards to our employees and others who provide services to us outside the terms of our equity compensation plans. Our board of directors may fix and determine the designations, rights, preferences or other variations of each class or series of preferred stock and may choose to issue some or all of such shares to provide additional financing in the future.

The issuance of any securities for acquisition, licensing or financing efforts, upon conversion of any preferred stock or exercise of warrants, pursuant to our equity compensation plans, or otherwise may result in a reduction of the book value and market price of the outstanding shares of our common stock. If we issue any such additional securities, such issuance will cause a reduction in the proportionate ownership and voting power of all current stockholders. Further, such issuance may result in a change in control of our Company.

Financial Industry Regulatory Authority ("FINRA") sales practice requirements may also limit a stockholder's ability to buy and sell our common stock.

FINRA has adopted rules that require that in recommending an investment to a customer, a broker-dealer must have reasonable grounds for believing that the investment is suitable for that customer. Prior to recommending speculative low-priced securities to their non-institutional customers, broker-dealers must make reasonable efforts to obtain information about the customer's financial status, tax status, investment objectives and other information. Under interpretations of these rules, FINRA believes that there is a high probability that speculative low-priced securities will not be suitable for at least some customers. FINRA requirements make it more difficult for broker-dealers to recommend that their customers buy our common stock, which may limit your ability to buy and sell our common stock and have an adverse effect on the market for our shares.

Our Common Stock is subject to the "Penny Stock" rules of the SEC and the trading market in our securities is limited, which makes transactions in our stock cumbersome and may reduce the value of an investment in our stock.

The Securities and Exchange Commission has adopted Rule 15g-9 which establishes the definition of a "penny stock," for the purposes relevant to us, as any equity security that has a market price of less than $5.00 per share or with an exercise price of less than $5.00 per share, subject to certain exceptions. For any transaction involving a penny stock, unless exempt, the rules require:

That a broker or dealer approve a person's account for transactions in penny stocks; and

The broker or dealer receives from the investor a written agreement to the transaction, setting forth the identity and quantity of the penny stock to be purchased.

In order to approve a person's account for transactions in penny stocks, the broker or dealer must:

Obtain financial information and investment experience objectives of the person; and

Make a reasonable determination that the transactions in penny stocks are suitable for that person and the person has sufficient knowledge and experience in financial matters to be capable of evaluating the risks of transactions in penny stocks.

The broker or dealer must also deliver, prior to any transaction in a penny stock, a disclosure schedule prescribed by the Commission relating to the penny stock market, which, in highlight form:

Sets forth the basis on which the broker or dealer made the suitability determination; and

That the broker or dealer received a signed, written agreement from the investor prior to the transaction.

Generally, brokers may be less willing to execute transactions in securities subject to the "penny stock" rules. This may make it more difficult for investors to dispose of our common stock and cause a decline in the market value of our stock.

Disclosure also has to be made about the risks of investing in penny stocks in both public offerings and in secondary trading and about the commissions payable to both the broker-dealer and the registered representative, current

quotations for the securities and the rights and remedies available to an investor in cases of fraud in penny stock transactions. Finally, monthly statements have to be sent disclosing recent price information for the penny stock held in the account and information on the limited market in penny stocks.

We have never declared or paid a cash dividend on our common stock and we do not expect to pay cash dividends on our common stock in the foreseeable future.

Our shares of Series D Convertible Preferred Stock are entitled to certain rights, privileges and preferences over our common stock, including a preference upon a liquidation of our Company, which will reduce amounts available for distribution to the holders of our common stock.

The holders of our shares of Series D are entitled to payment, prior to payment to the holders of common stock in the event of liquidation of the Company. If we are dissolved, liquidated or wound up at a time when the Series D Preferred Stock remain outstanding, the holders of the Series D Preferred Stock will be entitled to receive only an amount equal to the liquidation preference (as it may be adjusted from time to time), plus any accumulated and unpaid dividends, to the extent that we have funds legally available. Any remaining assets will be distributable to holders of our other equity securities.

Shares eligible* for *future sale may adversely affect the market.

From time to time, certain of our stockholders may be eligible to sell all or some of their shares of common stock by means of ordinary brokerage transactions in the open market pursuant to Rule 144 promulgated under the Securities Act, subject to certain limitations. In general, pursuant to amended Rule 144, non-affiliate stockholders may sell freely after six months subject only to the current public information requirement. Affiliates may sell after six months subject to the Rule 144 volume, manner of sale (for equity securities), current public information and notice requirements. Any substantial sales of our common stock pursuant to Rule 144 may have a material adverse effect on the market price of our common stock.

We currently do not intend to pay dividends on our common stock. As result, your only opportunity to achieve a return on your investment is if the price of our common stock appreciates.

We currently do not expect to declare or pay dividends on our common stock. In addition, in the future we may enter into agreements that prohibit or restrict our ability to declare or pay dividends on our common stock. As a result, your only opportunity to achieve a return on your investment will be if the market price of our common stock appreciates and you sell your shares at a profit.

We could issue additional common stock, which might dilute the book value of our Common Stock.

Our Board of Directors has authority, without action or vote of our shareholders, to issue all or a part of our authorized but unissued shares. Such stock issuances could be made at a price that reflects a discount or a premium from the then-current trading price of our common stock. In addition, in order to raise capital, we may need to issue securities that are convertible into or exchangeable for our common stock. These issuances would dilute the percentage ownership interest, which would have the effect of reducing your influence on matters on which our shareholders vote, and might dilute the book value of our common stock. You may incur additional dilution if holders of stock warrants or options, whether currently outstanding or subsequently granted, exercise their options, or if warrant holders exercise their warrants to purchase shares of our common stock.

ITEM 1B. UNRESOLVED STAFF COMMENTS.

Not Applicable.

ITEM 2. PROPERTIES.

Our corporate office is currently located at 14 Norfolk Avenue, South Easton, Massachusetts 02375. We are currently paying $4,800 per month, on a lease extension, signed on December 29, 2016, that expires December 31, 2017, for our corporate office.

On November 1, 2014 we signed a lease for lab space in Medford, MA. We subsequently expanded our space in Medford. The lease expires December 30, 2017 and requires monthly payments of $5,385 subject to annual cost of living increases.

ITEM 3. LEGAL PROCEEDINGS.

We are not currently involved in any litigation that we believe could have a material adverse effect on our financial condition or results of operations. There is no action, suit, or proceeding by any court, public board, government agency, self-regulatory organization or body pending or, to the knowledge of the executive officers of our Company or our subsidiary, threatened against or affecting our Company, our common stock, our subsidiary or of our companies or our subsidiary’s officers or directors in their capacities as such, in which an adverse decision could have a material adverse effect.

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 currently traded on the OTCQB tier of the OTC Markets under the trading symbol "PBIO."

The following table sets forth, for the periods indicated, the high and low sales price and the high and low bids, as applicable, per share of common stock, as reported by the OTC Markets from January 1, 2015 through December 31, 2016.

	Year Ended December 31, 2016	
	High	Low
First Quarter	$0.51	$0.28
Second Quarter	$0.58	$0.26
Third Quarter	$0.46	$0.28
Fourth Quarter	$0.40	$0.18

	Year Ended December 31, 2015	
	High	Low
First Quarter	$0.45	$0.17
Second Quarter	$0.38	$0.20
Third Quarter	$0.32	$0.20
Fourth Quarter	$0.49	$0.20

Authorized Capital

As of December 31, 2016, we were authorized to issue 100,000,000 shares of common stock, $.01 par value, and 1,000,000 shares of preferred stock, $.01 par value. Of the 1,000,000 shares of preferred stock, 20,000 shares were designated as Series A Junior Participating Preferred Stock, 313,960 shares as Series A Convertible Preferred Stock, 279,256 shares as Series B Convertible Preferred Stock, 88,098 shares as Series C Convertible Preferred Stock, 850 shares as Series D Convertible Preferred Stock, 500 shares as Series E Convertible Preferred Stock, 240,000 shares as

Series G Convertible Preferred Stock, 10,000 shares as Series H Convertible Preferred Stock, 21 shares as Series H2 Convertible Preferred Stock, 6,250 shares as Series J Convertible Preferred Stock and 15,000 shares as Series K Convertible Preferred Stock.

As of December 31, 2016, there were 30,999,839 shares of common stock issued and outstanding. Similarly, at such time, there were no shares of Series A Junior Participating Preferred Stock; Series A Convertible Preferred Stock; Series B Convertible Preferred Stock; Series C Convertible Preferred Stock; Series E Convertible Preferred Stock. As of December 31, 2016 there were 300 shares of Series D Convertible Preferred Stock issued and outstanding and convertible into 750,000 shares of common stock, 86,570 shares of Series G Convertible Preferred Stock issued and outstanding convertible into 865,700 shares of common stock, 10,000 shares of Series H Convertible Preferred Stock issued and outstanding convertible into 1,000,000 shares of common stock, 21 shares of Series H2 Convertible Preferred Stock issued and outstanding convertible into 2,100,000 shares of common stock, 3,521 shares of Series J Convertible Preferred Stock issued and outstanding convertible into 3,521,000 shares of common stock, and 6,816 shares of Series K Convertible Preferred Stock issued and outstanding convertible into 6,816,000 shares of common stock.

Approximate Number of Equity Security Holders

As of December 31, 2016, there were approximately 213 stockholders of record. Because shares of our common stock are held by depositaries, brokers and other nominees, the number of beneficial holders of our shares is substantially larger than the number of stockholders of record.

Dividends

We have never declared or paid any cash dividends on common stock and do not plan to pay any cash dividends on common stock in the foreseeable future.

As of December 31, 2016, dividends issued or to be issued on convertible preferred stock for the years ended December 31, 2016 and 2015 are outlined in the table below.

Dividends paid in common stock or cash For The Year Ended December 31,			**Dividends payable For The Year Ended December 31,**		
	2016	**2015**		**2016**	**2015**
Series D	$ -	$ -	Series D	$ -	$ -
Series E	-	-	Series E	-	-
Series G	-	-	Series G	1,200	1,200
Series H	-	-	Series H	-	-
Series H2	-	-	Series H2	-	-
Series J	442	-	Series J	83,484	83,926
Series K	63,413	14,894	Series K	108,620	170,607
	$ 63,855	$ 14,894		$ 193,304	$ 255,733

ITEM 6. SELECTED FINANCIAL DATA.

Not Applicable.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATION.

OVERVIEW

We are focused on solving the challenging problems inherent in biological sample preparation, a crucial laboratory step performed by scientists worldwide working in biological life sciences research. Sample preparation is a term that refers to a wide range of activities that precede most forms of scientific analysis. Sample preparation is often complex, time-consuming and, in our belief, one of the most error-prone steps of scientific research. It is a widely-used laboratory undertaking – the requirements of which drive what we believe is a large and growing worldwide market. We have developed and patented a novel, enabling technology platform that can control the sample preparation process. It is based on harnessing the unique properties of high hydrostatic pressure. This process, which we refer to as PCT, uses alternating cycles of hydrostatic pressure between ambient and ultra-high levels i.e., 20,000 psi or greater to safely, conveniently and reproducibly control the actions of molecules in biological samples, such as cells and tissues from human, animal, plant and microbial sources.

PCT is an enabling platform technology based on a physical process that had not previously been used to control bio-molecular interactions. PCT uses internally developed instrumentation that is capable of cycling pressure between ambient and ultra-high levels at controlled temperatures and specific time intervals, to rapidly and repeatedly control the interactions of bio-molecules, such as proteins, DNA, RNA, lipids and small molecules. Our laboratory instrument family, the Barocycler®, and our internally developed consumables product line, which include our unique MicroTubes, MicroCaps, MicroPestles, BaroFlex and PULSE® (Pressure Used to Lyse Samples for Extraction) Tubes, and application specific kits (containing consumable products and reagents), together make up our PCT SPS.

In 2015, together with an investment bank, we formed a subsidiary called Pressure BioSciences Europe ("PBI Europe") in Poland. We have 49% ownership interest with the investment bank retaining 51%. As of now, PBI Europe does not have any operating activities and we cannot reasonably predict when operations will commence. Therefore, we don't have control of the subsidiary and did not consolidate them in our financial statements. PBI Europe did not have any operations in 2016.

Patents

PBI has 14 United States granted patents and one foreign granted patent (Japan: 5587770, EXTRACTION AND PARTITIONING OF MOLECULES) covering multiple applications of PCT in the life sciences field. PBI also has 19 pending patents in the USA, Canada, Europe, Australia, China, and Taiwan PCT employs a unique approach that we believe has the potential for broad use in a number of established and emerging life sciences areas, which include, but

are not limited to:

- biological sample preparation – including but not limited to sample extraction, homogenization, and digestion - in such study areas as genomic, proteomic, lipidomic, metabolomic and small molecule;
- pathogen inactivation;
- protein purification;
- control of chemical reactions, particularly enzymatic; and
- immunodiagnostics.

We are also the exclusive distributor, throughout the Americas, for Constant System's cell disruption equipment, parts, and consumables. CS, a British company located several hours northwest of London, England, has been providing niche biomedical equipment, related consumable products, and services to a global client base since 1989. CS designs, develops, and manufactures high pressure cell disruption equipment required by life sciences laboratories worldwide, particularly disruption systems for the extraction of proteins. The CS equipment provides a constant and controlled cell disruptive environment, giving the user superior, constant, and reproducible results whatever the application. CS has over 900 units installed in over 40 countries worldwide. The CS cell disruption equipment has proven performance in the extraction of cellular components, such as protein from yeast, bacteria, mammalian cells, and other sample types.

The CS pressure-based cell disruption equipment and our PCT-based instrumentation complement each other in several important ways. While both the CS and our technologies are based on high pressure, each product line has fundamental scientific capabilities that the other does not offer. Our PCT Platform uses certain patented pressure mechanisms to achieve small-scale, molecular level effects. CS's technology uses different, proprietary pressure mechanisms for larger-scale, non-molecular level processing. In a number of routine laboratory applications, such as protein extraction, both effects can be critical to success. Therefore, for protein extraction and a number of other important scientific applications, we believe laboratories will benefit by using the CS and our products, either separately or together.

Primary Fields of Use and Application for PCT

Sample preparation is widely regarded as a significant impediment to research and discovery and sample extraction is generally regarded as one of the key parts of sample preparation. The process of preparing samples for genomic, proteomic, lipidomic, and small molecule studies includes a crucial step called sample extraction or sample disruption. This is the process of extracting biomolecules such as nucleic acid i.e., DNA and/or RNA, proteins, lipids, or small molecules from the plant or animal cells and tissues that are being studied. Our current commercialization efforts are based upon our belief that pressure cycling technology provides a superior solution for sample extraction when compared to other available technologies or procedures and thus might significantly improve the quality of sample preparation, and thus the quality of the test result.

Within the broad field of biological sample preparation, in particular sample extraction, we focus the majority of our PCT and constant pressure ("CP") product development efforts in three specific areas: biomarker discovery (primarily through mass spectrometric analysis), forensics, and histology. We believe that our existing PCT and CP-based instrumentation and related consumable products fill an important and growing need in the sample preparation market for the safe, rapid, versatile, reproducible and quality extraction of nucleic acids, proteins, lipids, and small molecules from a wide variety of plant, animal, and microbiological cells and tissues.

Biomarker Discovery - Mass Spectrometry

A biomarker is any substance (e.g., protein, DNA) that can be used as an indicator of the presence or absence of a particular disease-state or condition, and/or to measure the progression and effects of therapy. Biomarkers can help in the diagnosis, prognosis, therapy, prevention, surveillance, control, and cure of diseases and medical conditions.

A mass spectrometer is a laboratory instrument used in the analysis of biological samples, often focused on proteins, in life sciences research. It is frequently used to help discover biomarkers. According to a recently published market report by Transparency Market Research, "Spectrometry Market (Atomic, Molecular and Mass Spectrometry) - Global

Scenario, Trends, Industry Analysis, Size, Share & Forecast 2011 – 2017," the global spectrometry market was worth $10.2 billion in 2011 and is expected to reach $15.2 billion in 2017, growing at a compound annual growth rate of 6.9% from 2011 to 2017. In the overall global market, the North American market is expected to maintain its lead position in terms of revenue until 2017 and is expected to have approximately 36.2% of the market revenue share in 2017, followed by Europe. We believe PCT and CP-based products offer significant advantages in speed and quality compared with current techniques used in the preparation of samples for mass spectrometry analysis.

Forensics

The detection of DNA has become a part of the analysis of forensic samples by laboratories and criminal justice agencies worldwide in their efforts to identify the perpetrators of violent crimes and missing persons. Scientists from the University of North Texas and Florida International University have reported improvements in DNA yield from forensic samples (e.g., bone and hair) when using the PCT platform in the sample preparation process. We believe that PCT may be capable of differentially extracting DNA from sperm cells and female epithelial cells captured in swabs collected from rape victims and subsequently stored in rape kits. We also believe that there are many completed rape kits that remain untested for reasons such as cost, time and quality of results. We further believe that the ability to differentially extract DNA from sperm and not epithelial cells could reduce the cost of such testing, while increasing the quality, safety and speed of the testing process.

Histology

The most commonly used technique worldwide for the preservation of cancer and other tissues for subsequent pathology evaluation is process them into formalin-fixed, paraffin-embedded (“FFPE”) tissue samples. We believe that the quality and analysis of FFPE tissues is highly problematic, and that PCT offers significant advantages over current processing methods, including standardization, speed, biomolecule recovery, and safety.

Our customers include researchers at academic laboratories, government agencies, biotechnology companies, pharmaceutical firms, and other life science institutions in the North, Central, and South America; Europe, and Asia. Our goal is to continue aggressive market penetration in these target groups. We also believe that there is a significant opportunity to sell and/or lease additional Barocycler® instrumentation to additional laboratories at current customer institutions.

If we are successful in commercializing PCT in applications beyond our current focus area of genomic, proteomic, lipidomic, and small molecule sample preparation, and if we are successful in our attempts to attract additional capital, our potential customer base could expand to include hospitals, reference laboratories, pharmaceutical manufacturing plants and other sites involved in each specific application. If we are successful in forensics, our potential customers could be forensic laboratories, military and other government agencies. If we are successful in histology (extraction of biomolecules from FFPE tissues), our potential customers could be pharmaceutical companies, hospitals, and laboratories focused on drug discovery or correlation of disease states.

Going Concern

We have experienced negative cash flows from operations with respect to our pressure cycling technology business since our inception. As of December 31, 2016, we did not have adequate working capital resources to satisfy our current liabilities and as a result we have substantial doubt about our ability to continue as a going concern. Based on our current projections, including equity financing subsequent to December 31, 2016, we believe we will have the cash resources that will enable us to continue to fund normal operations into the foreseeable future.

The audit report issued by our independent registered public accounting firm on our audited consolidated financial statements for the fiscal year ended December 31, 2016, contains an explanatory paragraph regarding our ability to continue as a going concern. The audit report issued by our independent registered public accounting firm for our financial statements for the fiscal year ended December 31, 2016 states that our auditing firm has substantial doubt in our ability to continue as a going concern due to the risk that we may not have sufficient cash and liquid assets to cover our operating and capital requirements for the next twelve-month period; and, if sufficient cash cannot be obtained, we would have to substantially alter, or possibly even discontinue, operations. The accompanying financial statements do not include any adjustments that might result from the outcome of this uncertainty.

The conditions described above could adversely affect our ability to obtain additional financing on favorable terms, if at all, and may cause investors to have reservations about our long-term prospects, and may adversely affect our relationships with customers. There can be no assurance that our auditing firm will not issue the same opinion in the future. If we cannot successfully continue as a going concern, our stockholders may lose their entire investment in us.

RESULTS OF OPERATIONS

Year Ended December 31, 2016 as compared with December 31, 2015

Revenue

We had total revenue of $1,976,487, in the year ended December 31, 2016 as compared with $1,797,691 in the prior year, a 10% increase. The increase was due to product sales growth.

Products, Services, and Other. Revenue from the sale of products and services was $1,794,749 in the year ended December 31, 2016 compared with $1,409,991 in the year ended December 31, 2015, a 27% increase. Revenue included sales of both PBI and CS's pressure-based products. Sales of instrumentation increased in 2016 by $369,909 or 44%, from $835,611 for FY 2015 to $1,205,520 for FY 2016. Sales of consumables were $199,873 for the year ended December 31, 2016 compared to $146,408 for the same period in 2015, an increase of $53,465 or 37%. Products, Services, and Other Revenue included $63,956 from non-cash transactions in the current year while the prior year included non-cash transactions of $78,743. Revenue from non-cash transactions was recognized on the fair value of the assets involved per ASC 845.

Grant Revenue. During 2016, we recorded $181,738 of grant revenue as compared with $387,700 in 2015. In December 2014, the Company was awarded a $1,020,969 SBIR Phase II grant (2R44HG007136) from the National Human Genome Research Institute of the NIH. Entitled "High Pressure Sample Preparation Instrumentation for DNA Sequencing", this grant is helping to fund the development of an automated, high-throughput, high pressure system (instrument and consumables) to enable significantly better control of DNA fragmentation - a critical step in the preparation of samples for Next Generation Sequencing platforms. This system will be based on significant technological advancements over the classic hydrodynamic DNA shearing approach that has been successfully and widely used in the field of DNA sequencing for many years.

Cost of Products and Services

The cost of products and services was $834,012 for the year ended December 31, 2016, compared with $609,054 in 2015. Our gross profit margin on products and services was 58% for FY 2016 vs. 66% for FY 2015. The current year margin was affected by the transfer of personnel to operations from sales and marketing. The relationship between the cost of products and services and revenue depends greatly on the mix of instruments we sell, the quantity of such instruments, and the mix of consumable products and instrument accessories that we sell in a given period.

Research and Development

Research and development expenditures were $1,183,011 for 2016 compared to $1,105,295 in 2015, an increase of $77,716 or 7%. This increase resulted primarily from the addition of a Ph.D. level electrical engineer, costs related to the continued development of an enhanced rape kit test based on the PCT Platform, and a rent increase related to additional R&D space. Research and development expense also included $65,500 and $50,617 of non-cash, stock-based compensation in 2016 and 2015, respectively.

Selling and Marketing

Selling and marketing expenses were $872,365 in 2016 compared to $745,574 in 2015, an increase of $126,791, or 17%. This increase is primarily attributed to an increase in employee staffing, collaboration activities, and rental space for product demonstrations. Selling and marketing expense included $42,314 and $32,704 of non-cash stock based compensation expense in 2016 and 2015, respectively.

General and Administrative

General and administrative costs were $2,822,752 in the year ended December 31, 2016, as compared with $2,902,950 in 2015, a decrease of $80,198 or 3%. This decrease was due primarily to credits received from charges incurred with a former professional service provider offset by additional stock-based compensation. During the years ended December 31, 2016 and 2015, general and administrative expense included $272,150 and $125,668 of non-cash, stock-based compensation expense, respectively.

Operating Loss

Our operating loss was $3,735,653 for the year ended December 31, 2016 as compared to $3,565,182 for the prior year, an increase of $170,471 or 5%. This increase in operating loss was due primarily to increases in R&D and Sales and Marketing expenses, off-set to a certain extent by an increase in total revenue.

Other income (expense), net

Interest Expense. Net interest expense totaled $4,501,186 for the year ended December 31, 2016 as compared to interest expense of $4,146,416 for the year ended December 31, 2015. In connection with loans issued in 2015 and 2016, we are amortizing deferred financing costs and imputed interest against the debt discount on loans.

Other income (expense) net

We recognized $1,112 in expense during 2016, compared to $36,879 of expense from the initial fair value calculation on the conversion option on our convertible debt instruments in 2015.

Impairment loss on investment

The value of our investment in common stock of Everest Investments Holdings S.A. (“Everest”) has declined since the date of receipt of the stock in 2015. We evaluated the decline and considered it as an “other than temporary impairment” reduction. Thus, the impairment loss was recognized as a charge in the consolidated statements of operations. During 2016, we recorded total impairment losses related to $373,682 which represented the reduction in value of these securities.

Gain on extinguishment of embedded derivative liabilities

In connection with full payments of convertible debt, we recorded non-cash gains of $2,555,180 on short-term loans relating to the conversion options issued with the loans in 2015.

Change in fair value of derivative liabilities

During the year ended December 31, 2016, we recorded non-cash income of $5,904,649 from warrant and conversion option liability revaluations in our consolidated statements of operations due to a decrease in the fair value of the derivative warrants and the conversion option liabilities on our debt. This decrease in fair value was primarily due to a decrease in the price per share of our common stock. During the year ended December 31, 2015, we recorded non-cash charges of $2,222,001 for warrant and conversion option liability revaluations due to an increase in fair value of the liabilities.

Income Taxes

We did not record an income tax benefit or provision for the years ended December 31, 2016 or 2015.

Net Loss

During the year ended December 31, 2016, we recorded a net loss applicable to common stockholders of $2,706,984 or $(0.10) per share, as compared with $7,438,492 or $(0.36) per share during the year ended December 31, 2015. This decrease in net loss is primarily attributable to the current year non-cash income from warrant and conversion option liability revaluations.

LIQUIDITY AND FINANCIAL CONDITION

As of December 31, 2016, we did not have adequate working capital resources to satisfy our current liabilities. We have been successful in raising cash through debt and equity offerings in the past. We issued a promissory note in the aggregate principal amount of up to $2,000,000 in October 2016 that we can draw funds from, and, through March 1, 2017, we have drawn down the entire $2 million ($750,000 subsequent to December 31, 2016). We have efforts in place to continue to raise cash through debt and equity offerings.

We believe our current and projected capital raising plans, and our projected continued increases in revenue, will enable us to extend our cash resources for the foreseeable future. Although we have successfully completed equity and debt financings and reduced expenses in the past, we cannot assure you that our plans to address these matters in the future will be successful.

We believe we will need approximately $15 million in additional capital to fund our three-pronged operational plan, which was designed to help increase revenues and reach profitability, by:

A. implementing a next-generation upgrade to our product line and offering a superior instrument with greater net margins;

B. gaining additional non-dilutive monies from governmental research and development applications, and/or engineering projects; and

C. hiring a small team of sales and marketing persons to target research facilities and academic institutions, and cultivate our current customer list of pharmaceutical, military and paramilitary organizations.

However, if we are unable to obtain such funds through sales, the capital markets or other source of financing on acceptable terms, or at all, we will likely be required to cease our operations, pursue a plan to sell our operating assets, or otherwise modify our business strategy, which could materially harm our future business prospects. These conditions raise substantive doubt about our ability to continue as a going concern.

Net cash used in operating activities was $3,805,851 for the year ended December 31, 2016 as compared with $3,819,746 for the year ended December 31, 2015. Our accounts payable balance was $407,249 as of December 31, 2016, as compared with $941,389 as of December 31, 2015, a decrease of 57% from 2015. Accounts payable should continue to become more current as we continue to secure more capital and funds from operations; this should allow for more timely payments to our vendors.

We invested $7,203 in fixed assets during the year ended December 31, 2016 as compared with $9,412 investment in fixed assets in the prior year.

Net cash provided by financing activities for the year ended December 31, 2016 was $3,834,634 as compared with $3,471,993 in the prior year.

In 2016,

A $2,105,420 in aggregate net proceeds were raised from sales of convertible debentures and $107,000 payments were made for convertible debt.

B Loans in the aggregate amount of $1,022,784 were received during the year and we made payments on new and existing debt of $947,702.

C From August 29 through December 31, 2016, we completed five tranches of a private placement, pursuant to which we sold and issued an aggregate of 1,525,000 shares of common stock, for a purchase price of $0.40 per share, resulting in net proceeds to us of $530,965.

D $1,133,500 in aggregate net proceeds were drawn down from a revolving note facility.

E $116,667 net proceeds were received from related party debt and we made payments of $20,000

Our common stock is currently traded on the OTCQB tier of the OTC Markets under the trading symbol “PBIO.”

COMMITMENTS AND CONTINGENCIES

Royalty Commitments

In 1996, we acquired our initial equity interest in BioSeq, Incorporated ("*BioSeq*"). At the time, BioSeq was developing our original pressure cycling technology. They acquired its pressure cycling technology from BioMolecular Assays, Inc. ("*BMA*") under a technology transfer and patent assignment agreement. In 1998, we purchased all of the remaining, outstanding capital stock of BioSeq; and, consequently, the technology transfer and patent assignment agreement was amended to require us to pay BMA a 5% royalty on our sales of products or services that incorporate or utilize the original pressure cycling technology that BioSeq acquired from BMA. Similarly, the Company is required to pay BMA 5% of the proceeds from any sale, transfer or license of all or any portion of the original pressure cycling technology. These payment obligations terminated March 7, 2016. During the year ended December 31, 2016 and 2015, we incurred approximately $6,963 and $31,301, respectively, in royalty expense associated with our obligation to BMA.

In connection with our acquisition of BioSeq, we licensed certain limited rights to the original pressure cycling technology back to BMA. This license is non-exclusive and limits the use of the original pressure cycling technology by BMA solely for molecular applications in scientific research and development, and in scientific plant research and development. BMA is required to pay us a royalty equal to 20% of any license or other fees and royalties, but not including research support and similar payments, it receives in connection with any sale, assignment, license or other transfer of any rights granted to BMA under the license. BMA was required to pay us these royalties until the expiration of the patents held by BioSeq in March 2016. We have not received any royalty payments from BMA under this license.

Battelle Memorial Institute

In December 2008, we entered into an exclusive patent license agreement with the Battelle Memorial Institute ("*Battelle*"). The licensed technology is described in the patent application filed by Battelle on July 31, 2008 (US serial number 12/183,219). This application includes subject matter related to a method and a system for improving the analysis of protein samples including, through an automated system, utilizing pressure and a pre-selected agent to obtain a digested sample in a significantly shorter period of time than current methods, while maintaining the integrity of the sample throughout the preparatory process. Pursuant to the terms of the agreement, we paid Battelle a non-refundable initial fee of $35,000. In addition to royalty payments on net sales on "licensed products," we are obligated to make minimum royalty payments for each year we retain the rights outlined in the patent license agreement; and, we are required to have our first commercial sale of the licensed products within one year following the issuance of the patent covered by the licensed technology. After re-negotiating the terms of the contract in 2013, the minimum annual royalty was $1,200 in 2014 and $2,000 in 2015; the minimum royalties are $3,000 in 2016, $4,000 in 2017 and $5,000 in 2018 and each calendar year thereafter during the term of the agreement.

Target Discovery Inc.

In March 2010, we signed a strategic product licensing, manufacturing, co-marketing, and collaborative research and development agreement with Target Discovery Inc. ("*TDI*"). Under the terms of the agreement, we have been licensed by TDI to manufacture and sell a highly innovative line of chemicals used in the preparation of tissues for scientific analysis ("*TDI reagents*"). The TDI reagents were designed for use in combination with our pressure cycling technology. The respective companies believe that the combination of PCT and the TDI reagents can fill an existing need in life science research for an automated method for rapid extraction and recovery of intact, functional proteins associated with cell membranes in tissue samples. We did not incur any royalty obligation under this agreement in 2016 or 2015. We executed an amendment to this agreement on October 1, 2016 wherein we agreed to pay a monthly fee of $1,400 for the use of a lab bench, shared space and other utilities, and $2,000 per day for technical support services as needed.

Severance and Change of Control Agreements

Each of Mr. Schumacher, Dr. Ting, Dr. Lazarev, and Dr. Lawrence, executive officers of the Company, are entitled to receive a severance payment if terminated by us without cause. The severance benefits would include a payment in an amount equal to one year of such executive officer's annualized base salary compensation plus accrued paid time off. Additionally, the officer will be entitled to receive medical and dental insurance coverage for one year following the date of termination.

Pursuant to severance agreements with each of Mr. Schumacher, Dr. Ting, Dr. Lazarev and Dr. Lawrence, each such executive officers, is entitled to receive a change of control payment in an amount equal to one year (other than Mr. Schumacher) of such executive officer's annualized base salary compensation, accrued paid time off, and medical and dental coverage, in the event of a change of control of our Company. In the case of Mr. Schumacher, his payment is equal to two years of annualized base salary compensation, accrued paid time off, and two years of medical and dental coverage.

Pursuant to our equity incentive plans, any unvested stock options held by a named executive officer will become fully vested upon a change in control (as defined in the 2005 Equity Incentive Plan) of our Company.

Lease Commitments

We lease building space under non-cancelable leases in South Easton, MA and lab space in Medford, MA. Rental costs are expensed as incurred. During 2016 and 2015 we incurred $125,819 and $105,169, respectively, in rent expense for the use of our corporate office and research and development facilities.

Following is a schedule by years of future minimum rental payments required under operating leases with initial or remaining non-cancelable lease terms in excess of one year as of December 31, 2016:

2017	$122,220
Thereafter	-
	$122,220

Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements as of December 31, 2016 and December 31, 2015.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

Principles of Consolidation

The consolidated financial statements include the accounts of Pressure BioSciences, Inc., and its wholly-owned subsidiary PBI BioSeq, Inc. All intercompany accounts and transactions have been eliminated in consolidation.

Use of Estimates

To prepare our consolidated financial statements in conformity with accounting principles generally accepted in the United States of America, we are required to make significant estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. In addition, significant estimates were made in projecting future cash flows to quantify deferred tax assets, the costs associated with fulfilling our warranty obligations for the instruments that we sell, and the estimates employed in our calculation of fair value of stock options awarded and warrant derivative liability. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results could differ from the estimates and assumptions used.

Revenue Recognition

We recognize revenue in accordance with FASB ASC 605, *Revenue Recognition*. Revenue is recognized when realized or when realizable and earned when all the following criteria have been met: persuasive evidence of an arrangement exists; goods were shipped, delivery of service has occurred and risk of loss has passed to the customer; the seller's price to the buyer is fixed or determinable; and collectability is reasonably assured.

Our current Barocycler® instruments require a basic level of instrumentation expertise to set-up for initial operation. To support a favorable first experience for our customers, upon customer request, and for an additional fee, will send a highly trained technical representative to the customer site to install Barocycler®s that we sell, lease, or rent through our domestic sales force. The installation process includes uncrating and setting up the instrument, followed by introductory user training. Product revenue related to current Barocycler® instrumentation and Constant Systems products is recognized upon shipment of the unit. In the case where the customer requests installation and training, the additional revenue related to the installation and training is recognized upon the completion of the installation and introductory training process of the instrumentation at the customer location. Product revenue related to sales of PCT instrumentation to our foreign distributors is recognized upon shipment through a common carrier. We provide for the expected costs of warranty upon the recognition of revenue for the sales of our instrumentation. Our sales arrangements do not provide our customers with a right of return. Product revenue related to our consumable products such as PULSE® Tubes, MicroTubes, and application specific kits is recorded upon shipment through a common carrier. Shipping costs are included in sales and marketing expense. Any shipping costs billed to customers are recognized as revenue.

We apply ASC 845, "Accounting for Non-Monetary Transactions", to account for products and services sold through non-cash transactions based on the fair values of the products and services involved, where such values can be determined. Non-cash exchanges would require revenue to be recognized at recorded cost or carrying value of the assets or services sold if any of the following conditions apply:

a) The fair value of the asset or service involved is not determinable.

b) The transaction is an exchange of a product or property held for sale in the ordinary course of business for a product or property to be sold in the same line of business to facilitate sales to customers other than the parties to the exchange.

c) The transaction lacks commercial substance.

We currently record revenue for its non-cash transactions at recorded cost or carrying value of the assets or services sold.

In accordance with FASB ASC 840, *Leases*, we account for our lease agreements under the operating method. We record revenue over the life of the lease term and we record depreciation expense on a straight-line basis over the thirty-six month estimated useful life of the Barocycler® instrument. The depreciation expense associated with assets under lease agreement is included in the "Cost of PCT products and services" line item in our accompanying consolidated statements of operations. Many of our lease and rental agreements allow the lessee to purchase the instrument at any point during the term of the agreement with partial or full credit for payments previously made. We pay all maintenance costs associated with the instrument during the term of the leases.

Revenue from government grants is recorded when expenses are incurred under the grant in accordance with the terms of the grant award.

Revenue from the sale of CS's cell disruption equipment, parts, and consumables is recognized when products are shipped.

Deferred revenue represents amounts received from grants and service contracts for which the related revenues have not been recognized because one or more of the revenue recognition criteria have not been met. Revenue from service contracts is recorded ratably over the length of the contract.

Our transactions sometimes involve multiple elements i.e., products and services. Revenue under multiple element arrangements is recognized in accordance with FASB ASC 605-25 *Multiple-Element Arrangements ("ASC 605").* When vendor specific objective evidence or third party evidence of selling price for deliverables in an arrangement cannot be determined, we Company develop a best estimate of the selling price to separate deliverables, and allocates arrangement consideration using the relative selling price method. Additionally, this guidance eliminates the residual method of allocation. If an arrangement includes undelivered elements that are not essential to the functionality of the delivered elements, we defer the fair value of the undelivered elements with the residual revenue allocated to the delivered elements. Fair value is determined based upon the price charged when the element is sold separately. If there is not sufficient evidence of the fair value of the undelivered elements, no revenue is allocated to the delivered elements and the total consideration received is deferred until delivery of those elements for which objective and reliable evidence of the fair value is not available. We provide certain customers with extended service contracts with revenue recognized ratably over the life of the contract.

Intangible Assets

We have classified as intangible assets, costs associated with the fair value of acquired intellectual property. Intangible assets, including patents, are being amortized on a straight-line basis over sixteen years. We perform an annual review of our intangible assets for impairment. When impairment is indicated, any excess of carrying value over fair value is recorded as a loss. As of December 31, 2016 and 2015, the outstanding balance for intangible assets was zero.

Long-Lived Assets

The Company's long-lived assets are reviewed for impairment in accordance with the guidance of the FASB ASC 360-10-05, *Property, Plant, and Equipment*, whenever events or changes in circumstances indicate that the carrying amount of the asset may not be recoverable. Recoverability of an asset to be held and used is measured by a comparison of the carrying amount of an asset to the future undiscounted cash flows expected to be generated by the asset. If such asset is considered to be impaired, the impairment to be recognized is measured by the amount by which the carrying amount of the asset exceeds its fair value. Through December 31, 2016, the Company had not experienced impairment losses on its long-lived assets. While our current and historical operating losses and cash flow are indicators of impairment, we performed an impairment test at December 31, 2016 and determined that such long-lived assets were not impaired.

Warrant Derivative Liability

The warrants issued in November 2011 in connection with the registered direct offering of Series D Convertible Preferred Stock (the "Series D Warrants") and the warrants issued in 2015 and 2016 in connection with the $6.3 million PIPE convertible debentures (the "Debenture Warrants") are measured at fair value and liability-classified because the Series D Warrants Debenture Warrants contained "down-round protection" and therefore, did not meet the scope exception for treatment as a derivative under ASC 815, *Derivatives and Hedging*. Since "down-round protection" is not an input into the calculation of the fair value of the warrants, the warrants cannot be considered indexed to the Company's own stock which is a requirement for the scope exception as outlined under ASC 815. The estimated fair value of the warrants was determined using the binomial model, resulting in an allocation of the gross proceeds of $283,725 to the warrants issued in the Series D registered direct offering.

In connection with the sale of convertible debentures in 2015 and 2016, the estimated fair value of the warrants was determined using the binomial model, resulting in an allocation of the gross proceeds of $2,847,624 to the warrants issued with convertible debentures. The fair value will be affected by changes in inputs to that model including our stock price, expected stock price volatility, the contractual term, and the risk-free interest rate. We will continue to classify the fair value of the warrants as a liability until the warrants are exercised, expire or are amended in a way that would no longer require these warrants to be classified as a liability, whichever comes first.

The down-round protection for the Debenture Warrants and Series D Warrants survives for the life of the Warrants. The down-round protection for the Series D Warrants ends in May 2017.

Conversion Option Liability

We have signed convertible notes and have determined that conversion options are embedded in the notes and it is required to bifurcate the conversion option from the host contract under ASC 815 and account for the derivatives at fair value. The estimated fair value of the conversion options was determined using the binomial model. The fair value of the conversion options will be classified as a liability until the debt is converted by the note holders or paid back by the Company. The fair value will be affected by changes in inputs to that model including our stock price, expected stock price volatility, the contractual term, and the risk-free interest rate. We will continue to classify the fair value of the conversion options as a liability until the conversion options are exercised, expire or are amended in a way that would no longer require these conversion options to be classified as a liability, whichever comes first. We have adopted a sequencing policy that reclassifies contracts (from equity to liabilities) with the most recent inception date first. Thus any available shares are allocated first to contracts with the most recent inception dates.

Accounts Receivable and Allowance for Doubtful Accounts

We maintain allowances for estimated losses resulting from the inability of our customers to make required payments. Judgments are used in determining the allowance for doubtful accounts and are based on a combination of factors. Such factors include historical collection experience, credit policy and specific customer collection issues. In circumstances where we are aware of a specific customer’s inability to meet its financial obligations to us (e.g., due to a bankruptcy filing), we record a specific reserve for bad debts against amounts due to reduce the net recognized receivable to the amount we reasonably believe will be collected. We perform ongoing credit evaluations of our customers and continuously monitor collections and payments from our customers. While actual bad debts have historically been within our expectations and the provisions established, we cannot guarantee that we will continue to experience the same bad debt rates that we have in the past. A significant change in the liquidity or financial position of any of our customers could result in the uncollectability of the related accounts receivable and could adversely impact our operating cash flows in that period.

Inventories

Inventories are valued at the lower of cost (average cost) or market (sales price). The cost of Barocyclers consists of the cost charged by the contract manufacturer. The cost of manufactured goods includes material, freight-in, direct labor, and applicable overhead. In assessing the ultimate realization of inventories, management judgment is required to determine the reserve for obsolete or excess inventory. Inventory on hand may exceed future demand either because the product is obsolete, or because the amount on hand is more than can be used to meet future needs. We provide for the total value of inventories that we determine to be obsolete or excess based on criteria such as customer demand and changing technologies. We historically have not experienced significant inaccuracies in computing our reserves for obsolete or excess inventory.

Equity Transactions

We evaluate the proper classification of our equity instruments that embody an unconditional obligation requiring the issuer to redeem it by transferring assets at a determinable date or that contain certain conditional obligations, typically classified as equity, be classified as a liability. We record amortized financing costs associated with our capital raising efforts in our consolidated statements of operations. These include amortization of debt issue costs such as cash, common stock and warrants and other securities issued to finders and placement agents, and amortization of debt discount created by in-the-money conversion features on convertible debt and allocates the proceeds amongst the securities based on relative fair values. We based our estimates and assumptions on the best information available at the time of valuation; however, changes in these estimates and assumptions could have a material effect on the valuation of the underlying instruments.

Stock-Based Compensation

We account for employee and non-employee director stock-based compensation using the fair value method of accounting. Compensation cost arising from stock options to employees and non-employee directors is recognized using the straight-line method over the vesting period, which represents the requisite service or performance period. The calculation of stock-based compensation requires us to estimate several factors, most notably the term, volatility and forfeitures. We estimate the option term using historical terms and estimate volatility based on historical volatility of our common stock over the option’s expected term. Expected forfeitures based on historical forfeitures are used in calculating the expense related to stock-based compensation associated with stock awards. Our estimates and assumptions are based on the best information available at the time of valuation; however, changes in these estimates and assumptions could have a material effect on the valuation of the underlying instruments.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.

Not Applicable

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of

Pressure BioSciences, Inc. and Subsidiary

South Easton, Massachusetts

We have audited the consolidated balance sheets of Pressure BioSciences, Inc. and Subsidiary (collectively, the "Company") as of December 31, 2016 and 2015, and the related consolidated statements of operations, comprehensive loss, changes in stockholders' deficit, and cash flows for the years then ended. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform an audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its 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 consolidated financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Pressure BioSciences, Inc. and Subsidiary as of December 31, 2016 and 2015, and the results of their operations and their cash flows for the years then ended in conformity with accounting principles generally accepted in the United States of America.

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 2 to the consolidated financial statements, the Company has a working capital deficit and has incurred recurring net losses and 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 are also described in Note 2. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

/s/ MaloneBailey LLP

Houston, Texas
March 22, 2017

PRESSURE BIOSCIENCES, INC. AND SUBSIDIARY

CONSOLIDATED BALANCE SHEETS

DECEMBER 31, 2016 AND 2015

	December 31, 2016	December 31, 2015
ASSETS		
CURRENT ASSETS		
Cash and cash equivalents	$138,363	$116,783
Accounts receivable, net of $28,169 reserve at December 31, 2016 and $0 at December 31, 2015	281,320	113,256
Inventories, net of $20,000 reserve at December 31, 2016 and $50,000 at December 31, 2015	905,284	1,038,371
Prepaid income taxes	7,405	7,381
Prepaid expenses and other current assets	258,103	213,926
Total current assets	1,590,475	1,489,717
Investment in available-for-sale equity securities	25,865	294,522
Property and equipment, net	9,413	20,149
TOTAL ASSETS	$1,625,753	$1,804,388
LIABILITIES AND STOCKHOLDERS' DEFICIT		
CURRENT LIABILITIES		
Accounts payable	$407,249	$941,389
Accrued employee compensation	249,596	176,009
Accrued professional fees and other	956,884	821,088
Deferred revenue	159,654	140,878
Revolving note payable, net of unamortized debt discounts of $637,030 and $0, respectively	612,970	-
Convertible debt, net of unamortized discounts of $2,235,839 and $0, respectively	4,005,702	100,000
Other debt, net of unamortized discounts of $380 and $3,041, respectively	238,157	151,628
Warrant derivative liabilities	1,685,108	3,295,976
Conversion option derivative liabilities	951,059	3,940,791
Total current liabilities	9,266,379	9,567,759
LONG TERM LIABILITIES		
Related party convertible debt, net of unamortized debt discounts of $165,611 and $0, respectively	125,523	-
Convertible debt, net of unamortized discounts of $740,628 and $5,223,658, respectively	529,742	177,342
Deferred revenue	87,527	36,935
TOTAL LIABILITIES	10,009,171	9,782,036
COMMITMENTS AND CONTINGENCIES (Note 7)		
STOCKHOLDERS' DEFICIT		
Series D Convertible Preferred Stock, $.01 par value; 850 shares authorized; 300 shares issued and outstanding on December 31, 2016 and 2015, respectively	3	3

(Liquidation value of $300,000)		
Series G Convertible Preferred Stock, $.01 par value; 240,000 shares authorized; 86,570 shares issued and outstanding on December 31, 2016 and 2015, respectively	866	866
Series H Convertible Preferred Stock, $.01 par value; 10,000 shares authorized; 10,000 shares issued and outstanding on December 31, 2016 and 2015, respectively	100	100
Series H2 Convertible Preferred Stock, $.01 par value; 21 shares authorized; 21 shares issued and outstanding on December 31, 2016 and 2015, respectively	-	-
Series J Convertible Preferred Stock, $.01 par value; 6,250 shares authorized; 3,521 and 3,546 shares issued and outstanding on December 31, 2016 and 2015, respectively	35	36
Series K Convertible Preferred Stock, $.01 par value; 15,000 shares authorized; 6,816 and 11,416 shares issued and outstanding on December 31, 2016 and 2015, respectively	68	114
Common stock, $.01 par value; 100,000,000 shares authorized; 30,999,839 and 23,004,898 shares issued and outstanding on December 31, 2016 and 2015, respectively	309,998	230,050
Warrants to acquire common stock	6,325,102	5,416,681
Additional paid-in capital	27,244,600	26,036,733
Accumulated other comprehensive loss	-	(105,025)
Accumulated deficit	(42,264,190)	(39,557,206)
Total stockholders’ deficit	(8,383,418)	(7,977,648)
TOTAL LIABILITIES AND STOCKHOLDERS’ DEFICIT	$1,625,753	$1,804,388

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

PRESSURE BIOSCIENCES, INC. AND SUBSIDIARY

CONSOLIDATED STATEMENTS OF OPERATIONS

FOR THE YEARS ENDED DECEMBER 31, 2016 AND 2015

	For the Year Ended December 31,	
	2016	**2015**
Revenue:		
Products, services, other	$1,794,749	$1,409,991
Grant revenue	181,738	387,700
Total revenue	1,976,487	1,797,691
Costs and expenses:		
Cost of products and services	834,012	609,054
Research and development	1,183,011	1,105,295
Selling and marketing	872,365	745,574
General and administrative	2,822,752	2,902,950
Total operating costs and expenses	5,712,140	5,362,873
Operating loss	(3,735,653)	(3,565,182)
Other (expense) income:		
Interest expense	(4,501,186)	(4,146,416)
Other expense	(1,112)	(36,879)
Impairment loss on investment	(373,682)	-
Gain on extinguishment of embedded derivative liabilities	-	2,555,180
Change in fair value of derivative liabilities	5,904,649	(2,222,001)
Total other (expense) income	1,028,669	(3,850,116)
Net loss	(2,706,984)	(7,415,298)
Accrued dividends on convertible preferred stock	-	(23,194)
Net loss applicable to common shareholders	$(2,706,984)	$(7,438,492)
Net loss per share attributable to common stockholders - basic and diluted	$(0.10)	$(0.36)
Weighted average common stock shares outstanding used in the basic and diluted net loss per share calculation	27,339,362	20,726,205

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

PRESSURE BIOSCIENCES, INC. AND SUBSIDIARY

CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS

FOR THE YEARS ENDED DECEMBER 31, 2016 AND 2015

	For the Year Ended December 31,	
	2016	**2015**
Comprehensive Loss		
Net loss	$(2,706,984)	$(7,415,298)
Other comprehensive loss		
Unrealized loss on marketable securities	105,025	(105,025)
Comprehensive loss	$(2,601,959)	$(7,520,323)

PRESSURE BIOSCIENCES, INC. AND SUBSIDIARY

CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' DEFICIT

FOR THE YEARS ENDED DECEMBER 31, 2016 AND 2015

	Series D Preferred Stock		Series G Preferred Stock		Series H Preferred Stock		Series H(2)Preferred Stock	
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount
BALANCE, December 31, 2014	300	$ 3	86,570	$ 866	10,000	$ 100	21	$ -
Stock-based compensation	-	-	-	-	-	-	-	-
Issuance of common stock for services	-	-	-	-	-	-	-	-
Warrant revaluation	-	-	-	-	-	-	-	-
Stock exchange with Everest Investments	-	-	-	-	-	-	-	-
Issuance of warrants for services	-	-	-	-	-	-	-	-
Conversion of debt and interest for common stock	-	-	-	-	-	-	-	-
Dividends earned	-	-	-	-	-	-	-	-
Unrealized loss on investments, net of tax	-	-	-	-	-	-	-	-
Net loss	-	-	-	-	-	-	-	-
BALANCE, December 31, 2015	300	$ 3	86,570	$ 866	10,000	$ 100	21	$ -
Stock-based compensation	-	-	-	-	-	-	-	-
Issuance of common stock for services	-	-	-	-	-	-	-	-
Warrant revaluation	-	-	-	-	-	-	-	-
Warrant exercise	-	-	-	-	-	-	-	-
Stock exchange with Everest Investments	-	-	-	-	-	-	-	-
Issuance of warrants for services	-	-	-	-	-	-	-	-
Conversion of debt and interest for common stock	-	-	-	-	-	-	-	-
Issuance of common stock for dividends paid-in-kind	-	-	-	-	-	-	-	-
Conversion of Series J convertible preferred stock	-	-	-	-	-	-	-	-
Conversion of Series K convertible preferred stock	-	-	-	-	-	-	-	-
Common Stock offering	-	-	-	-	-	-	-	-
Offering costs for issuance of common stock	-	-	-	-	-	-	-	-
Stock issued with debt	-	-	-	-	-	-	-	-
Warrants issued with debt	-	-	-	-	-	-	-	-
Unrealized loss on investments, net of tax	-	-	-	-	-	-	-	-
Net loss	-	-	-	-	-	-	-	-
BALANCE, December 31, 2016	300	$ 3	86,570	$ 866	10,000	$ 100	21	$ -

	Series J Preferred Stock		Series K Preferred Stock		Common Stock		Stock	Additional Paid-In	Accumulated other comprehensive	Acc
	Shares	Amount	Shares	Amount	Shares	Amount	Warrants	Capital	loss	Def
BALANCE, December 31, 2014	3,546	$ 36	11,416	$114	18,673,390	$186,734	$ 5,253,566	$ 24,617,564	$ -	$ (3
Stock-based compensation	-	-	-	-	-	-	-	208,989	-	-
Issuance of common stock for services	-	-	-	-	1,755,091	17,551	-	439,479	-	-
Warrant revaluation	-	-	-	-	-	-	69,627	-	-	-
Stock exchange with Everest Investments	-	-	-	-	1,000,000	10,000	-	389,547	-	-
Issuance of warrants for services	-	-	-	-	-	-	93,488	-	-	-
Conversion of debt and interest for common stock	-	-	-	-	1,576,417	15,765	-	381,154	-	-
Dividends earned	-	-	-	-	-	-	-	-	-	(2
Unrealized loss on investments, net of tax	-	-	-	-	-	-	-	-	(105,025)	-
Net loss	-	-	-	-	-	-	-	-	-	(7
BALANCE, December 31, 2015	3,546	$ 36	11,416	$114	23,004,898	$230,050	$ 5,416,681	$ 26,036,733	$ (105,025)	$ (3
Stock-based compensation	-	-	-	-	-	-	-	379,964	-	-
Issuance of common stock for services	-	-	-	-	755,000	7,550	-	325,146	-	-
Warrant exercise	-	-	-	-	22,996	230	(11,100)	10,870	-	-
Issuance of warrants for services	-	-	-	-	-	-	84,735	-	-	-
Conversion of debt and interest for common stock	-	-	-	-	420,849	4,208	-	113,629	-	-
Issuance of common stock for dividends paid-in-kind	-	-	-	-	248,547	2,485	-	61,370	-	-
Conversion of Series J convertible preferred stock	(25)	(1)	-	-	25,000	250	-	(249)	-	-

Conversion of Series K convertible preferred stock	-	-	(4,600)	(46)	4,600,000	46,000	-	(45,954)	-	-
Common stock offering	-	-	-	-	1,525,000	15,250	315,301	279,449	-	-
Offering costs for issuance of common stock	-	-	-	-	-	-	-	(79,035)	-	-
Stock issued with debt	-	-	-	-	397,549	3,975	-	141,956	-	-
Warrants issued with debt	-	-	-	-	-	-	519,485	-	-	-
Beneficial conversion feature	-	-	-	-	-	-	-	20,721	-	-
Unrealized loss on investments, net of tax	-	-	-	-	-	-	-	-	105,025	-
Net loss	-	-	-	-	-	-	-	-	-	(2
BALANCE, December 31, 2016	3,521	$ 35	6,816	$68	30,999,839	$309,998	$ 6,325,102	$ 27,244,600	$ -	$ (4

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

PRESSURE BIOSCIENCES, INC. AND SUBSIDIARY

CONSOLIDATED STATEMENTS OF CASH FLOWS

FOR THE YEARS ENDED DECEMBER 31, 2016 AND 2015

	For the Year Ended December 31,	
	2016	2015
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net loss	$(2,706,984)	$(7,415,298)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	17,939	25,288
Provision for bad debts	28,169	-
Accretion of interest and amortization of debt discount	4,003,485	2,989,765
Penalty interest added to debt principal	41,200	-
Gain on settlement of debt	(5,044)	-
Stock-based compensation expense	379,964	208,989
Warrant expense	84,735	163,115
Amortization of third party fees paid in common stock	332,696	457,030
Impairment loss on investment	373,682	-
Gain on extinguishment of embedded derivative liabilities	-	(2,555,180)
Change in fair value of derivative liabilities	(5,904,649)	2,222,001
Changes in operating assets and liabilities:		
Accounts receivable	(196,233)	158,766
Inventories	133,087	(187,820)
Prepaid expenses and other assets	(44,201)	(15,722)
Accounts payable	(534,140)	(94,392)
Accrued employee compensation	73,587	18,662
Deferred revenue and other accrued expenses	116,856	205,050
Net cash used in operating activities	(3,805,851)	(3,819,746)
CASH FLOWS FROM INVESTING ACTIVITIES:		
Purchases of property plant and equipment	(7,203)	(9,412)
Net cash used in investing activities	(7,203)	(9,412)
CASH FLOWS FROM FINANCING ACTIVITIES:		
Net proceeds from related party debt	116,667	6,300
Payment of related party debt	(20,000)	(12,300)
Net proceeds from revolving note payable	1,133,500	-
Net proceeds from convertible debt	2,105,420	5,558,537
Payments on convertible debt	(107,000)	(2,653,990)
Net proceeds from non-convertible debt	1,022,784	1,257,418
Payments on non-convertible debt	(947,702)	(587,949)
Net proceeds from the issuance of common stock	530,965	-
Payment of accrued prepayment penalty	-	(96,023)

Net cash provided by financing activities	3,834,634	3,471,993
NET INCREASE (DECREASE) IN CASH	21,580	(357,165)
CASH AT BEGINNING OF YEAR	116,783	473,948
CASH AT END OF PERIOD	$138,363	$116,783
SUPPLEMENTAL INFORMATION		
Interest paid in cash	$260,979	$1,072,900
Income taxes paid in cash	-	-
NON CASH TRANSACTIONS:		
Shares issued for conversion of debt and interest	117,837	396,919
Cashless exercise of warrants	11,100	-
Discount due to beneficial conversion feature	20,721	-
Discount due to warrants issued with debt	519,485	-
Common stock issued with debt	104,731	-
Common stock issued to settle non-convertible debt	41,200	-
Conversion of preferred stock and accrued dividends into common stock	63,902	-
Accrued dividends on preferred stock	-	23,194
Issuance of common stock for investment in available-for-sale equity securities	-	399,547
Unrealized loss from available-for-sale equity securities	-	105,025
Debt discount from derivative liability	1,304,049	6,819,730
Debt discount related to accrual of one-time interest	170,000	-
Extension fees added to principal	-	84,000
Prepayment penalty and accrued interest enrolled into debt principal	-	48,950
Reversal of accumulated other comprehensive income to impairment loss on investment	105,025	-

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

PRESSURE BIOSCIENCES, INC. AND SUBSIDIARY

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(1) Business Overview

Pressure Biosciences, Inc. (“we”, “our”, “the Company”) is focused on solving the challenging problems inherent in biological sample preparation, a crucial laboratory step performed by scientists worldwide working in biological life sciences research. Sample preparation is a term that refers to a wide range of activities that precede most forms of scientific analysis. Sample preparation is often complex, time-consuming, and in our belief, one of the most error-prone steps of scientific research. It is a widely-used laboratory undertaking, the requirements of which drive what we believe is a large and growing worldwide market. We have developed and patented a novel, enabling technology platform that can control the sample preparation process. It is based on harnessing the unique properties of high hydrostatic pressure. This process, called pressure cycling technology, or PCT, uses alternating cycles of hydrostatic pressure between ambient and ultra-high levels (35,000 psi or greater) to safely, conveniently and reproducibly control the actions of molecules in biological samples, such as cells and tissues from human, animal, plant, and microbial sources.

Our pressure cycling technology uses internally developed instrumentation that is capable of cycling pressure between ambient and ultra-high levels - at controlled temperatures and specific time intervals - to rapidly and repeatedly control the interactions of bio-molecules, such as DNA, RNA, proteins, lipids, and small molecules. Our laboratory instrument, the Barocycler®®, and our internally developed consumables product line, including PULSE® (Pressure Used to Lyse Samples for Extraction) Tubes, other processing tubes, and application specific kits (which include consumable products and reagents) together make up our PCT Sample Preparation System, or PCT SPS.

In 2015, together with an investment bank, we formed a subsidiary called Pressure BioSciences Europe (“PBI Europe”) in Poland. We have 49% ownership interest with the investment bank retaining 51%. As of now, PBI Europe does not have any operating activities and we cannot reasonably predict when operations will commence. Therefore, we do not have control of the subsidiary and did not consolidate in our financial statements. PBI Europe did not have any operations in 2016 or in 2015.

(2) Going Concern

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern, which contemplates the realization of assets and the liquidation of liabilities in the normal course of business. However, we have experienced negative cash flows from operations with respect to our pressure cycling technology

business since our inception. As of December 31, 2016, we do not have adequate working capital resources to satisfy our current liabilities and as a result, there is substantial doubt regarding our ability to continue as a going concern. We have been successful in raising cash through debt and equity offerings in the past and as described in Notes 8 and 9, completed debt financing subsequent to December 31, 2016. We have financing efforts in place to continue to raise cash through debt and equity offerings.

Management has developed a plan to continue operations. This plan includes obtaining equity or debt financing. During the year ended December 31, 2016 we received $4,378,371 net proceeds, in additional convertible and non-convertible debt. Although we have successfully completed financings and reduced expenses in the past, we cannot assure you that our plans to address these matters in the future will be successful.

We need substantial additional capital to fund normal operations in future periods. In the event that we are unable to obtain financing on acceptable terms, or at all, we will likely be required to cease our operations, pursue a plan to sell our operating assets, or otherwise modify our business strategy, which could materially harm our future business prospects. These financial statements do not include any adjustments that might result from this uncertainty.

(3) Summary of Significant Accounting Policies

i. Principles of Consolidation

The consolidated financial statements include the accounts of Pressure BioSciences, Inc., and its wholly-owned subsidiary PBI BioSeq, Inc. All intercompany accounts and transactions have been eliminated in consolidation.

ii. Use of Estimates

To prepare our consolidated financial statements in conformity with accounting principles generally accepted in the United States of America, we are required to make significant estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. In addition, significant estimates were made in projecting future cash flows to quantify impairment of assets, deferred tax assets, the costs associated with fulfilling our warranty obligations for the instruments that we sell, and the estimates employed in our calculation of fair value of stock options awarded, beneficial conversion features and derivative liabilities. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results could differ from the estimates and assumptions used.

iii. Revenue Recognition

Revenue is recognized when realized or when realizable and earned when all the following criteria have been met: persuasive evidence of an arrangement exists; goods were shipped, delivery of service has occurred and risk of loss has passed to the customer; the seller’s price to the buyer is fixed or determinable; and collectability is reasonably assured.

Our current instruments, the Barocycler NEP3229 and NEP2320, require a basic level of instrumentation expertise to set-up for initial operation. To support a favorable first experience for our customers, upon customer request and for an additional fee, we will send a highly trained technical representative to the customer site to install Barocyclers that we sell, lease, or rent through our domestic sales force. The installation process includes uncrating and setting up the instrument, followed by introductory user training. Product revenue related to current Barocycler instrumentation is recognized upon shipment of the unit, or in the case where the customer requests installation and training, the completion of the installation and introductory training process of the instrumentation at the customer location, for domestic installations. Product revenue related to sales of PCT instrumentation to our foreign distributors is recognized upon shipment through a common carrier. We provide for the expected costs of warranty upon the recognition of revenue for the sales of our instrumentation. Our sales arrangements do not provide our customers with a right of return. Product revenue related to the HUB440 and our consumable products such as PULSE Tubes, MicroTubes, and application specific kits is recorded upon shipment through a common carrier. Shipping costs are included in sales and marketing expense. Any shipping costs billed to customers are recognized as revenue.

The Company applies ASC 845, “Accounting for Non-Monetary Transactions”, to account for products and services sold through non-cash transactions based on the fair values of the products and services involved, where such values can be determined. Non-cash exchanges would require revenue to be recognized at recorded cost or carrying value of

the assets or services sold if any of the following conditions apply:

a) The fair value of the asset or service involved is not determinable.

b) The transaction is an exchange of a product or property held for sale in the ordinary course of business for a product or property to be sold in the same line of business to facilitate sales to customers other than the parties to the exchange.

c) The transaction lacks commercial substance.

The Company currently records revenue for its non-cash transactions at recorded cost or carrying value of the assets or services sold.

We account for our lease agreements under the operating method. We record revenue over the life of the lease term and we record depreciation expense on a straight-line basis over the thirty-six month estimated useful life of the Barocycler instrument. The depreciation expense associated with assets under lease agreement is included in the “Cost of PCT products and services” line item in our consolidated statements of operations. Many of our lease and rental agreements allow the lessee to purchase the instrument at any point during the term of the agreement with partial or full credit for payments previously made. We pay all maintenance costs associated with the instrument during the term of the leases.

Revenue from government grants is recorded when qualifying expenses are incurred under the grant in accordance with the terms of the grant award.

Deferred revenue represents amounts received from grants and the Company’s service contracts for which the related revenues have not been recognized because one or more of the revenue recognition criteria have not been met. The current portion of deferred revenue represents the amount to be recognized within one year from the balance sheet date based on the estimated performance period of the underlying deliverables. Revenue from service contracts is recorded ratably over the length of the contract.

Our transactions sometimes involve multiple elements (i.e., products and services). Revenue under multiple element arrangements is recognized in accordance with FASB ASC 605-25 *Multiple-Element Arrangements (“ASC 605”).* When vendor specific objective evidence or third party evidence of selling price for deliverables in an arrangement cannot be determined, the Company develops a best estimate of the selling price to separate deliverables and allocates arrangement consideration using the relative selling price method. If an arrangement includes undelivered elements that are not essential to the functionality of the delivered elements, we defer the fair value of the undelivered elements to such time as they are delivered. Fair value is determined based upon the price charged when the element is sold separately. If there is not sufficient evidence of the fair value of the undelivered elements the Company uses its best estimate of the value of those items and recognizes revenues based on the relative values of the delivered and undelivered items. We provide certain customers with extended service contracts with revenue recognized ratably

over the life of the contract.

iv. Cash and Cash Equivalents

Our policy is to invest available cash in short-term, investment grade interest-bearing obligations, including money market funds, and bank and corporate debt instruments. Securities purchased with initial maturities of three months or less are valued at cost plus accrued interest, which approximates fair value, and are classified as cash equivalents.

v. Research and Development

Research and development costs, which are comprised of costs incurred in performing research and development activities including wages and associated employee benefits, facilities, consumable products and overhead costs that are expensed as incurred. In support of our research and development activities we utilize our Barocycler instruments that are capitalized as fixed assets and depreciated over their expected useful life.

vi. Inventories

Inventories are valued at the lower of cost (average cost) or market (sales price). The cost of Barocyclers consists of the cost charged by the contract manufacturer. The cost of manufactured goods includes material, freight-in, direct labor, and applicable overhead. The composition of inventory as of December 31, is as follows:

	2016	2015
Raw materials	$326,228	$310,367
Finished goods	599,056	778,004
Inventory reserve	(20,000)	(50,000)
Total	$905,284	$1,038,371

vii. Property and Equipment

Property and equipment are stated at cost, less accumulated depreciation. For financial reporting purposes, depreciation is recognized using the straight-line method, allocating the cost of the assets over their estimated useful lives of three years for certain laboratory equipment, from three to five years for management information systems and office equipment, and three years for all PCT finished units classified as fixed assets.

viii. Intangible Assets

We have classified as intangible assets, costs associated with the fair value of acquired intellectual property. Intangible assets, including patents, are being amortized on a straight-line basis over sixteen years. We perform an annual review of our intangible assets for impairment. When impairment is indicated, any excess of carrying value over fair value is recorded as a loss. As of December 31, 2016 and 2015, the outstanding balance for intangible assets is zero.

ix. Long-Lived Assets

The Company's long-lived assets are reviewed for impairment in accordance with the guidance of the FASB ASC 360-10-05, *Property, Plant, and Equipment*, whenever events or changes in circumstances indicate that the carrying amount of the asset may not be recoverable. Recoverability of an asset to be held and used is measured by a comparison of the carrying amount of an asset to the future undiscounted cash flows expected to be generated by the asset. If such asset is considered to be impaired, the impairment to be recognized is measured by the amount by which the carrying amount of the asset exceeds its fair value. Through December 31, 2016, the Company had not experienced impairment losses on its long-lived assets. While our current and historical operating losses and cash flow are indicators of impairment, we performed an impairment test at December 31, 2016 and determined that such long-lived assets were not impaired.

x. Concentrations

Credit Risk

Our financial instruments that potentially subject us to concentrations of credit risk consist primarily of cash, cash equivalents and trade receivables. We have cash investment policies which, among other things, limit investments to investment-grade securities. We perform ongoing credit evaluations of our customers, and the risk with respect to trade receivables is further mitigated by the fact that many of our customers are government institutions and university labs. Allowances are provided for estimated amounts of accounts receivable which may not be collected. At December 31, 2016 and 2015, we determined that no allowance against accounts receivable was necessary.

The following table illustrates the level of concentration of the below two groups within revenue as a percentage of total revenues during the years ended December 31:

	2016		2015	
Top Five Customers	29	%	38	%
Federal Agencies	3	%	23	%

The following table illustrates the level of concentration of the below two groups within accounts receivable as a percentage of total accounts receivable balance as of December 31:

	2016		2015	
Top Five Customers	82	%	93	%
Federal Agencies	1	%	1	%

Investment in Available-For-Sale Equity Securities

As of December 31, 2016, we held 601,500 shares of common stock of Everest, a Polish publicly traded company listed on the Warsaw Stock Exchange. We exchanged 1,000,000 shares of our common stock for the 601,500 shares from Everest. We account for this investment in accordance with ASC 320 *"Investments — Debt and Equity Securities"* as securities available for sale. On December 31, 2016, our consolidated balance sheet reflected the fair value of our investment in Everest to be $25,865, based on the closing price of Everest shares of $0.043 per share on that day. The carrying value of our investment in Everest common stock held will change from period to period based on the closing price of the common stock of Everest as of the balance sheet date. The change in market value since the receipt of stock amounting to $373,682 was determined to be other than temporary and was recorded by us as an impairment loss in 2016.

xi. Computation of Loss per Share

Basic loss per share is computed by dividing loss available to common shareholders by the weighted average number of common shares outstanding. Diluted loss per share is computed by dividing loss available to common shareholders by the weighted average number of common shares outstanding plus additional common shares that would have been outstanding if dilutive potential common shares had been issued. For purposes of this calculation, convertible preferred stock, common stock dividends, warrants to acquire preferred stock convertible into common stock, and warrants and options to acquire common stock, are all considered common stock equivalents in periods in which they have a dilutive effect and are excluded from this calculation in periods in which these are anti-dilutive. The following table illustrates our computation of loss per share for the years ended December 31:

	2016	2015
Numerator:		
Net loss	$(2,706,984)	$(7,415,298)
Preferred dividends accrued	-	(23,194)
Net loss applicable to common shareholders	$(2,706,984)	$(7,438,492)
Denominator for basic and diluted loss per share:		
Weighted average common shares outstanding	27,339,362	20,726,205
Loss per common share - basic and diluted	$(0.10)	$(0.36)

The following table presents securities that could potentially dilute basic loss per share in the future. For all periods presented, the potentially dilutive securities were not included in the computation of diluted loss per share because these securities would have been anti-dilutive for the years ended December 31:

	2016	2015
Stock options	5,269,250	5,571,250
Convertible debt	26,733,955	19,689,286
Common stock warrants	26,459,695	29,227,664
Convertible preferred stock:		
Series D Convertible Preferred	750,000	750,000
Series G Convertible Preferred	865,700	865,700
Series H Convertible Preferred	1,000,000	1,000,000
Series H2 Convertible Preferred	2,100,000	2,100,000
Series J Convertible Preferred	3,521,000	3,546,000
Series K Convertible Preferred	6,816,000	11,416,000
	73,515,600	74,165,900

xii. Accounting for Income Taxes

We account for income taxes under the asset and liability method, which requires recognition of deferred tax assets, subject to valuation allowances, and liabilities for the expected future tax consequences of events that have been included in the consolidated financial statements or tax returns. Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting and income tax purposes. The Company considers many factors when assessing the likelihood of future realization of our deferred tax assets, including recent cumulative earnings experience by taxing jurisdiction, expectations of future taxable income or loss, the carry-forward periods available to us for tax reporting purposes, and other relevant factors. A valuation allowance is established if it is more likely than not that all or a portion of the net deferred tax assets will not be realized. If substantial changes in the Company’s ownership should occur, as defined in Section 382 of the Internal Revenue Code, there could be significant limitations on the amount of net loss carry forwards that could be used to offset future taxable income.

Tax positions must meet a “more likely than not” recognition threshold at the effective date to be recognized. At December 31, 2016 and 2015, the Company did not have any uncertain tax positions. No interest and penalties related to uncertain tax positions were accrued at December 31, 2016 and 2015.

xiii. Accounting for Stock-Based Compensation

We maintain equity compensation plans under which incentive stock options and non-qualified stock options are granted to employees, independent members of our Board of Directors and outside consultants. We recognize equity compensation expense over the requisite service period using the Black-Scholes formula to estimate the fair value of the stock options on the date of grant. Employee awards are accounted for under ASC 718 where the awards are valued at grant date. Awards given to nonemployees are accounted for under ASC 505 where the awards are valued at earlier of commitment date or completion of services.

Determining Fair Value of Stock Option Grants

Valuation and Amortization Method - The fair value of each option award is estimated on the date of grant using the Black-Scholes pricing model based on certain assumptions. The estimated fair value of employee stock options is amortized to expense using the straight-line method over the vesting period, which generally is over three years.

Expected Term - The Company uses the simplified calculation of expected life, described in the FASB ASC 718, *Compensation-Stock Compensation*, as the Company does not currently have sufficient historical exercise data on which to base an estimate of expected term. Using this method, the expected term is determined using the average of the vesting period and the contractual life of the stock options granted.

Expected Volatility - Expected volatility is based on the Company's historical stock volatility data over the expected term of the award.

Risk-Free Interest Rate - The Company bases the risk-free interest rate used in the Black-Scholes valuation method on the implied yield currently available on U.S. Treasury zero-coupon issues with an equivalent remaining term.

Forfeitures - As required by FASB ASC 718, *Compensation-Stock Compensation*, the Company records stock-based compensation expense only for those awards that are expected to vest. The Company estimated a forfeiture rate of 5% for awards granted based on historical experience and future expectations of options vesting. We used this historical rate as our assumption in calculating future stock-based compensation expense.

The following table summarizes the assumptions we utilized for grants of stock options to the three sub-groups of our stock option recipients during the year ended December 31, 2015:

Assumptions	**Non-Employee Board Members**	**CEO, other Officers and Employees**
Expected life	6.0 (yrs)	6.0 (yrs)
Expected volatility	116.32%-141.15%	116.32%-141.15%
Risk-free interest rate	0.65%-2.54 %	0.65%-2.54 %
Forfeiture rate	5.00 %	5.00 %
Expected dividend yield	0.0 %	0.0 %

We recognized stock-based compensation expense of $379,964 and $208,989 for the years ended December 31, 2016 and 2015, respectively. The following table summarizes the effect of this stock-based compensation expense within each of the line items within our accompanying consolidated statements of operations for the years ended December 31:

	2016	2015
Research and development	$65,500	$50,617
Selling and marketing	42,315	32,704
General and administrative	272,149	125,668
Total stock-based compensation expense	$379,964	$208,989

During the years ended December 31, 2016 and 2015, the total fair value of stock options awarded was $0 and $598,582, respectively.

As of December 31, 2016, the total estimated fair value of unvested stock options to be amortized over their remaining vesting period was $369,224. The non-cash, stock based compensation expense associated with the vesting of these options will be $212,957 in 2017 and $156,267 in 2018.

xiv. Advertising

Advertising costs are expensed as incurred. We incurred $19,125 in 2016 and $12,291 in 2015 for advertising.

xv. Fair Value of Financial Instruments

Due to their short maturities, the carrying amounts for cash and cash equivalents, accounts receivable, accounts payable, and accrued expenses approximate their fair value. Short-term and long-term liabilities are primarily related to liabilities transferred under contractual arrangements with carrying values that approximate fair value.

xvi. Fair Value Measurements

The Company follows the guidance of FASB ASC Topic 820, "*Fair Value Measurements and Disclosures*" ("*ASC 820*") as it related to financial assets and financial liabilities that are recognized or disclosed at fair value in the consolidated financial statements on a recurring basis.

The Company generally defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (exit price). The Company uses a three-tier fair value hierarchy, which classifies the inputs used in measuring fair values. These tiers include: Level 1, defined as observable inputs such as quoted prices for identical instruments in active markets; Level 2, defined as inputs other than quoted prices in active markets that are either directly or indirectly observable; and Level 3, defined as unobservable inputs in which little or no market data exists, therefore requiring an entity to develop its own assumptions.

Financial assets and liabilities are classified in their entirety based on the lowest level of input that is significant to the fair value measurement. The Company has determined that its financial assets are currently classified within Level 1 and that its financial liabilities are currently all classified within Level 3 in the fair value hierarchy.

The following tables set forth the Company's financial assets and financial liabilities that were accounted for at fair value on a recurring basis as of December 31, 2016 and December 31, 2015. The development of the unobservable inputs for Level 3 fair value measurements and fair value calculations are the responsibility of the Company's management.

		Fair value measurements at December 31, 2016 using:		
	December 31, 2016	Quoted prices in active markets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
Available-For-Sale Equity Securities	25,865	25,865	-	-
Total Financial Assets	$ 25,865	$25,865	$ -	$ -

	December 31, 2016	Quoted prices in active markets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
Series D Preferred Stock Purchase Warrants	$23,313	-	-	$ 23,313
Warrants Issued with Convertible Debt	1,661,795	-	-	1,661,795
Conversion Option Derivative Liabilities	951,059	-	-	951,059
Total Derivatives	$2,636,167	$ -	$ -	$ 2,636,167

	December 31, 2015	Fair value measurements at December 31, 2015 using: Quoted prices in active markets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
Available-For-Sale Equity Securities	294,522	294,522	-	-
Total Financial Assets	$294,522	$294,522	$ -	$ -

	December 31, 2015	Quoted prices in active markets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
Series D Preferred Stock Purchase Warrants	$173,526	-	-	$ 173,526
Warrants Issued with Convertible Debt	3,122,450	-	-	3,122,450
Conversion Option Derivative Liabilities	3,940,791	-	-	3,940,791
Total Derivatives	$7,236,767	$ -	$ -	$ 7,236,767

The following table provides a summary of the changes in fair value, including net transfers in and/or out, of the derivative financial instruments, measured at fair value on a recurring basis using significant unobservable inputs:

	January 1, 2016	Issuance fair value	Change in fair value	December 31, 2016
Series D Preferred Stock Purchase Warrants	$ 173,526	$-	$(150,213)	$ 23,313
Warrants Issued with Convertible Debt	3,122,450	1,094,432	(2,555,087)	1,661,795
Conversion Option Derivative Liabilities	3,940,791	1,547,127	(4,536,859)	951,059
Total Derivatives	$ 7,236,767	$2,641,559	$(7,242,159)	$ 2,636,167

	January 1, 2015	Issuance fair value	Change in fair value	Gain on extinguishment of derivative liabilities	December 31, 2015
Series D Preferred Stock Purchase Warrants	$ 159,875	$-	$13,651	$ -	$ 173,526
Warrants Issued with Convertible Debt	-	2,320,021	802,429	-	3,122,450
Conversion Option Derivative Liabilities	590,341	5,305,185	600,445	(2,555,180)	3,940,791
Total Derivatives	$ 750,216	$7,625,206	$1,416,525	$ (2,555,180)	$ 7,236,767

The issuance fair values for 2016 and 2015 include the “day 1” derivative losses on the conversion option derivative liabilities of $1,337,510 and $805,476, respectively, which are included in “change in fair value of derivative liabilities” in the consolidated statements of operations.

The fair value of the derivative liabilities was determined using a binomial pricing model. The assumptions for the binomial pricing model are represented in the table below for the warrants issued in the Series D private placement reflected on a per share common stock equivalent basis.

Assumptions	November 10, 2011	Warrants revalued at December 31, 2015	Warrants revalued at December 31, 2016
Expected life (in months)	60.0	11.0	5.0
Expected volatility	104.5 %	104.9 %	83.5 %
Risk-free interest rate	0.875 %	0.65 %	0.62 %
Exercise price	$ 0.81	$ 0.25	$ 0.25
Fair value per warrant	$ 0.54	$ 0.16	$ 0.02

The assumptions for the binomial pricing model are represented in the table below for the warrants issued with the Convertible Debt in 2015 and 2016 reflected on a per share common stock equivalent basis.

Assumptions	**At Issuance Fair value**	**Warrants revalued at December 31, 2015**	**Warrants revalued at December 31, 2016**
Expected life (in months)	60.0	55.0-60.0	43.0-51.0
Expected volatility	118.3-120.1%	136.3-141.6%	110.0-116.0%
Risk-free interest rate	1.48-1.69 %	1.29-1.76 %	1.93 %
Exercise price	$0.40	$0.40	$0.40
Fair value per warrant	$0.19-$0.21	$0.30	$0.12-0.14

The assumptions for the binomial pricing model are represented in the table below for the conversion options reflected on a per share common stock equivalent basis.

Assumptions	At Issuance fair value	At Settlement fair value	Conversion options revalued at December 31, 2015	Conversion options revalued at December 31, 2016
Expected life (in months)	6.0-24.0	0-18.0	18-24	6.0-15.0
Expected volatility	104.2-153.8%	86.9%-142.2%	112.2-114.7%	84.4-94.8 %
Risk-free interest rate	0.05-0.99 %	0.01-0.72 %	1.06 %	0.62-0.85 %
Exercise price	$0.10-$0.35	$0.10-$0.25	$0.28	$0.28

Fair value per conversion option	$0.09-$0.28	$0.07-$0.26	$0.14-$0.33	$0.03-$0.06

xvii. Recently Issued Accounting Standards

In April 2015, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2015-03, "Simplifying the Presentation of Debt Issuance Costs" ("ASU 2015-03"). ASU 2015-03 requires that debt issuance costs be presented as a direct deduction from the carrying amount of the related debt liability, consistent with the presentation of debt discounts. Prior to the issuance of ASU 2015-03, debt issuance costs were required to be presented as deferred charge assets, separate from the related debt liability. ASU 2015-03 does not change the recognition and measurement requirements for debt issuance costs. The Company early-adopted ASU 2015-03 as of the end of its Fiscal 2015, and applied its provisions retrospectively. The adoption of ASU 2015-03 resulted in the reclassification of approximately $888,000 unamortized debt issuance costs related to the Company's Senior Notes (see Note 8) from other non-current assets to long-term debt within its consolidated balance sheets as of December 31, 2015. Other than this reclassification, the adoption of ASU 2015-03 and other new pronouncements that have been issued did not have an impact on the Company's consolidated financial statements.

(4) Property and Equipment, net

Property and equipment as of December 31, 2016 and 2015 consisted of the following components:

	December 31,	
	2016	2015
Laboratory and manufacturing equipment	$226,326	$226,081
Office equipment	165,832	158,872
Leasehold improvements	8,117	8,117
PCT collaboration, demonstration and leased systems	461,858	461,858
Total property and equipment	862,133	854,928
Less accumulated depreciation	(852,720)	(834,779)
Net book value	$9,413	$20,149

Depreciation expense for the years ended December 31, 2016 and 2015 was $17,939 and $25,288, respectively.

(5) Retirement Plan

We provide all of our employees with the opportunity to participate in our retirement savings plan. Our retirement savings plan has been qualified under Section 401(k) of the Internal Revenue Code. Eligible employees are permitted to contribute to the plan through payroll deductions within statutory limitations and subject to any limitations included in the plan. During 2016 and 2015 we contributed $22,627 and $22,098, respectively, in the form of discretionary Company-matching contributions.

(6) Income Taxes

Tax positions must meet a “more likely than not” recognition threshold at the effective date to be recognized. At December 31, 2016 and 2015, the Company did not have any uncertain tax positions. No interest and penalties related to uncertain tax positions were accrued at December 31, 2016 and 2015. Our tax returns for fiscal years 2013, 2014 and 2015 are open to examination.

We did not record an income tax benefit or provision for the years ended December 31, 2016 and 2015.

Significant items making up the deferred tax assets and deferred tax liabilities as of December 31, 2016 and 2015 are as follows:

	2016	2015
Current deferred taxes		
Inventories	$7,856	$19,640
Accounts receivable allowance	17,253	-
Other accruals	33,399	23,714
Less: valuation allowance	(58,508)	(43,354)
Total current deferred tax assets	$-	$-
Long term deferred taxes:		
Accelerated tax depreciation	$14,582	$14,134
Non-cash, stock-based compensation, nonqualified	711,676	562,426
Impairment loss on investment	146,782	-
Goodwill and intangibles	-	-
Operating loss carry forwards and tax credits	13,561,012	12,028,900
Less: valuation allowance	(14,434,052)	(12,605,460)
Total long term deferred tax assets (liabilities), net	-	-
Total net deferred tax liabilities	$-	$-

A valuation allowance is established if it is more likely than not that all or a portion of the deferred tax asset will not be realized. Accordingly, a valuation allowance was established in 2016 and 2015 for the full amount of our deferred tax assets due to the uncertainty of realization. We believe based on our projection of future taxable operating income for the foreseeable future, it is more likely than not that we will not be able to realize the benefit of the deferred tax asset at December 31, 2016.

We have net operating loss carry-forwards for federal income tax purposes of $30,471,000 as of December 31, 2016. Included in these numbers are loss carry-forwards that were obtained through the acquisition of BioSeq, Inc. and are

subject to Section 382 NOL limitations. These net operating loss carry-forwards expire at various dates from 2018 through 2037.

We had net operating loss carry-forwards for state income tax purposes of approximately $21,547,000 at December 31, 2016. These net operating loss carry-forwards expire at various dates from 2030 through 2037.

We have research and development tax credit carry-forwards for federal income tax purposes of approximately $1,039,000 as of December 31, 2016 and research and development tax credit carry-forwards for state income tax purposes of approximately $207,000 as of December 31, 2016. The federal credit carry-forwards expire at various dates from 2017 through 2037. The state credit carry-forwards expire at various dates from 2023 through 2032.

In addition, we have federal alternative minimum tax credit carry-forwards for federal income tax purposes of approximately $217,000 as of December 31, 2016. These credits do not expire.

Our effective income tax (benefit) provision rate was different than the statutory federal income tax (benefit) provision rate as follows for the years ended December 31:

	2016		2015	
Federal tax provision rate	34	%	34	%
Permanent differences	24	%	(12	)%
State tax expense	0	%	0	%
Refundable AMT and R&D tax credit	0	%	0	%
Net operating loss carry back	0	%	0	%
Valuation allowance	(58	)%	(23	)%
Effective income tax provision	0	%	0	%

(7) Commitments and Contingencies

Operating Leases

Our corporate office is currently located at 14 Norfolk Avenue, South Easton, Massachusetts 02375. We are currently paying $4,800 per month, on a lease extension, signed on December 29, 2016, that expires December 31, 2017, for our corporate office.

On November 1, 2014 we signed a lease for lab space in Medford, MA. We subsequently expanded our space in Medford. The lease expires December 30, 2017 and requires monthly payments of $5,385 subject to annual cost of living increases.

Following is a schedule by years of future minimum rental payments required under operating leases with initial or remaining non-cancelable lease terms in excess of one year as of December 31, 2016:

2017	$122,220
Thereafter	-
Total minimum payments required	$122,220

Royalty Commitments

BioMolecular Assays, Inc.

In 1996, we acquired our initial equity interest in BioSeq, Inc., which at the time was developing our original pressure cycling technology. BioSeq, Inc. acquired its pressure cycling technology from BioMolecular Assays, Inc. under a technology transfer and patent assignment agreement. In 1998, we purchased all of the remaining outstanding capital stock of BioSeq, Inc., and at such time, the technology transfer and patent assignment agreement was amended to require us to pay BioMolecular Assays, Inc., a 5% royalty on our sales of products or services that incorporate or utilize the original pressure cycling technology that BioSeq, Inc. acquired from BioMolecular Assays, Inc. We are also required to pay BioMolecular Assays, Inc. 5% of the proceeds from any sale, transfer or license of all or any portion of the original pressure cycling technology. These payment obligations terminated on March 7, 2016. During the years ended December 31, 2016 and 2015, we incurred approximately $6,963 and $31,301, respectively, in royalty expense associated with our obligation to BioMolecular Assays, Inc.

In connection with our acquisition of BioSeq, Inc., we licensed certain limited rights to the original pressure cycling technology back to BioMolecular Assays, Inc. This license is non-exclusive and limits the use of the original pressure cycling technology by BioMolecular Assays, Inc. solely for molecular applications in scientific research and development and in scientific plant research and development. BioMolecular Assays, Inc. is required to pay us a royalty equal to 20% of any license or other fees and royalties, but not including research support and similar payments, it receives in connection with any sale, assignment, license or other transfer of any rights granted to BioMolecular Assays, Inc. under the license. BioMolecular Assays, Inc. was required to pay us these royalties until the expiration in March 2016 of the patents held by BioSeq, Inc. since 1998. We have not received any royalty payments from BioMolecular Assays, Inc. under this license.

Battelle Memorial Institute

In December 2008, we entered into an exclusive patent license agreement with the Battelle Memorial Institute (“*Battelle*”). The licensed technology is the subject of a patent application filed by Battelle in 2008 and relates to a method and a system for improving the analysis of protein samples, including through an automated system utilizing pressure and a pre-selected agent to obtain a digested sample in a significantly shorter period of time than current methods, while maintaining the integrity of the sample throughout the preparatory process. In addition to royalty payments on net sales on “licensed products,” we are obligated to make minimum royalty payments for each year that we retain the rights outlined in the patent license agreement and we are required to have our first commercial sale of the licensed products within one year following the issuance of the patent covered by the licensed technology. After re-negotiating the terms of the contract in 2013, the minimum annual royalty was $1,200 in 2014 and $2,000 in 2015; the minimum royalties are $3,000 in 2016, $4,000 in 2017 and $5,000 in 2018 and each calendar year thereafter during the term of the agreement.

Target Discovery Inc.

In March 2010, we signed a strategic product licensing, manufacturing, co-marketing, and collaborative research and development agreement with Target Discovery Inc. (“*TDI*”). Under the terms of the agreement, we have been licensed by TDI to manufacture and sell a highly innovative line of chemicals used in the preparation of tissues for scientific analysis (“*TDI reagents*”). The TDI reagents were designed for use in combination with our pressure cycling technology. The companies believe that the combination of PCT and the TDI reagents can fill an existing need in life science research for an automated method for rapid extraction and recovery of intact, functional proteins associated with cell membranes in tissue samples. We did not incur any royalty obligation under this agreement in 2015 or 2014.

In April 2012, we signed a non-exclusive license agreement with TDI to grant the non-exclusive use of our pressure cycling technology. We recorded $20,000 and $22,000 of minimum royalty income in 2016 and 2015, respectively. We executed an amendment to this agreement on October 1, 2016 wherein we agreed to pay a monthly fee of $1,400 for the use of a lab bench, shared space and other utilities, and $2,000 per day for technical support services as needed.

Severance and Change of Control Agreements

Each of Mr. Schumacher, and Drs. Ting, Lazarev, and Lawrence, executive officers of the Company, are entitled to receive a severance payment if terminated by us without cause. The severance benefits would include a payment in an amount equal to one year of such executive officer’s annualized base salary compensation plus accrued paid time off. Additionally, the officer will be entitled to receive medical and dental insurance coverage for one year following the date of termination.

Each of these executive officers, other than Mr. Schumacher, is entitled to receive a change of control payment in an amount equal to one year of such executive officer's annualized base salary compensation, accrued paid time off, and medical and dental coverage, in the event of a change of control of the Company. In the case of Mr. Schumacher, this payment would be equal to two years of annualized base salary compensation, accrued paid time off, and two years of medical and dental coverage. The severance payment is meant to induce the aforementioned executives to remain in the employ of the Company, in general; and particularly in the occurrence of a change in control, as a disincentive to the control change.

(8) Convertible Debt and Other Debt

Senior Secured Convertible Debentures and Warrants

We entered into Subscription Agreements (the "Subscription Agreement") with various individuals (each, a "Purchaser") between July 23, 2015 and March 31, 2016, pursuant to which the Company sold Senior Secured Convertible Debentures (the "Debentures") and warrants to purchase shares of common stock equal to 50% of the number of shares issuable pursuant to the subscription amount (the "Warrants") for an aggregate purchase price of $6,329,549 (the "Purchase Price").

The Company issued a principal aggregate amount of $6,962,504 in Debentures which includes a 10% original issue discount on the Purchase Price. The Debenture does not accrue any additional interest during the first year it is outstanding but accrues interest at a rate equal to 10% per annum for the second year it is outstanding. The Debenture has a maturity date of two years from issuance. The Debenture is convertible any time after its issuance date. The Purchaser has the right to convert the Debenture into shares of the Company's common stock at a fixed conversion price equal to $0.28 per share, subject to applicable adjustments. In the second year that the Debenture is outstanding, any interest accrued shall be payable quarterly in either cash or common stock, at the Company's discretion.

At any time after the Issuance Date, the Company has the option, subject to certain conditions, to redeem some or all of the then outstanding principal amount of the Debenture for cash in an amount equal to the sum of (i) 120% of the then outstanding principal amount of the Debenture, (ii) accrued but unpaid interest and (iii) any liquidated damages and other amounts due in respect of the Debenture.

The Company issued warrants exercisable into a total of 11,302,766 shares of our common stock. The Warrants issued in this transaction are immediately exercisable at an exercise price of $0.40 per share, subject to applicable adjustments including full ratchet anti-dilution in the event that we issue any securities at a price lower than the exercise price then in effect. The Warrants have an expiration period of five years from the original issue date. The Warrants are subject to adjustment for stock splits, stock dividends or recapitalizations and also include anti-dilution price protection for subsequent equity sales below the exercise price.

Subject to the terms and conditions of the Warrants, at any time commencing six months from the Final Closing, the Company has the right to call the Warrants for cancellation if the volume weighted average price of its Common Stock on the OTCQB (or other primary trading market or exchange on which the Common Stock is then traded) equals or exceeds three times the per share exercise price of the Warrants for 15 out of 20 consecutive trading days.

In connection with the Subscription Agreement and Debenture, the Company entered into Security Agreements with the Purchasers whereby the Company agreed to grant to Purchasers an unconditional and continuing, first priority security interest in all of the assets and property of the Company to secure the prompt payment, performance and discharge in full of all of Company's obligations under the Debentures, Warrants and the other Transaction Documents.

The Company determined that the conversion feature of the Debentures met the definition of a liability in accordance with ASC 815-40 and therefore bifurcated the conversion feature on each debt agreement and accounted for it as a derivative liability. The fair value of the conversion feature was accounted for as a note discount and are amortized to interest expense over the life of the loan. The fair value of the conversion feature was reflected in the conversion option liability line in the condensed consolidated balance sheets.

The proceeds from these convertible debts were allocated between the host debt instrument and the convertible option based on the residual method. The estimated fair value of the convertible option was determined using a binomial formula, resulting in allocations to the convertible option and accounted for as a liability in the Company's condensed consolidated balance sheet. In accordance with the provisions of ASC 815-40, the gross proceeds are offset by debt discounts, which are amortized to interest expense over the expected life of the debt.

ASC 470-20 states that the proceeds from the issuance of debt with detachable stock warrants should be allocated between the debt and warrants on the basis of their relative fair market values. The debt discount will be amortized to interest expense over the two-year term of these loans. We amortized $3,740,746 of the debt discount to interest expense in 2016. The warrants issued in connection with the convertible debentures are classified as warrant derivative liabilities because the warrants are entitled to certain rights in subsequent financings and the warrants contain “down-round protection” and therefore, do not meet the scope exception for treatment as a derivative under ASC 815, Derivatives and Hedging, (“ASC 815”). Since “down-round protection” is not an input into the calculation of the fair value of the warrants, the warrants cannot be considered indexed to the Company’s own stock which is a requirement for the scope exception as outlined under ASC 815. The estimated fair value of the warrants was determined using the binomial model, resulting in an allocation of $2,847,624 to the total warrants out of the gross proceeds of $6,329,549. The fair value will be affected by changes in inputs to that model including our stock price, expected stock price volatility, the contractual term, and the risk-free interest rate. We will continue to classify the fair value of the warrants as a liability until the warrants are exercised, expire or are amended in a way that would no longer require these warrants to be classified as a liability, whichever comes first.

Other convertible notes

On May 13, 2016, one lender converted an outstanding note issued on April 28, 2015 and the related accrued interest totaling $117,837 to 420,849 common shares. As of December 31, 2016, the outstanding balance on the note was zero.

On May 24, 2016, we sold an additional convertible note for $107,000 with warrants to purchase 50,000 shares of common stock at an exercise price of $0.55 per share. The purchaser has the right to convert the notes into shares of the Company’s common stock at a fixed conversion price equal to $0.45 per share, subject to applicable adjustments. The estimated fair value of the warrants was determined using the binomial model, resulting in an allocation of $12,406 to the total warrants and the recognition of a beneficial conversion feature of $7,962, both of which were recorded as a discount to the note. We evaluated the convertible note and warrants for derivative liability treatment and determined that these instruments do not include certain rights such as price protection like our previous debt financings. Accordingly, we concluded that this financing arrangement did not qualify for derivative accounting treatment.

On June 14, 2016, we sold an additional convertible note for $115,000 and issued 30,667 common shares to compensate the lender. On July 1, 2016, the note was modified to increase the principal amount to $200,000 and we received the remaining proceeds of $85,000 on the same date and issued 34,333 common shares as compensation to the lender. The lender has the right to convert the note into shares of the Company’s common stock at fixed conversion price equal to $0.45 per share, subject to applicable adjustments. We valued the total 65,000 common shares using the stock prices at the respective dates the note proceeds were received and recorded the relative fair value of the shares amounting to $26,000 as a debt discount to be amortized over the term of the loan. We then computed the effective conversion price of the note, noting that no beneficial conversion feature exists. We also evaluated the convertible note for derivative liability treatment and determined that the instrument does not include certain rights such as price

protection like our previous debt financing. Accordingly, we concluded that this financing arrangement did not qualify for derivative accounting treatment.

On July 29, 2016, we sold an additional convertible note for $100,000 and issued 32,500 common shares to compensate the lender. The lender has the right to convert the notes into shares of the Company's common stock at a fixed conversion price equal to $0.45 per share, subject to applicable adjustments. The proceeds were allocated between the convertible note and shares of common stock based on their relative fair values. The relative fair values of the convertible note and the common shares was $87,241 and $12,759, respectively. We then computed the effective conversion price of the note, noting that the convertible debt gave rise to a beneficial conversion feature (BCF) of $12,759. The sum of the relative fair value of the common shares and the BCF of $25,518 was recorded as a debt discount to be amortized over the term of the loan. We also evaluated the convertible note for derivative liability treatment and determined that the instruments does not include certain rights such as price protection like our previous debt financings. Accordingly, we concluded that this financing arrangements did not qualify for derivative accounting treatment.

On September 15, 2016, we sold an additional convertible note for $500,000 and issued 200,000 common shares to compensate the lender. The lender has the right to convert the notes into shares of the Company's common stock at a fixed conversion price equal to $0.45 per share, subject to applicable adjustments. The convertible note includes an original issue discount of $40,541 and is subject to a one-time interest of 9% or $45,000 which was recorded as a debt discount and amortized over the term of the loan. The proceeds were allocated between the convertible note and shares of common stock based on their relative fair values. The relative fair value of the convertible note was $434,028. The allocation of the gross proceeds to the shares of common stock was $65,972 and recorded as a debt discount to be amortized over the term of the loan. We then computed the effective conversion price of the note, noting that no beneficial conversion feature exists. We also evaluated the convertible note for derivative liability treatment and determined that the instrument does not include certain rights such as price protection like our previous debt financings. Accordingly, we concluded that this financing arrangement did not qualify for derivative accounting treatment.

The specific terms of the convertible notes and outstanding balances as of December 31, 2016 are listed in the tables below.

Fixed Rate Convertible Notes

Inception Date	Term	Loan Amount	Outstanding Balance	Original Issue Discount	Interest Rate	Deferred Finance Fees	Discount related to fair value of conversion feature and warrants/shares
July 22, 2015	24 months	$2,180,000	$ 2,180,000	$218,000 [1]	10 %[2]	$388,532	$ 2,163,074
September 25, 2015	24 months	1,100,000	1,100,000	110,000 [1]	10 %[2]	185,956	1,022,052
October 2, 2015	24 months	150,000	150,000	15,000 [1]	10 %[2]	26,345	140,832
October 6, 2015	24 months	30,000	30,000	3,000 [1]	10 %[2]	5,168	26,721
October 14, 2015	24 months	50,000	50,000	5,000 [1]	10 %[2]	8,954	49,377
November 2, 2015	24 months	250,000	250,000	25,000 [1]	10 %[2]	43,079	222,723
November 10, 2015	24 months	50,000	50,000	5,000 [1]	10 %[2]	8,790	46,984
November 12, 2015	24 months	215,000	215,000	21,500 [1]	10 %[2]	38,518	212,399
November 20, 2015	24 months	200,000	200,000	20,000 [1]	10 %[2]	37,185	200,000
December 4, 2015	24 months	170,000	170,000	17,000 [1]	10 %[2]	37,352	170,000
December 11, 2015	24 months	360,000	360,000	36,000 [1]	10 %[2]	75,449	360,000
December 18, 2015	24 months	55,000	55,000	5,500 [1]	10 %[2]	11,714	55,000
December 31, 2015	24 months	100,000	100,000	10,000 [1]	10 %[2]	20,634	100,000
January 11, 2016	24 months	100,000	100,000	10,000 [1]	10 %[2]	24,966	80,034
January 20, 2016	24 months	50,000	50,000	5,000 [1]	10 %[2]	9,812	40,188
January 29, 2016	24 months	300,000	300,000	30,000 [1]	10 %[2]	60,887	239,113
February 26, 2016	24 months	200,000	200,000	20,000 [1]	10 %[2]	43,952	156,048
March 10, 2016	24 months	125,000	125,000	12,500 [1]	10 %[2]	18,260	106,740
March 18, 2016	24 months	360,000	360,000	36,000 [1]	10 %[2]	94,992	265,008
March 24, 2016	24 months	106,667	106,667	10,667 [1]	10 %[2]	15,427	91,240
March 31, 2016	24 months	167,882	167,882	16,788 [1]	10 %[2]	2,436	165,446
April 5, 2016	24 months	10,000	10,000	1,000 [1]	10 %[2]	-	10,000
May 24, 2016	7 months	100,000	100,000	7,000	0 %	-	20,368
June 15, 2016	6 months	40,000	40,000	-	12 %	-	3,680
June 17, 2016	6 months	40,000	40,000	-	12 %	-	3,899
June 22, 2016	6 months	35,000	35,000	-	12 %	-	3,373
July 6, 2016	6 months	85,000	85,000	-	12 %	-	15,048
July 29, 2016	6 months	100,000	100,000	-	12 %	-	25,518
September 15, 2016	8 months	500,000	500,000	85,541	9 %	-	65,972

$7,229,549	$ 7,229,549	$ 725,496	$ 1,158,408	$ 6,060,837

1. The original issue discount is reflected in the first year.

2. The annual interest started accruing in the second year.

As of December 31, 2016, a total of approximately $291,000 convertible debentures were purchased by related parties who were members of the Company's Board of Directors and management and their family members.

Deferred finance fees included cash commissions amounting to $621,500 and the fair value of the 2,101,786 warrants issued to the placement agent amounting to $536,908. For the year ended December 31, 2016, the Company recognized amortization expense related to the debt discounts indicated above of $3,876,622. The unamortized debt discounts as of December 31, 2016 related to the convertible debentures and other convertible notes amounted to $3,142,078.

Revolving Note Payable

On October 28, 2016, an accredited investor (the "*Investor*") purchased from us a promissory note in the aggregate principal amount of up to $2,000,000 (the "*Revolving Note*") due and payable on the earlier of October 28, 2017 (the "*Maturity Date*") or on the seventh business day after the closing of a Qualified Offering (as defined in the Revolving Note). Although the Revolving Note is dated October 26, 2016, the transaction did not close until October 28, 2016, when we received its initial $250,000 advance pursuant to the Revolving Note. As a result, on the same day and pursuant to the Revolving Note, we issued to the Investor a Common Stock Purchase Warrant to purchase 625,000 shares of our common stock at an exercise price per share equal to $0.40 per share. The Investor is obligated to provide us with advances of $250,000 under the Revolving Note, but the Investor shall not be required to advance more than $250,000 in any individual fifteen (15) day period and no more than $500,000 in the thirty (30) day period immediately following the date of the initial advance. Notwithstanding the fifteen (15) day period limitation, on November 2, 2016, November 23, 2016, December 6, 2016 and December 16, 2016, we received $1,000,000 pursuant to the Revolving Note and we issued to the Investor additional warrants to purchase 2,500,000 shares of our Common Stock. The terms of the Warrants are identical except for the exercise date, issue date, and termination date.

In the event that a Qualified Offering occurs on or prior to the six (6) month anniversary of October 28, 2016, within seven (7) Business Days of the closing of the Qualified Offering, the Company shall pay a cash fee equal to five percent (5%) of the total outstanding amount owed by the Company to the Holder as of the closing date of the Qualified Offering or, at the option of the Company, issue to the Holder a number of restricted shares of the Company's common stock equal to (x) five percent (5%) of the total outstanding amount owed by the Company to the Holder as of the closing date of the Qualified Offering divided by (y) the purchase price provided by the documents governing the Qualified Offering. A Qualified Offering means the completion of a public offering of the Company's

securities pursuant to which the Company receives aggregate gross proceeds of at least Seven Million United States Dollars (US$7,000,000) in consideration of the purchase of its securities and resulting in, pursuant to the effectiveness of the registration statement for such offering, the Company's common stock being traded on the NASDAQ Capital Market, NASDAQ Global Select Market or the New York Stock Exchange.

In the event that a Qualified Offering occurs following the six (6) month anniversary of October 28, 2016, but prior to the Maturity Date, within seven(7) Business Days of the closing of the Qualified Offering, the Company shall pay a cash fee equal to five percent (5%) of the total outstanding amount owed by the Company to the Holder as of the closing date of the Qualified Offering or, at the option of the Company, issue to the Holder a number of restricted shares of the Company's common stock equal to (x) five percent (5%) of the total outstanding amount owed by the Company to the Holder as of the closing date of the Qualified Offering divided by (y) the purchase price provided by the documents governing the Qualified Offering.

Interest on the principal balance of the Revolving Note shall be paid in full on the Maturity Date, unless otherwise paid prior to the Maturity Date. Interest shall be assessed as follows: (i) a one-time interest of 10% on all principal amounts advanced prior to April 28, 2017; (ii) the foregoing and 4% on any amount remaining outstanding if the principal amount is repaid between April 28, 2017 and July 28, 2017; or (iii) both of the foregoing and 4% on any amount remaining outstanding if the principal amount is repaid between July 28, 2017 and October 28, 2017.

Broker fees amounting to $116,500, the one-time interest of $125,000 and the fair value of the 3,125,000 warrants issued to the Investor amounting to $479,730 were recorded as debt discounts and amortized over the term of the revolving note. For the year ended December 31, 2016, the Company recognized amortization expense related to the debt discounts indicated above of $84,200. The unamortized debt discounts as of December 31, 2016 related to the convertible debentures amounted to $637,030.

The following table provides a summary of the changes in convertible debt and revolving note payable, net of unamortized discounts, during 2016:

	2016
Balance at January 1,	$277,342
Issuance of convertible debt, face value	2,509,045
Issuance of revolving note payable, face value	1,250,000
Original issue discount	(189,496)
Debt discount from derivative liabilities (embedded conversion option and warrants)	(1,153,817)
Debt discount from beneficial conversion feature	(20,721)
Deferred financing fees	(385,371)
Debt discount related to one-time interest charge	(170,000)
Repayment of convertible debt	(107,000)
Conversion of convertible debt into common stock	(100.000)
Debt discount from shares and warrants issued with the notes	(596,867)
Accretion of interest and amortization of debt discount to interest expense	3,960,822

Balance at December 31,	5,273,937
Less: revolving note payable	612,970
Less: current portion of convertible debt	4,005,702
Convertible debt, long-term portion	$655,265

Other Notes

On January 15, 2015 we signed a Merchant Agreement with a lender. Under the agreement, we received $150,000 in exchange for rights to all customer receipts until the lender was paid $187,500, which was collected at the rate of $744 per business day. The payments were secured by essentially all tangible assets of the Company. $67,925 of the proceeds were used to pay off the outstanding balance of a previous loan from this lender. The Company paid $1,875 in fees in connection with this loan. The note was paid off in its entirety prior to December 31, 2015.

On January 29, 2015 we signed a Merchant Agreement with a lender. Under the agreement, we received $200,000 in exchange for rights to all customer receipts until the lender was paid $278,000, which was collected at the rate of $1,985 per business day. The payments were secured by essentially all tangible assets of the Company. The Company paid $999 in fees in connection with this loan. The note was paid off in its entirety prior to December 31, 2015.

On March 17, 2015 we signed a Merchant Agreement with a lender. Under the agreement, we received $50,000 in exchange for rights to all customer receipts until the lender was paid $67,450, which was collected at the rate of $559 per business day. The payments were secured by essentially all tangible assets of the Company. The Company paid $999 in fees in connection with this loan. The note was paid off in its entirety prior to December 31, 2015.

On May 29, 2015 we signed a Merchant Agreement with a lender. Under the agreement, we received $100,000 in exchange for rights to all customer receipts until the lender was paid $132,000, which was collected at the rate of $1,098 per business day. The Company paid $3,999 in fees in connection with this loan. The note was paid off in its entirety prior to December 31, 2015.

On August 28, 2015 we signed a Merchant Agreement with a lender. Under the agreement, we received $300,000 in exchange for rights to all customer receipts until the lender is paid $384,000, to be collected at the rate of $2,560 per business day. The payments are not secured. On the closing date, $131,710 of the proceeds were used to pay off the outstanding balances of two existing Notes. The Company paid $6,000 in fees in connection with this loan. The loan was paid off in its entirety prior to December 31, 2016.

During the year ended December 31, 2015, we signed three ninety-day notes with an investor. Under the terms of the notes, the Company received a total of $600,000. The investor converted these loans, plus $60,000 in accrued interest into the Company’s $5 million PIPE offering on July 21, 2015. There was no gain or loss on the conversion.

During the year ended December 31, 2015, the Company made payments of $587,949 in total on the non-convertible debt from non-related parties.

On January 6, 2016 we signed a Merchant Agreement with a lender. Under the agreement we received $250,000 in exchange for rights to all customer receipts until the lender is paid $322,500, which is collected at the rate of $1,280 per business day. The payments were secured by second position rights to all customer receipts until the loan has been paid in full. $138,840 of the proceeds were used to pay off the outstanding balance of a previous loan from another lender. The Company recognized a gain on the settlement of the previous loan of $5,044 which was credited to interest expense. The Company paid $2,500 in fees in connection with this loan. We received an additional $93,161 in June 2016 under the existing Merchant Agreement. The note was still outstanding as of December 31, 2016 with a balance of $157,287.

On January 20, 2016 we borrowed $50,000 from an individual with no interest or fees. We paid back the loan in March 2016.

On February 8, 2016 we signed a Merchant Agreement with a lender. Under the agreement we received $100,000 in exchange for third position rights to all customer receipts until the lender is paid $129,900, which is collected at the rate of $927 per business day. The Company paid $2,000 in fees in connection with this loan. We received an additional $125,000 in June 2016 under the existing Merchant Agreement of which $48,420 was used to pay off the prior loan. The lender provided an additional $70,000 on August 16, 2016. We repaid a portion of the $70,000 with $32,430 remaining as outstanding as of December 31, 2016.

On May 9, 2016 we signed a promissory note with a lender. Under the agreement we received $200,000 net of a $6,000 original issue discount and we repaid $206,000 on August 25, 2016. In connection with this promissory note, we issued warrants exercisable into 100,000 shares of our common stock. The warrants issued in this transaction are immediately exercisable at an exercise price of $0.55 per share. The warrants have an expiration period of three years from the original issue date. The warrants are subject to adjustment for stock splits, stock dividends or recapitalizations. The warrants were recorded as a component of our Stockholders' Equity. The estimated fair value of the warrants was determined using the binomial model, resulting in an allocation of $27,349 to the total warrants and recorded as a discount to the note to be amortized over the term of the loan. We evaluated the warrants for derivative liability treatment and determined that these instruments do not include certain rights such as price protection like our previous debt financings. Accordingly, we concluded that these instruments did not qualify for derivative accounting treatment. In August 2016, the lender extended the maturity date of the note from August 11, 2016 to August 25, 2016. Consequently, a penalty interest of $41,200 was added to the principal amount and settled through the issuance of 100,049 common shares. As of December 31, 2016, the outstanding balance on this note was zero.

On August 26, 2016 we signed a Merchant Agreement with a lender. Under the agreement we received $122,465 net proceeds in exchange for rights to all customer receipts which is collected at the rate of $1,386 per business day. The note was still outstanding as of December 31, 2016 with a balance of $48,440.

Related Party Notes

During the year ended December 31, 2016, the Company received advances from certain officers of the Company amounting to $20,000. These advances were non-interest bearing and payable on demand. As of December 31, 2016 there are no outstanding notes to related parties.

(9) Stockholders' (Deficit)

Preferred Stock

We are authorized to issue 1,000,000 shares of preferred stock with a par value of $0.01. Of the 1,000,000 shares of preferred stock:

1) 20,000 shares have been designated as Series A Junior Participating Preferred Stock ("*Junior A*")
2) 313,960 shares have been designated as Series A Convertible Preferred Stock ("*Series A*")
3) 279,256 shares have been designated as Series B Convertible Preferred Stock ("*Series B*")
4) 88,098 shares have been designated as Series C Convertible Preferred Stock ("*Series C*")
5) 850 shares have been designated as Series D Convertible Preferred Stock ("*Series D*")
6) 500 shares have been designated as Series E Convertible Preferred Stock *("Series E")*
7) 240,000 shares have been designated as Series G Convertible Preferred Stock ("*Series G*")
8) 10,000 shares have been designated as Series H Convertible Preferred Stock ("*Series H*")
9) 21 shares have been designated as Series H2 Convertible Preferred Stock ("*Series H2*")
10) 6,250 shares have been designated as Series J Convertible Preferred Stock ("*Series J*")
11) 15,000 shares have been designated as Series K Convertible Preferred Stock ("*Series K*")

As of December 31, 2016 and 2015, there were no shares of Junior A, and Series A, B, C, E, and H1 issued and outstanding.

Series D Convertible Preferred Stock

On November 11, 2011, we completed a registered direct offering, pursuant to which we sold an aggregate of 843 units for a purchase price of $1,000 per unit, resulting in gross proceeds to us of $843,000 (the "*Series D Placement*"). Each unit ("*Series D Unit*") consisted of (i) one share of Series D Convertible Preferred Stock, $0.01 par value per share

(the "*Series D Convertible Preferred Stock*") convertible into 1,538.46 shares of our common stock, (subject to adjustment for stock splits, stock dividends, recapitalization, etc.) and (ii) one five-year warrant to purchase approximately 614 shares of our common stock at a per share exercise price of $0.81, subject to adjustment as provided in the Warrants ("*Series D Warrant*"). The Series D Warrants will be exercisable beginning on May 11, 2012 and until the close of business on the fifth anniversary of the initial exercise date.

The proceeds from the sale of each Series D Unit were allocated between the Series D Convertible Preferred Stock and the Series D Warrants based on the residual method. The estimated fair value of the Series D Warrants was determined using a binomial formula, resulting in an allocation of the gross proceeds of $283,725 to the total warrants issued. The allocation of the gross proceeds to the Series D Convertible Preferred Stock was $559,275. In accordance with the provisions of ASC 470-20, an additional adjustment between Additional Paid in Capital and Accumulated Deficit of $530,140 was recorded to reflect an implicit non-cash dividend related to the allocation of proceeds between the stock and warrants issued. The $530,140 represents the value of the adjustment to additional paid in capital related to the beneficial conversion feature of the Series D Convertible Preferred Stock. The value adjustment was calculated by subtracting the fair market value of the underlying common stock on November 10, 2011 issuable upon conversion of the Series D Convertible Preferred Stock from the fair market value of the Series D Convertible Preferred Stock as determined when the Company performed a fair market value allocation of the proceeds to the Series D Convertible Preferred Stock and warrants. The warrants are recorded as a liability. See "Warrant Derivative Liability" below.

The Series D Convertible Preferred Stock will rank senior to the Company's common stock and Series C Convertible Preferred Stock with respect to payments made upon liquidation, winding up or dissolution. Upon any liquidation, dissolution or winding up of the Company, after payment of the Company's debts and liabilities, and before any payment is made to the holders of any junior securities, the holders of Series D Convertible Preferred Stock will first be entitled to be paid $1,000 per share subject to adjustment for accrued but unpaid dividends.

We may not pay any dividends on shares of common stock unless we also pay dividends on the Series D Convertible Preferred Stock in the same form and amount, on an as-if-converted basis, as dividends actually paid on shares of our common stock. Except for such dividends, no other dividends may be paid on the Series D Convertible Preferred Stock.

Each share of Series D Convertible Preferred Stock is convertible into 1,538.46 shares of common stock (based upon an initial conversion price of $0.65 per share) at any time at the option of the holder, subject to adjustment for stock splits, stock dividends, combinations, and similar recapitalization transactions (the "*Series D Conversion Ratio*"). Subject to certain exceptions, if the Company issues any shares of common stock or common stock equivalents at a per share price that is lower than the conversion price of the Series D Convertible Preferred Stock, the conversion price will be reduced to the per share price at which such shares of common stock or common stock equivalents are issued. Each share of Series D Convertible Preferred Stock will automatically be converted into shares of common stock at the Series D Conversion Ratio then in effect if, after six months from the closing of the Series D Placement, the common stock trades on the OTCQB (or other primary trading market or exchange on which the common stock is then traded) at a price equal to at least 300% of the then effective Series D Convertible Preferred Stock conversion price for 20 out of 30 consecutive trading days with each trading day having a volume of at least $50,000. Unless waived under certain circumstances by the holder of the Series D Convertible Preferred Stock, such holder's Series D Convertible Preferred Stock may not be converted if upon such conversion the holder's beneficial ownership would

exceed certain thresholds.

In addition, in the event we consummate a merger or consolidation with or into another person or other reorganization event in which our shares of common stock are converted or exchanged for securities, cash or other property, or we sell, lease, license or otherwise dispose of all or substantially all of our assets or we or another person acquire 50% or more of our outstanding shares of common stock, then following such event, the holders of the Series D Convertible Preferred Stock will be entitled to receive upon conversion of the Series D Convertible Preferred Stock the same kind and amount of securities, cash or property which the holders of the Series D Convertible Preferred Stock would have received had they converted the Series D Convertible Preferred Stock immediately prior to such fundamental transaction.

The holders of Series D Convertible Preferred Stock are not entitled to vote on any matters presented to the stockholders of the Company for their action or consideration at any meeting of stockholders of the Company (or by written consent of stockholders in lieu of meeting), except that the holders of Series D Convertible Preferred Stock may vote separately as a class on any matters that would (i) amend, our Restated Articles of Organization, as amended, in a manner that adversely affects the rights of the Series D Convertible Preferred Stock, (ii) alter or change adversely the powers, preferences or rights of the Series D Convertible Preferred Stock or alter or amend the certificate of designation, (iii) authorize or create any class of shares ranking as to dividends, redemption or distribution of assets upon liquidation senior to, or otherwise pari passu with, the Series D Convertible Preferred Stock, or (iv) increase the number of authorized shares of Series D Convertible Preferred Stock.

If, within 12 months of the initial issuance of the Series D Convertible Preferred Stock, we issue any common stock, common stock equivalents, indebtedness or any combination thereof (a "*Subsequent Financing*"), the holders of Series D Convertible Preferred Stock will have the right to participate on a pro-rata basis in up to 50% of such Subsequent Financing.

Series D Warrants

The Series D Warrants originally had an exercise price equal to $0.81 per share of common stock. In April 2012, the number of Series D Warrants increased by 530,406 to a total of 1,047,875 and each Series D Warrant had an exercise price reset to $0.40 per share of common stock. In December of 2013 the number of Series D Warrants increased by 628,733 to a total of 1,676,608 and each Series D Warrant had an exercise price reset to $0.25 per share of common stock. The Series D Warrants will be exercisable beginning on the six-month anniversary of the date of issuance and expire five years from the initial exercise date. The Series D Warrants permit the holder to conduct a "cashless exercise" at any time a registration statement registering, or the prospectus contained therein, is not available for the issuance of the shares of common stock issuable upon exercise of the Series D Warrant, and under certain circumstances at the expiration of the Series D Warrants. The exercise price and/or number of shares of common stock issuable upon exercise of the Series D Warrants are subject to adjustment for certain stock dividends, stock splits or similar capital reorganizations, as set forth in the Warrants. The exercise price is also subject to adjustment in the event that we issue any shares of common stock or common stock equivalents at a per share price that is lower than the exercise price for the Series D Warrants then in effect. Upon any such issuance, subject to certain exceptions, the exercise price will be reduced to the per share price at which such shares of common stock or common stock equivalents are issued and

number of Series D Warrant shares issuable thereunder shall be increased such that the aggregate exercise price payable thereunder, after taking into account the decrease in the exercise price, shall be equal to the aggregate exercise price prior to such adjustment. Unless waived under certain circumstance by the holder of a Series D Warrant, such holder may not exercise the Series D Warrant if upon such exercise the holder's beneficial ownership of the Company's common stock would exceed certain thresholds.

In the event we consummate a merger or consolidation with or into another person or other reorganization event in which our shares of common stock are converted or exchanged for securities, cash or other property, or we sell, lease, license or otherwise dispose of all or substantially all of our assets or we or another person acquire 50% or more of our outstanding shares of common stock, then following such event, the holders of the Series D Warrants will be entitled to receive upon exercise of the Series D Warrants the same kind and amount of securities, cash or property which the holders would have received had they exercised the Series D Warrants immediately prior to such fundamental transaction.

Series G Convertible Preferred Stock

On July 6 and November 15, 2012, we completed a private placement, pursuant to which we sold an aggregate of 145,320 units for a purchase price of $5.00 per unit (the "Series G Purchase Price"), resulting in gross proceeds to us of $726,600 (the "*Series G Private Placement*"). Each unit ("*Series G Unit*") consists of (i) one share of Series G Convertible Preferred Stock, $0.01 par value per share (the "Series G Preferred Stock") convertible into 10 shares of our common stock, (subject to adjustment for stock splits, stock dividends, recapitalization, etc.) and (ii) a three-year warrant to purchase 5 shares of our common stock at a per share exercise price of $0.50 (the "*Series G Warrant*"). The Series G Warrants will be exercisable until the close of business on the third anniversary of the applicable closing date of the Series G Private Placement.

Each share of Series G Preferred Stock will receive a cumulative dividend at the annual rate of (i) four percent (4%) on those shares of Series G Preferred Stock purchased from the Company by an individual purchaser with an aggregate investment of less than $100,000, (ii) six percent (6%) on those shares of Series G Preferred Stock purchased from the Company by an individual purchaser with an aggregate investment of at least $100,000 but less than $250,000, and (iii) twelve percent (12%) on those shares of Series G Preferred Stock purchased from the Company by an individual purchaser with an aggregate investment of at least $250,000. Dividends accruing on the Series G Preferred Stock shall accrue from day to day until, and shall be paid within fifteen (15) days of, the first anniversary of, the original issue date of the Series G Preferred Stock; provided, however, if any shares of the Company's Series E Preferred Stock are outstanding at such time, payment of the accrued dividends on the Series G Preferred Stock shall be deferred until no such shares of Series E Convertible Preferred Stock remain outstanding. The Company may pay accrued dividends on the Series G Preferred Stock in cash or in shares of its common stock equal to the volume weighted average price of the common stock as reported by the OTCQB for the ten (10) trading days immediately preceding the Series G's first anniversary.

At the election of the Company and upon required advanced notice, each share of Series G Preferred Stock will automatically be converted into shares of common stock at the Conversion Ratio then in effect: (i) if, after 6 months from the original issuance date of the Series G Preferred Stock, the common stock trades on the OTCQB (or other primary trading market or exchange on which the common stock is then traded) at a price equal to at least $0.75, for 7 out of 10 consecutive trading days with average daily trading volume of at least 10,000 shares, (ii) on or after the first anniversary of the original issuance date of the Series G Preferred Stock or (iii) upon completion of a firm-commitment underwritten registered public offering by the Company at a per share price equal to at least $0.75, with aggregate gross proceeds to the Company of not less than $2.5 million. Unless waived under certain circumstances by the holder of the Series G Preferred Stock, such holder's Series G Preferred Stock may not be converted if upon such conversion the holder's beneficial ownership would exceed certain thresholds.

The holders of Series G Preferred Stock are not entitled to vote on any matters presented to the stockholders of the Company for their action or consideration at any meeting of stockholders of the Company (or by written consent of stockholders in lieu of meeting), except as required by law.

Series G Warrants

The Series G Warrants issued in the Series G Private Placement had an exercise price equal to $0.50 per share and expired on July 6, 2015.

Series H Convertible Preferred Stock

On December 28, 2012 the Company amended the Articles of Incorporation to authorize 10,000 shares of Series H Convertible Preferred Stock. On January 4, 2013, the Company reported that it had entered into a securities purchase and exchange agreement with an investor, pursuant to which the Company agreed to exchange 1,000,000 shares of the Company's common stock, par value $0.01 per share of common stock held by the investor for an aggregate of 10,000 shares of a newly created series of preferred stock, designated Series H Convertible Preferred Stock, par value $0.01 per share (the "*Series H Preferred Stock*") in a non-cash transaction. The investor originally purchased the common stock from the Company for $0.8025 per share. The exchange ratio was 100 shares of common stock per share of Series H Preferred Stock at a stated conversion price of $0.8025 per share.

Series H2 Convertible Preferred Stock

On December 23, 2014 the Company amended the Articles of Incorporation to authorize 21 shares of Series H2 Convertible Preferred Stock. On December 23, 2014, the Company reported that it had entered into a securities purchase and exchange agreement with an investor, pursuant to which the Company agreed to exchange 2,100,000 shares of the Company's common stock, par value $0.01 per share of common stock held by the investor for an aggregate of 21 shares of a newly created series of preferred stock, designated Series H2 Convertible Preferred Stock, par value $0.01 per share (the "*Series H2 Preferred Stock*") in a non-cash transaction. The investor originally acquired the common stock from the Company for $0.25 per share in the warrant reset transaction on December 23, 2014. The exchange ratio was 100,000 shares of common stock per share of Series H2 Preferred Stock at a stated conversion price of $0.25 per share.

Series J Convertible Preferred Stock

On February 6, March 28 and May 20, 2013, the Company entered into a Securities Purchase with various individuals pursuant to which the Company sold an aggregate of 5,087.5 units for a purchase price of $400.00 per unit (the "Purchase Price"), or an aggregate Purchase Price of $2,034,700. Each unit purchased in the initial tranche consists of (i) one share of a newly created series of preferred stock, designated Series J Convertible Preferred Stock, par value $0.01 per share (the "Series J Convertible Preferred Stock"), convertible into 1,000 shares of the Company's common stock, par value $0.01 per share and (ii) a warrant to purchase 1,000 shares of common stock at an exercise price equal to $0.40 per share. The warrants expire three years from the issuance date.

From the date of issuance of any shares of Series J Convertible Preferred Stock and until the earlier of the first anniversary of such date, the voluntary conversion of any shares of Series J Convertible Preferred Stock, or the date of any mandatory conversion (solely under the Company's control based upon certain triggering events) of the Series J

Convertible Preferred Stock, dividends will accrue on each share of Series J Convertible Preferred Stock at an annual rate of (i) four percent (4%) of the Purchase Price on those shares of Series J Convertible Preferred Stock purchased from the Company pursuant to the Securities Purchase Agreement by an individual purchaser who purchased from the Company shares of Series J Convertible Preferred Stock with an aggregate Purchase Price of less than $250,000, and (ii) six percent (6%) of the Purchase Price on those shares of Series J Convertible Preferred Stock purchased from the Company pursuant to the Securities Purchase Agreement by an individual purchaser who purchased shares of Series J Convertible Preferred Stock with an aggregate purchase price of at least $250,000. Dividends accruing on the Series J Convertible Preferred Stock shall accrue from day to day until the earlier of the first anniversary of the date of issuance of such shares of Series J Convertible Stock, the voluntary conversion of any shares of Series J Convertible Preferred Stock, or the date of any mandatory conversion of the Series J Convertible Preferred Stock, and shall be paid, as applicable, within fifteen (15) days of the first anniversary of the original issue date of the Series J Convertible Preferred Stock, within five (5) days of the voluntary conversion of shares of the Series J Convertible Preferred Stock, or within five (5) days of the mandatory conversion of shares of the Series J Convertible Preferred Stock. The Company may pay accrued dividends on the Series J Convertible Preferred Stock in cash or, in the sole discretion of the Board of Directors of the Company, in shares of its common stock in accordance with a specified formula.

Each share of Series J Convertible Preferred Stock is convertible into 1,000 shares of common stock at the option of the holder on or after the six-month anniversary of the issuance of such share, subject to adjustment for stock splits, stock dividends, recapitalizations and similar transactions (the "Conversion Ratio"). Unless waived under certain circumstances by the holder of Series J Convertible Preferred Stock, such holder's shares of Series J Convertible Preferred Stock may not be converted if upon such conversion the holder's beneficial ownership would exceed certain thresholds.

At the election of the Company and upon required advance notice, each share of Series J Convertible Preferred Stock will automatically be converted into shares of common stock at the Conversion Ratio then in effect: (i) on or after the six-month anniversary of the original issuance date of the Series J Convertible Preferred Stock, the common stock trades on the OTCQB (or other primary trading market or exchange on which the common stock is then traded) at a price per share equal to at least $0.80 for 7 out of 10 consecutive trading days with average daily trading volume of at least 50,000 shares, (ii) on the first anniversary of the original issuance date of the Series J Convertible Preferred Stock or (iii) within three days of the completion of a firm-commitment underwritten registered public offering by the Company at a per share price equal to at least $0.80, with aggregate gross proceeds to the Company of not less than $2.5 million. Unless waived under certain circumstances by the holder of the Series J Convertible Preferred Stock, such holder's Series J Convertible Preferred Stock may not be converted if upon such conversion the holder's beneficial ownership would exceed certain thresholds.

The holders of Series J Convertible Preferred Stock are not entitled to vote on any matters presented to the stockholders of the Company for their action or consideration at any meeting of stockholders of the Company (or by written consent of stockholders in lieu of meeting), except as required by law.

Series J Warrants

The Series J Warrants issued in the Series J Private Placement had an exercise price equal to $0.40 per share and expired on February 6, March 28 and May 20, 2016.

Registration Rights Agreement

In connection with the Private Placement, the Company has agreed that, if, at any time after February 1, 2014, the Company files a Registration Statement relating to an offering of equity securities of the Company (the "Registration Statement"), subject to certain exceptions, including a Registration Statement relating solely to an offering or sale of securities having an aggregate public offering price of less than $5,000,000, the Company shall include in the Registration Statement the resale of the shares of common stock underlying the Warrants. Shares of common stock issued upon conversion of Series J Convertible Preferred Stock or in payment of the dividend on the Series J Convertible Preferred Stock will not be registered and will not be subject to registration rights. This right is subject to customary conditions and procedures.

Series K Convertible Preferred Stock

On December 12, 2013, the Company entered into a Securities Purchase with various individuals pursuant to which the Company sold an aggregate of 4,000 units for a purchase price of $250.00 per unit (the "Purchase Price"), for an aggregate Purchase Price of $1,000,000. Each unit purchased in the initial tranche consists of (i) one share of a newly created series of preferred stock, designated Series K Convertible Preferred Stock, par value $0.01 per share (the "Series K Convertible Preferred Stock"), convertible into 1,000 shares of the Company's common stock, par value $0.01 per share and (ii) a warrant to purchase 500 shares of common stock at an exercise price equal to $0.3125 per share. The warrants expire three years from the issuance date. Of the $1,000,000 invested in the Private Placement, $572,044 was received in cash and $427,956 was from the conversion of outstanding indebtedness and interest. The Company incurred $43,334 of fees in conjunction with this private placement. The purchasers in the initial tranche of the private placement consisted of certain existing and new investors in the Company as well as all of the members of the Company's Board of Directors.

From the date of issuance of any shares of Series K Convertible Preferred Stock and until the earlier of the first anniversary of such date, the voluntary conversion of any shares of Series K Convertible Preferred Stock, or the date of any mandatory conversion (solely under the Company's control based upon certain triggering events) of the Series K Convertible Preferred Stock, dividends will accrue on each share of Series K Convertible Preferred Stock at an annual rate of (i) four percent (4%) of the Purchase Price on those shares of Series K Convertible Preferred Stock purchased from the Company pursuant to the Securities Purchase Agreement by an individual purchaser who purchased from the Company shares of Series K Convertible Preferred Stock with an aggregate Purchase Price of less than $100,000, and (ii) six percent (6%) of the Purchase Price on those shares of Series K Convertible Preferred Stock purchased from the Company pursuant to the Securities Purchase Agreement by an individual purchaser who purchased shares of Series K Convertible Preferred Stock with an aggregate purchase price of at least $100,000. Dividends accruing on the Series K Convertible Preferred Stock shall accrue from day to day until the earlier of the first anniversary of the date of issuance of such shares of Series K Convertible Stock, the voluntary conversion of any shares of Series K Convertible Preferred Stock, or the date of any mandatory conversion of the Series K Convertible Preferred Stock, and shall be paid, as applicable, within fifteen (15) days of the first anniversary of the original issue

date of the Series K Convertible Preferred Stock, within five (5) days of the voluntary conversion of shares of the Series K Convertible Preferred Stock, or within five (5) days of the mandatory conversion of shares of the Series K Convertible Preferred Stock. The Company may pay accrued dividends on the Series K Convertible Preferred Stock in cash or, in the sole discretion of the Board of Directors of the Company, in shares of its common stock in accordance with a specified formula.

Each share of Series K Convertible Preferred Stock is convertible into 1,000 shares of common stock at the option of the holder on or after the six-month anniversary of the issuance of such share, subject to adjustment for stock splits, stock dividends, recapitalizations and similar transactions (the “Conversion Ratio”). Unless waived under certain circumstances by the holder of Series K Convertible Preferred Stock, such holder’s shares of Series K Convertible Preferred Stock may not be converted if upon such conversion the holder’s beneficial ownership would exceed certain thresholds.

At the election of the Company and upon required advance notice, each share of Series K Convertible Preferred Stock will automatically be converted into shares of common stock at the Conversion Ratio then in effect: (i) on or after the six-month anniversary of the original issuance date of the Series K Convertible Preferred Stock, the common stock trades on the OTCQB (or other primary trading market or exchange on which the common stock is then traded) at a price per share equal to at least $0.80 for 7 out of 10 consecutive trading days with average daily trading volume of at least 50,000 shares, (ii) on the first anniversary of the original issuance date of the Series K Convertible Preferred Stock or (iii) within three days of the completion of a firm-commitment underwritten registered public offering by the Company at a per share price equal to at least $0.80, with aggregate gross proceeds to the Company of not less than $2.5 million. Unless waived under certain circumstances by the holder of the Series K Convertible Preferred Stock, such holder’s Series K Convertible Preferred Stock may not be converted if upon such conversion the holder’s beneficial ownership would exceed certain thresholds.

The proceeds from the sale of each Series K Unit were allocated between the Series K Convertible Preferred Stock and the Series K Warrants based on the relative fair value method. The estimated fair value of the Series K Warrants was determined using a Black-Scholes formula, resulting in an allocation of the gross proceeds of $271,422 to the total warrants issued. The allocation of the gross proceeds to the Series K Convertible Preferred Stock was $685,245, net of $43,334 in fees. In accordance with the provisions of ASC 470-20, an additional adjustment in the aggregate between Additional Paid in Capital and Accumulated Deficit of $1,495,415 was recorded for all tranches of Series K to reflect an implicit, deemed non-cash dividend related to the allocation of proceeds between the stock and warrants issued. The $1,495,415 represents the aggregate value of the adjustment to additional paid in capital related to the beneficial conversion feature of the Series K Convertible Preferred Stock. The value adjustment was calculated by subtracting the fair market value of the underlying common stock on the closing dates issuable upon conversion of the Series K Convertible Preferred Stock from the fair market value of the Series K Convertible Preferred Stock as determined when the Company performed a fair market value allocation of the proceeds to the Series K Convertible Preferred Stock and warrants.

On January 29, 2014, the Company entered into a Securities Purchase Agreement with various accredited investors, pursuant to which the Company sold an aggregate of 4,875 units for a purchase price of $250.00 per unit or an aggregate Purchase Price of $1,218,750. This was the second tranche of a $1.5 million private placement previously disclosed by the Company in its Current Report on Form 8-K filed with the Securities and Exchange Commission on December 12, 2013, which is incorporated by reference herein. The Purchasers in the second tranche of the Private Placement consisted of certain existing and new investors in the Company, as well as all of the members of the Company’s board of directors.

Each unit purchased in the second tranche consists of (i) one share of Series K Convertible Preferred Stock, par value $0.01 per share, convertible into 1,000 shares of the Company’s common stock, par value $0.01 per share and (ii) a warrant to purchase 500 shares of common stock at an exercise price equal to $0.3125 per share, with a term expiring on January 29, 2017.

On February 28, 2014, the Company entered into a Securities Purchase Agreement with various accredited investors, pursuant to which the Company sold an aggregate of 1,854 units for a purchase price of $340.00 per unit or an aggregate Purchase Price of $630,360. This was the third tranche of a $1.5 million private placement previously disclosed by the Company in its Current Report on Form 8-K filed with the Securities and Exchange Commission on December 12, 2013, which is incorporated by reference herein. The Purchasers in the third tranche of the Private Placement consisted of certain existing and new investors in the Company.

Each unit purchased in the third tranche consists of (i) one share of Series K Convertible Preferred Stock, par value $0.01 per share convertible into 1,000 shares of the Company’s common stock, par value $0.01 per share and (ii) a warrant to purchase 500 shares of common stock at an exercise price equal to $0.425 per share, with a term expiring on February 28, 2017.

On June 30, 2014, the Company entered into a Securities Purchase Agreement with various accredited investors, pursuant to which the Company sold an aggregate of 734 units for a purchase price of $300.00 per unit or an aggregate Purchase Price of $220,000. This was the fourth tranche of a $1.5 million private placement previously disclosed by the Company in its Current Report on Form 8-K filed with the Securities and Exchange Commission on December 12, 2013, which is incorporated by reference herein. The Purchasers in the fourth tranche of the Private Placement consisted of certain existing and new investors in the Company.

Each unit purchased in the fourth tranche consists of (i) one share of Series K Convertible Preferred Stock, par value $0.01 per share convertible into 1,000 shares of the Company's common stock, par value $0.01 per share and (ii) a warrant to purchase 500 shares of common stock at an exercise price equal to $0.375 per share, with a term expiring on June 30, 2017.

On November 12, 2014, the Company entered into a Securities Purchase Agreement with various accredited investors, pursuant to which the Company sold an aggregate of 1,052 units for a purchase price of $250.00 per unit or an aggregate Purchase Price of $263,000. This was the fifth tranche of a $1.5 million private placement previously disclosed by the Company in its Current Report on Form 8-K filed with the Securities and Exchange Commission on December 12, 2013, which is incorporated by reference herein. The Purchasers in the fourth tranche of the Private Placement consisted of certain existing and new investors in the Company.

Each unit purchased in the fifth tranche consists of (i) one share of Series K Convertible Preferred Stock, par value $0.01 per share convertible into 1,000 shares of the Company's common stock, par value $0.01 per share and (ii) a warrant to purchase 500 shares of common stock at an exercise price equal to $0.3125 per share, with a term expiring on November 12, 2017.

The Private Placement was originally expected to raise $1.5 million and close on or before January 31, 2014. On January 29, 2014, the Company's Board of Directors voted to increase the subscription amount of the Private Placement by $718,750. The Board of Directors also voted to extend the Private Placement until February 28, 2014. On February 28, 2014 the Company's Board of Directors voted to increase the subscription amount once again to a total of $3.5 million and extended the closing to April 4, 2014. On April 13, 2014 the Company's Board of Directors voted to increase the subscription amount by $1 million, to a total of $4.5 million, and extended the closing to May 31, 2014. On July 7, 2014 the Company's Board of Directors voted to extend the closing to August 15, 2014. Together with the initial tranche of $1,000,000 that closed on December 12, 2013, the second tranche of $1,218,750 that closed January 29, 2014, the third tranche of $630,360 that closed February 28, 2014, the fourth tranche of $220,000 that closed June 30, 2014, and the fifth tranche of $263,000 that closed November 12, 2014,the total consideration received by the Company in the Private Placement is $3,332,110, which is comprised of $2,511,404 in cash and $820,706 from the conversion of outstanding indebtedness and Board of Director fees. The placement was closed after the November 12, 2014 round.

On September 22, 2014 the Company issued 64,000 shares of common stock for the conversion of 64 shares of Series K Preferred Convertible Stock.

In connection with the Series K Warrants, we calculated the fair value of the warrants received as described above using the Black- Scholes formula with the below assumptions:

Assumptions	Series K Warrants December 12, 2013	Series K Warrants January 29, 2014	Series K Warrants February 28, 2014	Series K Warrants June 30, 2014	Series K Warrants November 12, 2014
Contractual life (in months)	36	36	36	36	36
Expected volatility	136.1	152.4	152.7	153.9	153.9
Risk-free interest rate	0.39 %	0.39 %	0.39 %	0.90 %	0.90 %
Exercise price	$ 0.3125	$ 0.3125	$ 0.425	$ 0.375	$ 0.3125
Fair value per warrant	$ 0.20	$ 0.30	$ 0.37	$ 0.29	$ 0.23

The holders of Series K Convertible Preferred Stock are not entitled to vote on any matters presented to the stockholders of the Company for their action or consideration at any meeting of stockholders of the Company (or by written consent of stockholders in lieu of meeting), except as required by law.

Series K Warrants

The warrants issued in the Private Placement have an exercise price equal to $0.3125 per share, for the December 12, 2013 and January 29, 2014 warrants, $0.425 per share for the February 28, 2014 warrants, $0.375 per share for the June 30, 2014 warrants and $0.3125 per share for the November 12, 2014 warrants, with a term expiring three years from the issuance date. The warrants also permit the holder to conduct a “cashless exercise” at any time the holder of the warrant is an affiliate of the Company. The exercise price and/or number of shares issuable upon exercise of the warrants will be subject to adjustment for stock dividends, stock splits or similar capital reorganizations, as set forth in the warrant agreement.

Subject to the terms and conditions of the warrants, at any time commencing six months from the closing date of the sale of Units under the Securities Purchase Agreement the Company has the right to call the warrants for cancellation if the volume weighted average price of its common stock on the OTCQB (or other primary trading market or exchange on which the common stock is then traded) equals or exceeds three times the per share exercise price of the warrants for either (i) 10 consecutive trading days or (ii) 15 out of 25 consecutive trading days.

Registration Rights Agreement

In connection with the Private Placement, the Company has agreed that, if, at any time after February 1, 2014, the Company files a Registration Statement relating to an offering of equity securities of the Company (the "Registration Statement"), subject to certain exceptions, including a Registration Statement relating solely to an offering or sale of securities having an aggregate public offering price of less than $5,000,000, the Company shall include in the Registration Statement the resale of the shares of common stock underlying the warrants. Shares of common stock issued upon conversion of Series K Convertible Preferred Stock or in payment of the dividend on the Series K Convertible Preferred Stock will not be registered and will not be subject to registration rights. This right is subject to customary conditions and procedures.

Common Stock

Stock Options and Warrants

Our stockholders approved our amended 2005 Equity Incentive Plan (the "*2005 Plan*") pursuant to which an aggregate of 1,800,000 shares of our common stock were reserved for issuance upon exercise of stock options or other equity awards made under the 2005 Plan. Under the 2005 Plan, we may award stock options, shares of common stock, and other equity interests in the Company to employees, officers, directors, consultants, and advisors, and to any other persons the Board of Directors deems appropriate. As of December 31, 2016, options to acquire 1,153,750 shares were outstanding under the 2005 Plan with 586,250 shares available for future grant under the Plan.

On December 12, 2013 at the Company's special meeting the shareholders approved the 2013 Equity Incentive Plan (the "*2013 Plan*") pursuant to which 3,000,000 shares of our common stock were reserved for issuance upon exercise of stock options or other equity awards under the 2013 Plan. Under the Plan, we may award stock options, shares of common stock, and other equity interests in the Company to employees, officers, directors, consultants, and advisors, and to any other persons the Board of Directors deems appropriate. As of December 31, 2016, options to acquire 2,047,500 shares were outstanding under the Plan with 952,500 shares available for future grant under the 2013 Plan.

On November 29, 2015 the Company's Board of Directors adopted the 2015 Nonqualified Stock Option Plan (the "*2015 Plan*") pursuant to which 5,000,000 shares of our common stock were reserved for issuance upon exercise of non-qualified stock options under the 2015 Plan. Under the Plan, we may award non-qualified stock options in the Company to employees, officers, directors, consultants, and advisors, and to any other persons the Board of Directors deems appropriate. As of December 31, 2016, non-qualified options to acquire 2,068,000 shares were outstanding under the Plan with 2,932,000 shares available for future grants under the 2015 Plan.

All of the outstanding non-qualified options had an exercise price that was at or above the Company's common stock share price on December 31, 2016.

The following tables summarize information concerning options and warrants outstanding and exercisable:

	Stock Options		**Warrants**		**Total**	
	Shares	**Weighted Average price per share**	**Shares**	**Weighted Average price per share**	**Shares**	**Exercisable**
Balance outstanding, January 1, 2015	3,406,250	$ 0.51	19,182,201	$ 0.49	22,588,451	20,858,111
Granted	2,500,000	0.40	10,837,141	0.40	13,337,141	
Exercised	-	-	-	-	-	
Expired	(205,000)	1.00	(791,678)	0.31	(996,678)	
Forfeited	(130,000)	0.70	-	-	(130,000)	
Balance outstanding, December 31, 2015	5,571,250	$ 0.44	29,227,664	$ 0.44	34,798,914	31,664,469
Granted	-	-	8,179,552	0.42	8,179,552	
Exercised	-	-	(70,000)	0.31	(70,000)	
Expired	(186,000)	1.00	(10,877,521)	0.55	(11,063,521)	
Forfeited	(116,000)	0.51	-	-	(116,000)	
Balance outstanding, December 31, 2016	5,269,250	$ 0.42	26,459,695	$ 0.40	31,728,945	29,730,959

	Options Outstanding			**Options Exercisable**		
Range of Exercise Prices	**Number of Options**	**Weighted Average Remaining Contractual Life (Years)**	**Exercise Price**	**Number of Options**	**Weighted Average Remaining Contractual Life (Years)**	**Exercise Price**

$0.30 - $0.39	1,625,500	7.7	$ 0.30	1,342,762	7.7	$ 0.30
0.40 - 0.49	2,786,000	8.7	0.40	1,454,665	8.4	0.40
0.50 - 0.59	226,250	5.6	0.50	226,250	5.6	0.50
0.60 - 0.69	385,500	3.1	0.60	385,500	3.1	0.60
0.70 - 1.25	246,000	2.3	1.00	246,000	2.3	1.00
$0.30 - $1.25	5,269,250	7.6	$ 0.42	3,655,177	7.1	$ 0.43

There was $369,224 of total unrecognized compensation cost, net of estimated forfeitures, related to non-vested stock options granted as of December 31, 2016. This cost is expected to be recognized over a period of 1.81 years, and will be adjusted for any future changes in estimated forfeitures.

The Series D Warrants issued in connection with the registered direct offering of Series D Convertible Preferred are measured at fair value and liability-classified because the Series D Warrants contain “down-round protection” and therefore, do not meet the scope exception for treatment as a derivative under ASC 815, *Derivatives and Hedging*, (“ASC 815”). Since “down-round protection” is not an input into the calculation of the fair value of the warrants, the warrants cannot be considered indexed to the Company’s own stock which is a requirement for the scope exception as outlined under ASC 815. The estimated fair value of the warrants was determined using the binomial model, resulting in an allocation of the gross proceeds $283,725 to the warrants issued in the Series D registered direct offering. The fair value will be affected by changes in inputs to that model including our stock price, expected stock price volatility, the contractual term, and the risk-free interest rate. We will continue to classify the fair value of the warrants as a liability until the warrants are exercised, expire or are amended in a way that would no longer require these warrants to be classified as a liability, whichever comes first. The down-round protection for the Series D Warrants survives for the life of the Series D Warrants, which ends in May 2017.

In connection with the senior secured convertible debentures issued in our private placement with closings in 2015 and 2016, we issued warrants to the lenders to purchase an aggregate 8,767,857 and 2,517,052 shares of the Common Stock, respectively, at an exercise price of $0.40 per share, expiring five years after the issuance date. We also issued, in 2015 and 2016, warrants to the placement agent to purchase an aggregate 1,689,286 and 412,500 shares of the Common Stock, respectively, at an exercise price of $0.40 per share, expiring five years after the issuance date.

On December 31, 2015, we extended the expiration dates to two more years on certain warrants related to bridge loans. These warrants were originally issued with a three-year expiration. The incremental value for the warrant extension was $69,627 which was recognized as interest expense.

In 2015, we recorded expense of $93,488 related to warrants issued an investor relations firm in 2014 to purchase 300,000 shares of restricted common stock.

In November 2016 we issued warrants to purchase 330,000 shares of restricted common stock to an investor relations firm for services rendered with a total fair value of $84,735.

Common Stock Issuances

With respect to the convertible debenture for $223,000 signed by the Company on December 4, 2013, a lender, with the prior approval of the Company, chose to convert a portion of the outstanding note balance into shares of the Company's common stock, and to extend the note for approximately 45 days after each conversion, as follows:

On January 14, 2015 $25,000 was converted into 100,000 shares of the Company's common stock.

On February 25, 2015 $38,000 was converted into 140,741 shares of the Company's common stock.

On April 10, 2015 $35,000 was converted into 140,000 shares of the Company's common stock.

On May 29, 2015 $35,000 was converted into 140,000 shares of the Company's common stock.

On July 21, 2015 $20,000 was converted into 80,000 shares of the Company's common stock.

On August 13, 2015 $40,000 was converted into 160,000 shares of the Company's common stock.

On September 25, 2015 $30,000 was converted into 120,000 shares of the Company's common stock.

For each extension, the Company paid a fee of $13,000, $13,000, $10,000, and $8,000, respectively. This note was paid off in its entirety on November 5, 2015.

During the year ended December 31, 2015, the Company issued 1,755,091 shares with a fair value of $457,030 for consulting and investor relation services.

On August 14, 2015, the Company closed a Securities Exchange Agreement with Everest Investments Holdings of Warsaw, Poland under which Everest purchased 1,000,000 shares of the Company's restricted Common Stock at a purchase price of $0.50/share. In exchange, the Company received 601,500 shares of Everest Investments ("Everest"), a publicly-traded company on the Main Market of the Warsaw Stock Exchange. The shares of Everest were valued at approximately $400,000 as of the closing date.

With respect to the convertible debenture for $150,000 signed by the Company on June 4, 2014, a lender, with prior approval of the Company, chose to convert a portion of the outstanding note balance into shares of the Company's common stock, and to extend the note for approximately 30 days after each conversion, as follows:

On February 18, 2015 $25,000 was converted into 100,000 shares of the Company's common stock.

On March 18, 2015 $22,500 was converted into 90,000 shares of the Company's common stock.

On March 31, 2015 $27,500 was converted into 110,000 shares of the Company's common stock.

On April 17, 2015 $30,000 was converted into 120,000 shares of the Company's common stock.

With respect to the convertible debenture for $75,000 signed by the Company on November 10, 2014, a lender, upon the request of the Company, on June 8, 2015 agreed to extend the conversion date of the note until July 20, 2015. The lender received 40,000 shares of the Company's common stock in exchange for the extension. The Company recorded $10,000 to interest expense for this transaction. This note was paid off in its entirety on July 24, 2015.

On various dates in December 2015, $58,919 of existing convertible debt and interest was converted into 235,676 shares of the Company's common stock.

On April 22, 2016, we issued 22,996 shares of common stock in connection with a cashless exercise of 70,000 warrants.

On May 6, 2016, all remaining Series K preferred shareholders except one converted 4,600 shares of preferred stock into approximately 4.6 million shares of the Company's common stock. The Company issued 247,435 shares of common stock to pay the accrued dividend of $63,413 on Series K preferred stock.

On May 13, 2016, we issued 420,849 shares of common stock to convert $117,837 of convertible note principal and related interest. See Note 8.

On various dates from January to September 2016, we issued a total of 297,500 shares of common stock in connection with the convertible notes issued to lenders. We also issued 100,049 shares of common stock to settle debt of $41,200. See Note 8.

On August 29, 2016, a Series J preferred shareholder converted 25 shares of preferred stock into 25,000 shares of the Company's common stock. The Company issued 1,112 shares of common stock to pay the accrued dividend of $442 on Series J preferred stock.

From August 29, 2016 through December 31, 2016, we completed five tranches of a private placement, pursuant to which we sold an aggregate of 1,525,000 shares of common stock, $0.01 par value, for a purchase price of $0.40 per share, resulting in gross proceeds to us of $610,000. The shares were issued and sold to a total of 2 accredited investors pursuant to a securities purchase agreement entered into as of August 29, 2016. The investors received warrants to purchase 1,525,000 shares of the Company's common stock at $0.50 exercise price. The warrants expire 5 years after issuance. We also incurred stock issuance costs related to broker and legal fees of $79,035 which were charged to additional paid in capital.

On various dates from January to December 2016 the Company issued 755,000 shares of restricted common stock to investor relations firms for services rendered with a total fair value of $332,696.

(10) Subsequent Events

On March 21, 2017, we received an eight-month, non-convertible loan of $170,000 from an accredited investor. The loan earns an annual interest rate of 10% and includes a 10% original issue discount. We also agreed to issue the investor 170,000 shares of restricted common stock.

On March 16, 2017, we awarded 660,000 incentive stock options to certain employees and 1,855,000 non-qualified stock options to officers, consultants and directors of the Company. Terms of the stock options include the following significant items: (i) $0.28 exercise price, (ii) 10-year life, (iii) 36 month vesting equally per month for employees and 12 month vesting equally per month for directors, (iv) options vest immediately upon change in-control.

On March 14, 2017, we received an eight-month, non-convertible loan of $250,000 from a privately-held investment firm. The loan earns an annual interest rate of 10% and includes a 10% original issue discount. We also agreed to issue the investor 250,000 shares of restricted common stock.

On March 2, 2017, we signed a Merchant Agreement with a lender. Under the agreement we received a loan of $75,000. The Company paid no fees in connection with this loan.

On February 15, 2017, we received a six-month, non-convertible loan of $110,000 from each of two accredited investors. We agreed to issue the investors 170,000 shares of restricted common stock. The loans earn no interest but carry a 10% original issue fee.

On February 6, 2017, we signed a Merchant Agreement with a lender. Under the agreement we received a loan of $125,000. The Company paid $1,250 in fees in connection with this loan. Under the agreement, $16,180 was used to pay off the prior loan.

We received $250,000 in January 2017 and $500,000 in February 2017 pursuant to the October Revolving Note and we issued to the Investor additional warrants to purchase 1,875,000 shares of our common stock. The terms of the Warrants are identical except for the exercise date, issue date, and termination date. Interest on the principal balance of the Revolving Note shall be paid in full on the Maturity Date, unless otherwise paid prior to the Maturity Date.

On January 17, 2017, we signed a one-year agreement with an investor relations firm. We have the right to terminate the agreement within 10 days of the end of each three-month period. We are committed to pay the IR firm $25,000 for each three-month term, in three equal monthly allotments, should we choose to keep them under contract. We also have awarded the IR firm warrants to purchase the Company's restricted common stock at an exercise price of $0.40/share. The number of warrants and exercise price that we are committed to pay the IR firm for each three-month period, should we choose to keep them under contract, is as follows: Months 1-3: 100,000 warrants at $0.40. Months 4-6: 125,000 warrants at $0.60. Months 7-9: 125,000 warrants at $0.80. Months 10-12: 150,000 warrants at $1.00.

In January 2017, we executed an amendment to the July 1, 2016 convertible note that was due on January 6, 2017. We received an extension of up to three months on the note's due date. In exchange for the extension, we agreed to issue 50,000 shares of restricted common stock and pay the investor $10,000 for each 30-day extension. We made a payment of $34,000 in January 2017 for the first one-month extension and interest on the note from the initial close date through February 6, 2017. On February 28, 2017, the note was paid in full.

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

None

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in our Securities Exchange Act of 1934 filings are 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 President and Chief Executive Officer (Principal Executive Officer) and Chief Financial Officer (Principal Financial Officer), as appropriate, to allow timely decisions regarding required disclosure. In designing and evaluating the disclosure controls and procedures, management recognized that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives, as ours are designed to do, and management was necessarily required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

As of December 31, 2016, we carried out an evaluation, under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, of the effectiveness of the design and operation of our disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934. Based upon that evaluation, our principal executive officer and principal financial officer concluded that our disclosure controls and procedures were not effective as of December 31, 2016 due to limited resources for adequate personnel to prepare and file reports under the Securities Exchange Act of 1934 within the required periods, and material weaknesses in our internal control over financial reporting relating to our accounting for complex equity transactions as described below under the heading "Report of Management on Internal Control over Financial Reporting". Management plans to remediate this weakness by taking the actions described below.

Report of Management on Internal Control over Financial Reporting

We are responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is defined in Rule 13a-15(f) and 15d-15(f) under the Exchange Act, as a process designed by,

or under the supervision of our principal executive and principal financial officers and effected by our board of directors, management and other personnel 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 and includes those policies and procedures that:

pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and disposition of our assets;

provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that our receipts and expenditures are being made only in accordance with authorization of our management and directors; and

provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on the financial statements.

Our internal control system is designed to provide reasonable assurance to our management and board of directors regarding the preparation and fair presentation of financial statements. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Projections of any evaluation of effectiveness to future periods are subject to the risks that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

We have assessed the effectiveness of our internal control over financial reporting as of December 31, 2016. In making this assessment, we used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in Internal Control-Integrated Framework (2013).

Based on this assessment, management believes that, as of December 31, 2016, the Company did not maintain effective internal control over financial reporting because of the effect of material weaknesses in our internal control over financial reporting discussed below.

Public Company Accounting Oversight Board Auditing Standard No. 2 defines a material weakness as a significant deficiency, or combination of significant deficiencies, that results in there being a more than remote likelihood that a material misstatement of the annual or interim financial statements will not be prevented or detected on a timely basis. Based upon this definition, our management concluded that, as of December 31, 2016, a material weakness existed in our internal control over financial reporting related to accounting for complex equity transactions.

Specifically, we identified material weaknesses in our internal control over financial reporting related to the following matters:

We identified a lack of sufficient segregation of duties. Specifically, this material weakness is such that the design over these areas relies primarily on detective controls and could be strengthened by adding preventative controls to properly safeguard Company assets.

Management has identified a lack of sufficient personnel in the accounting function due to our limited resources with appropriate skills, training and experience to perform the review processes to ensure the complete and proper application of generally accepted accounting principles, particularly as it relates to valuation of warrants and other complex debt /equity transactions. Specifically, this material weakness resulted in audit adjustments to the annual consolidated financial statements and revisions to related disclosures, valuation of warrants and other equity transactions.

Limited policies and procedures that cover recording and reporting of financial transactions.

Lack of multiple levels of review over the financial reporting process

Our plan to remediate those material weaknesses is as follows:

Improve the effectiveness of the accounting group by augmenting our existing resources with additional consultants or employees to assist in the analysis and recording of complex accounting transactions, and to simultaneously achieve desired organizational structuring for improved segregation of duties. We plan to mitigate this identified deficiency by hiring an independent consultant once we generate significantly more revenue or raise significant additional working capital.

Improve expert review and achieve desired segregation procedures by strengthening cross approval of various functions including quarterly internal audit procedures where appropriate.

Changes in Internal Control Over Financial Reporting

There have been no changes in our internal control over financial reporting that occurred during the fourth quarter of 2015 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION.

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

Directors

The following table sets forth information about the individuals who serve as our directors as of December 31, 2016.

Name	Age	Position	Board Committees	Term of office expires:
Richard T. Schumacher	66	President, Chief Executive Officer, Treasurer, Clerk and Director		2017
Jeffrey N. Peterson	61	Chairman of the Board	Audit, Compensation, Nominating	2018
Dr. Mickey Urdea	64	Director	Scientific Advisory Board	2018
Vito J. Mangiardi	68	Director	Audit, Compensation, Nominating	2019
Kevin A. Pollack	46	Director	Audit, Compensation, Nominating	2019

The following noteworthy experience, qualifications, attributes and skills for each Board member, together with the biographical information for each nominee described below, led to our conclusion that the person should serve as a director in light of our business and structure:

Mr. Richard T. Schumacher, the founder of the Company, has served as a director of the Company since 1978. He has served as the Company's Chief Executive Officer since April 16, 2004 and President since September 14, 2004. He previously served as Chief Executive Officer and Chairman of the Board of the Company from 1992 to February 2003. From July 9, 2003 until April 14, 2004 he served as a consultant to the Company pursuant to a consulting agreement. He served as President of the Company from 1978 to August 1999. Mr. Schumacher served as the Director of Infectious Disease Services for Clinical Sciences Laboratory, a New England-based medical reference laboratory, from 1986 to 1988. From 1972 to 1985, Mr. Schumacher was employed by the Center for Blood Research, a nonprofit

medical research institute associated with Harvard Medical School. Mr. Schumacher received a B.S. in Zoology from the University of New Hampshire.

Mr. Jeffrey N. Peterson has served as a director of the Company since July 2011 and as Chairman of the Board starting in 2012. Since 1999, he has served as the chief executive officer of Target Discovery, Inc. ("TDI"), a personalized medicine diagnostics (PMDx) company. Mr. Peterson also serves as Chairman of TDI's majority-owned subsidiary, Veritomyx, Inc., which is completing development and commercialization of software tools for accurate peptide, protein and isoform identification and characterization. Prior to incorporating and joining TDI, Mr. Peterson served as CEO of Sharpe, Peterson, Ocheltree & Associates, an international business development consulting firm assisting Fortune 500 and many smaller firms in business expansion and strategy. Prior to that, he spent 9 years in key management roles in Abbott Laboratories' Diagnostics and International (Pharmaceuticals, Hospital Products, Nutritionals, and Consumer) businesses, last serving as CEO and General Manager of Abbott South Africa. Mr. Peterson's experience prior to Abbott Laboratories included 11 years with General Electric's Engineered Materials and Plastics businesses, spanning roles in strategic planning, business development, technology licensing, marketing and sales, operations, quality control and R&D. Mr. Peterson holds BSChE and MSChE (Chemical Engineering) degrees from MIT, as well as 6 issued US and many related international patents, and has authored articles in peer-reviewed scientific journals. Mr. Peterson is Chair Emeritus of the BayBio Institute, a non-profit organization serving the regional life science community. He served for 12 years on the Board of BayBio, the trade association for the life sciences industry in Northern California. He was a cofounder of the Coalition for 21st Century Medicine, and of BIO's Personalized Medicine & Diagnostics Working Group, and served on the board of Advisors for the Center for Professional Development and Entrepreneurship at the University of Texas MD Anderson Cancer Center. Mr. Peterson has lived and worked overseas for 18 years, in the Middle East, Europe and Africa, and is Chair Emeritus of the American International School of Johannesburg.

Mr. Vito J. Mangiardi has served as a director of the Company since July 2012. Mr. Mangiardi is an accomplished senior executive with proven experience as a President, CEO and COO in the Life Sciences and Bio Energy product and service sectors. Mr. Mangiardi has held positions as a Research Chemist for Bio-Rad Laboratories, Inc.; Sales & Marketing Director for Baxter Travenol, Inc.; Executive VP and COO for Quintiles Transnational Corp.; President and CEO of Diagnostics Laboratories, Inc., Clingenix, Inc., and Bilcare, Inc.; and President of AAI Pharma, Inc. More recently he was the COO/Deputy Director of Operations and Production at the University of California Lawrence Berkeley National Laboratory Joint Genome Institute. Mr. Mangiardi has experience with three start-ups, two midsize, and several mature companies, and has international experience leading and managing organizations on four continents. He has experience in leading alliances, acquisitions, due diligence, and post-acquisition assimilation. Mr. Mangiardi has been on the Board of Directors of three companies and has proven success in working with both national and international investment groups to raise funds. Mr. Mangiardi earned a BS in Biology/Chemistry from Eastern Illinois University and two MBA degrees from Golden Gate University - in General Management and in Marketing. Mr. Mangiardi is listed as an inventor on four patents and has published articles in various publications in protein separation techniques in the area of metabolism, thyroid, anemia/hematology and cancer, and is a member of numerous professional organizations. In March of 2011 Mr. Mangiardi became founding partner, President and CEO of Marin Bay Partners, LLC (MBP), a consulting firm focused on life sciences, pharmaceutical development and clinical diagnostics.

Mr. Kevin A. Pollack has served as a director of the Company since July 2012. Mr. Pollack has been the Chief Financial Officer of Opiant Pharmaceuticals, Inc. (OPNT-OTCQB), a specialty pharmaceutical company developing pharmacological treatments for substance use, addictive, and eating disorders since November 2012. He has been an investment banker and securities attorney at Banc of America Securities LLC and Sidley Austin LLP (formerly Brown & Wood LLP), respectively, and has previous asset management experience at Paragon Capital LP since October of

2007. Mr. Pollack is a magna cum laude graduate of the Wharton School of the University of Pennsylvania and holds J.D. and M.B.A. degrees from Vanderbilt University, where he graduated with Beta Gamma Sigma honors. Currently, he presently sits on the Boards of Directors of Opiant Pharmaceuticals, Inc. and MagneGas Corporation (MNGA-NASDAQ), an alternative energy company. Mr. Pollack also is President of Short Hills Capital LLC.

Dr. Michael S. "Mickey" Urdea has served as a director of the Company since February 8, 2013. Dr. Urdea is a Founder and Partner for Halteres Associates, a biotechnology consulting firm since June 2011. He also founded and served as Chief Executive Officer of Tethys Bioscience, a proteomics-based diagnostics company involved in preventative personalized medicine. Additionally, Dr. Urdea is a founder and the Chairman of Catalysis Foundation for Health, an organization addressing gaps in global healthcare caused by inefficiencies in disease diagnosis and monitoring. He serves as an expert consultant to the life sciences industry and is on the scientific advisory boards and boards of directors of a number of biotechnology, diagnostics, venture capital and philanthropic organizations. Prior to his current business activities, Dr. Urdea founded the Nucleic Acid Diagnostics group at Chiron Corporation, and with colleagues, invented branched DNA molecules for amplification of signal in nucleic acid complexes. Application of this technology resulted in the first commercial products for quantification of human hepatitis B, hepatitis C, and human immunodeficiency viruses (HBV, HCV and HIV, respectively). He then became business head of the Molecular Diagnostics group and Chief Scientific Officer at Bayer Diagnostics. He continues to serve as a diagnostics industry, product development and scientific advisor to the Bill and Melinda Gates Foundation, acted as co-chair of two of the Grand Challenges grant review committees, and served as a member of its Diagnostic Forum. Dr. Urdea is an author on nearly 200 peer-reviewed scientific publications, nearly 300 abstracts and international scientific presentations, and more than 100 issued and pending patents. He received his BS in Biology and Chemistry from Northern Arizona University in Flagstaff and his Ph.D. in Biochemistry from Washington State University.

Executive Officers

The information under the heading “Executive Officers of the Registrant” in Item 1 of Part I of this Annual Report on Form 10-K is incorporated herein by this reference.

Section 16(a) Beneficial Ownership Reporting Compliance

Section 16(a) of the Exchange Act requires the Company’s executive officers and directors, and persons who own more than 10% of the Company’s common stock, to file reports of ownership and changes in ownership on Forms 3, 4 and 5 with the SEC.

Based solely on the Company’s review of the copies of such Forms and written representations from certain reporting persons, the Company believes that all filings required to be made by the Company’s Section 16(a) reporting persons during the Company’s fiscal year ended December 31, 2016 were made on a timely basis with the exception of our officers, directors and greater than 10 percent beneficial owners listed in the table below:

Name	Number of Late Reports	Number and Description of Transactions Not Reported on a Timely Basis
Richard T. Schumacher	1	1 transaction was not reported on a timely basis following the acquisition of convertible securities in the year ended December 31, 2016.
Jeffrey N. Peterson	1	1 transaction was not reported on a timely basis following the acquisition of convertible securities in the year ended December 31, 2016.
Kevin A. Pollack	1	1 transaction was not reported on a timely basis following the acquisition of convertible securities in the year ended December 31, 2016.
Michael S. Urdea	1	1 transaction was not reported on a timely basis following the acquisition of convertible securities in the year ended December 31, 2016.
Vito J. Mangiardi	1	1 transaction was not reported on a timely basis following the acquisition of convertible securities in the year ended December 31, 2016.

Code of Ethics

Pursuant to Section 406 of the Sarbanes-Oxley Act of 2002, we have adopted a Code of Ethics for senior financial officers that applies to our principal executive officer, principal financial officer, principal accounting officer, controller, and other persons performing similar functions. A copy of the code of ethics is posted on, and may be obtained free of charge from our Internet website at http://www.pressurebiosciences.com. If we make any amendments to this Code of Ethics or grant any waiver, including any implicit waiver, from a provision of this Code of Ethics to our principal executive officer, principal financial officer, principal accounting officer, controller, or other persons performing similar functions, we will disclose the nature of such amendment or waiver, the name of the person to whom the waiver was granted and the date of waiver in a Current Report on Form 8-K.

Corporate Governance

Term of Office

Our directors are appointed for a three-year term to hold office until the annual general meeting of our shareholders or until removed from office in accordance with our bylaws. Our officers are appointed by our board of directors and hold office until removed by the board.

Audit Committee

The Audit Committee was established in accordance with Section 3(a)(58)(A) of the Securities Exchange Act of 1934. Messrs. Pollack (chairman), Mangiardi and Peterson are currently the members of the Audit Committee.

The Board of Directors has determined that Mr. Pollack qualifies as an “audit committee financial expert” as defined in Item 407(d)(5) of Regulation S-K and is “independent” as defined by SEC and OTC Market rules.

The Audit Committee operates pursuant to a written charter (the “*Audit Committee Charter*”), a current copy of which is publicly available on the investor relations portion of the Company’s website at www.pressurebiosciences.com. Under the provisions of the Audit Committee Charter, the primary functions of the Audit Committee are to assist the Board of Directors with the oversight of (i) the Company’s financial reporting process, accounting functions, and internal controls, and (ii) the qualifications, independence, appointment, retention, compensation, and performance of the Company’s independent registered public accounting firm. The Audit Committee is also responsible for the establishment of “whistle-blowing” procedures, and the oversight of other compliance matters.

Compensation Committee

The Board of Directors has a Compensation Committee, consisting of Messrs. Peterson, Pollack and Mangiardi. The Compensation Committee's duties include (i) reviewing and approving our executive compensation, (ii) reviewing the recommendations of the president and chief executive officer regarding the compensation of our executive officers, (iii) evaluating the performance of the president and chief executive officer, (iv) overseeing the administration and approval of grants of stock options and other equity awards under our equity incentive plans, and (v) recommending compensation for our board of directors and each committee thereof for review and approval by the board of directors. The Compensation Committee operates pursuant to a written charter, a current copy of which is publicly available on the investor relations portion of our website at www.pressurebiosciences.com.

Involvement in Certain Legal Proceedings

To the best of our knowledge, none of our directors or executive officers has, during the past ten years:

- been convicted in a criminal proceeding or been subject to a pending criminal proceeding (excluding traffic violations and other minor offenses);
- had any bankruptcy petition filed by or against the business or property of the person, or of any partnership, corporation or business association of which he was a general partner or executive officer, either at the time of the bankruptcy filing or within two years prior to that time;
- been subject to any order, judgment, or decree, not subsequently reversed, suspended or vacated, of any court of competent jurisdiction or federal or state authority, permanently or temporarily enjoining, barring, suspending or otherwise limiting, his involvement in any type of business, securities, futures, commodities, investment, banking, savings and loan, or insurance activities, or to be associated with persons engaged in any such activity;
- been found by a court of competent jurisdiction in a civil action or by the Securities and Exchange Commission or the Commodity Futures Trading Commission to have violated a federal or state securities or commodities law, and the judgment has not been reversed, suspended, or vacated;
- been the subject of, or a party to, any federal or state judicial or administrative order, judgment, decree, or finding, not subsequently reversed, suspended or vacated (not including any settlement of a civil proceeding among private litigants), relating to an alleged violation of any federal or state securities or commodities law or regulation, any law or regulation respecting financial institutions or insurance companies including, but not limited to, a temporary or permanent injunction, order of disgorgement or restitution, civil money penalty or temporary or permanent cease-and-desist order, or removal or prohibition order, or any law or regulation prohibiting mail or wire fraud or fraud in connection with any business entity; or
- been the subject of, or a party to, any sanction or order, not subsequently reversed, suspended or vacated, of any self-regulatory organization (as defined in Section 3(a)(26) of the Exchange Act), any registered entity (as defined in Section 1(a)(29) of the Commodity Exchange Act), or any equivalent exchange, association, entity or organization that has disciplinary authority over its members or persons associated with a member.

Except as set forth in our discussion below in “Certain Relationships and Related Transactions,” none of our directors or executive officers has been involved in any transactions with us or any of our directors, executive officers, affiliates or associates which are required to be disclosed pursuant to the rules and regulations of the Commission.

ITEM 11. EXECUTIVE COMPENSATION

Executive Officer Compensation

Summary Compensation Table

The Summary Compensation Table below sets forth the total compensation paid or earned for the fiscal years ended December 31, 2016 and 2015 for: (i) each individual serving as our chief executive officer ("*CEO*") or acting in a similar capacity during any part of fiscal 2015; and (ii) the other two most highly paid executive officers (collectively, the "*Named Executive Officers*") who were serving as executive officers at the end of fiscal 2016.

Name and Principal Position	Fiscal Year	Salary[1]	Bonus	Stock Awards	Option Awards[2]	Non-Qualified Deferred Compensation Earning	All other Compensation[3]	Total
Richard T. Schumacher	2016	$308,963	$ -	$ -	$ -	$ -	$ 40,832	$349,795
President, CEO	2015	294,250	-	-	343,000	-	16,098	653,348
Edmund Ting, Ph.D	2016	207,100	-	-	-	-	1,261	208,361
Senior Vice President of Engineering	2015	197,600	-	-	35,672	-	1,216	234,488
Alexander Lazarev, Ph.D	2016	173,561	-	-	-	-	7,736	181,297
Vice President of Research and Development	2015	165,600	-	-	31,556	-	7,656	204,812

(1) Salary refers to base salary compensation paid through our normal payroll process. No bonus was paid to any named executive officer for 2016 or 2015.

(2) Amounts shown do not reflect compensation received by the Named Executive Officers. Instead, the amounts shown are the aggregate grant date fair value as determined pursuant to FASB ASC 718, Compensation-Stock

Compensation. Please refer to Note 2, xiii, “Accounting for Stock-Based Compensation” in the accompanying Notes to Consolidated Financial Statements for the fiscal year ended December 31, 2016, for the relevant assumptions used to determine the valuation of stock option grants.

(3) “All Other Compensation” includes our Company match to the executives’ 401(k) contribution and premiums paid on life insurance for the executives. Both of these benefits are available to all of our employees. In the case of Mr. Schumacher, “All Other Compensation” also includes $8,474 in premiums we paid for a life insurance policy to which Mr. Schumacher’s wife is the beneficiary. In 2016, Mr. Schumacher received $29,708 for unused earned time off. “All Other Compensation” for Dr. Lazarev includes $6,000 paid to Dr. Lazarev in lieu of his participation in the medical benefit plan offered by the Company.

Outstanding Equity Awards at Fiscal Year End

The following table sets forth certain information regarding outstanding stock options awards for each of the Named Executive Officers as of December 31, 2016.

	Option Awards				
Name	**Number of Securities Underlying Unexercised Options Exercisable**	**Number of Securities Underlying Unexercised Options Unexercisable[1]**		**Option Exercise Price ($)**	**Option Expiration Date**
Richard T. Schumacher	75,000	-		$ 0.60	3/12/2019
President, CEO	15,000	-		$ 1.00	9/9/2021
	30,000	-		$ 0.60	3/13/2022
	75,000	-		$ 0.40	5/14/2023
	225,003	74,997	(2)	$ 0.30	9/24/2024
	416,667	833,833	(3)	$ 0.40	12/31/2025
Edmund Y. Ting, Ph.D	12,000	-		$ 1.00	9/25/2018
Senior Vice President of Engineering	42,000	-		$ 0.60	3/12/2019
	15,000	-		$ 1.00	9/9/2021
	17,500	-		$ 0.60	3/13/2022
	54,000	-		$ 0.40	5/14/2023
	150,002	49,998	(2)	$ 0.30	9/24/2024
	43,333	86,667	(3)	$ 0.40	12/31/2025
Alexander V. Lazarev, Ph.D	10,000	-		$ 1.00	9/25/2018
Vice President of Research & Development	35,000	-		$ 0.60	3/12/2019
	15,000	-		$ 1.00	9/9/2021
	15,000	-		$ 0.60	3/13/2022
	45,000	-		$ 0.40	5/14/2023
	112,502	37,498	(2)	$ 0.30	9/24/2024
	38,333	76,667	(3)	$ 0.40	12/31/2025

(1) All unvested stock options listed in this column were

granted to the Named Executive Officer pursuant to our 2005 Equity Incentive Plan, 2013 Equity Incentive Plan and 2015 Nonqualified Incentive Plan. All options expire ten years after the date of grant. Unvested stock options become fully vested and exercisable upon a change of control of our Company.

(2) Options to purchase shares of common stock were granted on September 24, 2014 to each of the Named Executive Officers, of which 1/6th of the stock options will vest six months from the date of grant while the remainder

will vest monthly over the remaining three year vesting period.

(3) Options to purchase shares of common stock were granted on December 31, 2015 to each of the Named Executive Officers, of which the stock options will vest monthly from the date of grant over the three year vesting period.

Retirement Plan

All employees, including the named executive officers, may participate in our 401(k) Plan. Under the 401(k) Plan, employees may elect to make before tax contributions of up to 60% of their base salary, subject to current Internal Revenue Service limits. The 401(k) Plan does not permit an investment in our common stock. We match employee contributions up to 50% of the first 2% of the employee's earnings. Our contribution is 100% vested immediately.

Severance Arrangements

Each of Mr. Schumacher, Dr. Ting, Dr. Lazarev, and Dr. Lawrence, executive officers of the Company, are entitled to receive a severance payment if terminated by us without cause. The severance benefits would include a payment in an amount equal to one year of such executive officer's annualized base salary compensation plus accrued paid time off. Additionally, the officer will be entitled to receive medical and dental insurance coverage for one year following the date of termination.

Change-in-Control Arrangements

Pursuant to severance agreements with each of Mr. Schumacher, Dr. Ting, Dr. Lazarev and Dr. Lawrence, each such executive officers, is entitled to receive a change of control payment in an amount equal to one year (other than Mr. Schumacher) of such executive officer's annualized base salary compensation, accrued paid time off, and medical and dental coverage, in the event of a change of control of our Company. In the case of Mr. Schumacher, his payment is equal to two years of annualized base salary compensation, accrued paid time off, and two years of medical and dental coverage.

Pursuant to our equity incentive plans, any unvested stock options held by a named executive officer will become fully vested upon a change in control (as defined in the 2005 Equity Incentive Plan) of our Company.

Director Compensation and Benefits

The following table sets forth certain information regarding compensation earned or paid to our directors during fiscal 2016.

Name	Fees Earned or Paid in Cash [1]	Stock Awards [1]	Option Awards [2][3]	Total
Vito J. Mangiardi	40,000	-	-	40,000
Jeffrey N. Peterson	60,000	-	-	60,000
Kevin A. Pollack	40,000	-	-	40,000
Michael S. Urdea, Ph. D.	50,000	-	-	50,000