Cytosorbents Corp
Form POS AM
June 03, 2013

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

POST-EFFECTIVE AMENDMENT NO. 4 TO

FORM S-1

REGISTRATION STATEMENT

UNDER

THE SECURITIES ACT OF 1933

CYTOSORBENTS CORPORATION

(Exact Name of Registrant as Specified in Its Charter)

Nevada	**3841**	**98-0373793**
(State or Other Jurisdiction of Incorporation or Organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification Number)

7 Deer Park Drive, Suite K

Monmouth Junction, New Jersey 08852

(732) 329-8885

(Address, Including Zip Code, and Telephone Number,

Including Area Code, of Registrant’s Principal Executive Offices)

Phillip Chan, President and Chief Executive Officer

CytoSorbents Corporation

(Name, Address, Including Zip Code, and Telephone Number,

Including Area Code, of Agent for Service)

Copies to:

Gregg Jaclin, Esq.

Eric Stein, Esq.

Anslow Jaclin LLP

195 Route 9 South, Suite 204

Manalapan, NJ 07726

APPROXIMATE DATE OF COMMENCEMENT OF PROPOSED SALE TO THE PUBLIC: From time to time after the effective date of this registration statement, as determined by the selling stockholder.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box. x

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ¨

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ¨

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ¨

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 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

EXPLANATORY NOTE

On February 10, 2012, the Securities and Exchange Committee declared effective the registration statement on Form S-1 (File No. 333-178654), as amended (the "Registration Statement") filed by Cytosorbents Corporation. (the "Company"). The Company is filing this post effective amendment to the Registration Statement (the "Post-Effective Amendment") for the purpose of including information from the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2013 and from the Company's Annual Report on Form 10-K for the year ended December 31, 2012, including the financial statements for those corresponding. Additionally, we have included the corresponding XBRL detail tagging for our financial statements.

No changes have been made to the Registration Statement other than to add the information as described above. This Post-Effective Amendment should be read in conjunction with the Registration Statement. This Post-Effective Amendment does not reflect events that may have occurred after the date of the Registration Statement and does not modify or update in any way the disclosures made in the Registration Statement, except as required to reflect the revisions discussed above.

The information included in this filing updates and supplements this Registration Statement and the Prospectus contained therein. **No additional securities are being registered under this Post-Effective Amendment No. 4.** All applicable registration fees were paid at the time of the original filing of the Registration Statement.

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Amount to be Registered (1)	Proposed Maximum Offering Price Per Security (2)	Proposed Maximum Aggregate Offering Price (2)	Amount of Registration Fee
Shares of Common Stock, par value $0.001 per share	39,634,615 Shares	$ 0.14	$ 5,548,846	$ 635.90
Total	39,634,615 Shares	$ 0.14	$ 5,548,846	$ 635.90

(1) This registration statement covers 39,634,615 shares of our common stock. Pursuant to and in accordance with Rule 416 under the Securities Act, there are also registered hereunder such indeterminate number of securities as may be issued to prevent dilution resulting from stock splits, stock dividends, or similar transactions. This registration statement covers the 39,634,615 shares of our common stock previously registered in the S-1/A registration statement filed on February 6, 2012. No new shares are being registered.

(2) Estimated solely for the purpose of calculating the amount of the registration fee pursuant to Rule 457(c) of the Securities Act. The proposed maximum offering price per share and proposed maximum aggregate offering price are based upon the closing price of $0.14 of our common stock on December 19, 2011, as reported by the OTCBB. It is not known how many shares of our common stock will be sold under this registration statement or at what price or prices such shares will be sold.

THE REGISTRANT HEREBY AMENDS THIS REGISTRATION STATEMENT ON SUCH DATE OR DATES AS MAY BE NECESSARY TO DELAY ITS EFFECTIVE DATE UNTIL THE REGISTRANT SHALL FILE A FURTHER AMENDMENT WHICH SPECIFICALLY STATES THAT THIS REGISTRATION STATEMENT SHALL THEREAFTER BECOME EFFECTIVE IN ACCORDANCE WITH SECTION 8(A) OF THE SECURITIES ACT OF 1933, AS AMENDED, OR UNTIL THE REGISTRATION STATEMENT SHALL BECOME EFFECTIVE ON SUCH DATE AS THE COMMISSION, ACTING PURSUANT TO SAID SECTION 8(A), SHALL DETERMINE.

The information in this prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and is not soliciting an offer to buy these securities in any jurisdiction where the offer or sale of these securities is not permitted.

Subject to Completion, Dated May 31, 2013

PROSPECTUS

CytoSorbents Corporation

39,634,615 SHARES OF COMMON STOCK

This prospectus is registering an aggregate of 39,634,615 shares of common stock, par value $0.001, of CytoSorbents Corporation, a Nevada corporation, and relates to the sale of such shares by Lincoln Park Capital Fund, LLC. Lincoln Park Capital Fund, LLC is sometimes referred to in this prospectus as the selling stockholder or LPC. The prices at which LPC may sell the shares will be determined by the prevailing market price for the shares or in negotiated transactions. See “Plan of Distribution” on page 18 for a description of how the selling stockholder may dispose of the shares covered by this prospectus. We do not know when or in what amount the selling stockholder may offer the shares for sale. We will not receive proceeds from the sale of our shares by LPC. We have agreed to pay certain expenses related to the registration of the shares of common stock pursuant to the registration statement of which this prospectus forms a part.

Our common stock currently trades on the over-the-counter market and is quoted on the OTC Bulletin Board under the symbol “CTSO.” On May 30, 2013, the last reported sale price of our Common Stock was $0.129 per share.

The selling stockholder is an “underwriter” within the meaning of the Securities Act of 1933, as amended.

INVESTING IN OUR COMMON STOCK INVOLVES SUBSTANTIAL RISKS. SEE THE SECTION TITLED “RISK FACTORS” BEGINNING ON PAGE 6 OF THIS PROSPECTUS TO READ ABOUT FACTORS YOU SHOULD CONSIDER BEFORE BUYING SHARES OF OUR COMMON STOCK.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR PASSED UPON THE ADEQUACY OR ACCURACY OF THIS PROSPECTUS. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

The date of this prospectus is May 31, 2013.

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PROSPECTUS SUMMARY

This summary highlights information contained elsewhere in this prospectus. This summary does not contain all of the information that you should consider before making an investment decision with respect to our securities. You should read this entire prospectus, including all documents incorporated by reference, carefully, especially the "Risk Factors" section beginning on page 6 of this prospectus and our financial statements and related notes contained in this prospectus before making an investment decision with respect to our securities. Please see the section titled, "Where You Can Find More Information," beginning on page 64 of this prospectus. Unless the context indicates otherwise, references to "CytoSorbents," "the Company," "we," "us," or "our," refers to CytoSorbents Corporation and our wholly-owned subsidiary, CytoSorbents, Inc.

You should rely only on the information contained in this prospectus or any related prospectus supplement, including the content of all documents incorporated by reference into the registration statement of which this prospectus forms a part. We have not authorized anyone to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. The information contained in this prospectus or incorporated by

reference herein is accurate only on the date of this prospectus. Our business, financial condition, results of operations and prospects may have changed since such date. Other than as required under the federal securities laws, we undertake no obligation to publicly update or revise such information, whether as a result of new information, future events or any other reason.

Some of the industry data contained in this prospectus is derived from data from various third-party sources. We have not independently verified any of this information and cannot assure you of its accuracy or completeness. While we are not aware of any misstatements regarding any industry data presented herein, such data is subject to change based on various factors, including those discussed under the “Risk Factors” section beginning on page 6 of this prospectus.

The Company

CytoSorbents Corporation was incorporated in Nevada on April 25, 2002 as Gilder Enterprises, Inc. and was originally engaged in the business of installing and operating computer networks that provided high-speed access to the Internet. On June 30, 2006, we disposed of our original business, and pursuant to an Agreement and Plan of Merger, acquired all of the stock of MedaSorb Technologies, Inc., a Delaware corporation in a merger, and its business became our business. Following the merger, in July 2006 we changed our name to MedaSorb Technologies Corporation. In November 2008 we changed the name of our operating subsidiary from MedaSorb Technologies, Inc. to CytoSorbents, Inc. In May 2010 we finalized the name change of MedaSorb Technologies Corporation to CytoSorbents Corporation. Unless otherwise indicated, all references in this Annual Report to "MedaSorb,", "CytoSorbents", "us" or "we" with respect to events prior to June 30, 2006 are references to CytoSorbents, Inc. and its predecessors.

We have incurred operating losses since inception through September 30, 2011 equal to $90,627,971. Losses have been primarily attributable to expenses incurred for research and development, general and administrative costs, and legal and accounting fees. We may continue to incur losses in the future. In part due to these losses, our 2010 audited consolidated financial statements have been prepared assuming we will continue as a going concern, and the auditors' report on those financial statements express substantial doubt about our ability to continue as a going concern.

Our executive offices are located at 7 Deer Park Drive, Suite K, Monmouth Junction, New Jersey 08852. Our telephone number is (732) 329-8885.

Summary of Our Business

We are a critical care focused therapeutic medical device company that is currently in the development stage, headquartered in Monmouth Junction, New Jersey (near Princeton). We have developed and are seeking to commercialize a blood purification technology that we believe will be able to efficiently remove middle molecular weight toxins from circulating blood and physiologic fluids.

In March 2011, we received European Union (E.U.) regulatory approval under the CE Mark and Medical Devices Directive for our flagship product, CytoSorb®, as an extracorporeal cytokine filter to be used in clinical situations where cytokines are elevated. In mid-September 2011 we started to exhibit the CytoSorb® device at conferences in Germany as part of our product marketing under a controlled-market release in select geographic territories in Germany. In late June 2012, we completed the controlled-market release and began the commercial launch of CytoSorb® in Germany with the hiring of Dr. Christian Steiner as Vice President of Sales and Marketing and three additional sales people, one of whom started immediately and the other two expected to start by August 2012.

Because of this timing, the third quarter of 2012 is expected to be a transitional quarter in terms of revenues as the sales force increases its training and sales activities, particularly in Germany.

Our CE Mark enables CytoSorb® to be sold in the European Union for clinical use. Potential uses include many critical care conditions where cytokines are elevated such as sepsis, trauma, ARDS, severe burn injury and acute pancreatitis. CytoSorbents is currently manufacturing CytoSorb® product under ISO 13485:2003 Full Quality Systems certification, an internationally recognized quality standard designed to ensure that medical device manufacturers have the necessary comprehensive management systems in place to safely design, develop, manufacture and distribute medical devices in the European Union. We intend to continue to research and seek the necessary regulatory approvals to sell our other proposed products, as well as potential label extensions of our current CE Mark for CytoSorb®.

We are focusing our efforts on the commercialization of CytoSorb® and have now concluded a controlled-market release program in select territories in Germany that we initiated in late 2011. The purpose of this program was to prepare the Company for commercialization of CytoSorb in Germany in terms of manufacturing, logistics, infrastructure, marketing, contacts, and other key issues. Following the establishment of our European subsidiary, CytoSorbents Europe GmbH, we commenced a direct sales effort in Germany at the end of the second quarter of 2012 with the hiring of a four person direct sales force including a Vice President of Sales and Marketing, two of which started immediately, and two that began at the beginning of August. We are also evaluating potential distributor networks in other major countries where we are approved to market the device.

We are required to obtain required regulatory approvals from the United States Food and Drug Administration ("FDA") before we can sell our products in the United States.

We have completed the targeted enrollment in our European Sepsis clinical trial of one hundred (100) patients with sepsis and respiratory failure with the participation of fourteen trial sites. The purpose of the trial was to demonstrate safety and the broad, and statistically significant reduction of key cytokines such as IL-6 in these patients. Although the trial was not powered to demonstrate significant reduction in clinical endpoints such as mortality, these were included as secondary and exploratory endpoints in the trial. Taking into account all 100 patients, the treatment was well-tolerated with no serious device related adverse events reported in more than 300 human treatments in the trial. The first 22 patients in the study represented a sepsis pilot study. In the next 31 patients, a compromise of the manual randomization schedule at two trial sites led to an imbalance in the severity of illness between the control and treatment patient groups of the study. After a thorough review, the Scientific Advisory Board (SAB) and the independent Data Safety Monitoring Board (DSMB) both recommended that due to this enrollment bias, these 31 patients should only be used for safety evaluation purposes and that new patients should be enrolled into the trial using electronic web-based randomization to randomly assign patients into either the control or treatment arms. Excluding four patients that withdrew, the remaining forty three (43) patients enrolled under electronic randomization were relatively balanced in terms of the severity of illness in treatment and control patients, confirming the findings of the SAB and DSMB. In these forty three (43) patients the European Sepsis Trial successfully demonstrated, on a statistically significant basis ($p<0.05$), CytoSorb®'s ability to reduce circulating levels of key cytokines from whole blood in treated patients on the average of 30-50% over the 7 day treatment period. Additionally, post-hoc subgroup analyses of the clinical outcome data from patients enrolled under electronic randomization demonstrated statistically significant reduction in mortality in patients at high risk of death in sepsis, specifically in patients with very high cytokine levels (IL-6 $\geq$ 1,000 pg/mL and/or IL-1ra $\geq$ 16,000 pg/mL) where 28-day mortality was 0% treated vs 63% control, $p=0.03$, $n=14$ and patients $\geq$ age 65 (14-day mortality: 0% treated vs 36% control, $p=0.04$, $n=21$).

The initial major market focus for CytoSorb® is the adjunctive treatment of sepsis, a systemic inflammatory response to a serious infection or traumatic event. CytoSorb® has been designed to prevent or reduce the accumulation of high concentrations of cytokines in the bloodstream associated with sepsis and is intended for short-term use with standard of care therapy that includes antibiotics. We believe that current state of the art blood purification technology (such as dialysis) is incapable of effectively clearing the toxins intended to be adsorbed by our CytoSorb® device.

In addition to the sepsis indication, we intend to continue to foster research in other critical care illnesses where CytoSorb® could be used, such as ARDS, trauma, severe burn injury and severe acute pancreatitis, or in other acute conditions that have demonstrated potential in preliminary studies to prevent or reduce the accumulation of cytokines in the bloodstream. These other conditions include the prevention of post-operative complications of cardiac surgery (cardiopulmonary bypass surgery) and damage to organs donated for transplant prior to organ harvest. We are also exploring the potential benefits our technology may have in removing drugs and other substances from blood and physiologic fluids.

The Company is currently manufacturing CytoSorb® under ISO 13485:2003 Full Quality Systems certification for sale in the E.U. and for additional clinical studies. Concurrent with its commercialization plans, the Company intends to conduct additional clinical studies in sepsis and other critical care diseases to generate additional clinical data to expand the scope of clinical experience for marketing purposes, to increase the number of treated patients, and to support potential future publications. Assuming availability of adequate and timely funding, and continued positive results from our clinical studies, the Company intends to continue commercializing its product in Europe.

The clinical protocol for our European Sepsis Trial was designed to allow us to gather information to support future U.S. studies. In the event we are able to successfully commercialize our products in the European market, we will review our plans for the United States to determine whether to conduct clinical trials in support of 510(k) or PMA registration. No assurance can be given that our CytoSorb® product will work as intended in these studies or that we will be able to obtain FDA approval to sell CytoSorb® in the United States. Even though we have obtained CE Mark approval, there is no guarantee or assurance that we will be successful in obtaining FDA approval in the United States or approval in any other country or jurisdiction.

We have developed two products, CytoSorb® and BetaSorb™, and a technology platform called HemoDefend, utilizing our adsorbent polymer technology. CytoSorb® has received CE Mark regulatory approval in the European Union (E.U.) and is commercially available for sale throughout the E.U. The BetaSorb has not been approved for CE Mark and is not the current focus of our near term commercialization plans. The HemoDefend technology platform is a development-stage blood purification system that targets blood transfusions, and has not yet received regulatory approval. CytoSorb® and BetaSorb™ are known medically as hemoperfusion devices. During hemoperfusion, blood is removed from the body via a catheter or other blood access device, perfused through a filter medium where toxic compounds are removed, and returned to the body.

The CytoSorb® device consists of a cartridge containing hemocompatible, highly porous, adsorbent polymer beads that are intended to remove toxins and other substances from blood and physiologic fluids. The cartridge incorporates industry standard connectors at either end of the device, which connect directly to an extra-corporeal circuit (bloodlines) on a stand alone basis. The extra-corporeal circuit consists of plastic tubing through which the blood flows, our CytoSorb® cartridge containing adsorbent polymer beads, pressure monitoring gauges, and a blood pump to maintain blood flow. The patient's blood is accessed through a catheter inserted into his or her veins. The catheter is connected to the extra-corporeal circuit and the blood pump draws blood from the patient, pumps it through the cartridge and returns it back to the patient in a closed loop, recirculating system. As blood passes over the polymer beads in the cartridge, toxins (cytokines) are adsorbed from the blood.

Previous studies using our BetaSorb™ device in patients with chronic kidney failure have provided valuable data, which we use in conducting clinical studies using our CytoSorb® device. However, limited studies have been conducted using our CytoSorb® device to date and no assurance can be given that our proposed CytoSorb® product will work as intended or that we will be able to obtain additional necessary regulatory body approvals to sell CytoSorb® in markets outside of Europe. Even if we ultimately obtain additional regulatory approvals, because we cannot control the timing of responses to our regulatory submissions, there can be no assurance as to when such approvals will be obtained.

Our BetaSorb™ device is intended to remove beta-2-microglobulin from the blood of patients suffering from chronic kidney failure who rely on long term dialysis therapy to sustain their life. BetaSorb™ utilizes an adsorbent polymer packed into an identically shaped and constructed cartridge as utilized for our CytoSorb® product, although the polymers used in the two devices are physically different. The BetaSorb™ device also incorporates industry standard connectors at either end of the device, which connect directly into the extra-corporeal circuit (bloodlines) in series with a dialyzer. To date, we have manufactured the BetaSorb™ device on a limited basis for testing purposes, including for use in clinical studies.

We had initially identified end stage renal disease (ESRD) as the target market for our polymer-based adsorbent technology. However, during the development of BetaSorb™, we identified several applications for our adsorbent technology in the treatment of critical care patients. As a result, we shifted our priorities to pursue critical care applications (such as for the treatment of sepsis) for our technology given that BetaSorb's™ potential for usage in chronic conditions such as end stage renal disease is anticipated to have a longer and more complex regulatory pathway. We currently intend to pursue our BetaSorb™ product after the commercialization of the CytoSorb® product.

At such time as we determine to proceed with our proposed BetaSorb™ product, if ever, we will need to conduct additional clinical studies using the BetaSorb™ device and obtain separate regulatory approval in Europe and/or the United States.

We have conducted clinical studies using our BetaSorb™ device in patients with chronic kidney failure, which have provided valuable data that underpin the development of the critical care applications for our technology. The BetaSorb™ device has been used in a total of four human pilot studies, involving 20 patients, in the U.S. and Europe. The studies included approximately 345 treatments, with some patients using the device for up to 24 weeks (in multiple treatment sessions lasting up to four hours, three times per week) in connection with the application of our products to patients suffering from chronic kidney failure.

HemoDefend is a development-stage blood purification technology platform designed to safeguard and protect the blood supply. The Company seeks to license the HemoDefend platform and has not yet received regulatory approval in any markets. HemoDefend consists of a mixture of proprietary porous polymer beads that target the removal of contaminants that can cause transfusion reactions or cause disease in patients receiving the tens of millions of transfused blood products administered worldwide each year. These contaminants include, for example, foreign antibodies, antigens, prions, cytokines, free hemoglobin, bioactive lipids, toxins, drugs, and other inflammatory mediators that either were from the donor or accumulated during blood storage. The goal of the HemoDefend technology is to reduce transfusion reactions, to keep new blood fresh, and to prevent or reduce the transmission of certain infectious agents.

The HemoDefend beads are intended to be used in multiple configurations, including the common in-line filter between the blood bag and the patient as well as a patent-pending “Beads in a Bag” treatment configuration, where the beads are placed directly into a blood storage bag. Once blood is put into this bag, the beads begin to automatically remove contaminants from the blood, and are designed to continue purifying blood throughout the entire blood storage period. The use of neutrally buoyant beads eliminates the need for mixing and is compatible with current blood storage conditions. Integrated filters in the bag prevent beads from leaving the bag during the transfusion process. The base polymer meets ISO 10993 standards for biocompatibility, hemocompatibility, genotoxicity, cytotoxicity, acute sensitivity and complement activation and can therefore directly contact blood for extended periods of time. In addition, the beads are inert and stable at a wide range of temperatures, and do not contain any antibodies, biologics, ligands, or drugs. Because of this, the beads have a very long shelf life that is consistent with blood storage bag manufacturing standards. No special equipment or handling is required, making it well-suited for mainstream and military applications, as well as for use in less developed countries that are not well-equipped to test and process blood products.

We have not generated any significant revenue to date. We have incurred losses in each of our fiscal years and expect these losses to continue for the foreseeable future. We will need to raise significant additional funds to conduct additional clinical studies, obtain additional regulatory approvals, and to support the commercialization plans for our products. No assurance can be given that we will ever successfully commercialize any products.

THE OFFERING

This Post-effective S-1 is designed only to update financials. There are no new shares being registered. The 39,634,615 shares mentioned below have already been registered in the S1/A filing dated February 6, 2012.

On May 5, 2010, the Company and LPC entered into a purchase agreement and a registration rights agreement (the “May 2010 LPC Agreements”) whereby the Company had the right to sell, at its sole discretion, to LPC up to $6,000,000 of the Company’s common stock, over a 25-month period.

On December 7, 2011, the May 2010 LPC Agreements between the Company and LPC were terminated by mutual agreement (the " Termination Agreement ").

On December 8, 2011, we executed a new purchase agreement (the "Purchase Agreement") and a new registration rights agreement (the "Registration Rights Agreement"), with Lincoln Park Capital Fund, LLC. ("LPC") Under the Purchase Agreement, LPC is obligated to purchase from us up to $8.5 million of our common stock, from time to time over a 960 day (thirty-two (32) months) period.

Pursuant to the Registration Rights Agreement, we were required to file a registration statement that includes this prospectus with the U.S. Securities and Exchange Commission ("SEC") covering the shares that have been issued or may be issued to LPC under the Purchase Agreement. We do not have the right to commence any sales of our shares to LPC until the SEC has declared effective the registration statement of which this prospectus is a part. Thereafter, over approximately 960 days, or, 32 months, generally we have the right, but not the obligation, to direct LPC to purchase up to $8,500,000 of our common stock in amounts up to $50,000 as often as every two business days under certain conditions. We can also accelerate the amount of our common stock to be purchased under certain circumstances. No sales of shares may occur at a purchase price below $0.10 per share. The price of our stock as of December 9, 2011 was $0.135. The purchase price of the shares will be based on the market prices of our shares at the time of sale as computed under the Purchase Agreement without any fixed discount. We may at any time in our sole discretion terminate the Purchase Agreement without fee, penalty or cost upon one business days notice. We are obligated to issue up to an additional 1,634,615 shares pro rata as LPC purchases up to $8,500,000 of our common stock as directed by us. For example, if we elect, at our sole discretion, to require LPC to purchase $50,000 of our stock then we would issue 9,615 shares of the pro rata commitment fee which is the product of $50,000 (the amount we have elected to sell) divided by $8,500,000 (the total amount we can sell LPC under the Purchase Agreement multiplied by 1,634,615 (the total number of pro rata commitment shares). The pro rata commitment shares will only be issued pursuant to this formula as and when we elect at our discretion to sell stock to LPC. LPC may not assign or transfer its rights and obligations under the Purchase Agreement.

As of December 31, 2012 there were 214,967,503 shares of our common stock outstanding. 39,634,615 shares are offered hereby, all of which we may sell to LPC pursuant to the Purchase Agreement. If all of the 39,634,615 shares offered by LPC hereby were issued and outstanding as of December 20, 2011, such shares would represent approximately 18.3% of the total common stock outstanding or approximately 18.4% of the non-affiliates shares outstanding, as of November 5, 2012. As of November 5, 2012, 25,580,789 shares of our common stock have been sold to LPC and there are 11,784,619 shares remain to be sold, notwithstanding the 1,634,615 commitment shares that are issuable to LPC as we sell shared to LPC under the Purchase Agreement.

Securities Offered

Common stock offered by selling stockholder:	39,634,615 shares. There are no new shares being registered.
Offering Price:	Market Price
Common Stock Currently Outstanding:	214,967,503 shares as of December 31, 2012
Use of proceeds:	We will not receive any proceeds from the sale by the selling stockholder of our common stock covered by this prospectus. However, we will receive proceeds from sales of our common stock under the Purchase Agreement. The proceeds from the Purchase Agreement will be used for working capital and general corporate purposes. See "Use of Proceeds" on page 18.
Risk Factors:	See "Risk Factors" beginning on page 6 and other information included in this prospectus for a discussion of factors you should carefully consider before deciding to invest in the shares.
OTCBB Ticker Symbol:	CTSO.OB

RISK FACTORS

An investment in our Common Stock involves a high degree of risk. You should carefully consider the risks described below before deciding to purchase shares of our Common Stock. If any of the events, contingencies, circumstances or conditions described in the risks below actually occur, our business, financial condition or results of operations could be seriously harmed. The trading price of our Common Stock could, in turn, decline and you could lose all or part of your investment.

Risks Related to our Industry and our Business

We require additional capital to continue operations.

As of December 31, 2012 we had cash on hand of approximately $1,729,000 and current liabilities of approximately $2,077,000. We will need additional financing in the future in order to complete additional clinical studies and to support the commercialization of our proposed products. There can be no assurance that we will be successful in our capital raising efforts.

Our long-term capital requirements are expected to depend on many factors, including:

- continued progress and cost of our research and development programs;

- progress with pre-clinical studies and clinical studies;
- the time and costs involved in obtaining regulatory clearance in other countries and/or for other indications;
- costs involved in preparing, filing, prosecuting, maintaining, defending and enforcing patent claims;
- costs of developing sales, marketing and distribution channels;
- market acceptance of our products; and
- cost for training physicians and other health care personnel.

We may direct Lincoln Park Capital ("LPC") to purchase up to $8,500,000 worth of shares of our common stock under our agreement over a 32 month period expiring in October 2014 generally in amounts of up to $50,000 every two business days, which amounts may be increased under certain circumstances. Assuming a purchase price of $0.135 per share (the closing sale price of the common stock on December 9, 2011) and the purchase by LPC of the full 38,000,000 purchase shares and along with issuance of 1,634,615 additional pro rata commitment shares registered under this offering, proceeds to us would be $5,130,000.

To the extent we rely on LPC as a source of funding will depend on a number of factors including, the prevailing market price of our common stock and the extent to which we are able to secure working capital from other sources. If obtaining sufficient funding from LPC were to prove unavailable or prohibitively dilutive and if we are unable to sell enough of our products, we will need to secure another source of funding in order to satisfy our working capital needs. Even if we sell all $8,500,000 under the Purchase Agreement to LPC, we may still need additional capital to fully implement our business, operating and development plans. Should the financing we require to sustain our working capital needs be unavailable or prohibitively expensive when we require it, the consequences could be a material adverse effect on our business, operating results, financial condition and prospects.

In addition, in the event that additional funds are obtained through arrangements with collaborative partners or other sources, we may have to relinquish economic and/or proprietary rights to some of our technologies or products under development that we would otherwise seek to develop or commercialize by ourselves.

We currently are in the process of commercializing our products, but there can be no assurance that we will be successful in developing commercial operations.

We are a development stage company and have been engaged primarily in research and development activities and have generated limited revenues to date. There can be no assurance that we will be able to successfully manage the transition to a commercial enterprise. Potential investors should be aware of the problems, delays, expenses and difficulties frequently encountered by an enterprise in the early stage of development, which include unanticipated problems relating to development of proposed products, testing, regulatory compliance, manufacturing, competition,

market adoption, marketing problems and additional costs and expenses that may exceed current estimates. Our proposed products will require significant additional research and testing, and we will need to overcome significant regulatory burdens prior to commercialization in other countries, such as the U.S., and for ongoing compliance for our CE Mark. We will also need to raise significant additional funds to complete additional clinical studies and obtain regulatory approvals in other countries before we can begin selling our products in markets not covered by the CE Mark. There can be no assurance that after the expenditure of substantial funds and efforts, we will successfully develop and commercialize any products, generate any significant revenues or ever achieve and maintain a substantial level of sales of our products.

We have a history of losses and expect to incur substantial future losses, and the report of our auditor on our consolidated financial statements expresses substantial doubt about our ability to continue as a going concern.

We have experienced substantial operating losses since inception. As of December 31, 2012, we had an accumulated deficit of $98,732,460, which included net losses of $3,663,506 for the year ended December 31, 2012 and $5,481,648 for the year ended December 31, 2011. In part due to these losses, our audited consolidated financial statements have been prepared assuming we will continue as a going concern, and the auditors' report on those financial statements express substantial doubt about our ability to continue as a going concern. Our losses have resulted principally from costs incurred in the research and development of our polymer technology and general and administrative expenses. Because our predecessor was a limited liability company until December 2005, substantially all of these losses were allocated to that company's members and will not be available for tax purposes to us in future periods. We intend to conduct significant additional research, development, and clinical study activities which, together with expenses incurred for the establishment of manufacturing arrangements and a marketing and distribution presence and other general and administrative expenses, are expected to result in continuing operating losses for the foreseeable future. The amount of future losses and when, if ever, we will achieve profitability are uncertain. Our ability to achieve profitability will depend, among other things, on successfully completing the development of our technology and commercial products, obtaining additional requisite regulatory approvals in markets not covered by the CE Mark and for potential label extensions of our current CE Mark, establishing manufacturing and sales and marketing arrangements with third parties, and raising sufficient funds to finance our activities. No assurance can be given that our product development efforts will be successful, that our current CE Mark will enable us to achieve profitability, that additional regulatory approvals in other countries will be obtained, that any of our products will be manufactured at a competitive cost and will be of acceptable quality, or that the we will be able to achieve profitability or that profitability, if achieved, can be sustained.

We depend upon key personnel who may terminate their employment with us at any time.

As of April 1, 2013 we currently have twenty full-time employees and several full-time interim employees. Our success will depend to a significant degree upon the continued services of our key management and advisors, including, Dr. Phillip Chan, our Chief Executive Officer; Ronald Berger, our Interim Chief Financial Officer; Vincent Capponi, our Chief Operating Officer and Dr. Robert Bartlett our Chief Medical Officer, who works with us on a consulting basis. These individuals do not have long-term employment agreements, and there can be no assurance that they will continue to provide services to us. In addition, our success will depend on our ability to attract and retain other highly skilled personnel. We may be unable to recruit such personnel on a timely basis, if at all. Management and other employees may voluntarily terminate their employment with us at any time. The loss of services of key personnel, or the inability to attract and retain additional qualified personnel, could result in delays in development or approval of our products, loss of sales and diversion of management resources.

Our Chief Medical Officer works with us on a consulting basis.

Our Chief Medical Officer, Dr. Robert Bartlett, works with us on a consulting basis. Because of the part time nature of his consulting agreement, Dr. Bartlett may not always be available to provide us with his services when needed by us in a timely manner.

Acceptance of our medical devices in the marketplace is uncertain, and failure to achieve market acceptance will prevent or delay our ability to generate revenues.

Our future financial performance will depend, at least in part, upon the introduction and customer acceptance of our polymer products. Even with our approval to apply the CE Mark to our CytoSorb® device as a cytokine filter, our products may not achieve market acceptance in the European countries that recognize and accept the CE Mark. Additional approvals from other regulatory authorities (such as the FDA) will be required before we can market our device in countries not covered by the CE Mark. There is no guarantee that the Company will be able to achieve additional regulatory approvals, and even if we do, our products may not achieve market acceptance in the countries covered by such approvals. The degree of market acceptance will depend upon a number of factors, including:

- the receipt of regulatory clearance of marketing claims for the uses that we are developing;
- the establishment and demonstration of the advantages, safety and efficacy of the our polymer technology;
- pricing and reimbursement policies of government and third-party payers such as insurance companies, health maintenance organizations and other health plan administrators;
- our ability to attract corporate partners, including medical device companies, to assist in commercializing our products; and
- our ability to market our products.

Physicians, patients, payers or the medical community in general may be unwilling to accept, utilize or recommend any of our products. Approval of our CytoSorb® device as a cytokine filter as well as the data we have gathered in our clinical studies to support device usage in this indication may not be sufficient for market acceptance in the medical community. We may also need to conduct additional clinical studies to gather additional data for marketing purposes. If we are unable to obtain regulatory approval or commercialize and market our products when planned, we may not achieve any market acceptance or generate revenue.

Even with our approval to apply the CE Mark to our CytoSorb® device as a cytokine filter, there can be no assurance that the data from our limited clinical studies will be viewed as sufficient by the medical community to support the purchase of our products in substantial quantities or at all.

CytoSorb® is currently reimbursable in Germany and Austria. We plan to seek reimbursement for our product in other E.U. and non-E.U. countries to help further adoption. There can be no assurance when, or if, this additional reimbursement might be approved.

We may face litigation from third parties claiming that our products infringe on their intellectual property rights, or seek to challenge the validity of our patents.

Our future success is also dependent on the strength of our intellectual property, trade secrets and know-how, which have been developed from years of research and development. In addition to the "Purolite" litigation discussed below, we may be exposed to additional future litigation by third parties seeking to challenge the validity of our rights based on claims that our technologies, products or activities infringe the intellectual property rights of others or are invalid, or that we have misappropriated the trade secrets of others.

Since our inception, we have sought to contract with large, established manufacturers to supply commercial quantities of our adsorbent polymers. As a result, we have disclosed, under confidentiality agreements, various aspects of our technology with potential manufacturers. We believe that these disclosures, while necessary for our business, have resulted in the attempt by potential suppliers to improperly assert ownership claims to our technology in an attempt to gain an advantage in negotiating manufacturing rights.

We have previously engaged in discussions with the Brotech Corporation and its affiliate, Purolite International, Inc. (collectively "Purolite"), which had demonstrated a strong interest in being our polymer manufacturer. For a period of time beginning in December 1998, Purolite engaged in efforts to develop and optimize the manufacturing process needed to produce our polymer products on a commercial scale. However, the parties eventually decided not to proceed. In 2003, Purolite filed a lawsuit against us asserting, among other things, co-ownership and co-inventorship of certain of our patents. On September 1, 2006, the United States District Court for the Eastern District of

Pennsylvania approved a Stipulated Order and Settlement Agreement under which we and Purolite agreed to the settlement of the action. The Settlement Agreement provides us with the exclusive right to use our patented technology and proprietary know how relating to adsorbent polymers for a period of 18 years. Under the terms of the Settlement Agreement, we have agreed to pay Purolite royalties of 2.5% to 5% on the sale of certain of our products if and when those products are sold commercially.

Several years ago we engaged in discussions with the Dow Chemical Company, which had indicated a strong interest in being our polymer manufacturer. After a Dow representative on our Advisory Board resigned, Dow filed and received several patents naming our former Advisory Board member as an inventor. In management's view the Dow patents improperly incorporate our technology and should not have been granted to Dow. The existence of these Dow patents could result in a potential dispute with Dow in the future and additional expenses for us.

We have commenced the process of seeking regulatory approvals of our products, but the approval process involves lengthy and costly clinical studies and is, in large part, not in the control of the Company. The failure to obtain government approvals, internationally or domestically, for our polymer products, or to comply with ongoing governmental regulations could prevent, delay or limit introduction or sale of our products and result in the failure to achieve revenues or maintain our operations.

CytoSorb® has already achieved European Union regulatory approval under the CE Mark and the Medical Devices Directive. It is manufactured at our manufacturing facility in New Jersey under ISO 13485 Full Quality Systems certification. The manufacturing and marketing of our products will be subject to extensive and rigorous government regulation in the European market, the United States, in various states and in other foreign countries. In the United States and other countries, the process of obtaining and maintaining required regulatory approvals is lengthy, expensive, and uncertain. There can be no assurance that we will ever obtain the necessary additional approvals to sell our products in the United States or other non E.U. countries. Even if we do ultimately receive FDA approval for any of our products, we will be subject to extensive ongoing regulation. While the Company has received approval from its Notified Body to apply the CE Mark to our CytoSorb® device, we will be subject to extensive ongoing regulation and auditing requirements to maintain the CE Mark.

Our products will be subject to international regulation as medical devices under the Medical Devices Directive. In Europe, which we expect to provide the initial market for our products, the Notified Body and Competent Authority govern, where applicable, development, clinical studies, labeling, manufacturing, registration, notification, clearance or approval, marketing, distribution, record keeping, and reporting requirements for medical devices. Different regulatory requirements may apply to our products depending on how they are categorized by the Notified Body under these laws. Current international regulations classify our CytoSorb® device as a Class IIb device. Even though we have received CE Mark certification of the CytoSorb® device, there can be no assurance that we will be able to continue to comply with the required annual auditing requirements or other international regulatory requirements that may be applicable. In addition, there can be no assurance that government regulations applicable to our products or the interpretation of those regulations will not change. The extent of potentially adverse government regulation that might arise from future legislation or administrative action cannot be predicted. There can be no assurances that reimbursement will be granted or that additional clinical data may be required to establish reimbursement.

We have conducted limited clinical studies of our CytoSorb® and BetaSorb™ device. Clinical and pre-clinical data is susceptible to varying interpretations, which could delay, limit or prevent additional regulatory clearances.

To date, we have conducted limited clinical studies on our products. There can be no assurance that we will successfully complete additional clinical studies necessary to receive additional regulatory approvals in markets not covered by the CE Mark. While studies conducted by us and others have produced results we believe to be encouraging and indicative of the potential efficacy of our products and technology, data already obtained, or in the future obtained, from pre-clinical studies and clinical studies do not necessarily predict the results that will be obtained from later pre-clinical studies and clinical studies. Moreover, pre-clinical and clinical data are susceptible to varying interpretations, which could delay, limit or prevent additional regulatory approvals. A number of companies in the medical device and pharmaceutical industries have suffered significant setbacks in advanced clinical studies, even after promising results in earlier studies. The failure to adequately demonstrate the safety and effectiveness of an intended product under development could delay or prevent regulatory clearance of the device, resulting in delays to commercialization, and could materially harm our business. Even though we have received approval to apply the CE Mark to our CytoSorb® device as a cytokine filter, there can be no assurance that we will be able to receive approval for other potential applications of CytoSorb®, or that we will receive regulatory clearance from other targeted regions or countries.

We rely extensively on research and testing facilities at various universities and institutions, which could adversely affect us should we lose access to those facilities.

Although we have our own research laboratories and clinical facilities, we collaborate with numerous institutions, universities and commercial entities to conduct research and studies of our products. We currently maintain a good working relationship with these parties. However, should the situation change, the cost and time to establish or locate alternative research and development could be substantial and delay gaining CE Mark for other potential applications or technologies, and/or FDA approval and commercializing our products.

We are and will be exposed to product liability risks, and clinical and preclinical liability risks, which could place a substantial financial burden upon us should we be sued.

Our business exposes us to potential product liability and other liability risks that are inherent in the testing, manufacturing and marketing of medical devices. We cannot be sure that claims will not be asserted against us. A successful liability claim or series of claims brought against us could have a material adverse effect on our business, financial condition and results of operations.

We cannot give assurances that we will be able to continue to obtain or maintain adequate product liability insurance on acceptable terms, if at all, or that such insurance will provide adequate coverage against potential liabilities. Claims or losses in excess of any product liability insurance coverage that we may obtain could have a material adverse effect on our business, financial condition and results of operations.

Certain university and other relationships are important to our business and may potentially result in conflicts of interests.

Dr. John Kellum and others, are critical care advisors and consultants of ours and are associated with institutions such as the University of Pittsburgh Medical Center. Their association with these institutions may currently or in the future involve conflicting interests in the event they or these institutions enter into consulting or other arrangements with competitors of ours.

We have limited manufacturing experience, and once our products are approved, we may not be able to manufacture sufficient quantities at an acceptable cost, or without shut-downs or delays.

We are in the phase of product commercialization. We have received approval from our Notified Body to apply the CE Mark to our CytoSorb® device for commercial sale as a cytokine filter. CytoSorbents also achieved ISO 13485:2003 Full Quality Systems certification, an internationally recognized quality standard designed to ensure that medical device manufacturers have the necessary comprehensive management systems in place to safely design, develop, manufacture and distribute medical devices in the European Union. CytoSorbents manufactures CytoSorb® at its manufacturing facilities in New Jersey for sale in the E.U. and for additional clinical studies. We will need to maintain compliance on an ongoing basis. We have limited experience in establishing, supervising and conducting commercial manufacturing. If we or the third-party manufacturers of our products fail to adequately establish, supervise and conduct all aspects of the manufacturing processes, we may not be able to commercialize our products.

While we currently believe we have established sufficient production capacity to supply potential near term demand for the CytoSorb® device, we will need to scale up and increase our manufacturing capabilities in the future. No assurance can be given that we will be able to successfully scale up our manufacturing capabilities or that we will have sufficient financial or technical resources to do so on a timely basis or at all.

Due to our limited marketing, sales and distribution experience, we may be unsuccessful in our efforts to sell our products.

We expect to enter into agreements with third parties for the commercial manufacture and distribution of our products. There can be no assurance that parties we may engage to market and distribute our products will:

- satisfy their financial or contractual obligations to us;
- adequately market our products; or
- not offer, design, manufacture or promote competing products.

If for any reason any party we engage is unable or chooses not to perform its obligations under our marketing and distribution agreement, we would experience delays in product sales and incur increased costs, which would harm our business and financial results.

If we are unable to convince physicians and other health care providers as to the benefits of our products, we may incur delays or additional expense in our attempt to establish market acceptance.

Broad use of our products may require physicians and other health care providers to be informed about our products and their intended benefits. The time and cost of such an educational process may be substantial. Inability to successfully carry out this education process may adversely affect market acceptance of our products. We may be unable to educate physicians regarding our products in sufficient numbers or in a timely manner to achieve our marketing plans or to achieve product acceptance. Any delay in physician education may materially delay or reduce demand for our products. In addition, we may expend significant funds towards physician education before any acceptance or demand for our products is created, if at all.

The market for our products is rapidly changing and competitive, and new devices and drugs, which may be developed by others, could impair our ability to maintain and grow our business and remain competitive.

The medical device and pharmaceutical industries are subject to rapid and substantial technological change. Developments by others may render our technologies and products noncompetitive or obsolete. We also may be unable to keep pace with technological developments and other market factors. Technological competition from medical device, pharmaceutical and biotechnology companies, universities, governmental entities and others diversifying into the field is intense and is expected to increase. Many of these entities have significantly greater research and development capabilities and budgets than we do, as well as substantially more marketing, manufacturing, financial and managerial resources. These entities represent significant competition for us.

If users of our products are unable to obtain adequate reimbursement from third-party payers, or if new restrictive legislation is adopted, market acceptance of our products may be limited and we may not achieve anticipated revenues.

The continuing efforts of government and insurance companies, health maintenance organizations and other payers of healthcare costs to contain or reduce costs of health care may affect our future revenues and profitability, and the future revenues and profitability of our potential customers, suppliers and collaborative partners and the availability of capital. For example, in certain foreign markets, pricing or profitability of medical devices is subject to government control. In the United States, given recent federal and state government initiatives directed at lowering the total cost of health care, the U.S. Congress and state legislatures will likely continue to focus on health care reform, the cost of medical devices and on the reform of the Medicare and Medicaid systems. While we cannot predict whether any such legislative or regulatory proposals will be adopted, the announcement or adoption of these proposals could materially harm our business, financial condition and results of operations.

Our ability to commercialize our products will depend in part on the extent to which appropriate reimbursement levels for the cost of our products and related treatment are obtained by governmental authorities, private health insurers and other organizations, such as health maintenance organizations (“HMOs”). Third-party payers are increasingly challenging the prices charged for medical care. Also, the trend toward managed health care in the United States and the concurrent growth of organizations such as HMOs, which could control or significantly influence the purchase of health care services and medical devices, as well as legislative proposals to reform health care or reduce government insurance programs, may all result in lower prices for our products. The cost containment measures that health care payers and providers are instituting and the effect of any health care reform could materially harm our ability to operate profitably.

CytoSorb® is currently reimbursable in Germany and Austria. We plan to seek reimbursement for our product in other E.U. and non-E.U. countries to help further adoption. There can be no assurance when, or if, this additional reimbursement might be approved.

Investment Risks Connected to our Securities

Directors, executive officers and principal stockholders own a significant percentage of the shares of Common Stock, which will limit your ability to influence corporate matters.

Our directors, executive officers and principal stockholders together beneficially own a significant percentage of the voting control of the Common Stock on a fully diluted basis. One of our Directors represents an institutional investor which holds approximately 48% of our Series B Preferred Stock. Accordingly, these stockholders could have a significant influence over the outcome of any corporate transaction or other matter submitted to stockholders for approval, including mergers, consolidations and the sale of all or substantially all of our assets and also could prevent or cause a change in control. The interests of these stockholders may differ from the interests of our other stockholders. Third parties may be discouraged from making a tender offer or bid to acquire us because of this concentration of ownership.

Our Series A Preferred Stock provides for the payment of penalties.

Immediately following our June 30, 2006 merger, we issued 5,250,000 shares of Series A 10% Cumulative Convertible Preferred Stock with an aggregate stated value of $5,250,000. We issued an additional 5,752,268 shares of Series A Preferred Stock through December 31, 2011 to additional investors, as dividends and in connection with the settlement of amounts owed to certain investors due to our failure to timely register shares of Common Stock issuable upon conversion of Series A Preferred Stock. Net of cumulative conversions into Common Stock through April 1, 2012, the Company has a total of 1,447,159 shares of Series A Preferred Stock issued and outstanding. We will likely issue additional shares of this series of preferred stock in the future as dividends. The Certificate of Designation designating the Series A Preferred Stock provides that upon the following events, among others, the dividend rate with respect to the Series A Preferred Stock increases to 20% per annum, which dividends would then be required to be paid in cash:

- the occurrence of "Non-Registration Events";
- an uncured breach by us of any material covenant, term or condition in the Certificate of Designation or any of the related transaction documents; and
- any money judgment or similar final process being filed against us for more than $100,000.

In addition, the registration rights provided for in the subscription agreement we entered into with the purchasers in this offering:

- required us to file a registration statement with the SEC on or before 120 days from the closing to register the shares of Common Stock issuable upon conversion of the Series A Preferred Stock and exercise of the Warrants, and cause such registration statement to be effective by February 25, 2007 (240 days following the closing); and
- entitles each of these investors to liquidated damages in an amount equal to two percent (2%) of the purchase price of the Series A Preferred Stock if we fail to timely file that registration statement with, or have it declared effective by, the SEC.

Because the registration statement we agreed to file was not declared effective within the time required under our agreements with the June 30, 2006 purchasers of the Series A Preferred Stock, dividends on the shares of Series A Preferred Stock issued to those purchasers accrued at the rate of 20% per annum from February 26, 2007 until May 7, 2007, the date the registration statement was declared effective. Additionally during this time period, we were obligated to pay those purchasers cash dividends and an aggregate of $105,000 per 30-day period from February 26, 2007 through the date such registration statement was declared effective. Pursuant to a settlement agreement with the June 30, 2006 purchasers of Series A Preferred Stock, all cash dividends and damages were paid for in full with

additional shares of Series A Preferred Stock.

The Certificate of Designation, Subscription Agreement and related transaction documents also provide for various penalties and fees for breaches or failures to comply with provisions of those documents, such as the timely payment of dividends, delivery of stock certificates, and obtaining and maintaining an effective registration statement with respect to the shares of Common Stock underlying the Series A Preferred Stock and Warrants sold in the offering. We may in the future default in our contractual obligations to the holders of our Series A Preferred Stock, and in such event we may be required to pay liquidated damages in cash or additional shares of Preferred Stock.

Our Series B Preferred Stock provides for the payment of penalties.

Immediately following our June 2008 and August 2008 private placement, we issued a total of 52,931.47 shares of Series B 10% Cumulative Convertible Preferred Stock with an aggregate stated value of $5,293,147. We issued an additional 41,717.97 shares of Series B Preferred Stock through December 31, 2012 to additional investors, and as dividends. Net of cumulative conversions into Common Stock through April 1, 2013, the Company has a total of 72,073.26 shares of Series B Preferred Stock issued and outstanding. We will likely issue additional shares of this series of preferred stock in the future as dividends. The Certificate of Designation designating the Series B Preferred Stock provides that upon the following events, among others, the dividend rate with respect to the Series B Preferred Stock increases to 20% per annum:

- the occurrence of “Non-Registration Events”;

- an uncured breach by us of any material covenant, term or condition in the Certificate of Designation or any of the related transaction documents; and

- any money judgment or similar final process being filed against us for more than $100,000.

In addition, the registration rights provided for in the subscription agreement we entered into with the purchasers in this offering:

- required us to file a registration statement with the SEC on or before 180 days from the Initial Closing to register the shares of Common Stock issuable upon conversion of the Series B Preferred Stock, and cause such registration statement to be effective by February 21, 2009 (240 days following the Initial Closing) or March 23, 2009 if the reasons for delay are solely due to SEC delay; and

- entitles each of these investors to liquidated damages in an amount equal to two percent (2%) of the purchase price of the Series B Preferred Stock if we fail to timely file that registration statement with, or have it declared effective by, the SEC.

The Company submitted an original S-1 registration statement to the SEC on December 12, 2008. The SEC replied with comments and a request to reduce the number of shares to be registered. In May 2010, the Company filed to withdraw this registration statement. The Company intends to amend and refile the registration statement. The Company has received a waiver from a majority of the Series B holders for the non-registration event and the timing of the Series B registration does not create a cross-default of the Series A Preferred Series. There can be no assurance that the Company will receive such waiver from investors for any future items and no assurance the Company will still not incur penalties or prevent an Event of Default from occurring.

The Certificate of Designation, Subscription Agreement and related transaction documents also provide for various penalties and fees for breaches or failures to comply with provisions of those documents, such as the timely payment of dividends, delivery of stock certificates, and obtaining and maintaining an effective registration statement with respect to the shares of Common Stock underlying the Series B Preferred Stock sold in the offering. We may in the future default in our contractual obligations to the holders of our Series B Preferred Stock, and in such event we may be required to pay liquidated damages in cash or additional shares of Preferred Stock.

Anti-Dilution Provisions Of The Series B Preferred Stock

The conversion price of the Series B Preferred Stock issued to the June and August 2008 purchasers of our Series B Preferred Stock are subject to anti-dilution provisions, so that upon future non-excepted issuances of our Common Stock or equivalents thereof, subject to specified customary exceptions, at a price below the conversion price of the Series B Preferred Stock, such conversion price will be reduced on a weighted average basis, further diluting holders of our Common Stock.

Holders of the Series B Preferred Stock have priority in the event of our dissolution, liquidation or winding up.

In the event of our dissolution, liquidation or winding up, the holders of the Series B Preferred Stock will receive, in priority over the holders of the Series A Preferred Stock and Common Stock, a liquidation preference. Therefore, it is possible that holders of Series A Preferred Stock and Common Stock will not obtain any upon our dissolution, liquidation or winding up.

Redemption Provisions Of The Series B Preferred Stock

Following the fifth anniversary of the initial closing, the holders of a majority of the Series B Preferred Stock, including NJTC if it then holds 25% of the shares of Series B Preferred Stock initially purchased by it, may elect to require us to redeem all, but not less than all, of their shares of Series B Preferred Stock at the original purchase price for such shares plus all accrued and unpaid dividends whether or not declared, if the market price of our Common Stock is then below the conversion price of the Series B Preferred Stock. The Company is currently not required to redeem any Series B Preferred Stock.

Penny Stock Regulations May Affect Your Ability To Sell Our Common Stock.

To the extent the price of our Common Stock remains below $5.00 per share, our Common Stock will be subject to Rule 15g-9 under the Exchange Act, which imposes additional sales practice requirements on broker dealers which sell these securities to persons other than established customers and accredited investors. Under these rules, broker-dealers who recommend penny stocks to persons other than established customers and "accredited investors" must make a special written suitability determination for the purchaser and receive the purchaser's written agreement to a transaction prior to sale. Unless an exception is available, the regulations require the delivery, prior to any transaction involving a penny stock, of a disclosure schedule explaining the penny stock market and the associated risks. The additional burdens imposed upon broker-dealers by these requirements could discourage broker-dealers from effecting transactions in our Common Stock and may make it more difficult for holders of our Common Stock to sell shares to third parties or to otherwise dispose of them.

The sale of our common stock to LPC may cause dilution and the sale of the shares of common stock acquired by LPC could cause the price of our common stock to decline.

In connection with entering into a funding agreement with Lincoln Park Capital Fund, LLC (“LPC”) in December 2011, we authorized the issuance to LPC of up to $8,500,000 worth of shares of our common stock plus 1,634,615 shares of common stock as additional commitment shares. The purchase price for the common stock to be sold to LPC pursuant to the Purchase Agreement will fluctuate based on the price of our common stock. 39,634,615 shares of common stock have been registered pursuant to an S-1 registration statement declared effective by the Securities and Exchange Commission (“SEC”). It is anticipated that these registered shares will be sold over a period of up to 32 months from the date of Purchase Agreement. Depending upon market liquidity at the time, a sale of shares pursuant to the Purchase Agreement at any given time could cause the trading price of our common stock to decline.

We can elect to direct purchases in our sole discretion. After LPC has acquired such shares, it may sell all, some or none of such shares. Therefore, sales to LPC by us under the agreement may result in substantial dilution to the

interests of other holders of our common stock. The sale of a substantial number of shares of our common stock under the Purchase Agreement, or anticipation of such sales, could make it more difficult for us to sell equity or equity-related securities in the future at a time and at a price that we might otherwise wish to effect sales. However, we have the right to control the timing and amount of any sales of our shares to LPC and the agreement may be terminated by us at any time at our discretion without any cost to us.

Our Board of Directors may, without stockholder approval, issue and fix the terms of shares of preferred stock and issue additional shares of common stock adversely affecting the rights of holders of our common stock.

Our certificate of incorporation authorizes the issuance of up to 100,000,000 shares of “blank check” preferred stock, with such designation rights and preferences as may be determined from time to time by the Board of Directors. We have designated 12,000,000 shares of Series A Preferred Stock and 200,000 shares of Series B Preferred Stock as described above. Subject to the rights of the holders of the Series A and Series B Preferred Stock, our Board of Directors is empowered, without stockholder approval, to issue up to 87,800,000 additional shares of preferred stock with dividend, liquidation, conversion, voting or other rights, which could adversely affect the rights of the holders of our common stock. Currently, our certificate of incorporation authorizes the issuance of up to 500,000,000 shares of common stock, of which approximately 10,043,947 shares remain available for issuance and may be issued by us or issued through conversions of preferred stock or convertible notes without stockholder approval. However, pursuant to N.R.S. 78.315, the Board of Directors and a majority of the shareholders of the Company have approved the filing of an Amended Articles of Incorporation of the Company increasing the number of authorized shares of common stock to eight hundred million (800,000,000) shares of common stock, par value $0.001 per share. The filing should be effective in April 2013.

On January 3, 2013, pursuant to Nevada Revised Statutes ("N.R.S.") 78.320, the Company received written consents in lieu of a meeting of Stockholders from twenty-one (21) Stockholders holding 12,517,118 shares of Common Stock and 71,834.74 shares of Series B Preferred Stock representing 51.5% of the 480,747,190 possible votes outstanding after dilution of the Series B Preferred Stock (the "Majority Stockholders"), approving the Amended Articles of Incorporation of the Company.

On March 12, 2013, the Company filed a Preliminary 14C Information Statement with the SEC. The Company filed a Definitive 14C Information Statement on March 22, 2013, and the Amended Articles of Incorporation of the Company will become effective 20 days thereafter.

The increase in authorized shares does not mean that the Company is issuing additional shares in connection with the Amendment. As with all public companies, the authorized share amount sets a maximum number of shares that the Company may issue. Issuances of additional shares of common stock and/or preferred stock may be utilized as a method of discouraging, delaying or preventing a change in control of our company.

Our Charter Documents and Nevada Law May Inhibit A Takeover That Stockholders May Consider Favorable.

Provisions in our articles of incorporation and bylaws, and Nevada law, could delay or prevent a change of control or change in management that would provide stockholders with a premium to the market price of their Common Stock. The authorization of undesignated preferred stock, for example, gives our board the ability to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to effect a change in control of us, or otherwise adversely affect holders of Common Stock in relation to holders of preferred stock.

Compliance with changing corporate governance and public disclosure regulations may result in additional expense.

Keeping abreast of, and in compliance with, changing laws, regulations and standards relating to corporate governance and public disclosure, including the Sarbanes-Oxley Act of 2002, new SEC regulations will require an increased amount of management attention and external resources. In addition, prior to the merger, our current management team was not subject to these laws and regulations, as the Company was a private corporation. We intend to continue to invest all reasonably necessary resources to comply with evolving standards, which may result in increased general and administrative expense and a diversion of management time and attention from revenue-generating activities to compliance activities.

Our Common Stock is thinly traded on the OTC Bulletin Board, and we may be unable to obtain listing of our common stock on a more liquid market.

Our Common Stock is quoted on the OTC Bulletin Board, which provides significantly less liquidity than a securities exchange (such as the New York Stock Exchange) or an automated quotation system (such as the Nasdaq Stock Market). There is uncertainty that we will ever be accepted for a listing on an automated quotation system or securities exchange.

USE OF PROCEEDS

This prospectus relates to shares of our common stock that may be offered and sold from time to time by the selling stockholder. We will receive no proceeds from the sale of shares of common stock in this offering. However, we may receive proceeds of up to $8,500,000 under the Purchase Agreement. Any proceeds from LPC that we receive under the Purchase Agreement will be used for working capital and for other general corporate purposes.

PLAN OF DISTRIBUTION

The common stock offered by this prospectus is being offered by Lincoln Park Capital Fund, LLC, or LPC, the selling stockholder. The common stock may be sold or distributed from time to time by the selling stockholder directly to one or more purchasers or through brokers, dealers, or underwriters who may act solely as agents at market prices prevailing at the time of sale, at prices related to the prevailing market prices, at negotiated prices, or at fixed prices, which may be changed. The sale of the common stock offered by this prospectus may be effected in one or more of the following methods:

- ordinary brokers' transactions;
- transactions involving cross or block trades;
- through brokers, dealers, or underwriters who may act solely as agents
- "at the market" into an existing market for the common stock;
- in other ways not involving market makers or established business markets, including direct sales to purchasers or sales effected through agents;
- in privately negotiated transactions; or
- any combination of the foregoing.

In order to comply with the securities laws of certain states, if applicable, the shares may be sold only through registered or licensed brokers or dealers. In addition, in certain states, the shares may not be sold unless they have been registered or qualified for sale in the state or an exemption from the registration or qualification requirement is available and complied with.

Brokers, dealers, underwriters or agents participating in the distribution of the shares as agents may receive compensation in the form of commissions, discounts, or concessions from the selling stockholder and/or purchasers of the common stock for whom the broker-dealers may act as agent. The compensation paid to a particular broker-dealer may be less than or in excess of customary commissions.

LPC is an "underwriter" within the meaning of the Securities Act.

Neither we nor LPC can presently estimate the amount of compensation that any agent will receive. We know of no existing arrangements between LPC or any other stockholder, broker, dealer, underwriter or agent relating to the sale or distribution of the shares offered by this prospectus. At the time a particular offer of shares is made, a prospectus supplement, if required, will be distributed that will set forth the names of any agents, underwriters or dealers and any compensation from the selling stockholder, and any other required information.

We will pay all of the expenses incident to the registration, offering and sale of the shares to the public other than commissions or discounts of underwriters, broker-dealers or agents. We have also agreed to indemnify LPC and related persons against specified liabilities, including liabilities under the Securities Act.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to our directors, officers and controlling persons, we have been advised that in the opinion of the SEC this indemnification is against public policy as expressed in the Securities Act and is therefore, unenforceable.

LPC and its affiliates have agreed not to engage in any direct or indirect short selling or hedging of our common stock during the term of the Purchase Agreement.

We have advised LPC that while it is engaged in a distribution of the shares included in this prospectus it is required to comply with Regulation M promulgated under the Exchange Act. With certain exceptions, Regulation M precludes the selling stockholder, any affiliated purchasers, and any broker-dealer or other person who participates in the distribution from bidding for or purchasing, or attempting to induce any person to bid for or purchase any security which is the subject of the distribution until the entire distribution is complete. Regulation M also prohibits any bids or purchases made in order to stabilize the price of a security in connection with the distribution of that security. All of the foregoing may affect the marketability of the shares offered by this prospectus.

DESCRIPTION OF SECURITIES

Our total authorized capital stock consists of 500,000,000 shares of Common Stock, par value $.001 per share and 100,000,000 shares of preferred stock, par value $0.001 per share. We have designated 12,000,000 shares of our preferred stock as Series A 10% Cumulative Convertible Preferred Stock and 200,000 shares of our preferred stock as Series B 10% Cumulative Convertible Preferred Stock. As of November 5, 2012, there were 211,912,915 shares of our Common Stock outstanding, 70,315.40 shares of our Series B Preferred Stock and 1,555,281 shares of Series A Preferred outstanding.

The following description of our capital stock does not purport to be complete and is subject to and qualified by our Articles of Incorporation and By-laws, and by the provisions of applicable Nevada law.

Common Stock

Holders of our Common Stock are entitled to receive dividends out of assets legally available therefore at such times and in such amounts as the Board of Directors from time to time may determine. Holders of our Common Stock are entitled to one vote for each share held on all matters submitted to a vote of the stockholders. Cumulative voting with respect to the election of directors is not permitted by our Articles of Incorporation. Our Common Stock is not entitled to preemptive rights and is not subject to conversion or redemption. Upon our liquidation, dissolution or winding-up, the assets legally available for distribution to stockholders are distributable ratably among the holders of the Common Stock after payment of liquidation preferences, if any, on any outstanding stock having prior rights on such distributions and payment of other claims of creditors.

Preferred Stock

Our Articles of Incorporation authorize the issuance of shares of preferred stock in one or more series. Our Board of Directors has the authority, without any vote or action by the stockholders, to create one or more series of preferred stock up to the limit of our authorized but unissued shares of preferred stock and to fix the number of shares constituting such series and the designation of such series, the voting powers (if any) of the shares of such series and the relative participating, option or other special rights (if any), and any qualifications, preferences, limitations or restrictions pertaining to such series which may be fixed by the Board of Directors pursuant to a resolution or resolutions providing for the issuance of such series adopted by the Board of Directors. Our Board of Directors authorized the creation of both Series A and Series B preferred stock. Each Series is further described herein.

Series A 10% Cumulative Convertible Preferred Stock

We have designated 12,000,000 shares of our preferred stock as Series A 10% Cumulative Convertible Preferred Stock (the "Series A Preferred Stock"), of which 1,555,281 shares were issued and outstanding as of November 5, 2012. Each share of Series A Preferred Stock has a stated value of $1.00. For the period from January 22, 1997 (date of inception) to September 30, 2012, 9,558,112 Series A Preferred Shares were converted into 43,728,457 Common Shares.

Dilution and Subordination

We entered into an Agreement and Consent as of the same date with the holders of more than 80% of our Series A Preferred Stock, par value 0.001 per share and the holders of more than 80% of the outstanding common stock purchase warrants issued to the purchasers of our Series A Preferred Stock (the " Class A Warrant ") on June 25, 2008. Pursuant to the Agreement and Consent, our holders of the Series A Preferred Stock consented to the permanent waiver of the anti-dilution protection previously provided to the holders of the Series A Preferred Stock and the holders of the Class A Warrant.

Dividends

The holders of outstanding shares of Series A Preferred Stock shall be entitled to receive preferential dividends in cash out of any funds of the company together with the holders of the Series B Preferred Stock, before any dividend or other distribution will be paid or declared and set apart for payment on any shares of any Common Stock, or other class of junior stock at the rate of 10% per annum on the Series A Stated Value from the date of issue of such shares. Such dividends shall be payable on the last day of each calendar quarter. The rate of such preferential dividends shall be increased to 20% per annum upon the occurrence of any "Event of Default" as defined in Section 6 of the Certificate of Amendment to Certificate of Designation.

Voting Rights

Holders of Series A Preferred Stock do not have the right to vote on matters submitted to the holders of our Common Stock. However, consent of the holders of at least 80% of the shares of Series A preferred Stock, voting as a separate class, shall be required for amending the rights related to Series A Preferred Stock in our certificate of incorporation.

Liquidation

Upon our liquidation, dissolution or winding-up, the assets legally available for distribution to stockholders are distributable ratably among the holders of the Series A Preferred Stock after payment of liquidation to the Series B Preferred Stock, if any.

Redemption

Commencing on June 30, 2009, if an “Event of Default” as defined in the Certificate of Designation of Series A Preferred Stock has not occurred and is not then continuing, we have the option to redeem the Obligation Amount of the Series A Preferred Stock, in whole or in part, by paying to the holders of the Series A Preferred Stock a sum of money equal to 120% of the Obligation Amount to be redeemed. An Event of Default has not occurred as of the date of this prospectus.

Series B 10% Cumulative Convertible Preferred Stock

Each share of Series B Preferred Stock has a stated value of $100.00, and is convertible at the holder’s option into that number of shares of Common Stock equal to the Series B stated value at a conversion price of $0.0362, subject to certain adjustments. Additionally, upon the occurrence of a stock split, stock dividend, combination of the Common Stock into a smaller number of shares, issuance of any of shares of Common Stock or other securities by reclassification of the Common Stock, merger or sale of substantially all of our assets, the conversion rate will be adjusted so that the conversion rights of the Series B Preferred Stock stockholders will remain equivalent to those prior to such event. For the period from January 22, 1997 (date of inception) to September 30, 2012, 22,576.18 Series B Preferred Shares were converted into 62,364,597 Common Shares.

Dividend

The holders of Series B Preferred Stock are entitled to receive preferential dividends payable in shares of additional Series B Preferred Stock. Any dividends payable to both the Series A and Series B Preferred shareholders shall be paid before any dividend or other distribution will be paid to any Common Stock shareholder. The Series B Preferred Stock dividend is based payable at a rate of 10% per annum on the Series B Stated Value payable on the last day of each calendar quarter after June 30, 2008. However, upon the occurrence of any "Event of Default" as defined in the Certificate of Designation of Series B Preferred Stock, the dividend rate increases to 20% per annum, and revert back to 10% after the "Event of Default" is cured. An Event of Default includes, but is not limited to,

- the occurrence of "Non-Registration Events";
- an uncured breach by us of any material covenant, term or condition in the Certificate of Designation or any of the related transaction documents; and
- any money judgment or similar final process being filed against us for more than $100,000.

We received waivers from the holders of Series B Preferred Stock with regard to the requirement to register the shares. The original Form S1 December 12, 2008 Registration Statement was withdrawn on May 7, 2010. Dividends must be delivered to the holder of the Series B Preferred Stock no later than five (5) business days after the end of each period for which dividends are payable. Dividends on the Series B Preferred Stock will be made in additional shares of Series B Preferred Stock, valued at the Series B Preferred Stock stated value. Notwithstanding the foregoing, during the first three-years following the initial closing, upon the approval of the holders of a majority of the Series B Preferred Stock, including the lead investor, NJTC Venture Fund, if it then owns 25% of the shares of Series B Preferred Stock initially purchased by it, we may pay dividends in cash instead of additional shares of Series B Preferred Stock, and after such three-year period, the holders of a majority of the Series B Preferred Stock, including NJTC if it then owns the 25% of the shares of the Series B Preferred Stock initially purchased by it, may require us to make such payments in cash.

Liquidation

In the event of the Company's dissolution, liquidation or winding up, the holders of the Series B Preferred Stock will receive, in priority over the holders of Series A Preferred Stock and Common Stock, a liquidation preference equal to the stated value of such shares plus accrued dividends on the shares.

Voting Rights; Board Rights

Holders of Series B Preferred Stock have the right to vote on matters submitted to the holders of Common Stock on an as converted basis. However, the consent of the holders of at least a majority of the shares of the Series B Preferred Stock as a separate class shall be required on matters related to the rights of the Series B Preferred Stock.

Registration Rights

We agreed to file a registration statement under the Securities Act covering the Common Stock issuable upon conversion of the Series B Preferred Stock within 180 days following the initial closing and to cause it to become effective within 240 days of such closing. We also granted the investors demand and piggyback registration rights with respect to such Common Stock. The investors in the Series B Financing are entitled to liquidated damages in an amount equal to two percent (2%) of the purchase price of the Series B Preferred Stock if we fail to timely file that registration statement with, or have it declared effective by, the SEC.

The Company has received a waiver from a majority of the Series B holders for the non-registration event and the timing of the Series B registration does not create a cross-default of the Series A Preferred Series.

Redemption Rights

Following the fifth anniversary of the initial closing, the holders of a majority of the Series B Preferred Stock, including NJTC if it then holds 25% of the shares of Series B Preferred Stock initially purchased by it, may elect to require us to redeem all, but not less than all, of their shares of Series B Preferred Stock at the original purchase price for such shares plus all accrued and unpaid dividends whether or not declared, if the market price of our Common Stock is then below the conversion price of the Series B Preferred Stock.

Anti-Takeover Provisions

Certain anti-takeover provisions in our Certificate of Incorporation may make a change in control of the Company more difficult, even if a change in control would be beneficial to our stockholders. In particular, our board of directors will be able to issue shares of preferred stock with rights and privileges that might be senior to our Common Stock, without the consent of the holders of our Common Stock, and has the authority to determine the price, rights, preferences, privileges and restrictions of the preferred stock. Although the ability to issue preferred stock may provide us with flexibility in connection with possible acquisitions and other corporate purposes, this issuance may make it more difficult for a third party to acquire a majority of our outstanding voting stock.

Transfer Agent

The transfer agent for our Common Stock is American Stock Transfer & Trust Company, located at 6201 15th Avenue, Brooklyn, New York 11219. American Stock Transfer & Trust Company’s telephone number is 718-921-8143.

THE TRANSACTION

General

In May 2010, we entered into a purchase agreement and registration rights agreement with LPC (the "May 2010 LPC Agreements") under which LPC was obligated, under certain conditions, to purchase up to $6 million of our common stock, from time to time over a twenty-five (25) month period. Under the May 2010 LPC Agreements the Company sold 23,500,000 shares of common stock for an aggregate investment from LPC of $3,670,377. On December 7, 2011, the May 2010 LPC Agreements were terminated, canceling LPC's remaining investment requirement, and on December 8, 2011 entered into a new purchase agreement, or the Purchase Agreement, and a registration rights agreement, or the Registration Rights Agreement, with LPC. Under the new Purchase Agreement, LPC is obligated, under certain conditions, to purchase from us up to $8.5 million of our common stock, from time to time over a 960 day (thirty-two (32) month) period.

Pursuant to the Registration Rights Agreement, we have filed a registration statement that includes this prospectus with the U.S. Securities and Exchange Commission or SEC covering the shares that have been issued or may be issued to LPC under the Purchase Agreement. We do not have the right to commence any sales of our shares to LPC until the SEC has declared effective the registration statement of which this prospectus is a part. Thereafter, over 960 days (32 months), generally we have the right, but not the obligation, to direct LPC to purchase up to $8,500,000 of our common stock in amounts up to $50,000 as often as every two business days under certain conditions. We can also accelerate the amount of our common stock to be purchased under certain circumstances. No sales of shares may occur at a purchase price below $0.10 per share. The price of our stock as of December 9, 2011 was $0.135. The purchase price of the shares will be based on the market prices of our shares at the time of sale as computed under the Purchase Agreement without any fixed discount. We may at any time in our sole discretion terminate the Purchase Agreement without fee, penalty or cost upon one business days notice. We are obligated to issue up to an additional 1,634,615 shares pro rata as LPC purchases up to $8,500,000 of our common stock as directed by us. For example, if we elect, at our sole discretion, to require LPC to purchase $50,000 of our stock then we would issue 9,615 shares of the pro rata commitment fee which is the product of $50,000 (the amount we have elected to sell) divided by $8,500,000 (the total amount we can sell LPC under the Purchase Agreement multiplied by 1,634,615 (the total number of pro rata commitment shares). The pro rata commitment shares will only be issued pursuant to this formula as and when we elect at our discretion to sell stock to LPC. LPC may not assign or transfer any of its rights or obligations under the Purchase Agreement.

As of November 5, 2012, 25,580,789 shares of common stock have been sold to LPC and there are 11,784,619 shares of common stock remaining to be sold under the Purchase Agreement, notwithstanding the 1,634,615 commitment shares that get issued to LPC as we sell shares pursuant to the Purchase Agreement.

Purchase Of Shares Under The Purchase Agreement

Under the Purchase Agreement, on any business day selected by us and as often as every two business days, we may direct LPC to purchase up to $50,000 of our common stock. The purchase price per share is equal to the lesser of:

- the lowest sale price of our common stock on the purchase date; or
- the average of the two (2) lowest closing sale prices of our common stock during the seven (7) consecutive business days prior to the date of a purchase by LPC.

The purchase price will be equitably adjusted for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction occurring during the business days used to compute the purchase price.

In addition to purchases of up to $50,000, we may direct LPC as often as every two business days to purchase up to $75,000 of our common stock provided that our closing share price on the purchase date is not below $.15 per share. We may increase this amount: up to $150,000 of our common stock provided that our closing share price on the purchase date is not below $.20 per share; up to $225,000 of our common stock provided that our closing share price on the purchase date is not below $.30 per share; up to $300,000 of our common stock provided that our closing share price on the purchase date is not below $.40 per share; and up to $750,000 of our common stock provided that our closing share price on the purchase date is not below $.60. The price at which LPC would purchase these accelerated amounts of our common stock will be the lesser of (i) the lowest sale price of our common stock on the purchase date or (ii) the lowest purchase price (as described in the first paragraph of this section above) during the three (3) consecutive business days prior to the purchase date.

Minimum Purchase Price

Under the Purchase Agreement, we have set a floor price of $0.10 per share. However, LPC shall not have the right, nor the obligation, to purchase any shares of our common stock in the event that the purchase price per share would be less than the floor price.

Events of Default

The following events constitute events of default under the Purchase Agreement:

- while any registration statement is required to be maintained effective pursuant to the terms of the Registration Rights Agreement, the effectiveness of the registration statement of which this prospectus is a part of lapses for any reason (including, without limitation, the issuance of a stop order) or is unavailable to LPC for sale of our common stock offered hereby and such lapse or unavailability continues for a period of ten (10) consecutive business days or for more than an aggregate of thirty (30) business days in any 365-day period;

- suspension by our principal market of our common stock from trading for a period of three (3) consecutive business days;

- the de-listing of our common stock from our principal market provided our common stock is not immediately thereafter trading on the Nasdaq Global Market, the Nasdaq Global Select Market, the Nasdaq Capital market, the New York Stock Exchange or the NYSE AMEX;

- the transfer agent's failure for five (5) business days to issue to LPC shares of our common stock which LPC is entitled to under the Purchase Agreement;

- any material breach of the representations or warranties or covenants contained in the Purchase Agreement or any related agreements which has or which could have a material adverse effect on us subject to a cure period of five (5) business days;

- any participation or threatened participation in insolvency or bankruptcy proceedings by or against us; or

- a material adverse change in the business, properties, operations, financial condition or results of operations of the Company and its Subsidiaries taken as a whole.

LPC does not have the right to terminate the Purchase Agreement upon any of the events of default set forth above. In the event of bankruptcy proceedings by or against us, the Purchase Agreement will automatically terminate without action of any party. During an event of default, all of which are outside the control of LPC, shares of our common stock cannot be sold by us or purchased by LPC under the terms of the Purchase Agreement.

Our Termination Rights

We have the unconditional right at any time for any reason to give notice to LPC terminating the Purchase Agreement without any cost to us.

No Short-Selling or Hedging by LPC

LPC has agreed that neither it nor any of its affiliates shall engage in any direct or indirect short-selling or hedging of our common stock during any time prior to the termination of the Purchase Agreement.

Effect of Performance of the Purchase Agreement on Our Stockholders

All 38,000,000 shares registered in this offering which may be sold by us to LPC under the Purchase Agreement are expected to be freely tradable. It is anticipated that shares registered in this offering will be sold over a period of up to 960 days (32 months) from the date of this prospectus. The sale by LPC of a significant amount of shares registered in this offering at any given time could cause the market price of our common stock to decline and to be highly volatile. LPC may ultimately purchase all, some or none of the 39,634,615 shares of common stock not yet issued but registered in this offering. After it has acquired such shares, it may sell all, some or none of such shares.

Therefore, sales to LPC by us under the agreement may result in substantial dilution to the interests of other holders of our common stock. However, we have the right to control the timing and amount of any sales of our shares to LPC and the agreement may be terminated by us at any time at our discretion without any cost to us.

In connection with entering into the Purchase Agreement, we authorized the issuance to LPC of up to 39,634,615 shares of our common stock inclusive of the additional commitment shares to be issued. We have the right to terminate the agreement without any payment or liability to LPC at any time, including in the event that all $8,500,000 is sold to LPC under the Purchase Agreement. Subject to approval by our board of directors, we have the right but not the obligation to sell more than 38,000,000 shares to LPC. In the event we elect to issue more than the 38,000,000 shares (not including the commitment shares) offered hereby, we will be required to file a new registration statement and have it declared effective by the SEC. The number of shares ultimately offered for sale by LPC under this prospectus is dependent upon the number of shares purchased by LPC under the Purchase Agreement. The following table sets forth the amount of proceeds we would receive from LPC from the sale of shares at varying purchase prices:

Assumed Average Purchase Price		Number of Shares to be Issued if Full Purchase(1)	Percentage of Outstanding Shares After Giving Effect to the Issuance to LPC(2)	Proceeds from the Sale of Shares to LPC Under the Purchase Agreement (in millions)
$ 0.10	(3)	38,730,769	17.93 %	$ 3.80
$ 0.15		39,096,154	18.07 %	$ 5.70

$ 0.20	39,461,538	18.21	% $	7.60
$ 0.30	29,967,949	14.46	% $	8.50
$ 0.40	22,884,615	11.43	% $	8.50
$ 0.60	15,801,282	8.18	% $	8.50

(1) The number of shares to be issued includes the additional commitment shares issuable to LPC, and no proceeds will be attributable to such commitment shares.

(2) The denominator is based on 177,283,058 shares outstanding as of February 6, 2012, and the number of shares set forth in the adjacent column which includes the commitment fee issued pro rata as up to $8,500,000 of our stock is purchased by LPC. The numerator is based on the number of shares issuable under the Purchase Agreement at the corresponding assumed purchase price set forth in the adjacent column, including the additional commitment shares.

(3) Under the Purchase Agreement, we may not sell and LPC cannot purchase any shares in the event the purchase price thereof is below $0.10 per share.

THE SELLING STOCKHOLDER

The following table presents information regarding the selling stockholder. Neither the selling stockholder nor any of its affiliates has held a position or office, or had any other material relationship, with us. However, in May 2010, we entered into a prior purchase agreement with LPC, pursuant to which we sold an aggregate of 23,500,000 shares for total gross proceeds of $3,670,376.92. The agreement was terminated December 7, 2011.

Selling Stockholder	Shares Beneficially Owned Before Offering	Percentage of Outstanding Shares Beneficially Owned Before Offering	Shares to be Issued in the Offering Assuming The Company Issues The Maximum Number of Shares Under the Purchase Agreement	Percentage of Outstanding Shares Beneficially Owned After Offering
Lincoln Park Capital Fund, LLC (1)	2,731,886 (2)	1.54 %(2)	39,634,615 (3)	1.26 %

(1) Josh Scheinfeld and Jonathan Cope, the principals of LPC, are deemed to be beneficial owners of all of the shares of common stock owned by LPC. Messrs. Scheinfeld and Cope have shared voting and disposition power over the shares being offered under this Prospectus.

(2) Shares of our common stock previously issued to LPC pursuant to a purchase agreement executed in May 2010. The agreement was terminated December 7, 2011. We may at our discretion elect to issue to LPC up to an additional 39,634,615 shares of our common stock under the Purchase Agreement but LPC does not beneficially own any such shares that may be issued by us at our sole discretion and such shares are not included in determining the percentage of shares beneficially owned before the offering.

(3) This number includes 38,000,000 shares of common stock, the maximum number of shares to be sold in the offering, plus 1,634,615, the additional commitment shares to be issued assuming the Company offers the maximum number of shares under the Purchase Agreement.

INTERESTS OF NAMED EXPERTS AND COUNSEL

No expert or counsel named in this prospectus as having prepared or certified any part of this prospectus or having given an opinion upon the validity of the securities being registered or upon other legal matters in connection with the registration or offering of the common stock was employed on a contingency basis, or had, or is to receive, in connection with the offering, a substantial interest, direct or indirect, in the registrant or any of its parents or subsidiaries. Nor was any such person connected with the registrant or any of its parents or subsidiaries as a promoter, managing or principal underwriter, voting trustee, director, officer, or employee.

The December 31, 2010 financial statements included in this prospectus and the registration statement have been audited by WithumSmith+Brown, PC, independent registered public accounting firm, to the extent and for the periods set forth in their report appearing elsewhere herein and in the registration statement, and are included in reliance upon such report given upon the authority of said firm as experts in auditing and accounting.

DESCRIPTION OF BUSINESS

Overview

CytoSorbents is a development stage critical care focused company using blood purification to treat life-threatening illnesses. The technology is based upon biocompatible, highly porous polymer sorbent beads that are capable of extracting unwanted substances, such as drugs, dangerous chemicals, toxins, cytokines, free hemoglobin, and antibodies, from blood and other bodily fluids. These beads can be used in many different device configurations, but are particularly suited for use as the sorbent material in blood filtration cartridges, The technology is protected by 32 issued U.S. patents with multiple applications pending.

In March 2011, we received European Union (E.U.) regulatory approval under the CE Mark and Medical Devices Directive for our flagship product, CytoSorb®, as an extracorporeal cytokine filter to be used in clinical situations where cytokines are elevated. Cytokines are small proteins that normally stimulate and regulate the immune response. However, in certain diseases, particularly life-threatening conditions commonly seen in the intensive care unit (ICU) such as sepsis and infection, trauma, acute respiratory distress syndrome (ARDS), severe burn injury, liver failure, and acute pancreatitis, cytokines are often produced in vast excess – a condition often called cytokine storm. Left unchecked, this cytokine storm can lead to a severe systemic inflammatory response syndrome (SIRS) that can then cause cell death, multiple organ dysfunction syndrome (MODS) and multiple organ failure (MOF). Failure of vital organs such as the heart, lungs, and kidneys, accounts for nearly half of all deaths in the intensive care unit. This is despite the wide availability of supportive care therapies, or “life support”, such as dialysis, mechanical ventilation, extracoporeal membrane oxygenation, and vasopressors. By replacing the function of failed organs, these supportive care therapies can initially help to keep patients alive, but do not help patients recover faster, and in many cases can increase the risk of dangerous complications. Unlike these supportive care therapies, the goal of the CytoSorb® cytokine filter is to pro-actively prevent or treat organ failure by reducing cytokine storm and reducing the SIRS response. In doing so, CytoSorb® targets the reduction in the severity of illness and the need for intensive care, while potentially improving clinical outcome and saving healthcare costs.

Our CE Mark enables CytoSorb® to be sold throughout the entire European Union. Many countries outside the E.U. also accept CE Mark approval for medical devices, but may require registration with or without additional clinical studies. The broad approved indication enables CytoSorb® to be used “on-label” in diseases where cytokines are elevated including, but not limited to, critical illnesses such as those mentioned above, autoimmune disease flares, and many other conditions where cytokine-induced inflammation plays a detrimental role.

As part of the CE Mark approval process, we completed our randomized, controlled, European Sepsis Trial amongst fourteen trial sites in Germany in 2011, with enrollment of one hundred (100) patients with sepsis and respiratory failure. The purpose of the trial was to demonstrate safety and the broad reduction of key cytokines such as IL-6 in critically-ill patients. Taking into account all 100 patients, the treatment was well-tolerated with no serious device related adverse events reported in more than 300 human treatments in the trial. Although the trial was not powered to demonstrate significant reduction in other clinical endpoints such as mortality, these were also included as secondary and exploratory endpoints in the trial.

The first 22 patients in the study represented a sepsis pilot study. In the next 31 patients, a compromise of the manual randomization schedule at two trial sites led to an imbalance in the severity of illness between the control and treatment patient groups of the study. After a thorough review, the Scientific Advisory Board (SAB) and the independent Data Safety Monitoring Board (DSMB) both recommended that due to this enrollment bias, these 31 patients should only be used for safety evaluation purposes and that new patients should be enrolled into the trial using electronic web-based randomization to randomly assign patients into either the control or treatment arms.

Excluding four patients that withdrew, the remaining forty three (43) patients enrolled under electronic randomization were relatively balanced in terms of the severity of illness in treatment and control patients, confirming the findings of

the SAB and DSMB. In these forty three (43) patients the European Sepsis Trial successfully demonstrated, on a statistically significant basis ($p<0.05$), CytoSorb®'s ability to reduce circulating levels of key cytokines from whole blood in treated patients on the average of 30-50% over the 7 day treatment period. Additionally, post-hoc subgroup analyses of the clinical outcome data from patients enrolled under electronic randomization demonstrated statistically significant reduction in mortality in patients at high risk of death in sepsis, specifically in patients with:

· Age ≥ 65 (14-day mortality: 0% treated vs 36% control, $p=0.04$, $n=21$).

The Company plans to do larger, prospective studies in septic patients in the future to confirm these findings. According to a recent study by the U.S. Centers for Disease Control and Prevention (CDC), those older than age 65 account for approximately two-thirds of patients hospitalized in the US for sepsis, and is the age group that was responsible for the doubling in the incidence of sepsis over the past decade. Without effective therapies to treat sepsis, the incidence of sepsis and sepsis-related deaths are expected to continue to increase significantly over the course of the next decade, particularly as the baby boomer generation turns 65.

In addition to CE Mark approval, CytoSorbents also achieved ISO 13485:2003 Full Quality Systems certification, an internationally recognized quality standard designed to ensure that medical device manufacturers have the necessary comprehensive management systems in place to safely design, develop, manufacture and distribute medical devices in the European Union. CytoSorbents manufactures CytoSorb® at its manufacturing facilities in New Jersey for sale in the E.U. and for additional clinical studies. The Company also established a reimbursement path for CytoSorb® in Germany at more than $500 per CytoSorb® cartridge.

From September 2011 through June 2012, the Company began a controlled market release of CytoSorb® in select geographic territories in Germany. The purpose of this program was to prepare the Company for commercialization of CytoSorb in Germany in terms of manufacturing, reimbursement, logistics, infrastructure, marketing, contacts, and other key issues. During this period, the Company began pre-launch marketing of CytoSorb® predominantly at scientific conference exhibitions, but without a sales force.

In late June 2012, following the establishment of our European subsidiary, CytoSorbents Europe GmbH, CytoSorbents began the commercial launch of CytoSorb® in Germany with the hiring of Dr. Christian Steiner as Vice President of Sales and Marketing and three additional sales representatives who joined the Company and completed their sales training in Q3 2012. Q4 2012 represented the first quarter of direct sales with the full sales team in place. During this period, we expanded our direct sales efforts to include both Austria and Switzerland and have established reimbursement in Austria. At the end of fiscal 2012, we had more than 60 key opinion leaders (KOLs) in critical care and blood purification who were either using CytoSorb® or committed to using CytoSorb® in the near future. These KOL relationships are essential to drive adoption and recurrent usage of CytoSorb by the department, facilitate purchases by the hospital administration, arrange reimbursement, and generate data for papers and presentations.

We seek to complement our direct sales efforts with sales to distributors or corporate partners. We are currently evaluating potential distributor networks in other major countries where we are approved to market the device.

The market focus for CytoSorb® is the prevention or treatment of organ failure in life-threatening conditions, including commonly seen illnesses in the intensive care unit such as infection and sepsis, trauma, burn injury, ARDS, and others. Severe sepsis and septic shock, a potentially life-threatening systemic inflammatory response to a serious infection, accounts for approximately 10-20% of all ICU admissions and is one of the largest target markets for CytoSorb®. Sepsis is a major unmet medical need with no approved products in the U.S. or Europe to treat it. As with other critical care illnesses, multiple organ failure is the primary cause of death in sepsis. When used with standard of care therapy, that includes antibiotics, the goal of CytoSorb® in sepsis is to reduce excessive levels of cytokines and other inflammatory toxins, to help reduce the SIRS response and either prevent or treat organ failure.

In addition to the sepsis indication, we continue to foster research in other critical care illnesses where CytoSorb® could be used, such as ARDS, trauma, severe burn injury, acute pancreatitis, and in other acute conditions that may benefit by the reduction of cytokines in the bloodstream. Some examples include the prevention of post-operative

complications of cardiac surgery (cardiopulmonary bypass surgery) and damage to organs donated for transplant prior to organ harvest.

The Company has been successful in obtaining technology development contracts from agencies in the U.S. Department of Defense, including DARPA and the U.S. Army, to help fund development for some of these applications. In August 2012, the Defense Advanced Research Projects Agency (DARPA) awarded CytoSorbents a five-year technology development contract valued at $3.8 million as part of its “Dialysis-Like Therapeutics” (DLT) program to treat sepsis. DARPA has been instrumental in funding many of the major technological and medical advances since its inception in 1958, including development of the Internet, the global positioning system (GPS), and robotic surgery. The DLT program in sepsis seeks to develop a therapeutic blood purification device that is capable of identifying the cause of sepsis (e.g. cytokines, toxins, pathogens, activated cells) and remove these substances in an intelligent, automated, and efficient manner. DARPA is funding CytoSorbents to further develop its technologies to remove both cytokines and a variety of toxins (e.g. pathogen-derived, naturally occurring, or biowarfare generated). In 2012, CytoSorbents recognized approximately $1.1 million in grant income following the successful completion of milestones under its contract.

In December 2011 and September 2012, The US Army Medical Research and Materiel Command awarded CytoSorbents a $100,000 Phase I SBIR (Small Business Innovation Research), and a $1 million Phase II SBIR contract, respectively, to develop our technologies for the treatment of trauma and burn injury. During 2012, we received the full amount of the Phase I SBIR contract and are in the process of finalizing the Phase II SBIR contract with the granting agency. The Company is exploring potential eligibility in several other government sponsored grant programs which could, if approved, represent a substantial source of non-dilutive funds for our research programs.

Concurrent with its commercialization plans, the Company intends to conduct or support additional clinical studies in sepsis and other critical care diseases to generate additional clinical data to expand the scope of clinical experience for marketing purposes, to increase the number of treated patients, and to support potential future publications. We are currently conducting a dose ranging trial in Germany amongst seven clinical trial sites to evaluate the safety and efficacy of CytoSorb® when used for continuously for 7 days or for 6 hours per day, but longer than 7 days. Data from this dosing study are intended to help clinicians with additional treatment options for CytoSorb®, help support the positive clinical data from the Company's first European Sepsis Trial, and help shape the trial protocol for a U.S. based pivotal study. Assuming availability of adequate and timely funding, and continued positive results from our clinical studies, the Company intends to continue commercializing its product in Europe.

In the event we are able to successfully commercialize our products in the European market, we will review our plans for the United States to determine whether to conduct clinical trials in support of 510(k) or PMA registration. No assurance can be given that our CytoSorb® product will work as intended or that we will be able to obtain FDA approval to sell CytoSorb® in the United States. Even though we have obtained CE Mark approval, there is no guarantee or assurance that we will be successful in obtaining FDA approval in the United States or approval in any other country or jurisdiction. Because of the limited studies we have conducted, we are subject to substantial risk that our technology will have little or no effect on the treatment of any indications that we have targeted.

In addition to CytoSorb®, we are developing other products utilizing our adsorbent polymer technology that have not yet received regulatory approval including HemoDefend, ContrastSorb, DrugSorb, BetaSorb™, and others. The HemoDefend technology platform is a development-stage blood purification system that can remove contaminants in transfused blood products, with the goal of reducing potentially fatal transfusion reactions and improving the quality of blood. ContrastSorb is designed to remove intravenous radiocontrast, or "IV contrast", that is administered during interventional radiology procedures (e.g. coronary angiograms for heart disease) and computed tomography or computer axial tomography imaging (i.e. CT or "CAT" scans) that can cause kidney failure in high risk patients (e.g. those with pre-existing kidney disease, diabetes, hypertension, congestive heart failure, and old age). DrugSorb is designed to remove toxic drugs from blood, as in drug overdose. The BetaSorb™ filter was designed for use with renal replacement therapy in end-stage renal disease patients, to remove mid-molecular weight toxins that are not adequately removed by hemodialysis or hemofiltration. BetaSorb is not the current focus of our near term commercialization plans. With the exception of HemoDefend, all of these products are known medically as hemoperfusion devices. Hemoperfusion, along with hemodialysis and hemofiltration, are the three major forms of blood purification. During hemoperfusion, blood is removed from the body via a catheter or other blood access device, perfused through a filter medium where toxic compounds are removed, and returned to the body.

The CytoSorb® device consists of a cartridge containing hemocompatible, highly porous, adsorbent polymer beads that are intended to remove toxins and other substances from blood and physiologic fluids. The cartridge incorporates industry standard connectors at either end of the device, which connect directly to an extra-corporeal circuit (bloodlines) on a standalone basis. The extra-corporeal circuit consists of plastic tubing through which the blood flows, our CytoSorb® cartridge containing adsorbent polymer beads, pressure monitoring gauges, and a blood pump to maintain blood flow. The patient's blood is accessed through a catheter inserted into his or her veins. The catheter is connected to the extra-corporeal circuit and the blood pump draws blood from the patient, pumps it through the cartridge and returns it back to the patient in a closed loop, recirculating system. As blood passes over the polymer beads in the cartridge, toxins (cytokines) are adsorbed from the blood.

Data from our European Sepsis Trial has demonstrated the safe reduction of cytokine storm, with a 30-50% reduction of key cytokines. Although clinical efficacy data from a post-hoc analysis of patients with very high cytokine levels and patients age 65 years and older are encouraging, larger prospective studies are needed to confirm these data. No assurance can be given that our proposed CytoSorb® product will work as intended or that we will be able to obtain additional necessary regulatory body approvals to sell CytoSorb® in markets outside of Europe. Even if we ultimately obtain additional regulatory approvals, because we cannot control the timing of responses to our regulatory submissions, there can be no assurance as to when such approvals will be obtained.

HemoDefend is a development-stage blood purification technology platform designed to safeguard and protect the blood supply. The Company seeks to license the HemoDefend platform and has not yet received regulatory approval in any markets. HemoDefend consists of a mixture of proprietary porous polymer beads that target the removal of contaminants that can cause transfusion reactions or cause disease in patients receiving the tens of millions of transfused blood products administered worldwide each year. These contaminants include, for example, foreign antibodies, antigens, cytokines, free hemoglobin, bioactive lipids, toxins, drugs, and other inflammatory mediators that either were from the donor or accumulated during blood storage. The goal of the HemoDefend technology is to reduce these contaminants in transfused blood products to reduce transfusion reactions, to keep new blood fresh, and to improve the quality and safety of blood..

The HemoDefend beads are intended to be used in multiple configurations, including as a common in-line filter between the blood bag and the patient as well as a patent-pending “Beads in a Bag” treatment configuration, where the beads are placed directly into a blood storage bag. Once blood is put into this bag, the beads begin to automatically remove contaminants from the blood, and are designed to continue purifying blood throughout the entire blood storage period. The use of neutrally buoyant beads eliminates the need for mixing and is compatible with current blood storage conditions. Integrated filters in the bag prevent beads from leaving the bag during the transfusion process. The base polymer meets ISO 10993 standards for biocompatibility, hemocompatibility, genotoxicity, cytotoxicity, acute sensitivity and complement activation and can therefore directly contact blood for extended periods of time. In addition, the beads are inert and stable at a wide range of temperatures, and do not contain any antibodies, biologics, ligands, or drugs. Because of this, the beads have a very long shelf life that is consistent with blood storage bag manufacturing standards. No special equipment or handling is required, making it well-suited for mainstream and military applications, as well as for use in less developed countries that are not well-equipped to test and process blood products.

ContrastSorb is a development-stage blood purification technology that is being optimized for the removal of IV contrast from blood in order to prevent contrast-induced nephropathy (CIN). Contrast-induced nephropathy is the acute loss of renal function within the first 48 hours following IV contrast administration. An estimated 65 million CT scans are performed worldwide with IV contrast each year to enhance the images and make it easier to identify anatomic structures. IV contrast is also administered during vascular interventional radiology procedures and angiography of blood vessels in the brain, heart, limbs, and other parts of the body to diagnose and treat atherosclerosis (narrowing of blood vessels due to cholesterol deposits), vascular injury, aneurysms, etc. For example, an estimated 10 million coronary angiograms are performed worldwide each year to diagnose and treat coronary artery disease by placing coronary stents, performing balloon angioplasty, or atherectomy (removal of plaque in arteries). The reported risk of CIN in patients undergoing contrast enhanced CT scans has been reported to be 2-13%. For

coronary intervention, the risk has been estimated to be as high as 20-30% in high risk patients with pre-existing renal insufficiency, long-term diabetes, hypertension, congestive heart failure, and older age. The use of low osmolar IV contrast, hydration of patients pre-procedure, orally administration of N-acetylcysteine, and other agents to prevent CIN have demonstrated modest benefit in some clinical studies, but in many cases, the results across studies have been equivocal and inconsistent. In high risk patients, the direct removal of IV contrast from the blood with ContrastSorb to prevent CIN represents a potentially more effective alternative.

DrugSorb is a development-stage blood purification technology that is capable of removing a wide variety of drugs and chemicals from blood, as a potential treatment for drug overdose, drug toxicity, toxic chemical exposure, use in high-dose regional chemotherapy, and other applications. It has demonstrated extremely high single pass removal efficiency of a number of different drugs that exceeds the extraction capability of hemodialysis or other filtration technologies. It is similar in action to activated charcoal hemoperfusion cartridges that have been available for many years, but has the advantage of having inherent biocompatibility and hemocompatibility without coatings, and can be easily customized for specific agents.

Our BetaSorb™ device is intended to remove beta-2-microglobulin and other mid-molecular weight toxins from the blood of patients suffering from chronic kidney failure who rely on long term dialysis therapy to sustain their life. Standard high-flux hemodialysis is very effective in removing small uremic toxins, but much less effective in removing these mid-molecular weight toxins that functional kidneys normally remove. BetaSorb™ utilizes an adsorbent polymer packed into a similarly shaped and constructed cartridge as utilized for our CytoSorb™ product, although the polymers used in the two devices are physically different with one optimized for short-term critical care use and the other specifically designed for the needs of long-term chronic usage. The BetaSorb™ device also incorporates industry standard connectors at either end of the device, which connect directly into the extra-corporeal circuit (bloodlines) in series with a dialyzer. To date, we have manufactured the BetaSorb™ device on a limited basis for testing purposes, including for use in clinical studies.

We had initially identified end stage renal disease (ESRD) as the target market for our polymer-based adsorbent technology. However, during the development of BetaSorb™, we identified several applications for our adsorbent technology in the treatment of critical care patients. As a result, we shifted our priorities to pursue critical care applications (such as for the treatment of sepsis) for our technology given that BetaSorb's™ potential for usage in chronic conditions such as end stage renal disease is anticipated to have a longer and more complex regulatory pathway. We currently intend to pursue our BetaSorb™ product after the commercialization of the CytoSorb® product. At such time as we determine to proceed with our proposed BetaSorb™ product, if ever, we will need to conduct additional clinical studies using the BetaSorb™ device and obtain separate regulatory approval in Europe and/or the United States.

We have conducted clinical studies using our BetaSorb™ device in patients with chronic kidney failure, which have provided valuable data that underpin the development of the critical care applications for our technology. The BetaSorb™ device has been used in a total of four human pilot studies, involving 20 patients, in the U.S. and Europe. The studies included approximately 345 treatments, with some patients using the device for up to 24 weeks (in multiple treatment sessions lasting up to four hours, three times per week) in connection with the application of our products to patients suffering from chronic kidney failure.

CytoSorbents is currently selling CytoSorb® in Germany, Austria, and Switzerland and, with CE Mark approval allowing it to be sold throughout the European Union, seeks to expand sales to other E.U. countries and countries outside the E.U. that will accept European regulatory approval. The Company also plans to conduct U.S. clinical trials to seek FDA regulatory approval for CytoSorb® in the United States. We have incurred losses in each of our fiscal years and expect these losses to continue for the foreseeable future. We will need to raise significant additional funds to conduct additional clinical studies, obtain additional regulatory approvals, and to support the commercialization plans for our products. No assurance can be given that we will ever successfully commercialize any products.

Corporate History

CytoSorbents Corporation was incorporated in Nevada on April 25, 2002 as Gilder Enterprises, Inc. and was originally engaged in the business of installing and operating computer networks that provided high-speed access to the Internet. On June 30, 2006, we disposed of our original business, and pursuant to an Agreement and Plan of Merger (the "Merger"), acquired all of the stock of MedaSorb Technologies, Inc., a Delaware corporation in a merger, and its business became our business. Following the Merger, in July 2006 we changed our name to MedaSorb Technologies Corporation. In November 2008 we changed the name of our operating subsidiary from MedaSorb Technologies, Inc. to CytoSorbents, Inc. In May 2010 we changed the name of our parent company to CytoSorbents Corporation. Unless otherwise indicated, all references in this Annual Report to "MedaSorb,", "CytoSorbents", "us" or "we" with respect to events prior to June 30, 2006 are references to CytoSorbents, Inc. and its predecessors. Our executive offices are located at 7 Deer Park Drive, Suite K, Monmouth Junction, New Jersey 08852. Our telephone number is (732) 329-8885.

CytoSorbents was originally organized as a Delaware limited liability company in August 1997 as Advanced Renal Technologies, LLC. The Company changed its name to RenalTech International, LLC in November 1998, and to MedaSorb Technologies, LLC in October 2003. In December 2005, MedaSorb converted from a limited liability company to a corporation.

CytoSorbents has been engaged in research and development since its inception, and prior to the merger, had raised approximately $53 million from investors. These proceeds have been used to fund the development of multiple product applications and to conduct clinical studies. These funds have also been used to establish in-house manufacturing capacity to meet clinical testing needs, expand our intellectual property through additional patents and to develop extensive proprietary know-how with regard to our products.

Principal Terms of the Series A Financing Consummated upon the Closing of the Merger

On June 30, 2006, immediately following the Merger, we sold to four institutional investors, in a private offering generating gross proceeds of $5.25 million, an aggregate of 5,250,000 shares of our Series A 10% Cumulative Convertible Preferred Stock initially convertible into 4,200,000 shares of Common Stock, and five-year warrants to purchase an aggregate of 2,100,000 shares of our Common Stock.

The Series A Preferred Stock has a stated value of $1.00 per share. The Series A Preferred Stock is not redeemable at the holder’s option but may be redeemed by us at our option following the third anniversary of the issuance of the Series A Preferred Stock for 120% of the stated value thereof plus any accrued but unpaid dividends upon 30 days' prior written notice (during which time the Series A Preferred Stock may be converted), provided a registration statement is effective under the Securities Act with respect to the shares of our Common Stock into which such Series A Preferred Stock is then convertible, and an event of default, as defined in the Certificate of Designations relating to the Series A Preferred Stock is not then continuing.

The Series A Preferred Stock has a dividend rate of 10% per annum, payable quarterly. The dividend rate increases to 20% per annum upon the occurrence of the events of default specified in the Certificate of Designations. Dividends may be paid in cash or, provided no event of default is then continuing, with additional shares of Series A Preferred Stock valued at the stated value thereof. The Series A Preferred Stock is convertible into Common Stock at the conversion rate of one share of Common Stock for each $1.25 of stated value or accrued but unpaid dividends converted.

The warrants issued in the private placement have an initial exercise price of $2.00 per share. The aggregate number of shares of Common Stock covered by the Warrants equaled, at the date of issuance, one-half the number of shares of Common Stock issuable upon the full conversion of the Series A Preferred Stock issued to the investors on that date.

We agreed to file a registration statement under the Securities Act covering the Common Stock issuable upon conversion of the Series A Preferred Stock and exercise of the warrants within 120 days following closing of the private placement and to cause it to become effective within 240 days of that closing. We also granted the investors demand and piggyback registration rights with respect to such Common Stock.

Because the registration statement we agreed to file was not declared effective within the time required under our agreements with the June 30, 2006 purchasers of the Series A Preferred Stock, dividends on the shares of Series A Preferred Stock issued to those purchasers accrued at the rate of 20% per annum from February 26, 2007 until May 7, 2007, the date the registration statement was declared effective. During this time period, we were obligated to pay those purchasers cash dividends and an aggregate of $105,000 per 30-day period from February 26, 2007 through the date such registration statement was declared effective (May 7,2007) in cash. Pursuant to a settlement agreement with the June 30, 2006 purchasers of Series A Preferred Stock, all cash dividends and damages were paid for in full with additional shares of Series A Preferred Stock.

Both the conversion price for the June 30, 2006 purchasers of the Series A Preferred Stock and the exercise price of the warrants were subject to “full-ratchet” anti-dilution provisions, so that upon future issuances of our Common Stock or equivalents thereof, subject to specified customary exceptions, at a price below the conversion price of the Series A Preferred Stock and/or exercise price of the warrants, the conversion price and/or exercise price will be reduced to the lower price. As of the “Qualified Closing” of our Series B Preferred Stock private placement in August of 2008, these investors agreed to a modification of their rights and pricing and gave up their anti-dilution protection – see Qualified Closing description in Series B Preferred Stock section)

In connection with the sale of the Series A Preferred Stock and warrants to the four institutional investors, to induce those investors to make the investment, Margie Chassman pledged to those investors securities of other publicly traded companies. The pledged securities consisted of a $400,000 promissory note of Xechem International, Inc. convertible into Xechem common stock at $.005 per share, and 250,000 shares of the common stock of Novelos Therapeutics, Inc. Based on the market value of the Xechem common stock ($.07 per share) and the Novelos common stock ($1.03) per share, on June 30, 2006, the aggregate fair market value of the pledged securities at the date of pledge was approximately $5,857,500.

The terms of the pledge provided that in the event those investors suffered a loss on their investment in our securities as of June 30, 2007 (as determined by actual sales by those investors or the market price of our Common Stock on such date), the investors would be entitled to sell all or a portion of the pledged securities so that the investors receive proceeds from such sale in an amount equal to their loss on their investment in our securities. In consideration of her pledge to these investors, we paid Ms. Chassman (i) $525,000 in cash (representing 10% of the cash amount raised from the institutional investors), and (ii) five-year warrants to purchase

- 525,000 shares of Series A Preferred Stock (representing 10% of the Series A Preferred Stock purchased by those investors), and

- warrants to purchase 210,000 shares of Common Stock at an exercise price of $2.00 per share (representing 10% of the Series A Preferred Stock purchased by those investors), for an aggregate exercise price of $525,000.

As of the “Qualified Closing” of our Series B Preferred Stock private placement in August of 2008, Ms. Chassman agreed to a modification of her rights and pricing and gave up her anti-dilution protection – see Qualified Closing description in Series B Preferred Stock section).

Principal Terms of the Series B Financing Consummated in 2008

Each share of Series B Preferred Stock has a stated value of $100.00, and is convertible at the holder’s option into that number of shares of Common Stock equal to the Series B stated value at a conversion price of $0.0362, subject to certain adjustments. Additionally, upon the occurrence of a stock split, stock dividend, combination of the Common Stock into a smaller number of shares, issuance of any of shares of Common Stock or other securities by reclassification of the Common Stock, merger or sale of substantially all of our assets, the conversion rate will be adjusted so that the conversion rights of the Series B Preferred Stock stockholders will remain equivalent to those prior to such event.

Dividend

The holders of Series B Preferred Stock are entitled to receive preferential dividends payable in shares of additional Series B Preferred Stock. Any dividends payable to both the Series A and Series B Preferred shareholders shall be paid before any dividend or other distribution will be paid to any Common Stock shareholder. The Series B Preferred Stock dividend is based payable at a rate of 10% per annum on the Series B Stated Value payable on the last day of each calendar quarter after June 30, 2008. However, upon the occurrence of any "Event of Default" as defined in the Certificate of Designation of Series B Preferred Stock, the dividend rate increases to 20% per annum, and revert back to 10% after the "Event of Default" is cured. An Event of Default includes, but is not limited to,

¨the occurrence of "Non-Registration Events";

¨an uncured breach by us of any material covenant, term or condition in the Certificate of Designation or any of the related transaction documents; and

¨any money judgment or similar final process being filed against us for more than $100,000.

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Dividends must be delivered to the holder of the Series B Preferred Stock no later than five (5) business days after the end of each period for which dividends are payable. Dividends on the Series B Preferred Stock will be made in additional shares of Series B Preferred Stock, valued at the Series B Preferred Stock stated value. Notwithstanding the foregoing, during the first three-years following the initial closing, upon the approval of the holders of a majority of the Series B Preferred Stock, including the lead investor, NJTC Venture Fund, if it then owns 25% of the shares of Series B Preferred Stock initially purchased by it, we may pay dividends in cash instead of additional shares of Series B Preferred Stock, and after such three-year period, the holders of a majority of the Series B Preferred Stock, including NJTC if it then owns the 25% of the shares of the Series B Preferred Stock initially purchased by it, may require us to make such payments in cash.

Liquidation

In the event of the Company's dissolution, liquidation or winding up, the holders of the Series B Preferred Stock will receive, in priority over the holders of Series A Preferred Stock and Common Stock, a liquidation preference equal to the stated value of such shares plus accrued dividends on the shares.

Voting Rights; Board Rights

Holders of Series B Preferred Stock have the right to vote on matters submitted to the holders of Common Stock on an as converted basis. However, the consent of the holders of at least a majority of the shares of the Series B Preferred Stock as a separate class, including NJTC if it is then a holders of at least 25% of the shares of Series B Preferred Stock purchased by it on the Initial Closing Date, shall be required on matters related to the rights of the Series B Preferred Stock.

In addition, so long as NJTC holds 25% of the Series B Preferred Stock it purchased before the initial closing, NJTC is entitled to elect (i) two directors to our Board of Directors, which shall consist of six members, and (ii) two members to our compensation committee, which shall consist of no less than three members. Within the first twelve (12) months following the Initial Closing, the Company must reduce the Board of Directors to five (5) members.

Moreover, so long as Cahn Medical Technologies, LLC is the holder of at least 25% of the shares of the Series B Preferred Stock purchased by it on the initial closing date, it has the right to have its designee receive notices of, and attend as an observer, all meetings of our Board of Directors.

Registration Rights

Pursuant to the terms of the Registration Rights Agreement, we are required to cause the Registration Statement to become effective within 240 days of such closing. We also granted the investors demand and piggyback registration rights with respect to such Common Stock. The investors in the Series B Financing are entitled to liquidated damages in an amount equal to two percent (2%) of the purchase price of the Series B Preferred Stock if we fail to timely file that registration statement with, or have it declared effective by, the SEC. We filed a registration statement under the Securities Act covering the Common Stock issuable upon conversion of the Series B Preferred Stock on December 12, 2008. We received initial comments from the Securities and Exchange Commission related to this filing on January 7, 2009 and received additional comments from the SEC on July 15, 2009. In May 2010 the Company filed to withdraw this registration statement. The Company intends to amend and refile the registration statement.

The Company has received a waiver from a majority of the Series B holders for the non-registration event and the timing of the Series B registration does not create a cross-default of the Series A Preferred Series.

Redemption Rights

Following the fifth anniversary of the initial closing, the holders of a majority of the Series B Preferred Stock, including NJTC if it then holds 25% of the shares of Series B Preferred Stock initially purchased by it, may elect to require us to redeem all, but not less than all, of their shares of Series B Preferred Stock at the original purchase price for such shares plus all accrued and unpaid dividends whether or not declared, if the market price of our Common Stock is then below the conversion price of the Series B Preferred Stock. The Company is currently not required to redeem any Series B Preferred Stock.

Dilution and Subordination

As one of the conditions to the closing of the Series B financing with an initial closing on June 25, 2008, we entered into an Agreement and Consent as of the same date with the holders of more than 80% of our Series A Preferred Stock, par value 0.001 per share and the holders of more than 80% of the outstanding common stock purchase warrants issued to the purchasers of our Series A Preferred Stock (the "Class A Warrant"). Pursuant to the Agreement and Consent, our holders of the Series A Preferred Stock consented to the permanent waiver of the anti-dilution protection previously provided to the holders of the Series A Preferred Stock and the holders of the Class A Warrant.

In connection with such Agreement and Consent, the conversion price with respect to the June 30, 2006 purchasers of Series A Preferred Stock held by the Holders was reduced effective June 25, 2008, the initial closing of the Series B Financing according to the Schedule A to the Agreement and Consent as set forth below. In the event that within the 60-day period following the Initial Closing, at additional closings, the Company issued additional shares of Series B Preferred Stock so that the aggregate gross proceeds that were raised on the Initial Closing and such additional closings (excluding the principal amount of our outstanding debt converted into the Series B Preferred Stock) from the holders of the Series A Preferred Stock or their affiliates, is $1,500,000 or more, the conversion price with respect to the Series A Preferred Stock held by these holders was agreed to be further reduced in accordance with Schedule A to the Agreement and Consent as set forth below. Based on the total amount raised and in accordance with our investor agreements, the Company's Series B Preferred Stock private placement was considered a "Qualified" closing.

In addition, June 30, 2006 purchasers of the Series A Preferred Stock also agreed the conversion price with respect to the Class A Warrant shall be reduced effectively on the initial closing. Pursuant to our agreement for a Qualified closing, Conversion pricing and warrant exercise pricing was further reduced as disclosed in the following chart.

06/30/06 Purchasers of Series A Preferred Stock	Initial Closing (06/25/08)		Qualified Closing (08/25/08)	
	Preferred Stock Conversion Price	Warrant Exercise Price	Preferred Stock Conversion Price	Warrant Exercise Price
Alpha Capital Aktiengesellschaft	$ 0.26	$ 0.52	$ 0.20	$ 0.40
Longview Fund, LP	$ 1.25	$ 2.00	$ 0.45	$ 0.90
Platinum Partners Long Term Growth III LLC	$ 1.25	$ 2.00	$ 0.10	$ 0.40
Ellis International Ltd.	$ 0.26	$ 0.52	$ 0.20	$ 0.40
Margie Chassman	$ 1.25	$ 2.00	$ 0.10	$ 0.40

Research and Development

We have been engaged in research and development since inception. Our research and development costs were approximately $2,500,000 and $2,900,000 for the years ended December 31, 2012 and 2011, respectively. From our inception date January 22, 1997, through to December 31, 2012 the Company’s research and development costs totaled approximately $53,929,000. We have recently been awarded approximately $5 million in contracts from DARPA ($3.8M over 5 years) and the U.S. Army ($100,000 Phase I SBIR; $1 million Phase II SBIR still under contract negotiation) to further develop our technologies for sepsis, trauma and burn injury. Payments are based on achieving certain technology milestones.

Technology, Products and Applications

For approximately the past half-century, the field of blood purification has been focused on hemodialysis, a mature, well accepted medical technique primarily used to sustain the lives of patients with permanent or temporary loss of kidney function. It is widely understood by the medical community that dialysis has inherent limitations in that its ability to remove toxic substances from blood drops precipitously as the size of toxins increases. Our hemocompatible adsorbent technology is expected to address this shortcoming by removing toxins and toxic compounds largely untouched by dialysis technology.

Our polymer adsorbent technology can remove drugs, bioactive lipids, inflammatory mediators such as cytokines, free hemoglobin, toxins, and immunoglobulin from blood and physiologic fluids depending on the polymer construct. We believe that our technology may have many applications in the treatment of common, chronic and acute healthcare conditions including, but not limited to, the adjunctive treatment and/or prevention of sepsis; the treatment of other critical care illnesses such as severe burn injury, trauma, acute respiratory distress syndrome and pancreatitis, the treatment of chronic kidney failure; the prevention of post-operative complications of cardiopulmonary bypass surgery; and the prevention of damage to organs donated by brain-dead donors prior to organ harvest. These applications vary by cause and complexity as well as by severity but share a common characteristic i.e. high concentrations of inflammatory mediators and toxins in the circulating blood.

CytoSorbents' flagship product, CytoSorb® and other products under development, including BetaSorb™, ContrastSorb, and DrugSorb consist of a cartridge containing adsorbent polymer beads, although the polymers used in these devices are physically different. The cartridges incorporate industry standard connectors at either end of the device, which connect directly to the extracorporeal circuit (bloodlines) in series with a dialyzer, in the case of the BetaSorb™ device, or as a standalone device in the case of the CytoSorb®, ContrastSorb, and DrugSorb devices. The extra-corporeal circuit consists of plastic blood tubing, our blood filtration cartridges containing adsorbent polymer beads, pressure monitoring gauges, and a blood pump to maintain blood flow. The patient's blood is accessed through a catheter inserted into his or her veins. The catheter is connected to the extra-corporeal circuit and the blood pump draws blood from the patient, pumps it through the cartridge and returns it back to the patient in a closed loop system. All of these devices are expected to be compatible with standard blood pumps or hemodialysis machines used commonly in hospitals and will therefore not require hospitals to purchase additional expensive equipment, and will require minimal training.

The polymer beads designed for the HemoDefend platform are intended to be used in multiple configurations, including the common in-line filter between the blood bag and the patient, as well as a patent-pending "Beads in a Bag" configuration, where the beads are placed directly into a blood storage bag.

Markets

CytoSorbents is a critical care focused medical device company. Critical care medicine includes the treatment of patients with serious or life-threatening conditions who require comprehensive care in the intensive care unit (ICU), with highly-skilled physicians and nurses and advanced technologies to support critical organ function to keep patients alive. Examples of such conditions include severe sepsis and septic shock, severe burn injury, trauma, acute respiratory distress syndrome and severe acute pancreatitis. In the U.S., an estimated $82 billion or 0.7% of the U.S. gross domestic product (GDP) is spent annually on critical care medicine. In most larger hospitals, critical care treatment accounts for up to 20% of a hospital's overall budget and often results in financial losses for the hospital.

In many critical care illnesses, the mortality is often higher than 30%. A major cause of death is multiple organ failure, where vital organs such as the lungs, kidneys, heart and liver are damaged and no longer function properly. Such patients are kept alive with supportive care therapy, such as mechanical ventilation, dialysis and vasopressor

treatment, that is designed to keep the patient from dying while using careful patient management to tip the balance towards gradual recovery over time. Unfortunately, many supportive care therapies are only useful in supporting organ function and not designed to address the root cause of why multiple organ failure initially developed, which is typically multi-factorial. Because of this, the treatment course is often poorly defined and highly variable, leading to a higher risk of adverse outcomes from hospital acquired infections, medical errors, and other factors, as well as exorbitant costs. There is an urgent need for more effective “active” therapies that can help to reverse or prevent organ failure. CytoSorbents’ main product, CytoSorb® is a unique cytokine filter designed to try to address this void, by attempting to address the substantial role that an aberrant immune response and “cytokine storm” plays in the development of organ dysfunction. Together the total addressable market to address these numerous critical care applications in the U.S. and E.U. with CytoSorb is $10-15 billion.

Sepsis

Sepsis is characterized by a systemic inflammatory response triggered by a severe infection. It is commonly seen in the intensive care unit, accounting for approximately 10-20% of all ICU admissions. However, there are currently no approved products that are available to treat sepsis in the U.S. or E.U. Each year, there are more than one million and 1.5 million new cases of severe sepsis or septic shock in the United States and Europe, respectively. Based on the reported incidence of sepsis in a number of developed countries, the worldwide incidence is estimated to be 18 million cases per year. According to the U.S. Centers of Disease Control and Prevention (CDC), the incidence of serious infection and sepsis has doubled in the U.S. in the past 10 years. The main driver of sepsis incidence is the aging demographic, specifically patients who are older than age 65 who are more prone to infection and now account for two-thirds of patients hospitalized for sepsis and the majority of sepsis deaths. Other factors contributing to the increase in sepsis incidence include the spread of antibiotic resistant bacteria like methicillin-resistant Staphylococcus aureus (MRSA), an increase in co-morbid conditions like HIV, cancer and diabetes that increases the risk of infection, an increasing use of implantable devices like artificial hips and knees that are prone to colonization by bacteria, and the appearance of new highly virulent or contagious strains of common pathogens such as H1N1 influenza.

There are generally three categories of sepsis, including mild to moderate sepsis, severe sepsis and septic shock. Mild to moderate sepsis typically occurs with an infection that is responsive to antibiotics or antiviral medication. An example is a patient with self-limiting influenza or a treatable community acquired pneumonia. Mortality is generally very low. Severe sepsis is sepsis with evidence of organ dysfunction. An example is a patient who develops respiratory failure due to a severe pneumonia and requires mechanical ventilation in the intensive care unit. Severe sepsis has a mortality rate of approximately 25-35%. Septic shock, or severe sepsis with low blood pressure that is not responsive to fluid resuscitation, is the most serious form of sepsis with an expected mortality in excess of 40-50%.

In sepsis, there are two major problems: the infection and the body’s immune response to the infection. Antibiotics are main therapy used to treat the triggering infection, and although antibiotic resistance is growing, the infection is often eventually controlled. However, it is the body’s immune response to this infection that frequently leads to the most devastating damage. The body’s immune system normally produces large amounts of inflammatory mediators called cytokines to help stimulate and regulate the immune response during an infection. In severe infection, however, many people suffer from a massive, unregulated overproduction of cytokines, often termed “cytokine storm” that can kill cells and damage organs, leading to multiple organ dysfunction syndrome (MODS) and multiple organ failure (MOF), and in many cases death. Until recently, there have been no available therapies in the U.S. or E.U. that can control the aberrant immune response and cytokine storm. Our CytoSorb® device is a first-in-class, clinically-proven broad-spectrum extracorporeal cytokine filter currently approved for sale in the E.U. The goal of CytoSorb® is to prevent or treat organ failure by reducing cytokine storm and controlling a “run-away” immune response, while antibiotics work to control the actual infection. CytoSorb® has been evaluated in the randomized, controlled European Sepsis Trial in 43 patients in Germany with predominantly septic shock and acute respiratory distress syndrome or acute lung injury. The therapy was safe in more than 300 human treatments and generally well tolerated. CytoSorb demonstrated the statistically significant ability to reduce cyotkine storm and key cytokines by 30-50%. In a post-hoc analysis, this was associated with improvements in clinical ourcome in two high-risk patient populations – those with very high cytokine levels and patients 65 years of age and older.

The Company estimates that the market potential in Europe for its products is larger than that in the U.S. For example, in the U.S. and Europe, there are an estimated one million and 1.5 million new cases, respectively, of severe sepsis

and septic shock annually. In Germany alone, according to the German Sepsis Society (GSS), there are approximately 154,000 cases of severe sepsis each year. Patients are treated in the intensive care unit for 12-18 days on average and for a total of 20-25 days in the hospital. Germany is the largest medical device market in Europe and the third largest in the world.

The only treatment that had been approved to treat sepsis in the U.S. or E.U. was Xigris (Eli Lilly). Because of concerns of cost, limited efficacy, and potentially dangerous side effects including the increased risk of fatal bleeding events such as intracranial bleeding for those at risk, and also because of problems with reimbursement, worldwide sales of Xigris decreased from $160M in 2009 to $104M in 2010. In October 2011, following its PROWESS SHOCK trial that demonstrated no benefit in mortality in septic shock patients, Lilly voluntarily withdrew Xigris from all markets worldwide, and is no longer available as a treatment.

Development of most other experimental therapies has been discontinued, including Eritoran from Eisai, CytoFab from BTG/Astra Zeneca, Talactoferrin from Agennix, and others. Currently, there are two late stage trials ongoing. In November 2012, an 800 patient Phase III randomized controlled study began for Recomodulin (ART 123, Artisan/Asahi Kasei), a recombinant human thrombomodulin, for the treatment of septic patients with coagulopathy. Recomodulin has been approved in Japan since 2009 for the treatment of disseminated intravascular coagulation (DIC), a late complication of sepsis, at a cost of $5,800 per treatment. Although it has other activity, it works primarily by a similar anticoagulant mechanism to Xigris. Because of this, it has only demonstrated a limited mortality benefit (~9%: 34.6% control vs 26% treatment), similar to that seen in Xigris' initial PROWESS Trial (~6%: 31% control vs 25% treatment) and is unlikely to have greater benefit in larger scale studies. Spectral Diagnostics is collaborating with Toray on the EUPHRATES trial, combining an endotoxin assay with extracorporeal endotoxin removal by Toraymyxin, a polymyxin-B immobilized polystyrene fiber cartridge. The study began in June 2010 and is still enrolling patients. Endotoxemia is a result of Gram negative sepsis, which only accounts for 45% of cases of sepsis. It is a potent stimulator of cytokine storm. However, all anti-endotoxin strategies have failed pivotal studies to date, believed to be the result of intervening too late in the sepsis cascade. Because of the lack of available therapies, there remains a significant medical need for improved treatments for sepsis.

Severe sepsis and septic shock patients are amongst the most expensive patients to treat in a hospital. Because of this, we believe that cost savings to hospitals and/or clinical efficacy, rather than the cost of treatment itself, will be the determining factor in the adoption of CytoSorb® in the treatment of sepsis. CytoSorb® is approved in the E.U. and is being sold directly in Germany, Austria, and Switzerland. CytoSorbents has ongoing discussions with potential corporate partners and independent distributors to market CytoSorb in other select E.U. countries and in other countries outside the E.U. that accept CE Mark approval. CytoSorb® is currently reimbursed in Germany and Austria at more than $500 per unit. A seven day treatment costs ~$3,500, approximately the cost of 1-2 days in the ICU. The cost of therapy represents a fraction of what is currently spent on the treatment of patients with sepsis. For example, a typical severe sepsis or septic shock patient in the U.S. costs approximately $45,000-60,000 to treat. Based upon this price point, the total addressable market for CytoSorb® for the treatment of sepsis in the U.S. and E.U. is approximately $6-8 billion.

Acute Respiratory Distress Syndrome

Acute lung injury (ALI) and acute respiratory distress syndrome (ARDS) are two of the most serious conditions on the continuum of respiratory failure when both lungs are compromised by inflammation and fluid infiltration, severely compromising the lung's ability to both oxygenate the blood and rid the blood of carbon dioxide produced by the body. There are an estimated 165,000 cases of acute respiratory distress syndrome in the U.S. each year, with more cases in the E.U. Patients with ALI and ARDS typically require mechanical ventilation, and sometimes extracorporeal membrane oxygenation therapy, to help achieve adequate oxygenation of the blood. Patients on mechanical ventilation are at high risk of ongoing ventilator-induced lung injury, oxygen toxicity, ventilator-acquired pneumonias, and other hospital acquired infections, and outcome is significantly dependent on the presence of other organ dysfunction as well as co-morbid conditions such as pre-existing lung disease (e.g. emphysema or chronic obstructive pulmonary disease) and age. Because of this, mortality is typically greater than 30%, even with modern medicine and ventilation techniques. ALI and ARDS can be precipitated by a number of conditions including pneumonia and other infections, burn and smoke inhalation injury, aspiration, reperfusion injury and shock. Cytokine

injury plays a major role in the vascular compromise and cell-mediated damage to the lung. Reduction of cytokine levels may either prevent or mitigate lung injury, enabling patients to wean from mechanical ventilation faster, potentially reducing numerous sequelae such as infection, pneumothoraces, and respiratory muscle deconditioning, and allow faster intensive care unit discharge, thereby potentially saving costs. CytoSorb® treatment of patients with either ALI or ARDS in the setting of sepsis was the subject of our European Sepsis Trial where in a post-hoc analysis in patients with very high cytokine levels, we observed faster ventilator weaning in CytoSorb® treated patients that showed a statistical trend to benefit. Future, prospectively defined, larger studies are required to confirm these findings. Although a number of therapies have been tried such as corticosteroids, nitric oxide, surfactant therapy, and others, there are currently no approved treatments for ARDS. Only low tidal volume ventilation has been demonstrated to improve mortality (31.0 vs 39.8% control) in this patient population. However, even with this intervention, mortality is still unacceptably high. The total addressable market for CytoSorb to treat ARDS/ALI in the E.U. is estimated to be between $500 million to $1.25 billion, and $1-2 billion in the U.S. and E.U.

Severe Burn Injury

In the U.S., there are approximately 2.4 million burn injuries per year, with 650,000 treated by medical professionals and approximately 75,000 requiring hospitalization. Aggressive modern management of burn injury, including debridement, skin grafts, anti-microbial dressings and mechanical ventilation for smoke and chemical inhalation injury, has led to significant improvements in survival of burn injury to approximately 95% on average in leading burns centers. However, there remains a need for better therapies to reduce the mortality in those patients with large burns and inhalation injury as well as to reduce complications of burn injury and hospital length of stay for all patients. According to National Burn Repository Data, the average hospital stay for burn patients is directly correlated with the percent total body surface area (TBSA) burned. Every 1% increase of TBSA burned equates to approximately 1 additional day in the hospital. A single patient with more than 30% TBSA burned who survives, is hospitalized for an average of 30 days and costs approximately $200,000 to treat. Major causes of death following severe burn and smoke inhalation injury are multi-organ failure (hemodynamic shock, respiratory failure, acute renal failure) and sepsis, particularly in patients with greater than 30% TBSA burns. Specifically, burns and inhalation injury lead to severe systemic and localized lung inflammation, loss of fluid, and cytokine overproduction. This “cytokine storm” causes numerous problems, including: hypovolemic shock and inadequate oxygen and blood flow to critical organs, acute respiratory distress syndrome preventing adequate oxygenation of blood, capillary leakage resulting in tissue edema and intravascular depletion, hypermetabolism leading to massive protein degradation and catabolism and yielding increased risk of infection, impaired healing, severe weakness and delayed recovery, immune dysfunction causing a higher risk of secondary infections (wound infections, pneumonia) and sepsis, and direct apoptosis and cell-mediated killing of cells, leading to organ damage. Up to a third of severe hospitalized burn patients develop multi-organ failure and sepsis that can often lead to complicated, extended hospital courses, or death. Broad reduction of cytokine storm has not been previously feasible and represents a novel approach to limiting or reversing organ failure, potentially enabling more rapid mechanical ventilation weaning, prevention of shock, reversal of the hypermetabolic state encouraging faster healing and patient recovery, reducing hospital costs, and potentially improving survival. The total addressable market in the E.U. for CytoSorb to address burn and smoke inhalation injury is estimated at $150-350 million and $300-600 million in the U.S and E.U.

Trauma

According to the National Center for Health Statistics, in the U.S., there are more than 31 million visits to hospital emergency rooms, with 1.9 million hospitalizations, and 167,000 deaths every year due to injury. The leading causes of injury are trauma from motor vehicle accidents, being struck by an object or other person, and falls. Trauma is a well-known trigger of the immune response and a surge of cytokine production or cytokine storm. In trauma, cytokine storm contributes to a systemic inflammatory response syndrome (SIRS) and a cascade of events that cause cell death, organ damage, organ failure and often death. Cytokine storm exacerbates physical trauma in many ways. For instance, trauma can cause hypovolemic shock due to blood loss, while cytokine storm causes capillary leak and intravascular volume loss, and triggers nitric oxide production that causes cardiac depression and peripheral dilation. Shock can lead to a lack of oxygenated blood flow to vital organs, causing organ injury. Severe systemic inflammation and cytokine storm can lead to acute lung injury and acute respiratory distress syndrome as is often seen in ischemia and reperfusion injury following severe bleeding injuries. Penetrating wound injury from bullets, shrapnel and knives, can lead to infection and sepsis, another significant cause of organ failure in trauma. Complicating matters is the

breakdown of damaged skeletal muscle, or rhabdomyolysis, from blunt trauma that can lead to a massive release of myoglobin into the blood that can crystallize in the kidneys, leading to acute kidney injury and renal failure. Renal failure in trauma is associated with a significant increase in expected mortality. Cytokine and myoglobin reduction by CytoSorb® and related technologies may have benefit in trauma, potentially improving clinical outcome. In December 2011 and September 2012, CytoSorbents was awarded a Phase I and a Phase II SBIR award, respectively, from the U.S. Army Medical Research and Materiel Command to develop its technology for the treatment of trauma and burn injury. The total addressable market for CytoSorb for the treatment of trauma is estimated to be $1.5-2.0 billion in the U.S. and E.U.

Severe Acute Pancreatitis

Acute pancreatitis is the inflammation of the pancreas that results in the local release of digestive enzymes and chemicals that cause severe inflammation, necrosis and hemorrhage of the pancreas and local tissues. Approximately 210,000 people in the U.S. are hospitalized each year with acute pancreatitis with roughly 20% requiring ICU care. It is caused most frequently by a blockage of the pancreatic duct or biliary duct with gallstones, cancer, or from excessive alcohol use. Severe acute pancreatitis is characterized by severe pain, inflammation, and edema in the abdominal cavity, as well as progressive systemic inflammation, generalized edema, and multiple organ failure that is correlated with high levels of cytokines and digestive enzymes in the blood. Little can be done to treat severe acute pancreatitis today, except for pancreatic duct decompression with endoscopic techniques, supportive care therapy, pain control and fluid support. ICU stay is frequently measured in weeks and although overall ICU mortality is approximately 10%, patients with multiple organ failure have a much higher risk of death. CytoSorb® may potentially benefit overall outcomes in episodes of acute pancreatitis by removing a diverse set of toxins from blood. The total addressable market for CytoSorb for the treatment of severe acute pancreatitis in the U.S. and E.U. is estimated to be between $400-600 million.

Cardiopulmonary Bypass Procedures

There are approximately 400,000 cardiopulmonary bypass (CPB) and cardiac surgery procedures performed annually in the U.S. and approximately 1.5 million procedures worldwide. Many patients suffer from post-operative complications of cardiopulmonary bypass surgery, including complications from infection, pneumonia, pulmonary, renal, and neurological dysfunction. Extended surgery time leads to longer ICU recovery time and hospital stays, both leading to higher costs – approximately $32,000 per coronary artery bypass graft procedure. A common characteristic of these post-operative complications is the presence of high amounts of cytokines in the blood. The use of CytoSorb® to reduce cytokines and other inflammatory mediators during and after the surgical procedure may prevent or mitigate post-operative complications. During the procedure, the CytoSorb® filter can be incorporated in the CPB blood circuit. After the surgery, CytoSorb® can be used similarly to dialysis, on patients that develop complications. CytoSorb has the opportunity to replace leukoreduction filters that are commonly used during the CPB procedure to try to reduce the production of cytokines by white blood cells. The peri-procedural total addressable market for CytoSorb in the U.S. and E.U in cardiothoracic surgery procedures is estimated between $300-500M.

Brain-Dead Organ Donors

There are in excess of 6,000 brain dead organ donors each year in the United States; worldwide, the number of these organ donors is estimated to be at least double the U.S. brain dead organ donor population. There is a severe shortage of donor organs. Currently, there are more than 100,000 individuals on transplant waiting lists in the United States.

Cytokine storm is common in these organ donors, resulting in reduced viability of potential donor organs. The potential use of CytoSorb® hemoperfusion to control cytokine storm in brain dead organ donors could increase the number of viable organs harvested from the donor pool and improve the survival of transplanted organs. A proof-of-concept pilot study using the Company's technology in human brain dead donors has been published. In addition, CytoSorb® treatment in a porcine animal model of brain death demonstrated a reduction in cytokines as well as a preservation of cardiac function compared to untreated controls.

Blood Transfusions

The HemoDefend platform is designed to be a practical, low cost, and effective way to safeguard the quality and safety of the blood supply. In the United States alone, 15 million packed red blood cell (pRBC) transfusions and another 15 million transfusions of other blood products (e.g. platelet, plasma, and cryoprecipitate) are administered each year with an average of 10% of all US hospital admissions requiring a blood transfusion. The sheer volume of transfusions, not just in the US, but worldwide, complicates an already difficult task of maintaining a safe and reliable blood supply. Trauma, invasive operative procedures, critical care illnesses, supportive care in cancer, military usage, and inherited blood disorders are just some of the drivers of the use of transfused blood. In war, hemorrhage from trauma is a leading cause of preventable death, accounting for an estimated 30-40% of all fatalities. For example, in Operation Iraqi Freedom, due to a high rate of penetrating wound injuries, up to 8% of admissions required massive transfusions, defined as 10 units of blood or more in the first 24 hours. There is a clear need for a stable and safe source of blood products. However, blood shortages are common and exacerbated by the finite lifespan of blood. According to the Red Cross, packed red blood cell (pRBC) units have a refrigerated life span of 42 days. However, many medical experts believe there is an increased risk of infection and transfusion reactions once stored blood ages beyond two weeks. Transfusion-related acute lung injury (TRALI) is the leading cause of non-hemolytic transfusion-related morbidity and mortality, with an incidence of 1 in 2,000-5,000 transfusions and a mortality rate of up to 10%. Fatal cases of TRALI have been most closely related to anti-HLA or anti-granulocyte antibodies found in a donor's transfused blood. Other early transfusion reactions such as transfusion-associated dyspnea, fever and allergic reactions occur in 3-5% of all transfusions and can vary in severity depending on the patient's condition. These are caused by cytokines, bioactive lipids, free hemoglobin, toxins, foreign antigens, certain drugs, and a number of other inflammatory mediators that accumulate in transfused blood products during storage. Leukoreduction can remove the majority of white cells that can produce new cytokines but cannot eliminate those cytokines already in blood, and cannot otherwise remove other causative agents such as free hemoglobin and antibodies. Automated washing of pRBC is effective but is impractical due to the time, cost, and logistics of washing each unit of blood. The HemoDefend platform is a potentially superior alternative to these methods. The total addressable market for HemoDefend is more than $500M for pRBCs alone.

Radiocontrast Removal

ContrastSorb is a development-stage blood purification technology that is being optimized for the removal of IV contrast from blood in order to prevent contrast-induced nephropathy (CIN). Contrast-induced nephropathy is the acute loss of renal function within the first 48 hours following IV contrast administration. IV contrast is widely administered to patients undergoing CT scans, to enhance the images and make it easier to identify anatomic structures. IV contrast is also administered during vascular interventional radiology procedures and angiography of blood vessels in the brain, heart, limbs, and other parts of the body to diagnose and treat atherosclerosis (narrowing of blood vessels due to cholesterol deposits), vascular injury, aneurysms, etc. For example, an estimated 10 million coronary angiograms are performed worldwide each year to diagnose and treat coronary artery disease by placing coronary stents, performing balloon angioplasty, or atherectomy (removal of plaque in arteries). Overall, there are an estimated 80 million doses of IV contrast administered worldwide each year, split between approximately 65 million contrast-enhanced CT scans, 10 million coronary angiograms, and 5 million conventional angiograms. There are an estimated 30 million doses administered each year in the U.S. alone. The reported risk of CIN in patients undergoing contrast enhanced CT scans has been reported to be 2-13%. For coronary intervention, the risk has been estimated to be as high as 20-30% in high risk patients with pre-existing renal insufficiency, long-term diabetes, hypertension, congestive heart failure, and older age. The use of low osmolar IV contrast, hydration of patients pre-procedure, orally administration of N-acetylcysteine, and other agents to prevent CIN have demonstrated modest benefit in some clinical studies, but in many cases, the results across studies have been equivocal and inconsistent. In high risk patients, the direct removal of IV contrast from the blood with ContrastSorb to prevent CIN represents a potentially more effective alternative. The worldwide market opportunity for ContrastSorb in this high risk group is approximately $1-2 billion.

DrugSorb

DrugSorb is a development-stage blood purification technology that is capable of removing a wide variety of drugs and chemicals from blood, as a potential treatment for drug overdose, drug toxicity, toxic chemical exposure, use in high-dose regional chemotherapy, and other applications. It has demonstrated extremely high single pass removal efficiency of a number of different drugs that exceeds the extraction capability of hemodialysis or other filtration technologies. It is similar in action to activated charcoal hemoperfusion cartridges that have been available for many years, but has the advantage of having inherent biocompatibility and hemocompatibility without coatings, and can be easily customized for specific agents.

Chronic Kidney Failure

The National Kidney Foundation estimates that more than 20 million Americans have chronic kidney disease. Left untreated, chronic kidney disease can ultimately lead to chronic kidney failure, which requires a kidney transplant or chronic dialysis (generally three times per week) to sustain life. There are more than 340,000 patients in the United

States currently receiving chronic dialysis and more than 1.5 million worldwide. Approximately 66% of patients with chronic kidney disease are treated with hemodialysis. One of the problems with standard high-flux dialysis is the limited ability to remove certain mid-molecular weight toxins such as b_2-microglobulin. Over time, b_2-microglobulin can accumulate and cause amyloidosis in joints and elsewhere in the musculoskeletal system, leading to pain and disability. Our BetaSorb™ device has been designed to remove these mid-molecular weight toxins when used in conjunction with standard dialysis. Standard dialysis care typically involves three sessions per week, averaging approximately 150 sessions per year.

Products

The polymer adsorbent technology used in our products can remove middle molecular weight toxins, such as cytokines, from blood and physiologic fluids. All of the potential applications described below (i.e., the adjunctive treatment and/or prevention of sepsis; the adjunctive treatment and/or prevention of other critical care conditions such as acute respiratory distress syndrome, burn injury, trauma and pancreatitis; the prevention of damage to organs donated by brain-dead donors prior to organ harvest; the prevention of post-operative complications of cardiopulmonary bypass surgery; the prevention of kidney injury from IV contrast; and the treatment of chronic kidney failure) share in common high concentrations of toxins in the circulating blood. However, because of the limited studies we have conducted to date, we are subject to substantial risk that our technology will have little or no effect on the treatment of any of these indications. In 2011 we completed our European Sepsis Trial of our CytoSorb® device. The study was a randomized, open label, controlled clinical study in fourteen (14) sites in Germany of one hundred (100) critically ill patients with predominantly septic shock and respiratory failure. The trial successfully demonstrated CytoSorb®'s ability to reduce circulating levels of key cytokines from whole blood by 30-50% in treated patients, and that treatment was safe in these critically-ill patients with multiple organ failure. The Company completed the CytoSorb® technical file review with our Notified Body and CytoSorb® subsequently received European Union regulatory approval under the CE Mark as an extracorporeal cytokine filter indicated for use in any clinical situation where cytokines are elevated. Given sufficient and timely financial resources, we intend to continue to commercialize in Europe and conduct additional clinical studies of our products. However, there can be no assurance that we will ever obtain regulatory approval for any other device, or that the CytoSorb® device will be able to generate significant sales.

The CytoSorb® Device (Critical Care)

APPLICATION: Adjunctive Therapy in the Treatment of Sepsis

Sepsis is a potentially life threatening disease defined as a systemic inflammatory response in the presence of a known or suspected infection. Sepsis is mediated by high levels of toxic compounds ("cytokines"), which are released into the blood stream as part of the body's immune response to severe infection or injury. These toxins cause severe inflammation and damage healthy tissues, which can lead to organ dysfunction and failure. Organ failure is the leading cause of death in the ICU. Sepsis is very expensive to treat and has a high mortality rate.

Potential Benefits: To the extent our adsorbent blood purification technology is able to prevent or reduce the accumulation of cytokines in the circulating blood, we believe our products may be able to prevent or mitigate severe inflammation, organ dysfunction and failure in sepsis patients. Therapeutic goals as an adjunctive therapy include improved clinical outcome, reduced ICU and total hospitalization time, and reduced hospital costs.

Background and Rationale: We believe that the effective treatment of sepsis is the most valuable potential application for our technology. Severe sepsis (sepsis with organ dysfunction) and septic shock (severe sepsis with persistent hypotension despite fluid resuscitation) carries mortality rates of between 28% and 80%. Death can occur within hours or days, depending on many variables, including cause, severity, patient age and co-morbidities. Researchers estimate that there are approximately one million new cases of sepsis in the U.S. each year; and based on the reported incidence in a number of developed countries, the worldwide incidence is estimated to be 18 million cases annually. The incidence of sepsis is also rising due to:

1) An aging population
2) Increased incidence of antibiotic resistance
3) Increase in co-morbid conditions like cancer and diabetes
4) Increased use of indwelling medical devices that are susceptible to infection

In the U.S. alone, treatment of sepsis costs nearly $18 billion annually. According to the Centers for Disease Control, sepsis is a top ten cause of death in the U.S. The incidence of sepsis is believed to be under-reported as the primary infection (i.e. pneumonia, pyelonephritis, etc.) is often cited as the cause of death.

An effective treatment for sepsis has been elusive. Pharmaceutical companies have been trying to develop drug therapies to treat the condition. With the exception of Xigris® from Eli Lilly, no other products have been approved in either the U.S. or Europe for the treatment of sepsis. In 2011 after completing a follow up study required by the FDA, it was subsequently determined that Xigris® does not have a statistically significant mortality benefit, and Eli Lilly has withdrawn Xigris® from all markets worldwide.

Many medical professionals believe that blood purification for the treatment of sepsis holds tremendous promise. Studies using dialysis and hemofiltration technology have been encouraging, but have only had limited benefit to sepsis patients. The reason for this appears to be rooted in a primary limitation of dialysis technology itself: the inability of standard dialysis to effectively and efficiently remove significant quantities of larger toxins such as cytokines from circulating blood. CytoSorb® has demonstrated the ability to safely reduce key cytokines by 30-50% in septic patients with multiple-organ failure in our European Sepsis Trial.

CytoSorb®'s ability to interact safely with blood (hemocompatibility) has been demonstrated through ISO 10993 testing, which includes testing for hemocompatibility, biocompatibility, cytotoxicity, genotoxicity, acute sensitivity and complement activation. Safety data collected from more than 300 treatments in septic patients, where there have been no serious device related adverse events, provide additional evidence that CytoSorb® treatment is safe in this patient population.

CytoSorb® has been designed to achieve broad-spectrum removal of both pro- and anti-inflammatory cytokines, preventing or reducing the accumulation of high concentrations in the bloodstream. This approach is intended to modulate the immune response without causing damage to the immune system. For this reason, researchers have referred to the approach reflected in our technology as 'immunomodulatory' therapy.

Projected Timeline: In 2011, the CytoSorb® filter received European Union regulatory approval under the CE Mark as an extracorporeal cytokine filter to be used in clinical situations where cytokines are elevated. CytoSorbents' manufacturing facility has also achieved ISO 13485:2003 Full Quality Systems certification, an internationally recognized quality standard designed to ensure that medical device manufacturers have the necessary comprehensive management systems in place to safely design, develop, manufacture and distribute medical devices in the European Union. The Company is currently manufacturing its CytoSorb® device for commercial sale in the European Union. CytoSorbents is currently selling CytoSorb® in Germany, Austria, and Switzerland with a direct sales force. Based on its CE Mark approval, CytoSorb® can also be sold throughout the rest of the European Union and countries outside the E.U. that will accept European regulatory approval. With sufficient resources and continued positive clinical data, Assuming availability of adequate and timely funding, and continued positive results from our clinical studies, the Company intends to continue its commercialization plans of its product in Europe as well as pursue U.S. clinical trials to seek FDA regulatory approval for CytoSorb® in the United States.

APPLICATION: Adjunctive Therapy in Other Critical Care Applications

Potential Benefits: Cytokine-mediated organ damage and immune suppression can increase the risk of death and infection in patients with commonly seen critical care illnesses such as acute respiratory distress syndrome, severe burn injury, trauma and pancreatitis. By reducing both pro- and anti-inflammatory cytokines, CytoSorb® has the potential to reduce the systemic inflammatory response and:

- prevent or mitigate Multiple Organ Dysfunction Syndrome (MODS) and/or Multiple Organ Failure (MOF)
- prevent or reduce secondary infections
- reduce the need for expensive life-sparing supportive care therapies such as mechanical ventilation
- reduce the need for ICU care, freeing expensive critical care resources, and reducing hospital costs and costs to the healthcare system

Background and Rationale: A shared feature of many life-threatening conditions seen in the ICU is severe inflammation (either sepsis or systemic inflammatory response syndrome) due to an over-reactive immune system and high levels of cytokines that can cause or contribute to organ dysfunction, organ failure and patient death. Examples of such conditions include severe burn injury, trauma, acute respiratory distress syndrome and severe acute pancreatitis. MODS and MOF are common causes of death in these illnesses and mortality is directly correlated with the number of organs involved. There are currently few active therapies to prevent or treat MODS or MOF. If CytoSorb® can reduce direct or indirect cytokine injury of organs, it may mitigate MODS or MOF, improve overall patient outcome and reduce costs of treatment. In addition, secondary infection, such as ventilator-acquired pneumonia, urinary tract infections, or catheter-related line infections, are another major cause of morbidity and mortality in all patients treated in the ICU that increase with longer ICU stay. Prolonged illness, malnutrition, age, multiple interventional procedures, and exposure to antibiotic resistant pathogens are just some of the many risk factors for functional immune suppression and infection. In sepsis and SIRS, the overexpression of pro-inflammatory cytokines can also cause a depletion of immune effector cells through apoptosis and other means, and anti-inflammatory cytokines can cause profound immune suppression, both major risk factors for infection.

Projected Timeline: CytoSorb's E.U. CE Mark approval as an extracorporeal cytokine filter and its broad approved indication to be used in any clinical situation where cytokines are elevated, allows it to be used "on label" in critical care applications such as acute respiratory distress syndrome, severe burn injury, trauma, liver failure, and pancreatitis, and in other conditions where cytokine storm, sepsis and/or systemic inflammatory response syndrome (SIRS) plays a prominent role in disease pathology. Our goal is to stimulate investigator-initiated clinical studies with our device for these applications. We have been moving forward in parallel with a program to further understand the potential benefit of CytoSorb® hemoperfusion in these conditions through additional investigational animal studies and potential human pilot studies in the U.S. funded either directly by the company, through grants, or through third-parties. Commencement of these formal studies is contingent upon adequate funding and, in the case of U.S. human studies, FDA investigational device exemption (IDE) approval of the respective human trial protocols.

APPLICATION: Prevention and treatment of post-operative complications of cardiopulmonary bypass surgery

Potential Benefits: If CytoSorb® is able to prevent or reduce high-levels of cytokines from accumulating in the blood system during and following cardiac surgery, we anticipate that post-operative complications of cardiopulmonary bypass surgery may be able to be prevented or mitigated. The primary goals for this application are to:

- reduce ventilator and oxygen therapy requirements;
- reduce post-operative complications such as ARDS, acute kidney injury, post-perfusion syndrome;
- reduce length of stay in hospital intensive care units; and
- reduce the total cost of patient care.

Background and Rationale: Due to the highly invasive nature of cardiopulmonary bypass surgery, high levels of cytokines are produced by the body, triggering severe inflammation. If our products are able to prevent or reduce the

accumulation of cytokines in a patient's blood stream, we expect to prevent or mitigate post-operative complications caused by an excessive or protracted inflammatory response to the surgery. While not all patients undergoing cardiac surgery suffer these complications, it is often difficult to predict before surgery which patients will be affected.

Projected Timeline: We commissioned the University of Pittsburgh to conduct a study to characterize the production of cytokines as a function of the surgical timeline for cardiopulmonary bypass surgery. An observational study of 32 patients was completed, and information was obtained with respect to the onset and duration of cytokine release. We expect that this information will aid us in defining the appropriate time to apply the CytoSorb® device to maximize therapeutic impact. Although the company is focused primarily on sepsis and other critical care applications of CytoSorb®, with sufficient additional resources, we plan to pursue this application either directly or through a potential strategic partner.

APPLICATION: *Prevention and treatment of organ dysfunction in brain-dead organ donors to increase the number and quality of viable organs harvested from donors*

Potential Benefits: If CytoSorb® is able to prevent or reduce high-levels of cytokines from accumulating in the bloodstream of brain-dead organ donors, we believe CytoSorb® may be able to mitigate organ dysfunction and failure, which results from severe inflammation following brain-death. The primary goals for this application are:

- improving the viability of organs which can be harvested from brain-dead organ donors, and
- increasing the likelihood of organ survival following transplant.

Background and Rationale: When brain death occurs, the body responds by generating large quantities of inflammatory cytokines. This process is similar to systemic inflammatory response syndrome and sepsis. A high percentage of donated organs are never transplanted due to this response, which damages healthy organs and prevents transplant. In addition, inflammation in the donor may damage organs that are harvested and reduce the probability of graft survival following transplant. CytoSorb® treatment in a porcine animal model of brain death demonstrated a reduction in cytokines as well as a preservation of cardiac function compared to untreated controls.

There is a shortage of donated organs worldwide, with approximately 100,000 people currently on the waiting list for organ transplants in the United States alone. Because there are an insufficient number of organs donated to satisfy demand, it is vital to maximize the number of viable organs donated, and optimize the probability of organ survival following transplant.

Projected Timeline: Studies have been conducted under a $1 million grant from the Health Resources and Services Administration (HRSA), an agency of the U.S. Department of Health and Human Services. Researchers at the University of Pittsburgh Medical Center and the University of Texas, Houston Medical Center have completed the observational and dosing phases of the project. The results were published in Critical Care Medicine, January 2008. The next phase of this study, the treatment phase, would involve viable donors treated with the CytoSorb® device. In this phase of the project, viable donors will be treated and the survival and function of organs in transplant recipients will be tracked and measured. We are not currently focusing our efforts on the commercialization of CytoSorb® for application in organ donors. The treatment phase would be contingent upon further discussion with the FDA and HRSA regarding study design, as well as obtaining additional funding.

The HemoDefend Blood Purification Technology Platform (Acute and Critical Care)

APPLICATION: Reduction of contaminants in the blood supply that can cause transfusion reactions or disease when administering blood and blood products to patients.

Potential Benefits: The HemoDefend blood purification technology platform is designed to reduce contaminants in the blood supply that can cause transfusion reactions or disease. It is a development stage technology that is not yet approved in any markets, but is comprised of CytoSorbents' highly advanced, biocompatible, polymer bead technology. If this technology is successfully developed and then incorporated into a regulatory approved product, it could have a number of important benefits, including:

- reduce the risk of transfusion reactions and improve patient outcome
- improve the quality, or extend the shelf life of stored blood products
- improve the availability of blood and reduce blood shortages by reducing the limitations of donors to donate blood
- allow easier processing of blood

Background and Rationale: The HemoDefend technology platform was built upon our successes in designing and manufacturing porous polymer beads that can remove cytokines. We have expanded the technology to be able to remove substances as small as drugs and bioactive lipids, to proteins as large as antibodies from blood that can cause transfusion reactions and disease. Although the frequency of these reactions are relatively low (~3-5%), the sheer number of blood transfusions is so large, that the number of transfusion reactions, ranging from mild to life-threatening, is substantial, ranging from several hundreds of thousands to millions of reactions each year. In critically-ill patients the risk of transfusion reactions is significantly higher than in the general population and can increase the risk of death because their underlying illnesses have depleted protective mechanisms and have primed their bodies to respond more vigorously to transfusion-associated insults.

A number of retrospective studies have also suggested that administration of older blood leads to increased adverse events and even increased mortality, compared with blood recently harvested. Biological studies have demonstrated the accumulation of erythrocyte storage lesions that compromise the function and structural integrity of packed red blood cells and have also demonstrated the accumulation of substances during blood storage that can lead to transfusion reactions. There are currently two ongoing adult, prospective, randomized, controlled studies, RECESS and ABLE, looking at morbidity and mortality in cardiovascular surgery patients and critically ill patients, respectively, treated with either “new” or “older” blood. The outcome of these studies should not alter the current pressing need for better solutions to reduce transfusion-related adverse events and to improve clinical outcome. However, should they demonstrate that older blood has increased risk, it could result in an increased need for new technologies such as the HemoDefend platform.

Projected Timeline: The HemoDefend platform is a development stage product based on our advanced polymer technology. The base polymer is ISO 10993 biocompatible, meeting standards for biocompatibility, hemocompatibility, cytotoxicity, genotoxicity, acute sensitivity and complement activation. HemoDefend has demonstrated the *in vitro* removal of many different substances from blood such as antibodies, free hemoglobin, cytokines and bioactive lipids. We have also prototyped a number of different implementations of the HemoDefend technology, including the "Beads in a Bag" blood treatment blood storage bag, and standard in-line blood filters. The Company seeks to out-license this technology to a strategic partner in the transfusion medicine space, but may elect to continue its development in parallel with out-licensing efforts.

ContrastSorb (Radiology and Interventional Radiology)

APPLICATION: Removal of IV contrast in blood administered during CT imaging, an angiogram, or during a vascular interventional radiology procedure, in order to reduce the risk of contrast-induced nephropathy.

Potential Benefits: IV contrast can lead to contrast-induced nephropathy (CIN) in susceptible patients. Risk factors include chronic kidney disease and renal insufficiency caused by age, diabetes, congestive heart failure, long-standing hypertension, and others co-morbid illnesses. CIN can lead to increased risk of patient morbidity and mortality. Removal of IV contrast by ContrastSorb may

- reduce the risk of acute kidney injury
- improve the safety of these procedures and reduce the risk of morbidity and mortality

Background and Rationale: Contrast-induced nephropathy is the acute loss of renal function within the first 48 hours following IV contrast administration. IV contrast is widely administered to patients undergoing CT scans, to enhance the images and make it easier to identify anatomic structures. IV contrast is also administered during vascular interventional radiology procedures and angiography of blood vessels in the brain, heart, limbs, and other parts of the body to diagnose and treat atherosclerosis (narrowing of blood vessels due to cholesterol deposits), vascular injury, aneurysms, etc. The reported risk of CIN undergoing contrast enhanced CT scans has been reported to be 2-13%. For coronary intervention, the risk has been estimated to be as high as 20-30% in high risk patients with pre-existing renal insufficiency, and other risk factors. The use of low osmolar IV contrast, hydration of patients pre-procedure, orally administration of N-acetylcysteine, and other agents to prevent CIN have demonstrated modest benefit in some clinical studies, but in many cases, the results across studies have been equivocal and inconsistent. In high risk patients, the direct removal of IV contrast from the blood with ContrastSorb to prevent CIN represents a potentially more effective alternative.

Projected Timeline: ContrastSorb has demonstrated the high efficiency single pass removal of IV contrast and is in the process of optimization. The underlying polymer is made of the same ISO 10993 biocompatible polymer as CytoSorb,

but with different structural characteristics. The ContrastSorb device is a hemoperfusion device similar in construction to CytoSorb and BetaSorb. Assuming successful optimization of the ContrastSorb polymer, safety and efficacy of IV contrast removal will need to be established in human clinical studies. The Company seeks to out-license this technology to a potential strategic partner.

The BetaSorb™ Device (Chronic Care)

APPLICATION: Prevention and treatment of health complications caused by the accumulation of metabolic toxins in patients with chronic renal failure

Potential Benefits: If BetaSorb™ is able to prevent or reduce high levels of metabolic waste products from accumulating in the blood and tissues of long-term dialysis patients, we anticipate that certain health complications characteristic to these patients can be prevented or mitigated. The primary goals for this application are to

- improve and maintain the general health of dialysis patients;
- reduce disability and improve the quality of life of these patients
- reduce the total cost of patient care; and
- increase life expectancy.

Background and Rationale: Our BetaSorb™ device is intended for use on patients suffering from chronic kidney failure who rely on long-term dialysis therapy to sustain life. Due to the widely recognized inability of dialysis to remove larger proteins from blood, metabolic waste products, such as Beta-2 microglobulin, accumulate to toxic levels and are deposited in the joints and tissues of patients. Specific toxins known to accumulate in these patients have been linked to their severe health complications, increased healthcare costs, and reduced quality of life.

Researchers also believe that the accumulation of toxins may play an important role in the significantly reduced life expectancy experienced by dialysis patients. In the U.S., the average life expectancy of a dialysis patient is five years. Industry research has identified links between many of these toxins and poor patient outcomes. If our BetaSorb™ device is able to routinely remove these toxins during dialysis and prevent or reduce their accumulation, we expect our BetaSorb™ device to maintain or improve patient health in the long-term. We believe that by reducing the incidence of health complications, the annual cost of patient care will be reduced and life expectancy increased.

The poor health experienced by chronic dialysis patients is illustrated by the fact that in the U.S. alone, more than $20 billion is spent annually caring for this patient population. While the cost of providing dialysis therapy alone is approximately $23,000 per patient per year, the total cost of caring for a patient ranges from $60,000 to more than $120,000 annually due to various health complications associated with dialysis.

Projected Timeline: We have collected a significant amount of empirical data for the development of this application. As the developer of this technology, we had to undertake extensive research, as no comparable technology was available for reference purposes. We have completed four human pilot studies, including a clinical pilot of six patients in California for up to 24 weeks in which our BetaSorb™ device removed the targeted toxin, beta-2 microglobulin, as expected. In total, we have sponsored clinical studies utilizing our BetaSorb™ device on 20 patients involving approximately 345 total treatments. Each study was conducted by a clinic or hospital personnel with CytoSorbents providing technical assistance as requested.

As discussed above, due to practical and economic considerations, we are focusing our efforts and resources on commercializing our CytoSorb® device for critical care applications. Following commercial introduction of the

CytoSorb® device, and with sufficient additional resources, we plan to continue development of the BetaSorb™ resin and may conduct additional clinical studies using the BetaSorb™ device in the treatment of end stage renal disease patients.

Commercial and Research Partners

University of Pittsburgh Medical Center

Two government research grants by the National Institutes of Health (NIH) and Health and Human Services (HHS) have been awarded to investigators at the University of Pittsburgh to explore the use of adsorbent polymers in the treatment of sepsis and organ transplant preservation. Under “Sub Award Agreements” with the University of Pittsburgh, we have been developing polymers for use in these studies.

A grant of $1 million was awarded to the University of Pittsburgh Medical Center in 2003. The project seeks to improve the quantity and viability of organs donated for transplant by using CytoSorb® to detoxify the donor’s blood. The observational and dosing phases of the study, involving 30 viable donors and eight non-viable donors, respectively, have been completed. The next phase of this study, the treatment phase, will involve viable donors. We are not currently focusing our efforts on the commercialization of CytoSorb® for application in organ donors. The treatment phase would be contingent upon further discussion with the FDA and HRSA regarding study design, as well as obtaining additional funding.

In addition, in September 2005, the University of Pittsburgh Medical Center was awarded a grant of approximately $7 million from NIH entitled “Systems Engineering of a Pheresis Intervention for Sepsis (SEPsIS)” to study the use of adsorbent polymer technology in the treatment of severe sepsis. The study, which lasted for a total of five years, commenced in September 2005. Under a SubAward Agreement, we worked with researchers at the University of Pittsburgh - Critical Care Medicine Department. We believe that the only polymers used in this study were polymers we have developed specifically for use in the study, which are similar to the polymers used in our devices. Under the SubAward Agreement, for our efforts in support of the grant during 2006 through 2010, we received approximately $402,000.

These grants represent a substantial research cost savings to us and demonstrate the strong interest of the medical and scientific communities in our technology.

Researchers at UPMC have participated in nearly every major clinical study of potential sepsis intervention during the past twenty years. Drs. Derek Angus and John Kellum were investigators for Eli Lilly’s sepsis drug, Xigris®. Dr. Kellum, a member of the UPMC faculty since 1994, is the Chairman of our Severe Sepsis and Inflammatory Disease Advisory Board. Dr. Kellum’s research interests span various aspects of Critical Care Medicine, but center on critical care nephrology (including acid-base, and renal replacement therapy), sepsis and multi-organ failure, and clinical epidemiology. He is Chairman of the Fellow Research Committee at the University of Pittsburgh Medical Center**,** has authored more than 300 publications and has received numerous research grants from foundations and industry.

DARPA

In August 2012, the Defense Advanced Research Projects Agency (DARPA) awarded CytoSorbents a five-year technology development contract valued at $3.8 million as part of its “Dialysis-Like Therapeutics” (DLT) program to treat sepsis. DARPA has been instrumental in funding many of the major technological and medical advances since its inception in 1958, including development of the Internet, the global positioning system (GPS), and robotic surgery. The DLT program in sepsis seeks to develop a therapeutic blood purification device that is capable of identifying the cause of sepsis (e.g. cytokines, toxins, pathogens, activated cells) and remove these substances in an intelligent, automated, and efficient manner. DARPA is funding CytoSorbents to further develop its technologies to remove both cytokines and a variety of toxins (e.g. pathogen-derived, naturally occurring, or biowarfare generated). In 2012, CytoSorbents recognized approximately $1.1 million in grant income following the successful completion of milestones under its contract.

United States Army

In December 2011 and September 2012, The US Army Medical Research and Material Command awarded CytoSorbents a $100,000 Phase I SBIR (Small Business Innovation Research), and a $1 million Phase II SBIR contract, respectively, to develop our technologies for the treatment of trauma and burn injury. During 2012, we received the full amount of the Phase I SBIR contract and are in the process of finalizing the Phase II SBIR contract with the granting agency.

Fresenius Medical Care AG

In 1999, we entered into an exclusive, long-term agreement with Fresenius Medical Care for the global marketing and distribution of our BetaSorb™ device and any similar product we may develop for the treatment of renal disease. We currently intend to pursue our BetaSorb™ product after the commercialization of the CytoSorb™ product. At such time as we determine to proceed with our proposed BetaSorb™ product, if ever, we will need to conduct additional clinical studies using the BetaSorb™ device to obtain European or FDA approval.

Fresenius Medical Care is the world's largest, integrated provider of products and services for individuals with chronic kidney failure. Through its network of more than 2,700 dialysis clinics in North America, Europe, Latin America, Asia-Pacific, and Africa, Fresenius Medical Care provides dialysis treatment to more than 215,000 patients around the globe. Fresenius Medical Care is also the world's largest provider of dialysis products, such as hemodialysis machines, dialyzers and related disposable products.

Advisory Boards

From time to time our management meets with scientific advisors who sit on our Scientific Advisory Board, our Medical Advisory Board – Critical Care Medicine, and our Medical Advisory Board – Chronic Kidney Failure / Dialysis.

Our Scientific Advisory Board consists of three scientists with expertise in the fields of fundamental chemical research, and polymer research and development.

Our Medical Advisory Board for Severe Sepsis / Inflammatory Disease consists of five medical doctors, one of whom is affiliated with UPMC, with expertise in critical care medicine, sepsis, multi-organ failure and related clinical study design.

Our Medical Advisory Board for Chronic Kidney Failure / Dialysis consists of four medical doctors with expertise in kidney function, kidney diseases and their treatment, and dialysis technology.

We compensate members of our Advisory Boards at the rate of $2,000 for each full-day meeting they attend in person; $1,200 if attendance is by telephone. When we consult with members of our Advisory Board (whether in person or by telephone) for a period of less than one day, we compensate them at the rate of $200 per hour. We also reimburse members of our Advisory Boards for their travel expenses for attending our meetings.

Royalty Agreements

With Principal Stockholder

In August 2003, in order to induce Guillermina Vega Montiel, a principal stockholder of ours at the time, to make a $4 million investment in the Company, we granted Ms. Montiel a perpetual royalty equal to three percent of all gross revenues received by us from sales of CytoSorb® in the applications of sepsis, cardiopulmonary bypass surgery, organ donor, chemotherapy and inflammation control. In addition, for her investment, Ms. Montiel received 1,230,770 membership units of the Company, which at the time was a limited liability company. Those membership units ultimately became 185,477 shares of our Common Stock following our June 30, 2006 merger. For the year ended December 31, 2012 the Company has recorded royalty costs of approximately $3,000.

With Purolite

In 2003, Purolite filed a lawsuit against us asserting, among other things, co-ownership and co-inventorship of certain of our patents. On September 1, 2006, the United States District Court for the Eastern District of Pennsylvania approved a Stipulated Order and Settlement Agreement under which we and Purolite agreed to the settlement of the action. The Settlement Agreement provides us with the exclusive right to use our patented technology and proprietary know how relating to adsorbent polymers for a period of 18 years. In particular, the Settlement Agreement relates to several of our issued patents and several of our pending patent applications covering our biocompatible polymeric resins, our methods of producing these polymers, and the methods of using the polymers to remove impurities from physiological fluids, such as blood. For the year ended December 31, 2012 per the terms of the license agreement the Company has recorded royalty costs of $2,400.

Under the terms of the Settlement Agreement, we have agreed to pay Purolite royalties of 2.5% to 5% on the sale of those of our products, if and when those products are sold commercially, that are used in direct contact with blood. However, if the first product we offer for commercial sale is a biocompatible polymer to be used in direct contact with a physiological fluid other than blood, royalties will be payable with respect to that product as well. The royalty payments provided for under the Settlement Agreement would apply to our currently envisioned CytoSorb® and BetaSorb™ products.

Following the expiration of the eighteen year term of the Settlement Agreement, the patents and patent applications that are the subject of the Settlement Agreement should have expired under current patent laws, and the technology claimed in them will be available to the public. However, following such time, we would continue to exclusively own any confidential and proprietary know how.

Product Payment & Reimbursement

Critical Care Applications

Europe

Payment for our CytoSorb® device for the removal of cytokines in patients with life-threatening illnesses is country dependent in Europe. We are initially marketing the device in Germany where a path for separate CytoSorb® reimbursement has been established. Reimbursement can also be covered by the standard “diagnosis related group” (DRG) acute care reimbursement. Under this system, hospitals would purchase CytoSorb® and subtract the cost from a pre-determined lump-sum payment made by the payor to the hospital based on the patient’s diagnosis. If we continue to gain traction of the CytoSorb® device into the German market we intend to apply for reimbursement in France, England, Italy and Spain representing the other four economic leaders in Europe and introduce our products in those countries accordingly. Reimbursement is specific to each country. There can be no assurances that reimbursement will be granted or that additional clinical data may not be required to establish reimbursement.

United States

As in Germany, payment for our CytoSorb® device in the US for the treatment and prevention of sepsis and other related acute care applications is initially anticipated to fall under the DRG in-patient reimbursement system, which is currently the predominant basis of hospital medical billing in the United States. Under this system, predetermined payment amounts are assigned to categories of medical patients with respect to their treatments at medical facilities based on the DRG that they fall within (which is a function of such characteristics as medical condition, age, sex, etc.) and the length of time spent by the patient at the facility. Reimbursement is not determined by the actual procedures used in the treatment of these patients, and a separate reimbursement decision would not be required to be made by Medicare, the HMO or other provider of medical benefits in connection with the actual method used to treat the patient.

Critical care applications such as those targeted by our CytoSorb® device involve a high mortality rate and extended hospitalization, coupled with extremely expensive ICU time. In view of these high costs and high mortality rates, we believe acceptance of our proprietary technology by critical care practitioners and hospital administrators will primarily depend on safety and efficacy factors rather than cost.

Chronic Renal Failure

In Europe, chronic dialysis is predominately provided by government supported clinics accounting for approximately 75% of dialysis treatments, with the remainder being provided by private clinics. However, these figures vary widely among countries within Europe. For example dialysis clinics in Denmark and Finland are 100% publicly managed facilities while those in Portugal are 90% privately managed facilities. Generally speaking, dialysis services are always regulated and controlled by the healthcare authorities and not homogeneous between the various European countries.

There are three main types of reimbursement in Europe: budget transfer, fee for service and flat rate. In some cases, the reimbursement method varies within the same country depending on the type of provider (public or private). Europe is similar to the U.S. in that a product such as BetaSorb™ may be part of a composite rate or separate line item reimbursement. In either case, a country by country application for reimbursement must be made.

It is expected that in the U.S., Medicare will be the primary payer for the BetaSorb™ device, through a bundled payment for dialysis. The large majority of costs not covered by federal programs are covered by the private insurance sector.

Dialysis reimbursement for end-stage renal disease patients in the U.S. in 2011 was covered by a dialysis "bundle payment" where the costs of dialysis treatments, medications, labs and supplies were paid to the dialysis clinics by Medicare. In 2014, other medications such as phosphate binders and calcium supplements will also be covered in this bundle. Coverage by this bundle will be required to obtain reimbursement for all new dialysis therapies and represents a potential challenge for BetaSorb™, if or when the treatment becomes approved and available. If BetaSorb™ can demonstrate the reduction of overall costs of treatment, it will have a higher chance of inclusion into the bundle.

Competition

General

We believe that our products represent a unique approach to disease states and health complications associated with the presence of larger toxins (often referred to as middle molecular weight toxins) in the bloodstream, including sepsis, acute respiratory distress syndrome, trauma, severe burn injury, pancreatitis, post-operative complications of cardiac surgery (cardiopulmonary bypass surgery), damage to organs donated for transplant prior to organ harvest, and renal disease. Researchers have explored the potential of using existing membrane-based dialysis technology to treat patients suffering from sepsis. These techniques are unable to effectively remove the middle molecular weight toxins. We have demonstrated the statistically significant reduction of a number of key cytokines by CytoSorb® on the order of 30-50% in human patients with predominantly septic shock and acute respiratory distress syndrome. In a post-hoc subgroup analysis of our European Sepsis Trial, we have also demonstrated statistically significant improvements in mortality in patients at high risk of death, including patients with either very high cytokine levels or patients older than age 65, both of which have a high predicted mortality.

Both the CytoSorb® and BetaSorb™ devices consist of a cartridge containing adsorbent polymer beads. The cartridge incorporates industry standard connectors at either end of the device which connect directly to an extra-corporeal circuit (bloodlines) on a standalone basis. The extra-corporeal circuit consists of plastic tubing through which the blood flows, our cartridge (CytoSorb® or BetaSorb™ depending on the condition being treated) containing our adsorbent polymer beads, pressure monitoring gauges, and a blood pump to maintain blood flow. The patient's blood is accessed through a catheter inserted into his or her veins. The catheter is connected to the extra-corporeal circuit and the blood pump draws blood from the patient, pumps it through the cartridge and returns it back to the patient in a closed loop system. As blood passes over the polymer beads in the cartridge, toxins are adsorbed from the blood, without removing any fluids from the blood or the need for replacement fluid or dialysate.

There are three common forms of blood purification, including hemodialysis, hemofiltration, and hemoperfusion. All modes are generally supported by standard hemodialysis machines. All take blood out of the body to remove toxins and unwanted substances from blood, and utilize extracorporeal circuits and blood pumps. Dialysis and hemofiltration remove substances from blood by diffusion and ultrafiltration, respectively, through a semi-permeable membrane, allowing the passage of certain sized molecules across the membrane, but preventing the passage of other, larger

molecules. Hemoperfusion utilizes solid or porous sorbents to remove things based on surface adsorption, not filtration.

CytoSorb® is a hemoperfusion cartridge, using an adsorbent of specified pore size, which controls the size of the molecules which can pass into the adsorbent and vastly increases the area available for surface adsorption.. As blood flows over our polymer adsorbent, middle molecules such as cytokines flow into the polymer adsorbent and are adsorbed. Our devices do not use semipermeable membranes or dialysate. In addition, our devices do not remove fluids from the blood like hemodialysis or hemofiltration. Accordingly, we believe that our technology has significant advantages as compared to traditional dialysis techniques.

CytoSorbents' HemoDefend platform is a development-stage technology utilizing a mixture of proprietary porous polymer beads that target the removal of contaminants that can cause transfusion reactions or cause disease in patients receiving transfused blood products. The HemoDefend beads can be used in multiple configurations, including the common in-line filter between the blood bag and the patient as well as a unique, patent-pending "Beads in a Bag" treatment configuration, where the beads are placed directly into a blood storage bag.

Sepsis

Researchers have explored the potential of using existing membrane-based dialysis technologies to treat patients suffering from sepsis. These techniques are unable to effectively remove middle molecular weight toxins, which leading researchers have shown to cause and complicate sepsis. The same experts believe that a blood purification technique that efficiently removes, or significantly reduces, the circulating concentrations of such toxins might represent a successful therapeutic option. CytoSorb® has demonstrated the ability to remove middle molecular weight toxins, such as cytokines, from circulating blood in a statistically significant manner.

Medical research during the past two decades has focused on drug interventions aimed at chemically blocking or suppressing the function of one or two inflammatory agents. In hindsight, some researchers now believe this approach has little chance of significantly improving patient outcomes because of the complex pathways and multiple chemical factors at play. Clinical studies of these drug therapies have been largely unsuccessful. An Eli Lilly drug, Xigris®, cleared by the FDA in November 2001, is the first and only drug to be approved for the treatment of severe sepsis. Clinical studies demonstrated that use of Xigris® resulted in an average absolute 6% reduction in 28-day mortality, and an absolute 13% reduction in 28-day mortality in the most severe sepsis patients. The drug remains controversial and is considered expensive when compared to the percentage of patients who benefit. In 2011 after completing a follow up study required by the FDA, it was subsequently determined that Xigris® does not have a statistically significant mortality benefit, and in October 2011, Eli Lilly withdrew Xigris® from all markets worldwide.

Pharmaceutical research for the treatment of sepsis continues with a number of clinical stage drug trials being presently conducted including, but not limited to, drug and biologic candidates from Eisai Co., Ltd, AM-Pharma B.V., Agennix AG and AstraZeneca/BTG plc. In February 2012, Agennix announced a halt to its Phase 2/3 OASIS sepsis trial due to increased mortality in treatment arm. The study is being un-blinded to further analyze the cause of this increased mortality. In January 2011, Eisai announced that its 2,000 patient pivotal Phase III ACCESS trial using Eritoran to treat patients with severe sepsis did not meet its primary endpoint of 28-day all-cause mortality, but will continue analyzing its clinical data and determine next steps. Eritoran is a toll-like receptor 4 (TLR-4) antagonist designed to prevent or reduce activation of the immune system by endotoxin. In August 2012, AstraZeneca and partner BTG discontinued development of CytoFab after a failed Phase IIb study.

Using a medical device to treat sepsis remains a relatively novel treatment approach. Toray Industries currently markets an endotoxin removal cartridge called Toraymyxin™ for the treatment of sepsis in Europe, Japan, and 16 other countries, but is not yet approved in the United States. To date, it has been used to treat more than 80,000 patients since 1994. Toraymyxin does not directly reduce cytokines. Spectral Diagnostics, Inc has obtained exclusive development and commercial rights in the U.S. for Toraymyxin, with plans to combine the use of its endotoxin activity assay to create a theranostic product. In June 2010, Spectral began enrollment of its targeted 360 patient, 30-site randomized, controlled U.S.Phase III trial (EUPHRATES) to diagnose endotoxemia and then treat sepsis with Toraymyxin. Approximately 100 patients have enrolled to date. The endpoint of the trial is 28-day all-cause mortality and interim data is expected at 184 patients. To date, all anti-endotoxin strategies have failed in large scale randomized controlled sepsis trials. Toray also markets its Hemofeel CH1.0 polymethylmethacrylate membrane

(PMMA) in Japan and it has been used in several non-controlled, or historically controlled, clinical or case studies treating patients with sepsis, acute respiratory distress syndrome and pancreatitis. We are not aware of any prospective, randomized controlled studies using this PMMA hemofilter in patients with sepsis. Without such studies, it is difficult to assess the true impact of this technology in these conditions. Gambro AB launched its Prismaflex eXeed system in August 2009 and introduced the SepteX high molecular weight cutoff hemodialyzer in Europe, intended to treat patients with acute renal failure and the removal of inflammatory mediators from blood. It is not specifically approved for the treatment of sepsis. Fresenius has launched a similar high molecular weight cut off filter called the Ultraflux EMiC2. To our knowledge, there has been a lack of published data on the treatment of sepsis with these devices. Bellco S.R.L. also sells the CPFA (coupled plasma filtration and adsorption) system in Europe. This uses a sorbent cartridge to remove cytokines from plasma. However, because the sorbent cannot treat blood directly, it requires the cost and complexity of an additional plasma separator to treat blood. Kaneka Corporation currently markets Lixelle™, a modified porous cellulosic bead, for the removal of beta-2 microglobulin during hemodialysis in Japan. Lixelle has been used in several small human pilot studies including a 5 patient pilot study in 2002 and a 4 patient pilot study in 2009. Though these studies correlate Lixelle use with cytokine reduction, they are not randomized, controlled studies and so do not control for natural cytokine clearance. To our knowledge, no large, randomized, controlled trials have been conducted with Lixelle as a treatment for sepsis. Kaneka has since developed a modified cellulosic resin called CTR that can also remove cytokines from experimental pre-clinical systems. In 2009, CTR was used in an 18-patient randomized, controlled trial in patients with septic shock with undisclosed improvements in APACHE II scores and IL-6 and IL-8. To our knowledge, Kaneka has not conducted or published any other study using CTR to treat human sepsis patients since then. Ube Industries, LTD is currently developing an adsorbent resin called CF-X for the removal of cytokines. To our knowledge, Ube has not published any study using CF-X to treat human sepsis patients. CytoPherx Inc., has developed an extracorporeal system based on selective cytapheresis, or the inactivation or removal of activated leukocytes. It is currently enrolling a 344 patient pivotal trial that began in August 2011 and is expected to be completed by December 2014 in patients with acute kidney injury with or without severe sepsis, on continuous renal replacement therapy with the goal of reducing mortality. This system does not remove cytokines directly, but attempts to reduce the numbers of activated white blood cells that can produce cytokines or cause cell-mediated injury. ExThera Medical Corporation has developed its Seraph™ (Selective Removal by Apheresis) platform that consists of heparin coated, solid polyethylene beads. Heparin has the ability to bind some, but not all viruses, bacteria, toxins and cytokines. In *in vitro* studies using 1 mL of human septic blood, there was no statistically different change in IL-6 or Interferon-gamma compared to control, but effected a ~50% reduction in TNF-alpha. This inability to remove a broad range of cytokines will likely limit its efficacy as a treatment in sepsis. Other potential competitors include the now defunct Arbios Systems, Inc. Hemolife Medical, Inc. and Hemocleanse Technologies, LLC. We believe our CytoSorb™® cartridge has significant competitive, technological, and economic advantages over systems by these other companies.

Acute Respiratory Distress Syndrome (ARDS)

Treatment of ARDS is predominantly supportive care using supplemental oxygen, careful fluid management and multiple modes of ventilation incorporating the concepts of low tidal volume, high frequency oscillation, and prone ventilation. Corticosteroids, nitric oxide, statins, non-steroidal anti-inflammatory drugs, and surfactant therapy have been tried, but are not indicated for the treatment of ARDS. We are not aware of any specific products approved to treat ARDS.

Severe Burn Injury

Modern management of severe burn injury patients involves a combination of therapies. From a burn standpoint, patients undergo active escharotomy and debridement of burns, the use of skin grafts and substitutes, anti-microbial dressings and negative pressure dressings. Tight fluid control, nutrition, prevention of hypothermia and infection are also priorities. Smoke and chemical inhalation injury in burn victims is also common and increasing as a cause of death in severe burn injury. Carbon monoxide and cyanide poisoning is also an issue. Supplemental oxygen and mechanical ventilation are often required and are the mainstay of supportive care treatment. Recently continuous renal replacement therapy has been used to treat patients with acute kidney injury with an improvement in survival compared to a historical control cohort. We believe CytoSorb® therapy may yield improved results. We are not aware of any specific products approved to directly address inhalational lung injury or multiple organ failure in severe burn injury.

Trauma

Trauma management initially involves respiratory, hemodynamic and physical stabilization of the patient. However, in the days to weeks that ensue, the focus shifts to preventing or treating organ failure and preventing or treating infection. We are not aware of any specific therapies to prevent or treat multiple organ dysfunction or multiple organ failure in trauma. Rhabdomyolysis, or the breakdown of muscle fibers due to crush injury or other means, occurs in trauma and can lead to acute kidney injury or renal failure. Aggressive hydration, urine alkalinzation, and forced diuresis are the main therapies to prevent renal injury. Continuous hemodiafiltration with super-high-flux membranes has demonstrated modest myoglobin clearance but was associated with albumin loss. In general, however, most extracorporeal therapies are not well-suited to remove myoglobin. We have developed a polymer resin that removes myoglobin efficiently without major losses of albumin. The US Army Medical Research and Materiel Command has funded the development of our polymer resins to treat trauma and rhabdomyolysis under a Phase I and Phase II SBIR grant awarded to CytoSorbents in December 2011 and September 2012, respectively

Severe Acute Pancreatitis

Treatment of severe acute pancreatitis is predominantly supportive care focused on aggressive hydration, intravenous nutrition and pain control. Mechanical ventilation, hemodialysis and vasopressor use is common in cases of multiple organ failure. In cases where cholelithiasis or other obstruction is the underlying cause of the pancreatitis, endoscopic retrograde cholangiopancreatography and/or stent placement can be used to relieve the obstruction. Antibiotics are often instituted to prevent or treat infection. Surgery is sometimes indicated to remove or drain necrotic or infected portions of the pancreas. To our knowledge, there are no other specific treatments approved to treat severe acute pancreatitis or multiple organ failure that is caused by systemic inflammation in this disease.

Cardiopulmonary Bypass Surgery

There is currently a pre-existing market for the use of leukocyte reduction filters sold by Pall Corporation, Terumo Medical Corporation and others in the cardiopulmonary bypass circuit. The purpose of these devices is to reduce cytokine-producing white blood cells from blood. They do not remove cytokines directly and are not considered by many to be an effective solution for cytokine reduction. We are not aware of any practical competitive approaches for removing cytokines in CPB patients. Alternative therapies such as “off-pump” surgeries are available but “post-bypass” syndrome and cytokine production still remain a problem in this less invasive, but more technically challenging procedure. If successful, CytoSorb® is expected to be useful in both on-pump and off-pump procedures.

Radiocontrast Removal

ContrastSorb has demonstrated the rapid, high efficiency single pass removal of IV contrast. The use of low osmolar IV contrast, oral administration of N-acetylcysteine, and other agents to prevent CIN have demonstrated modest benefit in some clinical studies, but in many cases, the results across studies have been equivocal and inconsistent. Hydration of high risk patients pre-procedure is standard of care but has limited efficacy. Hemodialysis can remove IV contrast, but is relatively slow (46% at 1 hour, 65% at 2 hours, 75 % at 3 hours) in chronic renal failure patients who lack normal renal clearance. In high risk patients, the rapid and direct removal of IV contrast from the blood with ContrastSorb to prevent CIN represents a potentially more effective alternative.

Chronic Dialysis

Although standard dialysis treatment effectively removes urea and creatinine from the blood stream (which are normally filtered by functioning kidneys), standard dialysis has not been effective in removing $beta_2$-microglobulin

toxins from the blood of patients suffering from chronic kidney failure. High flux dialyzers by Gambro, Fresenius, Nephros and others are capable of removing some $beta_2$-microglobulin. However, we believe our technology would significantly improve clearance of this and other toxins. Kaneka markets Lixelle™ outside the US to remove $beta_2$-microglobulin in dialysis patients. We know of no other device, medication or therapy considered directly competitive with our technology. Research and development in the field has focused primarily on improving existing dialysis technologies. The introduction of the high-flux dialyzer in the mid-1980s and the approval of Amgen's Epogen™, a recombinant protein used to treat anemia, are the two most significant developments in the field over the last two decades.

Efforts to improve removal of middle molecular weight toxins with enhanced dialyzer designs have achieved modest success. Many experts believe that dialyzer technology has reached its limit in this respect. A variation of high-flux hemodialysis, known as hemodiafiltration, has existed for many years. However, due to the complexity, cost and increased risks, this dialysis technique is less widely used. In addition, many larger toxins are not effectively filtered by hemodiafiltration, despite its more open pore structure. As a result, hemodiafiltration is expected to be less efficient in large toxin removal compared with the BetaSorb™ device. In terms of resin technology, Kaneka Corporation is the only company currently marketing a resin cartridge (Lixelle) in Japan designed to address this need.

Treatment of Organ Dysfunction in Brain-Dead Organ Donors

We are not aware of any directly competitive products to address the application of our technology for the mitigation of organ dysfunction and failure resulting from severe inflammation following brain-death.

HemoDefend Purification Technology Platform for Transfused Blood Products

There are only a few directly competitive approved products to address the removal of substances from blood and blood products that can cause transfusion reactions, Leukoreduction (Pall Corporation, Terumo-BCT, Hemerus Corporation, others) is widely used in transfusion medicine and can remove the majority of white cells that can produce new cytokines but cannot eliminate those cytokines already in blood, and cannot otherwise remove other causative agents. Automated washing of pRBC is very effective at cleansing contaminants from blood, but is impractical due to the time, cost, and logistics of washing each unit of blood and is not widely used. Blood filters that utilize affinity technologies are in development to remove certain substances such as antibodies from blood, but have other issues, such as cost and concern about the stability or leachability of the affinity technology. The HemoDefend platform represents a potentially superior alternative to these methods, as it can provide comprehensive removal of a wide variety of contaminants that can trigger transfusion reactions without washing blood, requires no additional equipment, energy source, or manipulation, and can be incorporated directly into the blood storage bag or used as an in-line blood filter.

Clinical Studies

Our first clinical studies were conducted in patients with chronic renal failure. The health of these patients is challenged by high levels of toxins circulating in their blood but, unlike sepsis patients, they are not at imminent risk of death. The toxins involved in chronic renal failure are generally different from those involved in sepsis, eroding health gradually over time. The treatment of patients with chronic renal failure is a significant target market for us, although not the current focus of our efforts and resources. Our clinical studies and product development work in this application functioned as a low risk method of evaluating the safety of the technology in a clinical setting, with direct benefit to the development of the critical care applications on which we are now focusing our efforts.

The Company is focusing its research efforts on critical care applications of its technology.

In 2011, the CytoSorb® filter received European Union regulatory approval under the CE Mark as an extracorporeal cytokine filter to be used in clinical situations where cytokines are elevated. As part of the CE Mark approval process,

we completed our randomized, controlled, European Sepsis Trial amongst fourteen trial sites in Germany, with enrollment of one hundred (100) patients with sepsis and respiratory failure. The purpose of the trial was to demonstrate safety and the broad reduction of key cytokines such as IL-6 in critically-ill patients. Taking into account all 100 patients, the treatment was well-tolerated with no serious device related adverse events reported in more than 300 human treatments in the trial. Although the trial was not powered to demonstrate significant reduction in other clinical endpoints such as mortality, these were also included as secondary and exploratory endpoints in the trial.

The first 22 patients in the study represented a sepsis pilot study. In the next 31 patients, a compromise of the manual randomization schedule at two trial sites led to an imbalance in the severity of illness between the control and treatment patient groups of the study. After a thorough review, the Scientific Advisory Board (SAB) and the independent Data Safety Monitoring Board (DSMB) both recommended that due to this enrollment bias, these 31 patients should only be used for safety evaluation purposes and that new patients should be enrolled into the trial using electronic web-based randomization to randomly assign patients into either the control or treatment arms.

Excluding four patients that withdrew, the remaining forty three (43) patients enrolled under electronic randomization were relatively balanced in terms of the severity of illness in treatment and control patients, confirming the findings of the SAB and DSMB. In these forty three (43) patients the European Sepsis Trial successfully demonstrated, on a statistically significant basis ($p<0.05$), CytoSorb®'s ability to reduce circulating levels of key cytokines from whole blood in treated patients on the average of 30-50% over the 7 day treatment period. Additionally, post-hoc subgroup analyses of the clinical outcome data from patients enrolled under electronic randomization demonstrated statistically significant reduction in mortality in patients at high risk of death in sepsis, specifically in patients with:

- Very high cytokine levels (IL-6 ≥ 1,000 pg/mL and/or IL-1ra ≥ 16,000 pg/mL) where 28-day mortality was 0% treated vs 63% control, p=0.03, n=14, and

- Age ≥ 65 (14-day mortality: 0% treated vs 36% control, p=0.04, n=21).

In patients aged ≥ 65 years old, however, seven days of treatment with CytoSorb® was not adequate to extend the observed 14-day mortality benefit out to 28-days (40% vs 45% control, p=0.6, n=21). These critically ill patients carried two major mortality risk factors: multiple organ failure and age ≥ 65 years old, which itself confers a 2.3-fold relative risk of death. Treatment of life-threatening infections with antibiotics often requires 7-14 days of treatment. We hypothesize that treatment of the "run-away" immune response should mirror treatment with antibiotics. We are currently conducting a dose ranging study in Germany amongst seven clinical trial sites to evaluate the safety and efficacy of CytoSorb® when used continuously for 7 days, or for 6 hours per day for more than 7 days. Patients are being stratified for age, cytokine levels, and co-morbid illnesses in this matched pairs analysis. Data from this dosing study are intended to help clinicians with additional treatment options for CytoSorb®, help support the positive clinical data from the Company's first European Sepsis Trial, and help shape the trial protocol for a U.S. based pivotal study. Assuming availability of adequate and timely funding, and continued positive results from our clinical studies, the Company intends to continue commercializing its product in Europe while pursuing US regulatory approval.

In 2007, CytoSorbents received FDA approval of its investigational device exemption (IDE) application to run a single center sepsis study in the United States. The Company has since generated safety data in approximately 300 human treatments in patients with septic shock and multiple organ failure in its European Sepsis Trial. Following completion of our current dose ranging study, we plan to re-initiate discussions with the FDA to leverage our existing open IDE approval, and review our plans for the United States to determine whether to conduct clinical trials in the U.S. in support of a PMA filing for the indication of sepsis. No assurance can be given that our CytoSorb® product will work as intended in these studies or that we will be able to obtain FDA approval to sell CytoSorb® in the U.S. Even though we have obtained CE Mark approval, there is no guarantee or assurance that we will be successful in obtaining FDA approval in the United States or approval in any other country or jurisdiction. Because of the limited studies we have conducted, we are subject to substantial risk that our technology will have little or no effect on the treatment of any indications that we have targeted.

Government Research Grants

Two government research grants by the National Institutes of Health (NIH) and Health and Human Services (HHS) have been awarded to investigators at the University of Pittsburgh to explore the use of adsorbent polymers in the treatment of sepsis and organ transplant preservation. Under "SubAward Agreements" with the University of Pittsburgh, we have been developing polymers for use in these studies.

A grant of $1 million was awarded to the University of Pittsburgh Medical Center in 2003. The project seeks to improve the quantity and viability of organs donated for transplant by using CytoSorb™ to detoxify the donor's blood.

The observational and dosing phases of the study, involving 30 viable donors and eight non-viable donors, respectively, have been completed. The next phase of this study, the treatment phase, will involve viable donors. We are not currently focusing our efforts on the commercialization of CytoSorb™ for application in organ donors. The treatment phase would be contingent upon further discussion with the FDA and HRSA regarding study design, as well as obtaining additional funding.

In addition, in September 2005, the University of Pittsburgh Medical Center was awarded a grant of approximately $7 million from NIH entitled “Systems Engineering of a Pheresis Intervention for Sepsis (SEPsIS)” to study the use of adsorbent polymer technology in the treatment of severe sepsis. The study, which lasted for a total of five years, commenced in September 2005. Under a SubAward Agreement, we worked with researchers at the University of Pittsburgh - Critical Care Medicine Department. We believe that the only polymers used in this study were polymers we have developed specifically for use in the study, which are similar to the polymers used in our devices. Under the SubAward Agreement, for our efforts in support of the grant during 2006 through 2010, we received approximately $402,000.

In October 2010 CytoSorbents was awarded a grant of approximately $489,000 from the federal Qualifying Therapeutic Discovery Project (QTDP) program for two products in its pipeline including the development of CytoSorb™ for the treatment of sepsis and other critical care illnesses. The Company received half of the grant in November 2010 and the second half in February 2011.

In December 2011 CytoSorbents was awarded a $100,000 Phase I SBIR (Small Business Innovation Research) grant by the US Army Medical Research and Materiel Command to evaluate our technology for Cytokine and Myoglobin removal in the treatment of trauma.

In August 2012, the Defense Advanced Research Projects Agency (DARPA) awarded CytoSorbents a five-year technology development contract valued at $3.8 million as part of its “Dialysis-Like Therapeutics” (DLT) program to treat sepsis. DARPA is funding CytoSorbents to further develop its technologies to *remove* both cytokines and a variety of toxins (e.g. pathogen-derived, naturally occurring, or biowarfare generated).

In September 2012 CytoSorbents was awarded a $1 million Phase II SBIR (Small Business Innovation Research) contract by the US Army Medical Research and Materiel Command to evaluate our technology for the treatment of trauma and burn injury in large animal models. We are in the process of finalizing the Phase II SBIR contract with the granting agency.

The Company’s business could be adversely impacted by the recent automatic cuts in Federal spending. The American Taxpayer Relief Act (ATRA) of 2012, referred to generally as the fiscal cliff deal, delayed until March 1, 2013, the automatic spending cuts of nearly $1 trillion over the next 10 years (commonly known as “sequestration”) that were included under the Budget Control Act of 2011. Sequestration may delay payments under the DARPA and SBIR grant agreements. The economic impact of the sequester in the US is the subject of much debate and is not yet known. The short term and long term economic impact of the sequestration will not be known until the actual spending cuts are implemented and the economic impact of the changes in the budget and taxes are known. It will take an extended number of years to understand the impact of any changes brought about from the sequester.

These grants represent a substantial research cost savings to us and demonstrate the strong interest of the medical and scientific communities in our technology.

Regulation

The medical devices that we manufacture are subject to regulation by numerous regulatory bodies, including the FDA and comparable international regulatory agencies. These agencies require manufacturers of medical devices to comply with applicable laws and regulations governing the development, testing, manufacturing, labeling, marketing and distribution of medical devices. Devices are generally subject to varying levels of regulatory control, the most comprehensive of which requires that a clinical evaluation program be conducted before a device receives approval for commercial distribution.

In the European Union, medical devices are required to comply with the Medical Devices Directive and obtain CE Mark certification in order to market medical devices. The CE Mark certification, granted following approval from an independent Notified Body, is an international symbol of adherence to quality assurance standards and compliance with applicable European Medical Devices Directives. Distributors of medical devices may also be required to comply with other foreign regulations such as Ministry of Health Labor and Welfare approval in Japan. The time required to obtain these foreign approvals to market our products may be longer or shorter than that required in the U.S., and requirements for those approvals may differ from those required by the FDA.

In March 2011 the Company successfully completed its technical file review with its Notified Body, and received approval to apply the CE Mark to the CytoSorb® device as an extracorporeal cytokine filter. CytoSorbents also achieved ISO 13485:2003 Full Quality Systems certification, an internationally recognized quality standard designed to ensure that medical device manufacturers have the necessary comprehensive management systems in place to safely design, develop, manufacture and distribute medical devices in the E.U.

In the U.S., permission to distribute a new device generally can be met in one of two ways. The first process requires that a pre-market notification (510(k) Submission) be made to the FDA to demonstrate that the device is as safe and effective as, or substantially equivalent to, a legally marketed device that is not subject to pre-market approval (PMA). A legally marketed device is a device that (i) was legally marketed prior to May 28, 1976, (ii) has been reclassified from Class III to Class II or I, or (iii) has been found to be substantially equivalent to another legally marketed device following a 510(k) Submission. The legally marketed device to which equivalence is drawn is known as the “predicate” device. Applicants must submit descriptive data and, when necessary, performance data to establish that the device is substantially equivalent to a predicate device. In some instances, data from human clinical studies must also be submitted in support of a 510(k) Submission. If so, these data must be collected in a manner that conforms with specific requirements in accordance with federal regulations. The FDA must issue an order finding substantial equivalence before commercial distribution can occur. Changes to existing devices covered by a 510(k) Submission which do not significantly affect safety or effectiveness can generally be made by us without additional 510(k) Submissions.

The second process requires that an application for premarket approval (PMA) be made to the FDA to demonstrate that the device is safe and effective for its intended use as manufactured. This approval process applies to most Class III devices. In this case, two steps of FDA approval are generally required before marketing in the U.S. can begin. First, investigational device exemption (IDE) regulations must be complied with in connection with any human clinical investigation of the device in the U.S. Second, the FDA must review the PMA application that contains, among other things, clinical information acquired under the IDE. The FDA will approve the PMA application if it finds that there is a reasonable assurance that the device is safe and effective for its intended purpose.

In the United States, our CytoSorb® and BetaSorb™ devices are classified as Class III (CFR 876.5870—Sorbent Hemoperfusion System) 510(k) devices, but may require pre-market approval (PMA) by the FDA. In Europe, our devices are classified as Class IIb, and will need to conform to the Medical Devices Directive.

The process of obtaining clearance to market products is costly and time-consuming in virtually all of the major markets in which we expect to sell products and may delay the marketing and sale of our products. Countries around the world have recently adopted more stringent regulatory requirements, which are expected to add to the delays and uncertainties associated with new product releases, as well as the clinical and regulatory costs of supporting those releases. No assurance can be given that any of our other medical devices will be approved on a timely basis, if at all, or that our CytoSorb® device will be approved for CE Mark labeling in other potential medical applications or that it will be approved for cytokine filtration in markets not covered by the CE Mark on a timely basis, or at all. In addition, regulations regarding the development, manufacture and sale of medical devices are subject to future change. We cannot predict what impact, if any, those changes might have on our business. Failure to comply with regulatory requirements could have a material adverse effect on our business, financial condition and results of operations.

Exported devices are subject to the regulatory requirements of each country to which the device is exported. Some countries do not have medical device regulations, but in most foreign countries medical devices are regulated. Frequently, regulatory approval may first be obtained in a foreign country prior to application in the U.S. to take

advantage of differing regulatory requirements.

Sales and Marketing

In 2012, we established our European subsidiary, CytoSorbents Europe GmbH, in Berlin, Germany which serves as the center of our sales activities in Europe. Following the completion of a controlled market release in late June 2012, CytoSorb® was formally launched in Germany with reimbursement established at more than $500 per cartridge. We recruited Dr. Christian Steiner, MD as our Vice President of Sales and Marketing and hired three additional sales representatives who completed training in Q3 2012. Q4 2012 was the first full quarter of direct CytoSorb® sales with our sales force in place. We began expansion into both Austria, where reimbursement for CytoSorb® is now available, and Switzerland. From the beginning of the controlled market release in Q4 2011 through the end of December 31, 2012, we achieved cumulative sales of approximately $188,000 in sales of CytoSorb in Europe. At the end of 2012, we had more than 60 key opinion leaders (KOL) who were either using CytoSorb® or interested in using it in clinical practice and/or in clinical studies. These KOL relationships are an essential step in our goal of driving usage, adoption and reorders of CytoSorb® as they facilitate ordering and reimbursement within the hospital, have a strong influential role within their department and amongst their peers and colleagues outside the hospital, and have the ability to conduct studies and generate data, papers and conference presentations that could drive awareness and demand.

We are approved to sell CytoSorb® in all 27 countries in the European Union, including Germany, United Kingdom, Italy, France and Spain. We plan to expand to other countries in the E.U., and with registration, other countries outside the E.U. that will accept CE Mark approval with a mixed direct and independent distributor strategy, that can be augmented through strategic partnerships. Registration and reimbursement in other countries may or may not require additional clinical data. We plan to continue our commercialization plans in Europe provided we receive adequate and timely funding to support our planned activities and that our products continue to perform as expected in clinical studies.

Intellectual Property and Patent Litigation

The medical device market in which we primarily participate is in large part technology driven. As a result, intellectual property rights, particularly patents and trade secrets, play a significant role in product development and differentiation. However, intellectual property litigation to defend or create market advantage is inherently complex, unpredictable and is expensive to pursue. Litigation often is not ultimately resolved until an appeal process is completed and appellate courts frequently overturn lower court patent decisions.

Moreover, competing parties frequently file multiple suits to leverage patent portfolios across product lines, technologies and geographies and to balance risk and exposure between the parties. In some cases, several competitors are parties in the same proceeding, or in a series of related proceedings, or litigate multiple features of a single class of devices. These forces frequently drive settlement not only of individual cases, but also of a series of pending and potentially related and unrelated cases. In addition, although monetary and injunctive relief is typically sought, remedies are generally not determined until the conclusion of the proceedings, and are frequently modified on appeal. Accordingly, the outcomes of individual cases are difficult to time, predict or quantify and are often dependent upon the outcomes of other cases in other forums, both domestic and international.

We rely on a combination of patents, trademarks, trade secrets and non-disclosure agreements to protect our intellectual property. We hold 32 issued U.S. patents, some of which have foreign counterparts, and additional patent applications pending worldwide that cover various aspects of our technology. There can be no assurance that pending patent applications will result in issued patents, that patents issued to us will not be challenged or circumvented by competitors, or that such patents will be found to be valid or sufficiently broad to protect our technology or to provide us with a competitive advantage.

We also rely on non-disclosure and non-competition agreements with employees, consultants and other parties to protect, in part, trade secrets and other proprietary technology. There can be no assurance that these agreements will not be breached, that we will have adequate remedies for any breach, that others will not independently develop equivalent proprietary information or that third parties will not otherwise gain access to our trade secrets and proprietary knowledge.

Several years ago we engaged in discussions with the Dow Chemical Company, which had indicated a strong interest in being our polymer manufacturer. After a Dow representative on our Advisory Board resigned, Dow filed and received five patents naming our former Advisory Board member as an inventor. These patents, two of which subsequently lapsed for failure to pay maintenance fees, concern the area of coating high divinylbenzene-content polymers to render them hemocompatible, and using such coated polymers to treat blood or plasma. In management's view the Dow patents improperly incorporate our technology, are based on our proprietary technology, and should not have been granted to Dow. While we believe that our own patents would prevent Dow from producing our products as they are currently envisioned, Dow could attempt to assert its patents against us. To date, to our knowledge, Dow has not utilized their patents for the commercial manufacture of products that would be competitive with us, and we currently have no plans to challenge Dow's patents. However, the existence of these Dow patents could result in a potential dispute with Dow in the future and additional expenses for us.

We may find it necessary to initiate litigation to enforce our patent rights, to protect our trade secrets or know-how and to determine the scope and validity of the proprietary rights of others. Patent litigation can be costly and time-consuming, and there can be no assurance that our litigation expenses will not be significant in the future or that the outcome of litigation will be favorable to us. Accordingly, we may seek to settle some or all of our pending litigation described below. Settlement may include cross-licensing of the patents which are the subject of the litigation as well as our other intellectual property and may involve monetary payments to or from third parties.

Employees

As of December 31, 2012, we had twenty full-time employees and utilize consultants and temporary hires who are not employees of the Company, as necessary. None of our employees are represented by a labor union or are subject to collective-bargaining agreements. We believe that we maintain good relationships with our employees.

DESCRIPTION OF PROPERTY

We operate a 10,000 sq. ft. facility near Princeton, New Jersey, housing research laboratories, clinical manufacturing operations and administrative offices. In the opinion of management, the leased properties are adequately insured, are in good condition and suitable for the conduct of our business. We also collaborate with numerous institutions, universities and commercial entities who conduct research and testing of our products at their facilities. Our principal place of business is at 7 Deer Park Drive, Suite K, Monmouth Junction, New Jersey 08852.

DESCRIPTION OF LEGAL PROCEEDINGS

We are currently not involved, but may at times be involved in various claims and legal actions. Management is currently of the opinion that these claims and legal actions would have no merit, and any ultimate outcome will not have a material adverse impact on the consolidated financial position of the Company and/or the results of its operations.

In February 2008, Alkermes, Inc. commenced an action against us in the United States District Court for the District of Massachusetts, alleging that our use of the name MedaSorb infringes on Alkermes' registered trademark "MEDISORB." In the action, Alkermes sought an injunction against our further use of the name MedaSorb. Pursuant to a Settlement Agreement dated June 18, 2008, to avoid any potential confusion with Alkermes' similarly named product, the Company has ceased using the "MedaSorb" name in its wholly-owned subsidiary, through which the Company conducts all of its operational activities, and renamed our operating subsidiary CytoSorbents, Inc. as of

November 2008. In May 2010 the Company has finalized the change of the parent company name from MedaSorb Technologies Corporation to CytoSorbents Corporation.

MARKET FOR COMMON EQUITY AND RELATED STOCKHOLDER MATTERS

The following table shows, for the periods indicated, the high and low bid prices per share of our common stock as reported by the OTCBB quotation service. These bid prices represent prices quoted by broker-dealers on the OTCBB quotation service. The quotations reflect inter-dealer prices, without retail mark-up, mark-down or commissions, and may not represent actual transactions.

	High	Low
2011		
First quarter	$0.41	$0.12
Second quarter	$0.48	$0.18
Third quarter	$0.30	$0.13
Fourth quarter	$0.18	$0.11
2012		
First quarter	$0.17	$0.14
Second quarter	$0.15	$0.09
Third quarter	$0.16	$0.12
Fourth quarter	$0.15	$0.11

Approximate Number of Equity Security Holders

As of April 1, 2013, there were approximately 3,650 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 not declared or paid any cash dividends on our common stock, and we do not anticipate declaring or paying cash dividends for the foreseeable future. We are not subject to any legal restrictions respecting the payment of dividends, except that we may not pay dividends if the payment would render us insolvent. Any future determination as to the payment of cash dividends on our common stock will be at our board of directors' discretion and will depend on our financial condition, operating results, capital requirements and other factors that our board of directors considers to be relevant.

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FINANCIAL STATEMENTS

PART I — FINANCIAL INFORMATION

Item 1. Financial Statements.

CYTOSORBENTS CORPORATION

(a development stage company)

CONSOLIDATED BALANCE SHEETS

	March 31, 2013 (Unaudited)	December 31, 2012
ASSETS		
Current Assets:		
Cash and cash equivalents	$1,365,295	$1,729,344
Accounts receivable, net of allowance for doubtful accounts at $-0-	114,604	51,779
Inventories	555,260	682,372
Prepaid expenses and other current assets	94,242	476,093
Total current assets	2,129,401	2,939,588
Property and equipment – net	139,756	145,600
Other assets	257,547	254,220
Total long-term assets	397,303	399,820
Total Assets	$2,526,704	$3,339,408
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current Liabilities:		

Accounts payable	$704,710	$800,670
Accrued expenses and other current liabilities	288,724	349,841
Convertible notes payable, net of debt discount in the amount of $-0- at March 31, 2013 and $178,775 at December 31, 2012	—	926,225
Total current liabilities	993,434	2,076,736
Total liabilities	993,434	2,076,736
Redeemable Series B Convertible Preferred Stock, par Value $0.001, 200,000 shares Authorized at March 31, 2013 and December 31, 2012, respectively, 73,875.09 and 72,073.26 issued and outstanding , respectively	13,470,176	12,887,817
Stockholders' Equity (Deficit):		
10% Series A Convertible Preferred Stock, Par Value $0.001, 12,000,000 shares authorized at March 31, 2013 and December 31, 2012, respectively; 1,634,015 and 1,594,164 shares issued and outstanding, respectively	1,634	1,594
Common Stock, Par Value $0.001, 800,000,000 shares authorized at March 31, 2013 and 500,000,000 shares authorized at December 31, 2012, 228,948,386 and 214,967,503 shares issued and outstanding, respectively	228,949	214,968
Additional paid-in capital	88,795,394	86,903,415
Deficit accumulated during the development stage	(100,947,819)	(98,732,460)
Accumulated other comprehensive income	(15,064)	(12,662)
Total stockholders' equity	(11,936,906)	(11,625,145)
Total Liabilities and Stockholders' Equity	$2,526,704	$3,339,408

See accompanying notes to consolidated financial statements.

CYTOSORBENTS CORPORATION

(a development stage company)

CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS

	Period from January 22,1997 (date of inception) to March 31, 2013 (Unaudited)	Three months ended March 31, 2013 (Unaudited)	Three months ended March 31, 2012 (Unaudited)
Revenue:			
Sales	$ 363,750	$ 176,098	$ 16,893
Grant and Other Income	2,387,039	195,232	33,333
Total Revenue	2,750,789	371,330	50,226
Cost of revenue	1,087,382	253,511	53,840
Gross profit/(loss)	1,663,407	117,819	(3,614)
Other Expenses:			
Research and development	54,633,600	704,141	632,854
Legal, financial and other consulting	8,807,881	222,746	161,292
General and administrative	27,024,373	613,162	269,466
Change in fair value of management and incentive units	(6,055,483)		
Total expenses	84,410,371	1,540,049	1,063,612
Loss from operations	(82,746,964)	(1,422,230)	(1,067,226)
Other (income) expenses:			
Gain on disposal of property and equipment	(21,663)	--	--
Gain on extinguishment of debt	(216,617)	--	--
Interest (income) expense, net	7,508,262	206,712	359,370
Penalties associated with non-registration of Series A Preferred Stock	361,495	--	--
Total other (income) expense, net	7,631,477	206,712	359,370

Loss before benefit from income taxes	(90,378,441)	(1,628,942)	(1,426,596)
Benefit from income taxes	(939,074)	--	--
Net loss	(89,439,367)	(1,628,942)	(1,426,596)
Preferred stock dividend	11,508,452	586,417	663,917
Net loss available to common shareholders	$ (100,947,819)	$ (2,215,359)	$ (2,090,513)
Basic and diluted net loss per common share		$ (0.01)	$ (0.01)
Weighted average number of shares of common stock outstanding		222,968,576	181,150,646
Net Loss	$ (89,439,367)	$ (1,628,942)	$ (1,426,596)
Other comprehensive loss:			
Currency translation adjustment	(15,064)	(2,402)	
Comprehensive loss	$ (89,454,431)	$ (1,631,344)	$ (1,426,596)

See accompanying notes to consolidated financial statements.

CYTOSORBENTS CORPORATION

(a development stage company)

CONSOLIDATED STATEMENT OF CHANGES IN REDEEMABLE CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' EQUITY (DEFICIENCY)

Period from

December 31, 2012 to

March 31, 2013

(Unaudited)

	Series B Redeemable Convertible Preferred Stock		Common Stock		Preferred Stock A		Paid-In	Accumulated Other Comprehensive	Deficit Accumu Develop
	Shares	Amount	Shares	Par value	Shares	Par Value	Capital	Income	Stage
Balance at December 31, 2012	72,073.26	$12,887,817	214,967,503	$214,968	1,594,164	$1,594	$86,903,415	$(12,662)	$(98,73
Stock based compensation - employees, consultants and directors							225,900		
Issuance of Series A Preferred Stock as dividends					39,851	40	4,018		(4,058
Issuance of Series B Preferred Stock	1,801.83	582,359							(582,3

as dividends									
Issuance of common stock for cash			4,240,970	4,241			445,759		
Conversion of convertible notes to common			9,739,912	9,740			1,216,302		
Other comprehensive income/(loss): foreign translation adjustment								(2,402)	
Net loss									(1,628
Balance at March 31, 2013	73,875.09	$13,470,176	228,948,385	$228,949	1,634,015	$1,634	$88,795,394	$(15,064)	$(100,9

See accompanying notes to consolidated financial statements.

CYTOSORBENTS CORPORATION

(a development stage company)

CONSOLIDATED STATEMENTS OF CASH FLOWS

	Period from January 22, 1997 (date of inception) to March 31, 2013	Three months Ended March 31, 2013	Three months ended March 31, 2012
	(Unaudited)	(Unaudited)	(Unaudited)
Cash flows from operating activities:			
Net loss	$(89,439,367)	$(1,628,942)	$(1,426,596)
Adjustments to reconcile net loss to net cash used in operating activities:			
Common stock issued as inducement to convert convertible notes payable and accrued interest	3,351,961	—	—
Issuance of common stock to consultant for services	30,000	—	—
Depreciation and amortization	2,518,166	14,145	10,707
Amortization of debt discount	2,644,504	178,775	344,450
Gain on disposal of property and equipment	(21,663)	—	—
Gain on extinguishment of debt	(216,617)	—	—
Interest expense paid with Series B Preferred Stock in connection with conversion of notes payable	3,147	—	—
Abandoned patents	183,556	—	—
Bad debts - employee advances	255,882	—	—
Contributed technology expense	4,550,000	—	—
Consulting expense	237,836	—	—
Management unit expense	1,334,285	—	—
Expense for issuance of warrants	533,648	—	—
Expense for issuance of options	2,794,088	225,900	532
Amortization of deferred compensation	74,938	—	—
Penalties in connection with non-registration event	361,496	—	—
Changes in operating assets and liabilities:			
Accounts receivable	(114,604)	(62,825)	(3,712)
Inventories	(555,260)	127,112	(37,541)
Prepaid expenses and other current assets	(365,790)	381,851	(3,340)

Other assets	(56,395)	(9,442)	—
Accounts payable and accrued expenses	3,069,769	(36,035)	43,175
Accrued interest expense	1,823,103	—	—
Net cash used by operating activities	(67,003,317)	(809,461)	(1,072,325)
Cash flows from investing activities:			
Proceeds from sale of property and equipment	32,491	—	—
Purchases of property and equipment	(2,422,996)	(2,186)	—
Patent costs	(498,514)	—	(11,280)
Purchases of short-term investments	(393,607)	—	—
Proceeds from sale of short-term investments	393,607	—	—
Loan receivable	(1,632,168)	—	—
Net cash used by investing activities	(4,521,187)	(2,186)	(11,280)
Cash flows from financing activities:			
Proceeds from issuance of common stock	400,490	—	—
Proceeds from issuance of preferred stock	9,579,040	—	—
Equity contributions - net of fees incurred	50,521,311	450,000	1,000,001
Proceeds from borrowings	11,888,881	—	700,000
Proceeds from subscription receivables	499,395	—	—
Proceeds from exercise of stock options	15,746	—	—
Net cash provided by financing activities	72,904,863	450,000	1,700,001
Effect of exchange rates on cash	(15,064)	(2,402)	—
Net change in cash and cash equivalents	1,365,295	(364,049)	616,396
Cash and cash equivalents - beginning of period	—	1,729,344	1,186,653
Cash and cash equivalents - end of period	$1,365,295	$1,365,295	$1,803,049

See accompanying notes to consolidated financial statements.

Supplemental disclosure of cash flow information:			
Cash paid during the period for interest	$590,189	$—	$—
Supplemental schedule of noncash investing and financing activities:			
Debt discount in connection with issuance of convertible debt	$1,644,505	$—	$87,700
Fair value of shares issued as costs of raising capital	$593,899	$10,413	$188,274
Note payable principal and interest conversion to equity	$13,175,491	$1,226,042	$395,154
Issuance of member units for leasehold improvements	$141,635	$—	$—
Issuance of management units in settlement of cost of raising capital	$437,206	$—	$—
Change in fair value of management units for cost of raising capital	$278,087	$—	$—
Exchange of loan receivable for member units	$1,632,168	$—	$—
Issuance of equity in settlement of accounts payable	$1,614,446	$—	$—
Issuance of common stock in exchange for stock subscribed	$399,395	$—	$—
Costs paid from proceeds in conjunction with issuance preferred stock	$768,063	$—	$—
Preferred stock dividends	$11,508,452	$586,417	$663,917
Net effect of conversion of common stock to preferred stock prior to merger	$559	$—	$—

During the three months ended March 31, 2013 and 2012, -0- and 131.56 Series B Preferred Shares were converted into -0- and 363,425 Common shares, respectively. During the three months ended March 31, 2013 and 2012, -0- and -0- Series A Preferred Shares were converted into -0- and -0- Common shares, respectively. For the period from January 22, 1997 (date of inception) to March 31, 2013, 22,576.18 Series B Preferred Shares and 9,558,112 Series A Preferred Shares were converted into 62,364,597 and 43,728,457 Common Shares, respectively.

See accompanying notes to consolidated financial statements.

CytoSorbents Corporation

Notes to Consolidated Financial Statements

(UNAUDITED)

March 31, 2013

1. BASIS OF PRESENTATION

The accompanying unaudited condensed consolidated financial statements have been prepared in accordance with the requirements of Form 10-Q of the Securities and Exchange Commission (the "Commission") and include the results of CytoSorbents Corporation (the "Parent"), CytoSorbents, Inc., its wholly-owned operating subsidiary (the "Subsidiary"), and CytoSorbents Europe GmbH, its wholly-owned European subsidiary (the "European Subsidiary"), collectively referred to as "the Company." Accordingly, certain information and footnote disclosures required in financial statements prepared in accordance with accounting principles generally accepted in the United States of America have been condensed or omitted. Interim statements are subject to possible adjustments in connection with the annual audit of the Company's accounts for the year ended December 31, 2013. In the opinion of the Company's management, the accompanying unaudited consolidated financial statements contain all adjustments (consisting only of normal recurring adjustments) which the Company considers necessary for the fair presentation of the Company's consolidated financial position as of March 31, 2013 and the results of its operations and cash flows for the three month periods ended March 31, 2013 and 2012, and for the period January 22, 1997 (date of inception) to March 31, 2013. Results for the three months ended are not necessarily indicative of results that may be expected for the entire year. The unaudited condensed consolidated financial statements should be read in conjunction with the audited financial statements of the Company and the notes thereto as of and for the year ended December 31, 2012 as included in the Company's Form 10-K filed with the Commission on April 03, 2013.

The accompanying consolidated financial statements have been prepared on a going concern basis, which contemplates the realization of assets and satisfaction of liabilities in the normal course of business. The Company has experienced negative cash flows from operations since inception and has a deficit accumulated during the development stage at March 31, 2013 of $100,947,819. The Company is not currently generating significant revenue and is dependent on the proceeds of present and future financings to fund its research, development and commercialization program. These matters raise substantial doubt about the Company's ability to continue as a going concern. The Company is continuing its fund-raising efforts. Although the Company has historically been successful in raising additional capital through equity and debt financings, there can be no assurance that the Company will be successful in raising additional capital in the future or that it will be on favorable terms. We believe that we have sufficient cash to fund our operations into the third quarter of 2013, following which we will need additional funding before we can complete additional clinical studies and commercialize our products. Furthermore, if the Company is successful in raising the additional financing, there can be no assurance that the amount will be sufficient to complete the Company's plans. These consolidated financial statements do not include any adjustments related to the outcome of this uncertainty.

The Company is a development stage company and has not yet generated significant revenues from inception to March 31, 2013. Since inception, the Company's expenses relate primarily to research and development, organizational activities, clinical manufacturing, regulatory compliance, sales and operational strategic planning. Although the Company has made advances on these matters, there can be no assurance that the Company will continue to be successful regarding these issues, nor can there be any assurance that the Company will successfully implement its long-term strategic plans.

The Company has developed an intellectual property portfolio, including 32 issued U.S. patents, and multiple pending patents, covering materials, methods of production, systems incorporating the technology and multiple medical uses.

2. PRINCIPAL BUSINESS ACTIVITY AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES:

Nature of Business

The Company, through its subsidiary CytoSorbents, Inc., is engaged in the research, development and commercialization of medical devices with its platform blood purification technology incorporating a proprietary adsorbent polymer technology. The Company, through its European Subsidiary, has commenced initial sales and marketing related operations for the CytoSorb® device in the European Union. The Company is focused on developing this technology for multiple applications in the medical field, specifically to provide improved blood purification for the treatment of acute and chronic health complications associated with blood toxicity. In March 2011, the Company received CE Mark approval for its CytoSorb® device, and in June 2012, officially launched CytoSorb® for commercial sale in Germany and later in Austria and Switzerland with a small direct sales force. As of March 31, 2013, the Company had only limited commercial operations and, accordingly, is in the development stage. The Company has yet to generate any significant revenue and has no assurance of future revenue.

Principles of Consolidation

The consolidated financial statements include the accounts of the Parent, CytoSorbents Corporation, and its wholly-owned subsidiaries, CytoSorbents, Inc. and CytoSorbents Europe GmbH. All significant intercompany transactions and balances have been eliminated in consolidation.

Development Stage Corporation

The accompanying consolidated financial statements have been prepared in accordance with the provisions of accounting and reporting by development stage enterprises.

Cash and Cash Equivalents

The Company considers all highly liquid investments purchased with an original maturity of three months or less to be cash equivalents.

Accounts Receivable

Accounts receivable are customer obligations due under normal trade terms. The Company sells its devices to various hospitals and distributors. The Company performs ongoing credit evaluations of customers' financial condition and does not require collateral. Management reviews accounts receivable periodically to determine collectability. Balances that are determined to be uncollectible are written off to the allowance for doubtful accounts. The allowance for doubtful accounts contains a general accrual for estimated bad debts and had a balance of zero at March 31, 2013 and December 31, 2012.

Inventories

Inventories are valued at the lower of cost or market. At March 31, 2013 and December 31, 2012 the Company's inventory was comprised of finished goods, which amounted to $402,001 and $438,790, respectively, work in process which amounted to $110,400 and $194,880, respectively and raw materials, which amounted to $42,859 and $48,702, respectively.

Property and Equipment

Property and equipment are recorded at cost less accumulated depreciation. Depreciation of property and equipment is provided for by the straight-line method over the estimated useful lives of the related assets. Leasehold improvements are amortized over the lesser of their economic useful lives or the term of the related leases. Gains and losses on depreciable assets retired or sold are recognized in the statements of operations in the year of disposal. Repairs and maintenance expenditures are expensed as incurred.

Patents

Legal costs incurred to establish patents are capitalized. When patents are issued, capitalized costs are amortized on the straight-line method over the related patent term. In the event a patent is abandoned, the net book value of the patent is written off.

Impairment or Disposal of Long-Lived Assets

The Company assesses the impairment of patents and other long-lived assets under accounting standards for the impairment or disposal of long-lived assets whenever events or changes in circumstances indicate that the carrying value may not be recoverable. For long-lived assets to be held and used, the Company recognizes an impairment loss only if its carrying amount is not recoverable through its undiscounted cash flows and measures the impairment loss based on the difference between the carrying amount and fair value.

Revenue Recognition

The Company recognizes revenue when it is earned. Delivery of the goods generally completes the criteria for revenue recognition.

Grant Revenue

Revenue from grant income is based on contractual agreements. Certain agreements provide for reimbursement of costs, while other agreements provide for reimbursement of costs and an overhead margin. Revenues are recognized when milestones have been achieved and revenues have been earned. Costs are recorded as incurred. Costs subject to reimbursement by these grants have been reflected as costs of revenue.

Research and Development

All research and development costs, payments to laboratories and research consultants are expensed when incurred.

Income Taxes

Income taxes are accounted for under the asset and liability method prescribed by accounting standards for accounting for income taxes. Deferred income taxes are recorded for temporary differences between financial statement carrying amounts and the tax basis of assets and liabilities. Deferred tax assets and liabilities reflect the tax rates expected to be in effect for the years in which the differences are expected to reverse. A valuation allowance is provided if it is more likely than not that some or all of the deferred tax asset will not be realized. Under Section 382 of the Internal Revenue Code the net operating losses generated prior to the reverse merger may be limited due to the change in ownership. Additionally, net operating losses generated subsequent to the reverse merger may be limited in the event of changes in ownership.

The Company follows accounting standards associated with uncertain tax positions. The Company had no unrecognized tax benefits at December 31, 2012 or 2011. The Company files tax returns in the U.S. with both federal and state jurisdictions and in other countries as required. The Company currently has no open years prior to December 31, 2009 and has no income tax related penalties or interest for the periods presented in these financial statements.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities. Actual results could differ from these estimates. Significant estimates in these financials are the valuation of options granted, the valuation of preferred shares issued as stock dividends and valuation methods used in determining any debt discount associated with convertible securities.

Concentration of Credit Risk

The Company maintains cash balances, at times, with financial institutions in excess of amounts insured by the Federal Deposit Insurance Corporation. Management monitors the soundness of these institutions in an effort to minimize its collection risk of these balances.

Financial Instruments

The carrying values of cash and cash equivalents, short-term investments, accounts payable, notes payable, and other debt obligations approximate their fair values due to their short-term nature.

Net Loss Per Common Share

Basic EPS is computed by dividing income (loss) available to common stockholders by the weighted average number of common shares outstanding during the period. Diluted EPS gives effect to all dilutive potential common shares outstanding during the period. The computation of Diluted EPS does not assume conversion, exercise or contingent exercise of securities that would have an anti-dilutive effect on earnings (See Note 6).

Stock-Based Compensation

The Company accounts for its stock-based compensation under the recognition requirements of accounting standards for accounting for stock-based compensation, for employees and directors whereby each option granted is valued at fair market value on the date of grant. Under these accounting standards, the fair value of each option is estimated on the date of grant using the Black-Scholes option pricing model.

The Company also follows the guidance of accounting standards for accounting for equity instruments that are issued to other than employees for acquiring, or in conjunction with selling, goods or services for equity instruments issued to consultants.

Effects of Recent Accounting Pronouncements

There have been no recently issued accounting standards, which would have an impact on the Company’s financial statements.

Shipping and Handling Costs

The Company records shipping and handling costs in Research and Development. Total freight costs amounted to approximately $10,000 and $23,000 for the three months ended March 31, 2013 and March 31, 2012 respectively.

Reclassifications

Certain items for the periods ended March 31, 2013 and 2012 have been reclassified to conform to the presentation at March 31, 2013. There was no change in net income as a result of these reclassifications.

3. CONVERTIBLE NOTES

At December 31, 2012 the Company had Convertible Notes totaling $926,225 net of debt discount of $178,775 outstanding. During February 2013 all outstanding Convertible Notes plus accrued interest at 8% were converted into 9,739,912 Common Shares and debt discount was charged to interest expense.

4. STOCKHOLDERS' EQUITY (DEFICIT)

During the three months ended March 31, 2013, the Company recorded non-cash stock dividends totaling $586,417 in connection with the issuance of 1,801.83 shares of Series B Preferred Stock and 39,851 shares of Series A Preferred Stock as a stock dividend to its preferred shareholders as of March 31, 2013.

During the three months ended March 31, 2013, the Company incurred stock-based compensation expense due to the issuance of stock options, and amortization of unvested stock options. The aggregate expense for the three months ended March 31, 2013 is approximately $225,900.

The summary of the stock option activity for the three months ended March 31, 2013 is as follows:

	Shares	Weighted Average Exercise Price per Share	Weighted Average Remaining Life (Years)
Outstanding, January 1, 2013	36,667,616	$ 0.23	6.1
Granted	1,930,000	$ 0.11	7.8
Cancelled	(9,402)	$ 2.01	—
Exercised	—	$ —	—
Outstanding March 31, 2013	38,588,214	$ 0.23	5.9

The fair value of each stock option was estimated using the Black Scholes pricing model which takes into account as of the grant date the exercise price (ranging from $0.106 to $0.168 per share) and expected life of the stock option (ranging from 5-10 years), the current price of the underlying stock and its expected volatility (approximately 28 percent), expected dividends (-0- percent) on the stock and the risk free interest rate (0.8 to 1.9 percent) for the term of the stock option.

At March 31, 2013, the aggregate intrinsic value of options outstanding and currently exercisable amounted to approximately $1,130,000.

The summary of the status of the Company’s non-vested options for the three months ended March 31, 2013 is as follows:

	Shares	Weighted Average Grant Date Fair Value
Non-vested, January 1, 2013	7,394,000	$ 0.05
Granted	1,930,000	$ 0.05
Cancelled	—	—
Vested	(5,451,000)	$ 0.05
Non-vested, March 31, 2013	3,873,000	$ 0.05

As of March 31, 2013, approximately $115,000 of total unrecognized compensation cost related to stock options is expected to be recognized over a weighted average period of 2.14 years. Due to the uncertainty over whether approximately 1,050,000 options granted during the year ended December 31, 2010 will vest based on performance milestones in the Company’s long term incentive plan, no charge for these options has been recorded in the consolidated statements of operations for the three months ended March 31, 2013. The grant date fair value of these unvested options amounts to approximately $50,400. The Company will evaluate on an ongoing basis the probability and likelihood of any of these performance milestones being achieved and will accrue charges as it becomes likely that they will be achieved.

As of March 31, 2013, the Company has the following warrants to purchase common stock outstanding:

Warrant

Number of Shares To be Purchased	Warrant Exercise Price per Share	Expiration Date
3,986,429	$ 0.04	June 25, 2013
397,825	$ 0.04	September 30, 2014
1,750,000	$ 0.10	August 16, 2015
1,600,000	$ 0.13	August 16, 2015
1,333,333	$ 0.15	August 16, 2015
490,000	$ 0.10	October 22, 2015
196,000	$ 0.13	October 22, 2015
163,333	$ 0.15	October 22, 2015
625,000	$ 0.10	November 2, 2015
250,000	$ 0.13	November 2, 2015
208,334	$ 0.15	November 2, 2015
500,000	$ 0.10	November 19, 2015
200,000	$ 0.13	November 19, 2015
166,667	$ 0.15	November 19, 2015
240,125	$ 1.25	October 24, 2016
5,000,000	$ 0.10	February 15, 2016
2,200,000	$ 0.13	February 15, 2016
1,833,333	$ 0.15	February 15, 2016
1,166,667	$ 0.18	February 10, 2017
22,307,046		

During the three months ended March 31, 2013 Convertible Notes in the principal and accrued interest amount of $1,226,042 were converted into 9,739,912 Common shares.

In December 2011, the Company terminated the original Purchase Agreement with Lincoln Park Capital Fund, LLC (“LPC”) and executed a new purchase agreement, or the New Purchase Agreement, and a registration rights agreement, or the New Registration Rights Agreement, with LPC. Under the New Purchase Agreement, LPC is obligated, under certain conditions, to purchase from the Company up to $8.5 million of our Common Stock, from time to time over a thirty-two (32) month period.

The Company has the right, but not the obligation, to direct LPC to purchase up to $8,500,000 of its Common Stock in amounts up to $50,000 as often as every two business days under certain conditions. The Company can also accelerate the amount of its common stock to be purchased under certain circumstances. No sales of shares may occur at a purchase price below $0.10 per share or without a registration statement having been declared effective. The purchase price of the shares will be based on the market prices of our shares at the time of sale as computed under the New Purchase Agreement without any fixed discount. The Company may at any time at its sole discretion terminate the New Purchase Agreement without fee, penalty or cost upon one business days’ notice.

There was no up-front commitment fee paid to LPC for entering into the new agreement. In the event the Company directs LPC to purchase up to $8,500,000 of its Common Stock, the Company is obligated to issue up to an additional 1,634,615 commitment fee shares of Common Stock on a pro rata basis. LPC may not assign any of its rights or obligations under the Purchase Agreement.

During the three months ended March 31, 2013 the Company received approximately $450,000 as proceeds from the sale of 4,154,435 shares of Common Stock per the terms of the Purchase Agreement with LPC at an average price of approximately $0.108 per share of Common. Per the terms of the Purchase Agreement the Company also issued an additional 86,535 shares of Common Stock as additional Commitment Fee shares. The fair value of the Commitment shares of approximately $10,000 has been recorded as a cost of raising capital.

As of March 31, 2013 $4,550,000 remained available under the Purchase Agreement with LPC. The Purchase Agreement terminates in August 2014.

5. COMMITMENTS AND CONTINGENCIES

Employment Agreements

The Company is currently in the process of renewing employment agreements with certain key executives.

Litigation

The Company is currently not involved, but may at times be involved in various claims and legal actions. Management is currently of the opinion that these claims and legal actions would have no merit, and any ultimate outcome will not have a material adverse impact on the consolidated financial position of the Company and/or the results of its operations.

Royalty Agreements

Pursuant to an agreement dated August 11, 2003, an existing investor agreed to make a $4 million equity investment in the Company. These amounts were received by the Company in 2003. In connection with this agreement, the Company granted the investor a future royalty of 3% on all gross revenues received by the Company from the sale of its CytoSorb® device. For the three months ended March 31, 2013 the Company has accrued royalty costs of approximately $5,000.

License Agreements

In an agreement dated September 1, 2006, the Company entered into a license agreement which provides the Company the exclusive right to use its patented technology and proprietary know how relating to adsorbent polymers for a period of 18 years. Under the terms of the agreement, the Company has agreed to pay royalties of 2.5% to 5% on the sale of certain of its products if and when those products are sold commercially for a term not greater than 18 years commencing with the first sale of such product. For the three months ended March 31, 2013 per the terms of the license agreement the Company has accrued royalty costs of approximately $5,000.

Warrant Agreement

As inducement to invest additional funds in the private placement of Series B Preferred Stock, additional consideration was granted to the participants of the Series B Preferred Stock offering in the event that litigation is commenced against CytoSorbents prior to June 30, 2018, claiming patent infringement on certain of the Company's issued patents. In the event this litigation arises the Company may be required to issue warrants to purchase in the aggregate up to a maximum of ten million shares of Common Stock subject to certain adjustments. Through March 31, 2013 no such litigation has arisen and due to the deemed low probability of this potential outcome; the Company has not booked a contingent liability for this agreement.

6. NET LOSS PER SHARE

Basic loss per share and diluted loss per share for the three months ended March 31, 2013 and 2012 have been computed by dividing the net loss for each respective period by the weighted average number of shares outstanding during that period. All outstanding warrants and options representing approximately 60,895,000 and 62,994,000 incremental shares at March 31, 2013 and 2012, respectively, as well as shares issuable upon conversion of Series A and Series B Preferred Stock representing approximately 205,496,000 and 186,225,000 incremental shares at March 31, 2013 and 2012, respectively, as well as potential shares issuable upon Note conversion into Common Stock representing approximately -0- and 12,197,000 incremental shares at March 31, 2013 and 2012, respectively, have been excluded from the computation of diluted loss per share as they are anti-dilutive.

7. SUBSEQUENT EVENTS

The Company has evaluated subsequent events occurring after the balance sheet date through the date of the issuance of this report.

During April and May, the Company received approximately $100,000 as proceeds from the sale of 911,205 shares of Common Stock per the terms of the Purchase Agreement with LPC at an average price of $0.11 per share of Common. Per the terms of the Purchase Agreement the Company also issued an additional 19,230 shares of Common Stock as additional Commitment Fee shares.

On April 3, 2013, the BOD approved a 2013 Stock Option Grant totaling 10,305,000 options, available in part to all eligible employees of the Company, that vests only with the achievement of certain pre-determined milestones relating to commercialization of CytoSorb®, financing, strategic partnerships, and product development. In addition, a pool of 22,750,000 shares of restricted stock was allocated, but not awarded, to only awarded with the achievement of certain long-term milestones. Should these long-term milestones not be met in 2013, these restricted shares would be cancelled.

On April 11, 2013, the Company announced the award of an additional Phase I SBIR option, valued at $50,000 over 2 months, related to its previously announced Phase I and Phase II award to develop its technologies for the treatment of burn injury and trauma, from the U.S. Army Medical Research and Materiel Command.

On April 15, 2013, the Company announced the hiring of Christopher Cramer, MS, MBA as Vice President of Business Development. Mr. Cramer brings more than 15 years of business development and commercial experience

in the medical device field. Most recently, Mr. Cramer was Senior Director of Venture Development at Johnson & Johnson, a manufacturer and multi-national distributor of pharmaceutical, medical devices and consumer products with over $67 billion in annual worldwide sales.

FINANCIAL STATEMENTS

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders,

CytoSorbents Corporation:

We have audited the accompanying consolidated balance sheets of CytoSorbents Corporation (a development stage company), as of December 31, 2012 and 2011, and the related consolidated statements of operations and comprehensive loss, stockholders' equity (deficiency) and cash flows for the years then ended and the cumulative period from January 22, 1997 (date of inception) to December 31, 2012. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We did not audit the consolidated financial statements of CytoSorbents Corporation for the period from January 22, 1997 (date of inception) to December 31, 2000. Such statements are included in the cumulative total from inception to December 31, 2012 on the consolidated statements of operations and cash flows and reflect a net loss of 21.2% of the related cumulative total. Those statements were audited by other auditors whose report has been furnished to us and our opinion, insofar as it relates to the amounts for the period from January 22, 1997 (date of inception) to December 31, 2000 included in the cumulative totals, is based solely upon the report of the other auditors.

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 the 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 audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, based on our audits and the report of other auditors, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of CytoSorbents Corporation as of December 31, 2012 and 2011 and the consolidated results of their operations and their cash flows for the years then ended and the cumulative period from January 22, 1997 (date of inception) to December 31, 2012 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 1 to the consolidated financial statements, the Company has suffered recurring net

losses and negative cash flows from operations. These matters raise substantial doubt about its ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 1. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

/s/ WithumSmith+Brown, PC

New Brunswick, New Jersey

April 1, 2013

********** **This report is a copy of a previously issued report and has not been reissued by Arthur**

Andersen pursuant to rule 2-02(e) of Regulation SX ********

Report of Independent Public Accountants

To the Board of Directors and Stockholders,

CytoSorbents Corporation:

We have audited the accompanying balance sheets of CytoSorbents Corporation (a development stage company), as of December 31, 2000 and 1999, and the related statements of operations, changes in members' equity and cash flows for the period from inception (January 22, 1997) through December 31, 2000. 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 auditing standards generally accepted in the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the 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 financial statements referred to above present fairly, in all material respects, the financial position of CytoSorbents Corporation as of December 31, 2000 and 1999, and the results of its operations and its cash flows for the period from inception (January 22, 1997) to December 31, 2000, in conformity with accounting principles generally accepted in the United States.

Arthur Andersen, LLP

New York, New York

December 27, 2001

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***CYTOSORBENTS CORPORATION**

(a development stage company)

CONSOLIDATED BALANCE SHEETS

December 31,	2012	2011
ASSETS		
Current Assets:		
Cash and cash equivalents	$1,729,344	$1,186,653
Accounts receivable, net of allowance for doubtful accounts of $-0-	51,779	36,078
Inventories	682,372	431,022
Prepaid expenses and other current assets	476,093	43,728
Total current assets	2,939,588	1,697,481
Property and equipment – net	145,600	155,067
Other assets	254,220	269,994
Total long-term assets	399,820	425,061
Total Assets	$3,339,408	$2,122,542
LIABILITIES AND STOCKHOLDERS' EQUITY (DEFICIENCY)		
Current Liabilities:		
Accounts payable	$800,670	$675,160
Accrued expenses and other current liabilities	349,841	558,466
Current portion of convertible notes payable, net of debt discount in the amount of $178,775 at December 31, 2012 and $53,677 at December 31, 2011	926,225	294,323
Total current liabilities	2,076,736	1,527,949
Notes Payable:		
Convertible notes payable, net of debt discount in the amount of -0- at December 31, 2012 and $508,750 at December 31, 2011	—	276,250
Total Long Term Liabilities	—	276,250
Total liabilities	2,076,736	1,804,199
Redeemable Series B Convertible Preferred Stock, Par Value $0.001, 200,000 shares authorized at December 31, 2012 and December 31, 2011, respectively, 72,073.26 and 65,433.34 issued and outstanding, respectively	12,887,817	10,408,371

Stockholders' Equity/(Deficiency):		
10% Series A Convertible Preferred Stock, Par Value $0.001, 12,000,000 shares authorized at December 31, 2012 and 2011, respectively; 1,594,164 and 1,447,159 shares issued and outstanding, respectively	1,594	1,447
Common Stock, Par Value $0.001, 500,000,000 shares authorized at December 31, 2012 and 2011, respectively; 214,967,503 and 177,626,058 shares issued and outstanding, respectively	214,968	177,626
Additional paid-in capital	86,903,415	82,288,441
Deficit accumulated during the development stage	(98,732,460)	(92,557,542)
Accumulated other comprehensive income	(12,662)	—
Total stockholders' equity/(deficiency)	(11,625,145)	(10,090,028)
Total Liabilities and Stockholders' Equity (Deficiency)	$3,339,408	$2,122,542

The Notes to Consolidated Financial Statements are an integral part of these statements.

CYTOSORBENTS CORPORATION

(a development stage company)

CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS

	Period from January 22,1997 (date of inception) to December 31, 2012	Year ended December 31, 2012	Year ended December 31, 2011
Revenue:			
Sales	$ 187,652	$151,574	$36,078
Grant income	2,191,807	1,191,362	—
Total revenue	2,379,459	1,342,936	36,078
Cost of revenue	833,871	319,298	11,760
Gross profit	1,545,588	1,023,638	24,318
Other expenses:			
Research and development	53,929,459	2,532,489	2,888,245
Legal, financial and other consulting	8,585,135	627,245	342,651
General and administrative	26,411,211	1,354,738	1,230,189
Change in fair value of management and incentive units	(6,055,483)	—	—
Total expenses	82,870,322	4,514,472	4,461,085
Loss from Operations	(81,324,734)	(3,490,834)	(4,436,767)
Other (income) expenses:			
Gain on disposal of property and equipment	(21,663)	—	—
Gain on extinguishment of debt	(216,617)		
Interest (income) expense, net	7,301,550	564,428	1,044,881
Penalties associated with non-registration of Series A Preferred Stock	361,495	—	—
Total other (income) expense, net	7,424,765	564,428	1,044,881
Loss before benefit from income taxes	(88,749,499)	(4,055,262)	(5,481,648)
Benefit from income taxes	(939,074)	(391,756)	—
Net loss	(87,810,425)	(3,663,506)	(5,481,648)
Preferred stock dividend	10,922,035	2,511,412	3,087,044

Net loss available to common shareholders	$ (98,732,460)	$(6,174,918)	$(8,568,692)
Basic and diluted net loss per common share		$(0.03)	$(0.05)
Weighted average number of common stock outstanding		198,228,289	160,235,291
Net loss	$ (87,810,425)	$(3,663,506)	$(5,481,648)
Other comprehensive loss:			
Currency translation adjustment	(12,662)	(12,662)	—
Comprehensive loss	$ (87,823,087)	$(3,676,168)	$(5,481,648)

The Notes to Consolidated Financial Statements are an integral part of these statements.

CYTOSORBENTS CORPORATION

(a development stage company)

CONSOLIDATED STATEMENTS OF CHANGES REDEEMABLE CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' EQUITY (DEFICIENCY)

Period from January 22, 1997 (date of inception) to December 31, 2012

	Series B Redeemable Convertible Preferred Stock		Members' Equity	Deferred	Common Stock		Preferred Stock A		Paid-In	Other Comprehensive	Accumulated Deficit During the Development	Total Stockholders'
	Shares	Amount	(Deficiency)	Compensation	Shares	Par value	Shares	Par Value	Capital	Income	Stage	Equity (Deficit)
Balance at January 22, 1997 (date of inception)	0	$0	$—	$—	—	$—	$—	$—	$—	$—	$—	$—
Equity contributions			1,143,487	—	—	—		—		—		1,143,487
Subscriptions receivable			440,000	—	—	—		—		—		440,000
Technology contribution			4,550,000	—	—	—		—		—		4,550,000
Net loss			—	—	—	—		—		(5,256,012)		(5,256,01
Balance at December 31, 1997			6,133,487	—	—	—		—		(5,256,012)		877,475
Equity contributions			2,518,236	—	—	—		—		—		2,518,236
Options issued to consultants			1,671	—	—	—		—		—		1,671
			50,000	—	—	—		—		—		50,000

Subscriptions receivable							
Net loss	—	—	—	—	—	(1,867,348)	(1,867,34
Balance at December 31, 1998	8,703,394	—	—	—	—	(7,123,360)	1,580,034
Equity contributions	1,382,872	—	—	—	—	—	1,382,872
Equity issued to consultants	88,363	—	—	—	—	—	88,363
Recognition of deferred compensation	47,001	(47,001)	—	—	—	—	—
Amortization of deferred compensation	—	15,667	—	—	—	—	15,667
Subscriptions receivable	100,000	—	—	—	—	—	100,000
Net loss	—	—	—	—	—	(3,066,388)	(3,066,38
Balance at December 31, 1999	10,321,630	(31,334)	—	—	—	(10,189,748)	100,548
Equity contributions	14,407,916	—	—	—	—	—	14,407,91
Equity issued to consultants	1,070,740	—	—	—	—	—	1,070,740
Warrants issued to consultants	468,526	—	—	—	—	—	468,526
Recognition of deferred compensation	27,937	(27,937)	—	—	—	—	—
Amortization of deferred compensation	—	46,772	—	—	—	—	46,772
Net loss	—	—	—	—	—	(10,753,871)	(10,753,8

Balance at December 31, 2000	26,296,749	(12,499)	—	—	—	(20,943,619)	5,340,631
Equity contributions	13,411,506	—	—	—	—	—	13,411,50
Equity issued to consultants	161,073	—	—	—	—	—	161,073
Stock options issued to employee	2,847	—	—	—	—	—	2,847
Fees incurred in raising capital	(1,206,730)	—	—	—	—	—	(1,206,73
Amortization of deferred compensation	—	12,499	—	—	—	—	12,499
Net loss	—	—	—	—	—	(15,392,618)	(15,392,6
Balance at December 31, 2001	38,665,445	—	—	—	—	(36,336,237)	2,329,208
Equity contributions	6,739,189	—	—	—	—	—	6,739,189
Equity issued to consultants	156,073	—	—	—	—	—	156,073
Options issued to consultant	176,250	—	—	—	—	—	176,250
Options issued to employee	2,847	—	—	—	—	—	2,847
Fees incurred in raising capital	(556,047)	—	—	—	—	—	(556,047
Forgiveness of loan receivable in exchange for equity	(1,350,828)	—	—	—	—	—	(1,350,82
Net loss	—	—	—	—	—	(11,871,668)	(11,871,6

Balance at December 31, 2002	43,832,929	—	—	—	—	(48,207,905)	(4,374,97
Equity contributions	4,067,250	—	—	—	—	—	4,067,250
Equity issued to consultants	16,624	—	—	—	—	—	16,624
Change in fair value of management units	2,952,474	—	—	—	—	—	2,952,474
Options issued to consultant	65,681	—	—	—	—	—	65,681
Fees incurred in raising capital	(343,737)	—	—	—	—	—	(343,737
Forgiveness of loan receivable in exchange for equity	(281,340)	—	—	—	—	—	(281,340
Net loss	—	—	—	—	—	(6,009,283)	(6,009,28
Balance at December 31, 2003	50,309,881	—	—	—	—	(54,217,188)	(3,907,30
Equity contributions	512,555	—	—	—	—	—	512,555
Change in fair value of management units	(2,396,291)	—	—	—	—	—	(2,396,29
Fees incurred in raising capital	(80,218)	—	—	—	—	—	(80,218
Net Loss	—	—	—	—	—	(1,096,683)	(1,096,68
Balance at December 31, 2004	48,345,927	—	—	—	—	(55,313,871)	(6,967,94

Equity contributions	92,287	—	—	—	—	—	92,287
Settlement of accounts payable in exchange for equity	836,319	—	—	—	—	—	836,319
Conversion of convertible notes payable and accrued interest for member units	51,565	—	—	—	—	—	51,565
Change in fair value of management units	(14,551)	—	—	—	—	—	(14,551
Fees incurred in raising capital	(92,287)	—	—	—	—	—	(92,287
Reorganization from LLC to "C" Corporation	(49,219,260)	—	4,829,120	4,829	49,214,431	—	—
Net loss	—	—	—	—	—	(3,665,596)	(3,665,59
Balance at December 31, 2005	—	—	4,829,120	4,829	49,214,431	(58,979,467)	(9,760,20

	Series B Redeemable Convertible Preferred Stock		Members' Equity (Deficit)	Deferred Compensation	Common Stock Shares	Common Stock Par value	Preferred Stock A Shares	Preferred Stock A Par Value	Paid-In Capital
Issuance of common stock for stock subscribed					240,929	241			799,644
Issuance of common stock to investor group for price protection			—	—	100,000	100	—	—	(100
Issuance of stock options to employees, consultants and directors			—	—	—	—	—	—	143,352
Issuance of 10% Series A Preferred Stock for cash			—	—	—	—	5,300,000	5,300	5,530,143
Cost of raising capital associated with issuance of preferred stock			—	—	—	—	—	—	(620,563
Shares held by original stockholders of Parent immediately prior to merger			—	—	3,750,000	3,750	—	—	(3,750
Conversion of convertible debt, related accrued interest and shares to induce conversion into common stock			—	—	5,170,880	5,171	—	—	11,376,939
Issuance of common stock in consideration for funding $1,000,000 convertible note payable per terms of merger transaction			—	—	10,000,000	10,000	—	—	990,000

Issuance of common stock in exchange for accounts payable and services rendered	—	—	778,274	779	—	—	587,035
Conversion of common stock issued prior to reverse merger for 10% Series A Preferred Stock	—	—	(240,929)	(241)	799,885	800	30,194
Non-cash stock dividends on 10% Series A Preferred Stock	—	—	—	—	303,700	303	303,397
Issuance of preferred stock for redemption of convertible note	—	—	—	—	1,000,000	1,000	1,204,640
Issuance of warrants to consultants for services	—	—	—	—	—	—	9,883
Issuance of warrants in exchange for accounts payable	—	—	—	—	—	—	192,311
Net loss	—	—	—	—	—	—	—
Balance at December 31, 2006	—	—	24,628,274	24,629	7,403,585	7,403	69,757,556
Issuance of stock options to employees, consultants and directors			—	—	—	—	498,955
Issuance of common stock in settlement of accounts payable	—	—	11,501	11	—	—	22,991
Conversion of preferred stock into common stock	—	—	405,157	405	(506,446)	(506)	101
Issuance of Series A Preferred Stock as dividends and settlement of dividends/penalties payable in connection	—	—	—	—	1,122,369	1,122	1,121,246

with non-registration event									
Net loss			—	—	—	—	—	—	—
Balance at December 31, 2007			—	—	25,044,932	25,045	8,019,508	8,019	71,400,849
Stock based compensation - employees, consultants and directors			—	—	—	—	—	—	363,563
Issuance of Series A Preferred Stock as dividends			—	—	—	—	830,384	831	277,087
Issuance of Series B Preferred Stock	52,931.47	5,442,497							—
			—	—	—	—	—	—	—
Issuance of Series B Preferred Stock as dividends	2,627.17	262,717	—	—	—	—	—	—	—
Issuance of warrants upon conversion of convertible notes payable in Series B Preferred Stock			—	—	—	—	—	—	40,354
Conversion of Series A Preferred stock into common			—	—	218,585	219	(56,832)	(57)	(162
Net loss			—	—	—	—	—	—	—
Balance at December 31, 2008	55,558.64	$5,705,214	$-	$-	25,263,517	$25,264	8,793,060	$8,793	$72,081,691
Stock based compensation - employees, consultants and directors									236,705
Issuance of Series A Preferred Stock as dividends							789,610	789	110,809
	5,860.22	586,023							0

Issuance of Series B Preferred Stock as dividends								
Conversion of Series A and Series B Preferred into Common	(6,628.55)	(681,558)		41,111,339	41,111	-3,326,857	-3,326	643,773
Exercise of warrants	13,357.52	1,335,754						0
Warrant modification as inducement to exercise								14,885
Conversion of notes payable and accrued interest to Series B Preferred Shares	576.05	64,309						0
Net loss								
Balance at December 31, 2009	68,723.88	$7,009,742	$— $—	66,374,856	$66,375	6,255,813	$6,256	$73,087,863
Stock based compensation - employees, consultants and directors								149,325
Issuance of Series A Preferred Stock as dividends						590,159	590	167,992
Issuance of Series B Preferred Stock as dividends	6,232.81	2,008,882						0
Conversion of Series A and Series B Preferred into Common	(13,983.58)	(1,437,814)		47,824,298	47,824	-1,019,563	-1,020	1,391,010
Issuance of common stock for cash				7,174,186	7,174			742,825
Cost of raising capital				1,465,071	1,465			-51,025
Reletive fair value of warrants and beneficial conversion feature in connection with issuance of convertible								306,805

notes									
Net loss									
Balance at December 31, 2010	60,973.11	7,580,810	0	0	122,838,411	122,838	5,826,409	5,826	75,794,795
Stock based compensation - employees, consultants and directors									865,535
Issuance of Series A Preferred Stock as dividends							266,161	266	71,755
Issuance of Series B Preferred Stock as dividends	6,283.41	3,015,023							0
Conversion of Series A and Series B Preferred into Common	(1,823.18)	(187,462)			16,115,042	16,116	-4,645,411	-4,645	175,991
Issuance of common stock for cash					17,335,942	17,336			2,626,430
Conversion of convertible notes to common					15,151,310	15,151			1,499,979
Reletive fair value of warrants and beneficial conversion feature in connection with issuance of convertible notes									1,250,000
Cashless exercise of warrants					6,013,478	6,013			(6,013
Exercise of stock options					146,875	147			4,994
Issuance of common stock in settlement of accounts payable					25,000	25			4,975
Net loss									
	65,433.34	$10,408,371	-	-	177,626,058	177,626	1,447,159	1,447	82,288,441

Balance at December 31, 2011								
Stock based compensation - employees, consultants and directors								63,127
Issuance of Series A Preferred Stock as dividends						150,008	150	17,332
Issuance of Series B Preferred Stock as dividends	6,780.79	2,493,930						—
Conversion of Series A and Series B Preferred into Common	(140.87)	(14,484)		418,633	418	(3,003)	(3)	14,069
Issuance of common stock for cash				28,460,908	28,461			3,631,692
Conversion of convertible notes to common				7,989,103	7,990			790,921
Reletive fair value of warrants and beneficial conversion feature in connection with issuance of convertible notes								87,700
Cashless exercise of warrants				169,762	170			(170
Exercise of stock options				303,039	303			10,303
Other comprehensive income/(loss) foreign translation adjustment								
Net loss								
Balance at December 31, 2012	72,073.26	$12,887,817	$-	$-	214,967,503	$214,968	1,594,164	$1,594	$86,903,415

The Notes to Consolidated Financial Statements are an integral part of these statements.

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CYTOSORBENTS CORPORATION

(a development stage company)

CONSOLIDATED STATEMENTS OF CASH FLOWS

	For the Period from January 22, 1997 (date of inception) to December 31, 2012	Year ended December 31, 2012	Year ended December 31, 2011
Cash flows from operating activities:			
Net loss	$ (87,810,425)	$ (3,663,506)	$ (5,481,648)
Adjustments to reconcile net loss to net cash used by operating activities:			
Common stock issued as inducement to convert convertible notes payable and accrued interest	3,351,961	—	—
Issuance of common stock to consultants for services	30,000	—	—
Depreciation and amortization	2,504,021	54,606	39,150
Amortization of debt discount	2,465,729	471,352	945,434
Gain on disposal of property and equipment	(21,663)	—	—
Gain on extinguishment of debt	(216,617)	—	—
Interest expense paid with Series B Preferred Stock in connection with conversion of notes payable	3,147	—	—
Abandoned patents	183,556	—	—
Bad debts	255,882	—	—
Contributed technology expense	4,550,000	—	—
Consulting expense	237,836	—	—
Management unit expense	1,334,285	—	—
Expense for issuance of warrants	533,648	—	—
Expense for issuance of options	2,568,188	63,128	865,535
Amortization of deferred compensation	74,938	—	—
Penalties in connection with non-registration event	361,496	—	—
Changes in operating assets and liabilities:			
Accounts Receivable	(51,779)	(15,701)	(36,078)
Inventories	(682,372)	(251,350)	(431,022)
Prepaid expenses and other current assets	(747,641)	(432,365)	300,808
Other assets	(46,953)	9,441	—
Accounts payable and accrued expenses	3,105,804	147,948	(30,706)
Accrued interest	1,823,103	—	—
Net cash used by operating activities	(66,193,856)	(3,616,447)	(3,828,527)
Cash flows from investing activities:			

Proceeds from sale of property and equipment	32,491	—	—
Purchases of property and equipment	(2,420,810)	(19,850)	(34,672)
Patent costs	(498,514)	(18,956)	(17,818)
Purchases of short-term investments	(393,607)		
Proceeds from sale of short-term investments	393,607	—	—
Loan receivable	(1,632,168)	—	—
Net cash used by investing activities	(4,519,001)	(38,806)	(52,490)
Cash flows from financing activities:			
Proceeds from issuance of common stock	400,490	—	—
Proceeds from issuance of preferred stock, net of related issuance costs	9,579,040	—	—
Equity contributions - net of fees incurred	50,071,311	3,500,001	2,756,860
Proceeds from borrowing	11,888,881	700,000	1,250,000
Proceeds from subscription receivables	499,395	—	—
Proceeds from exercise of stock options	15,746	10,605	5,141
Net cash provided by financing activities	72,454,863	4,210,606	4,012,001
Effect of exchange rates on cash	(12,662)	(12,662)	—

The Notes to Consolidated Financial Statements are an integral part of these statements.

CYTOSORBENTS CORPORATION

(a development stage company)

CONSOLIDATED STATEMENTS OF CASH FLOWS

	For the Period from January 22, 1997 (date of inception) to December 31, 2012	Year ended December 31, 2012	Year ended December 31, 2011
Net increase (decrease) in cash and cash equivalents	1,729,344	542,691	130,984
Cash and cash equivalents at beginning of period	—	1,186,653	1,055,669
Cash and cash equivalents at end of period	$ 1,729,344	$ 1,729,344	$ 1,186,653
Supplemental disclosure of cash flow information:			
Cash paid during the period for interest	$ 590,189	$ —	$ —
Supplemental schedule of noncash financing activities:			
Debt discount in connection with issuance of convertible debt	$ 1,644,205	$ 87.400	1,250,000
Fair value of shares issued as costs of raising capital	$ 583,486	$ 247,536	106,344
Note payable principal and interest conversion to equity	$ 11,949,449	$ —	$ 1,515,130
Issuance of member units for leasehold improvements	$ 141,635	$ —	$ —
Issuance of management units in settlement of cost of raising capital	$ 437,206	$ —	$ —
Change in fair value of management units for cost of raising capital	$ 278,087	$ —	$ —
Exchange of loan receivable for member units	$ 1,632,168	$ —	$ —
Issuance of equity in settlement of accounts payable	$ 1,614,446	$ —	$ 5,000
Issuance of common stock in exchange for stock subscribed	$ 399,395	$ —	$ —
Costs paid from proceeds in conjunction with issuance of preferred stock	$ 768,063	$ —	$ —
Preferred stock dividends	$ 10,922,035	$ 2,511,412	$ 3,087,044
Net effect of conversion of common stock to preferred stock prior to merger	$ 559	$ —	$ —

During the years ended December 31, 2012 and 2011, 140.87 and 1,823.18 Series B Preferred Shares were converted into 388,603 and 5,036,408 Common Shares, respectively. During the years ended December 31, 2012 and 2011, 3,003 and 4,645,411 Series A Preferred Shares were converted into 30,030 and 11,078,634 Common Shares, respectively. For the period from January 22, 1997 (date of inception) to December 31, 2012, 22,576.18 Series B

Preferred Shares and 9,558,112 Series A Preferred Shares were converted into 62,364,597 and 43,728,457 Common Shares, respectively.

During the years ended December 31, 2012 and 2011, no shares of Series B Preferred Shares were issued in connection with non-registration events as settlement of dividends/penalties payable. For the period from January 22, 1997 (date of inception) to December 31, 2012, 553,629 Series A Preferred Shares and -0- Series B Preferred Shares were issued in connection with non-registration events as settlement of dividends/penalties payable.

The Notes to Consolidated Financial Statements are an integral part of these statements.

CYTOSORBENTS CORPORATION

(a development stage company)

Notes to Consolidated Financial Statements

1. BASIS OF PRESENTATION

The accompanying consolidated financial statements include the results of CytoSorbents Corporation (the “Parent”), CytoSorbents, Inc. its wholly-owned operating subsidiary (the “Subsidiary”), and CytoSorbents Europe GmbH, its wholly-owned European subsidiary (the “European Subsidiary”), collectively referred to as “the Company.”

The accompanying consolidated financial statements have been prepared on a going concern basis, which contemplates the realization of assets and satisfaction of liabilities in the normal course of business. The Company has experienced negative cash flows from operations since inception and has a deficit accumulated during the development stage at December 31, 2012 of $98,732,460. The Company is not currently generating significant revenue and is dependent on the proceeds of present and future financings to fund its research, development and commercialization program. The Company is continuing its fund-raising efforts. Although the Company has historically been successful in raising additional capital through equity and debt financings, there can be no assurance that the Company will be successful in raising additional capital in the future or that it will be on favorable terms. Furthermore, if the Company is successful in raising the additional financing, there can be no assurance that the amount will be sufficient to complete the Company's plans. These matters raise substantial doubt about the Company’s ability to continue as a going concern. These consolidated financial statements do not include any adjustments related to the outcome of this uncertainty.

The Company is a development stage company and has not yet generated significant revenues. Since inception, the Company's expenses relate primarily to research and development, organizational activities, clinical manufacturing, regulatory compliance and operational strategic planning. Although the Company has made advances on these matters, there can be no assurance that the Company will continue to be successful regarding these issues, nor can there be any assurance that the Company will successfully implement its long-term strategic plans.

The Company has developed an intellectual property portfolio, including 32 issued and multiple pending patents, covering materials, methods of production, systems incorporating the technology and multiple medical uses.

2. PRINCIPAL BUSINESS ACTIVITY AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES:

Nature of Business

The Company, through its subsidiary, is engaged in the research, development and commercialization of medical devices with its platform blood purification technology incorporating a proprietary adsorbent polymer technology. The Company, through its European Subsidiary, has commenced initial sales and marketing related operations for the CytoSorb® device in the European Union. The Company is focused on developing this technology for multiple applications in the medical field, specifically to provide improved blood purification for the treatment of acute and chronic health complications associated with blood toxicity. In March 2011, the Company received CE Mark approval for its CytoSorb ® device. As of December 31, 2012, the Company had only limited commercial operations and, accordingly, is in the development stage. The Company has yet to generate any significant revenue and has no assurance of future revenue.

Principles of Consolidation

The consolidated financial statements include the accounts of the Parent, CytoSorbents Corporation, and its wholly-owned subsidiaries, CytoSorbents, Inc. and CytoSorbents Europe GmbH. All significant intercompany transactions and balances have been eliminated in consolidation.

Development Stage Corporation

The accompanying consolidated financial statements have been prepared in accordance with the provisions of accounting and reporting by development stage enterprises.

Cash and Cash Equivalents

The Company considers all highly liquid debt instruments purchased with an original maturity of three months or less to be cash equivalents.

Accounts Receivable

Accounts receivable are customer obligations due under normal trade terms. The Company sells its devices to various hospitals and distributors. The Company performs ongoing credit evaluations of customers' financial condition and does not require collateral. Management reviews accounts receivable periodically to determine collectability. Balances that are determined to be uncollectible are written off to the allowance for doubtful accounts. The allowance for doubtful accounts contains a general accrual for estimated bad debts and had a balance of zero at December 31, 2012 and December 31, 2011.

Inventories

Inventories are valued at the lower of cost or market. At December 31, 2012 and December 31, 2011 the Company's inventory was comprised of finished goods, which amounted to $438,790 and $191,340, respectively, work in process which amounted to $194,880 and $239,682, respectively and raw materials which amounted to $48,702 and $-0-, respectively.

Property and Equipment

Property and equipment are recorded at cost less accumulated depreciation. Depreciation of property and equipment is provided for by the straight-line method over the estimated useful lives of the related assets. Leasehold improvements are amortized over the lesser of their economic useful lives or the term of the related leases. Gains and losses on depreciable assets retired or sold are recognized in the statements of operations in the year of disposal. Repairs and maintenance expenditures are expensed as incurred.

Patents

Legal costs incurred to establish patents are capitalized. When patents are issued, capitalized costs are amortized on the straight-line method over the related patent term. In the event a patent is abandoned, the net book value of the patent is written off.

Impairment or Disposal of Long-Lived Assets

The Company assesses the impairment of patents and other long-lived assets under accounting standards for the impairment or disposal of long-lived assets whenever events or changes in circumstances indicate that the carrying value may not be recoverable. For long-lived assets to be held and used, the Company recognizes an impairment loss only if its carrying amount is not recoverable through its undiscounted cash flows and measures the impairment loss based on the difference between the carrying amount and fair value.

Research and Development

All research and development costs, payments to laboratories and research consultants are expensed when incurred.

Revenue Recognition

The Company recognizes revenue when it is earned. Delivery of the goods generally completes the criteria for revenue recognition.

Grant Revenue

Revenue from grant income is based on contractual agreements. Certain agreements provide for reimbursement of costs, while other agreements provide for reimbursement of costs and an overhead margin. Revenues are recognized when milestones have been achieved and revenues have been earned. Costs are recorded as incurred. Costs subject to reimbursement by these grants have been reflected as costs of revenue.

Income Taxes

Income taxes are accounted for under the asset and liability method prescribed by accounting standards for accounting for income taxes. Deferred income taxes are recorded for temporary differences between financial statement carrying amounts and the tax basis of assets and liabilities. Deferred tax assets and liabilities reflect the tax rates expected to be in effect for the years in which the differences are expected to reverse. A valuation allowance is provided if it is more likely than not that some or all of the deferred tax asset will not be realized. Under Section 382 of the Internal Revenue Code the net operating losses generated prior to the reverse merger may be limited due to the change in ownership. Additionally, net operating losses generated subsequent to the reverse merger may be limited in the event of changes in ownership.

The Company follows the accounting standards associated with uncertain tax provisions. The Company had no unrecognized tax benefits at December 31, 2012 or 2011. The Company files tax returns in the U.S. federal and state jurisdictions. The Company currently has no open years prior to December 31, 2009 and has no income tax related penalties or interest for the periods presented in these financial statements.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities. Actual results could differ from these estimates. Significant estimates in these financials are the valuation of options granted and the valuation of preferred shares issued as stock dividends.

Concentration of Credit Risk

The Company maintains cash balances, at times, with financial institutions in excess of amounts insured by the Federal Deposit Insurance Corporation. Management monitors the soundness of these institutions in an effort to minimize its collection risk of these balances.

Financial Instruments

The carrying values of cash and cash equivalents, short-term investments, accounts payable and other debt obligations approximate their fair values due to their short-term nature.

Net Loss per Common Share

Basic EPS is computed by dividing income (loss) available to common stockholders by the weighted average number of common shares outstanding during the period. Diluted EPS gives effect to all dilutive potential common shares outstanding during the period. The computation of diluted EPS does not assume conversion, exercise or contingent exercise of securities that would have an anti-dilutive effect on earnings. (See Note 10).

Stock-Based Compensation

The Company accounts for its stock-based compensation under the recognition requirements of accounting standards for accounting for stock-based compensation, for employees and directors whereby each option granted is valued at fair market value on the date of grant. Under these accounting standards, the fair value of each option is estimated on

the date of grant using the Black-Scholes option pricing model.

The Company also follows the guidance of accounting standards for accounting for equity instruments that are issued to other than employees for acquiring, or in conjunction with selling, goods or services for equity instruments issued to consultants.

Reclassification

Certain reclassifications have been made to the prior years' consolidated financial statements and related notes to conform to the current year presentation.

During 2012, the Company re-examined its accounting treatment related to the Series B Preferred Stock under FASB guidance and determined that the Series B Preferred Stock should be classified as temporary equity in the balance sheet, as reflected in the financial statements included herein. The Company also determined that the Series B Preferred Stock was initially reported at its fair value and that as the security is not currently redeemable and it is not probable that the security will become redeemable, because the resolution of the contingencies discussed in Note 10 that would allow redemption have not occurred, subsequent adjustment as December 31, 2012 is not necessary. The reclassification has no impact on net income for any period presented in these financial statements.

Effects of Recent Accounting Pronouncements

There have been no recently issued accounting standards which would have an impact on the Company's financial statements.

Shipping and Handling Costs

The Company records shipping and handling costs in Research and Development. Total freight costs amounted to approximately $65,000 and $14,000 for the years ended December 31, 2012 and 2011 respectively.

3. PROPERTY AND EQUIPMENT, NET:

Property and equipment - net, consists of the following:

December 31,	2012	2011	Depreciation/ Amortization Period
Furniture and fixtures	$130,015	$130,015	7 years
Equipment and computers	1,921,845	1,901,995	3 to 7 years
Leasehold improvements	462,980	462,980	Term of lease
	2,514,840	2,494,990	
Less accumulated depreciation and amortization	2,369,240	2,339,923	
Property and Equipment, Net	$145,600	$155,067	

Depreciation expense for the years ended December 31, 2012 and 2011 amounted to $29,316 and $23,751, respectively. Depreciation expense from inception to December 31, 2012 amounted to $2,396,328.

4. OTHER ASSETS:

Other assets consist of the following:

December 31,	2012	2011
Intangible assets, net	$207,267	$213,600
Security deposits	46,953	56,394
Total	$254,220	$269,994

Intangible assets consist of the following:

December 31,	2012		2011	
	Gross Amount	Accumulated Amortization	Gross Amount	Accumulated Amortization
Patents	$314,958	$ 107,691	$296,002	$ 82,402

Amortization expense amounted to $25,289 and $15,399 for the years ended December 31, 2012 and 2011, respectively. Amortization expense from inception to December 31, 2012 amounted to $107,691.

Amortization expense is anticipated to be approximately $25,000 per year for the next five years ended December 31, 2017.

5. ACCOUNTS PAYABLE AND ACCRUED EXPENSES:

Accounts Payable and accrued expenses consist of the following:

	2012	2011
Other payable	$364,285	$374,758
Legal, financial and consulting	177,797	123,650
Research and development	608,429	735,218
	$1,150,511	$1,233,626

6. CONVERTIBLE NOTES:

During February 2011 the Company issued 24-month Promissory Notes in the aggregate principal amount of $1,250,000, which accrue interest at the rate of 8% per annum. Per the terms of the Promissory Notes issued in February, the investors will be repaid in equity of the Company, not cash. During the term of the Notes, investors may at any time convert outstanding principal and interest into Common Stock of the Company at a rate of $0.10 per share. In addition, during the term of the Note, should the Company complete any subsequent financing, debt or equity, in an aggregate amount greater or equal to $750,000, which includes any equity component or the right to convert into equity, the investor shall have the option to exchange any outstanding principal and interest of the Note into the new financing. Pursuant to the terms of the Promissory Note, the note holder will receive warrant coverage in the form of five year warrants to purchase that number of shares of common stock as follows: that number of shares of Common Stock equal to the quotient obtained by dividing (x) 50% of the Principal, by (y) $0.10, with the resulting number of shares having an exercise price equal to $0.10 per share of Common Stock, plus that number of shares of Common Stock equal to the quotient obtained by dividing (x) 25% of the Principal, by (y) $0.125, with the resulting number of shares having an exercise price equal to $0.125 per share of Common Stock, plus that number of shares of Common Stock equal to the quotient obtained by dividing (x) 25% of the Principal, by (y) $0.15, with the resulting number of shares having an exercise price equal to $0.15 per share of Common Stock. The warrants have a cashless exercise provision. If during the term of the Note, and as long as the Note investor continues to own an outstanding balance of the Note, the Company has an equity financing of less than $750,000 that values the Company on a pre-money basis at or below $35 million on a fully-diluted basis, the Note investor will have a right of first refusal to participate in the financing per the terms of the Note. The Promissory Notes do not have registration rights for the shares underlying the notes or warrants.

In February 2012 the Company issued 12 month Promissory Notes in the principal amount of $700,000, which accrue interest at the rate of 8% per annum. Per the terms of the Note, the investors will be repaid in equity of the Company, not cash. During the term of the Notes, investors may at any time convert outstanding principal and interest into Common Stock of the Company at a rate of $0.15 per share. In addition, during the term of the Note, should the Company complete any subsequent financing, debt or equity, in an aggregate amount greater or equal to $750,000, which includes any equity component or the right to convert into equity, the investor shall have the option to exchange any outstanding principal and interest of the Note into the new financing. Pursuant to the terms of the Promissory Note, the note holder will receive 25% warrant coverage in the form of five year warrants to purchase that number of shares of common stock as follows: that number of shares of Common Stock equal to the quotient obtained by dividing (x) 25% of the Principal, by (y) $0.15, with the resulting number of shares having an exercise price equal to $0.175 per share of Common Stock. The warrants have a cashless exercise provision. The Promissory Notes do not have registration rights for the shares underlying the notes or warrants. In February 2013, these Promissory Notes matured and were automatically converted into 5,040,000 shares of common stock.

The Company allocates the proceeds associated with the issuance of promissory notes based on the relative fair value of the promissory notes and warrants. Additionally, the Company evaluates if the embedded conversion option results in a beneficial conversion feature by comparing the relative fair value allocated to the promissory notes to the market value of the underlying common stock subject to conversion. In connection with the promissory note issuances during the years ended December 31, 2012 and 2011 the Company received proceeds of $700.000 and $1.250.000,

respectively. The Company allocated the proceeds in accordance with FASB Codification Topic 470 based on the related fair value as follows for the years ended December 31, 2012 and 2011: $612,300 and ($0) was allocated to the promissory notes, respectively, and $38,788 and $466,632 to the warrants, respectively. Additionally, the embedded conversion feature resulted in a beneficial conversion feature in the amount of $48,912 and $783,568 for the years ended December 31, 2012 and 2011, respectively. The value assigned to the warrants resulting from the relative fair value calculation as well as the value of the beneficial conversion feature is recorded as a debt discount and is presented in the consolidated balance sheets. The debt discount is being amortized to interest expense over the term of the promissory notes and amounted to $235,590 and $425,427 for the years ended December 31, 2012 and 2011, respectively. During the years ended December 31, 2012 and 2011 Convertible Notes in the principal and accrued interest amount of $798,911 and $1,515,131 were converted into 7,989,103 and 15,151,310 Common shares resulting in a reduction of debt discount and charge to interest expense in the amount of $235,762 and $516,258.

7. INCOME TAXES:

Tax losses amounted to approximately $3,100,000 and $4,500,000 for the years ended December 31, 2012 and December 31, 2011, respectively. The Company’s Federal net operating loss carry forward amounts to approximately $21,126,000 and expires through 2032. The Company’s remaining New Jersey net operating loss carry forward amounts to approximately $14,306,000 and expires through 2032. These loss carry forwards are subject to limitation in future years should certain ownership changes occur. A full valuation allowance equal to the deferred tax asset has been recorded due to the uncertainty that the Company will have the ability to utilize such asset.

During the year ended December 31, 2012 the Company sold a portion of its New Jersey Net Operating Loss tax carryforwards to an industrial company under provisions in the New Jersey tax code. For the 2012 sale, the Company received proceeds of approximately $391,756. There can be no assurance that the Company will again be eligible in the future to participate or be successful in future sales of its New Jersey Net Operating Loss tax carryforwards.

For the years ended December 31, 2012 and December 31, 2011, respectively, the Company's effective tax rate differs from the federal statutory rate principally due to net operating losses offset by certain non-deductible expenses for which no benefit has been recorded.

A reconciliation of the Federal statutory rate to the Company's effective tax rate for the years ended December 31, 2012 and December 31, 2011 is as follows:

	2012	2011
Federal statutory rate	(34.0)%	(34.0)%
Decrease resulting from:		
Non-deductible expenses	4.4	5.9
Timing differences	—	—
Change in valuation allowance	28.8	25.0
Net operating losses	0.8	3.1
Effective tax rate	— %	— %

8. COMMITMENTS AND CONTINGENCIES:

The Company is obligated under non-cancelable operating leases for office space expiring at various dates through May 2013. The aggregate minimum future payments under these leases are approximately as follows:

Year ending December 31,

2013	$86,700
2014	2,700
Total	$89,400

The preceding data reflects existing leases through the date of this report and does not include replacements upon their expiration. In the normal course of business, operating leases are normally renewed or replaced by other leases.

Rent expense for the years ended December 31, 2012 and 2011 amounted to approximately $334,000 and $249,000, respectively.

Employment Agreements

The Company has employment agreements with certain key executives through December 2012. The agreements provide for annual base salaries of varying amounts. The Company is currently in the process of renewing these agreements.

Litigation

The Company is currently not involved, but may at times be involved in various claims and legal actions. Management is currently of the opinion that these claims and legal actions would have no merit, and any ultimate outcome will not have a material adverse impact on the consolidated financial position of the Company and/or the results of its operations.

Royalty Agreements

Pursuant to an agreement dated August 11, 2003 an existing investor agreed to make a $4 million equity investment in the Company. These amounts were received by the Company in 2003. In connection with this agreement the Company granted the investor a future royalty of 3% on all gross revenues received by the Company from the sale of its CytoSorb® device. For the years ended December 31, 2012 and 2011 the Company accrued royalty costs of $3,000 and $1,100 respectively

License Agreements

In an agreement dated September 1, 2006, the Company entered into a license agreement which provides the Company the exclusive right to use its patented technology and proprietary know how relating to adsorbent polymers for a period of 18 years. Under the terms of the agreement, the Company has agreed to pay royalties of 2.5% to 5% on the sale of certain of its products if and when those products are sold commercially for a term not greater than 18 years commencing with the first sale of such product. For the years ended December 31, 2012 and 2011 per the terms of the license agreement the Company recorded royalty costs of $2,400 and $1,000 respectively.

Warrant Agreement

As inducement to invest additional funds in the private placement of Series B Preferred Stock, additional consideration was granted to the participants of the Series B Preferred Stock offering in the event that litigation is commenced against CytoSorbents prior to June 30, 2018, claiming patent infringement on certain of the Company’s issued patents. In the event this litigation arises the Company may be required to issue warrants to purchase in the aggregate up to a maximum of ten million shares of Common Stock subject to certain adjustments. Through December 31, 2012 no such litigation has arisen and due to the deemed low probability of this potential outcome, the Company has not booked a contingent liability for this agreement.

9. STOCKHOLDERS' EQUITY

Preferred Stock

Our certificate of incorporation authorizes the issuance of up to 100,000,000 shares of “blank check” preferred stock, with such designation rights and preferences as may be determined from time to time by the Board of Directors. We have designated 12,000,000 shares of Series A Preferred Stock and 200,000 shares of Series B Preferred Stock as described below. Subject to the rights of the holders of the Series A and Series B Preferred Stock, our Board of Directors is empowered, without stockholder approval, to issue up to 87,800,000 additional shares of preferred stock with dividend, liquidation, conversion, voting or other rights.

10% Series A Preferred Stock

Each share of Series A Preferred Stock has a stated value of $1.00, and is convertible at the holder's option into that number of shares of Common Stock equal to the stated value of such share of Series A Preferred Stock divided by an initial conversion price of $1.25. Upon the occurrence of a stock split, stock dividend, combination of the Common Stock into a smaller number of shares, issuance of any of shares of Common Stock or other securities by reclassification of the Common Stock, merger or sale of substantially all of the Company's assets, the conversion rate will be adjusted so that the conversion rights of the Series A Preferred Stock stockholders will be equivalent to the conversion rights of the Series A Preferred Stock stockholders prior to such event. In addition, in the event the Company sells shares of Common Stock (or the equivalent thereof) at a price of less than $1.25 per share, the conversion price of the shares of Series A Preferred Stock will be reduced to such lower price. In addition, in the event the Company sells shares of Common Stock (or the equivalent thereof) at a price of less than $2.00 per share, the exercise price of the warrants issued to the holders of the Series A Preferred Stock will be reduced to such lower price. As of the "Qualified Closing" of our Series B Preferred Stock private placement in August of 2008, these investors' agreed to a modification of their rights and pricing and gave up their anti-dilution protection – see Qualified Closing description in Series B Preferred Stock section.

Pursuant to agreements with the June 30, 2006 purchasers of Series A Preferred Stock that waived rights to anti-dilution price protection upon the completion of the Series B offering, the Company reduced the conversion price for these holders of Series A Preferred Stock from $1.25 per share of Common to prices ranging from $0.10 to $0.45 per share of Common. The June 30, 2006 purchasers of Series A Preferred Stock also received reductions in their corresponding warrant exercise prices from $2.00 per share of Common Stock to exercise prices ranging from $0.40 to $0.90 per share of Common Stock.

The Series A Preferred Stock bears a dividend of 10% per annum payable quarterly, at the Company's election in cash or additional shares of Series A Preferred Stock valued at the stated value thereof; provided, however, that the Company must pay the dividend in cash if an "Event of Default" as defined in the Certificate of Designation designating the Series A Preferred Stock has occurred and is then continuing. In addition, upon an Event of Default, the dividend rate increases to 20% per annum. An Event of Default includes, but is not limited to, the following:

- the occurrence of "Non-Registration Events";
- an uncured breach by the Company of any material covenant, term or condition in the Certificate of Designation or any of the related transaction documents; and
- any money judgment or similar final process being filed against the Company for more than $100,000.

In the event of the Company's dissolution, liquidation or winding up, the holders of the Series A Preferred Stock will receive, in priority over the holders of Common Stock, a liquidation preference equal to the stated value of such shares plus accrued dividends thereon.

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The Series A Preferred Stock is not redeemable at the option of the holder but may be redeemed by the Company at its option following the third anniversary of the issuance of the Series A Preferred Stock for 120% of the stated value thereof plus any accrued but unpaid dividends upon 30 days' prior written notice, during which time the Series A Preferred Stock may be converted, provided a registration statement is effective under the Securities Act with respect to the Common Stock into which such Preferred is convertible and an Event of Default is not then continuing.

Holders of Series A Preferred Stock do not have the right to vote on matters submitted to the holders of Common Stock.

The registration rights provided for in the subscription agreements entered into with the purchasers of the Series A Preferred Stock: 1) required that the Company file a registration statement with the SEC on or before 120 days from the closing to register the shares of Common Stock issuable upon conversion of the Series A Preferred Stock and exercise of the warrants, and cause such registration statement to be effective within 240 days following the closing; and 2) entitles each of these investors to liquidated damages in an amount equal to two percent (2%) of the purchase price of the Series A Preferred Stock if the Company fails to timely file that registration statement with, or have it declared effective by, the SEC.

The transaction documents entered into with the purchasers of the Series A Preferred Stock also provide for various penalties and fees for breaches or failures to comply with provisions of those documents, such as the timely payment of dividends, delivery of stock certificates upon conversion of the Series A Preferred Stock or exercise of the warrants, and obtaining and maintaining an effective registration statement with respect to the shares of Common Stock underlying the Series A Preferred Stock and warrants sold in the offering.

The Company has recorded non-cash stock dividends in connection with the issuance of Series A Preferred Stock as a stock dividend to its preferred shareholders as of December 31, 2012. Prior to February 26, 2007 and after May 7, 2007, the dividend rate is 10% per annum. Effective February 26, 2007 due to the Company’s failure to have the registration statement it filed declared effective by the Commission within the time required under agreements with the June 30, 2006 purchasers of the Series A Preferred Stock (i) dividends on the shares of Series A Preferred Stock issued to those purchasers were required to be paid in cash, (ii) the dividend rate increased from 10% per annum to 20% per annum, and (iii) such purchasers were entitled to liquidated damages of 2% of their principal investment payable in cash per 30 day period until the registration statement was declared effective. In connection with such cash dividend and penalty obligations, as modified by the Settlement Agreement described below, the Company’s financial statements for the year ending December 31, 2007 also reflect an aggregate charge of $361,495. On May 7, 2007 the Company’s registration statement filed in connection with the Company’s obligations to the June 30, 2006 purchasers of its Series A Preferred Stock was declared effective by the Commission.

Pursuant to a settlement agreement entered into in August 2007 with the June 30, 2006 purchasers of the Series A Preferred Stock, cash dividends stopped accruing on the Series A Preferred Stock effective on the date the Company’s

registration statement was declared effective (May 7, 2007) and all cash dividends and penalties due through that date were paid with additional shares of Series A Preferred Stock at its stated value of $1.00 per share in lieu of cash. The settlement did not result in a gain or loss on extinguishment of debt for the year ended December 31, 2007. Additionally, as part of the settlement, the dividend rate on the Series A Preferred Stock issued to these purchasers was reset to 10% effective as of May 7, 2007.

During the years ended December 31, 2012 and 2011, the Company issued 150,008 and 266,161 shares of Series A Preferred Stock respectively as payment of stock dividends at the stated value of $1.00 per share. The fair value of the non-cash stock dividends for the years ended December 31, 2012 and 2011 amounted to $17,482 and $72,021, respectively.

Determination of Stock Dividend Fair Value

Effective January 1, 2010 the Company has changed its basis for estimating the fair value of the preferred stock dividends from the underlying conversion prices of the Series A and Series B Preferred Stock, to a five day volume weighted average price of actual closing market prices for the Company's Common Stock.

Common Stock

Our certificate of incorporation authorizes the issuance of up to 500,000,000 shares of common stock with a par value of $0.001 per share of common ("Common Stock").

In May 2010, the Company executed a purchase agreement, or the Purchase Agreement, and a registration rights agreement, or the Registration Rights Agreement, with Lincoln Park Capital Fund, LLC ("LPC"). Under the Purchase Agreement, LPC is obligated, under certain conditions, to purchase from the Company up to $6 million of our Common Stock, from time to time over a 750 day (twenty-five (25) monthly) period.

The Company has the right, but not the obligation, to direct LPC to purchase up to $6,000,000 of its Common Stock in amounts up to $50,000 as often as every two business days under certain conditions. The Company can also accelerate the amount of its common stock to be purchased under certain circumstances. No sales of shares may occur at a purchase price below $0.10 per share or without a registration statement having been declared effective. The purchase price of the shares will be based on the market prices of our shares at the time of sale as computed under the Purchase Agreement without any fixed discount. The Company may at any time at its sole discretion terminate the Purchase Agreement without fee, penalty or cost upon one business days' notice.

The Company issued 1,153,846 shares of our Common Stock to LPC as a commitment fee for entering into the agreement, and is obligated to issue up to an additional 1,153,846 shares pro rata as LPC purchases up to $6,000,000 of its Common Stock as directed by the Company. LPC may not assign any of its rights or obligations under the Purchase Agreement. During the years ended December 31, 2012 and 2011 the Company issued a total of 28,460,908 and 17,335,942 shares of Common Stock, which includes the commitment shares per the terms of the Purchase Agreement with LPC at an average price of approximately $0.129 and $0.179 per share of Common respectively. The fair value of the Commitment shares have been recorded as a cost of raising capital.

In December 2011, the Company terminated the Purchase Agreement and executed a new purchase agreement, or the New Purchase Agreement, and a registration rights agreement, or the New Registration Rights Agreement, with

Lincoln Park Capital Fund, LLC ("LPC"). Under the New Purchase Agreement, LPC is obligated, under certain conditions, to purchase from the Company up to $8.5 million of our Common Stock, from time to time over a thirty-two (32) month) period.

The Company has the right, but not the obligation, to direct LPC to purchase up to $8,500,000 of its Common Stock in amounts up to $50,000 as often as every two business days under certain conditions. The Company can also accelerate the amount of its common stock to be purchased under certain circumstances. No sales of shares may occur at a purchase price below $0.10 per share or without a registration statement having been declared effective. The purchase price of the shares will be based on the market prices of our shares at the time of sale as computed under the Purchase Agreement without any fixed discount. The Company may at any time at its sole discretion terminate the Purchase Agreement without fee, penalty or cost upon one business days' notice.

There was no up-front commitment fee paid to LPC for entering into the new agreement, however the Company is obligated to issue up to an additional 1,634,615 shares pro rata as LPC purchases up to $8,500,000 of its Common Stock as directed by the Company. LPC may not assign any of its rights or obligations under the Purchase Agreement.

Stock Option Plans

As of December 31, 2012, the Company had a Long Term Incentive Plan ("2006 Plan") to attract, retain, and provide incentives to employees, officers, directors, and consultants. The Plan generally provides for the granting of stock, stock options, stock appreciation rights, restricted shares, or any combination of the foregoing to eligible participants.

A total of 40,000,000 shares of common stock are reserved for issuance under the 2006 Plan. As of December 31, 2012 there were outstanding options to purchase approximately 36,828,000 shares of common stock reserved under the plan. Additionally, as of December 31, 2012 there were options to purchase approximately 890,000 shares of Common Stock that were issued outside of the 2006 Plan. The Company may increase the shares in the 2006 Plan as needed to maintain the pool with 15% of the shares outstanding on a fully diluted basis.

The 2006 Plan as well as grants issued outside of the Plan are administered by the Board of Directors. The Board is authorized to select from among eligible employees, directors, advisors and consultants those individuals to whom incentives are to be granted and to determine the number of shares to be subject to, and the terms and conditions of the options. The Board is also authorized to prescribe, amend and rescind terms relating to options granted under the Plans. Generally, the interpretation and construction of any provision of the Plans or any options granted hereunder is within the discretion of the Board.

The Plan provides that options may or may not be Incentive Stock Options (ISOs) within the meaning of Section 422 of the Internal Revenue Code. Only employees of the Company are eligible to receive ISOs, while employees and

non-employee directors, advisors and consultants are eligible to receive options, which are not ISOs, i.e. "Non-Qualified Options." Because the Company has not yet obtained shareholder approval of the 2006 Plan, all options granted thereunder to date are "Non-Qualified Options" and until such shareholder approval is obtained, all future options issued under the 2006 Plan will also be "Non-Qualified Options."

Stock-based Compensation

Total share-based employee, director, and consultant compensation for the years ended December 31, 2012 and 2011 amounted to approximately $63,100 and $865,500 respectively. These amounts are included in the statement of operations under the captions research and development ($13,228 and $444,200) and general and administrative ($49,900 and $421,300), respectively.

The summary of the stock option activity for the years ended December 31, 2012 and 2011 is as follows:

	Shares	Weighted Average Exercise per Share	Weighted Average Remaining Contractual Life (Years)
Outstanding January 1, 2011	39,755,113	$ 0.44	8.2
Granted	290,000	$ 0.14	7.5
Cancelled	(64,800)	$ 0.14	—
Exercised	(146,875)	$ 0.04	—
Outstanding, December 31, 2011	39,833,438	$ 0.39	7.2
Granted	1,968,000	$ 0.15	6.85
Cancelled	(4,640,000)	$ 0.14	—
Expired	(190,783)	$ 34.72	—
Exercised	(303,039)	$ 0.04	—
Outstanding, December 31, 2012	36,667,616	$ 0.23	6.1

The fair value of each stock option was estimated using the Black Scholes pricing model which takes into account as of the grant date the exercise price (ranging from $0.129 to $0.168 per share) and expected life of the stock option (ranging from 5 to 10 years), the current price of the underlying stock and its expected volatility (approximately 28 percent), expected dividends (-0- percent) on the stock and the risk free interest rate (0 to 1.9 percent) for the term of the stock option.

The weighted-average grant date fair value for options granted during the years ended December 31, 2012 and 2011 amounted to approximately $0.04 and $0.06 per share, respectively. As of December 31, 2012 the Company’s outstanding options had exercise prices ranging from $0.04 to $41.47 per share of Common Stock.

At December 31, 2012, the aggregate intrinsic value of options outstanding and options currently exercisable amounted to approximately $ 1,369,000. As of December 31, 2012, the Company had options currently exercisable into an aggregate total of 29,273,616 shares of common stock which have a weighted average exercise price of $0.26 per share.

The summary of the status of the Company’s non-vested options for the year ended December 31, 2012 is as follows:

	Weighted Average

	Shares	Grant Date Fair Value
Non-vested, January 1, 2012	11,910,000	$ 0.051
Granted	1,968,000	0.043
Cancelled	(4,640,000)	0.048
Vested	(1,844,000)	0.048
Exercised	—	—
Non-vested, December 31, 2012	7,394,000	$ 0.050

As of December 31, 2012, there was approximately $54,103 of total unrecognized compensation cost related to stock options. Due to the uncertainty over whether certain options granted during the year ended December 31, 2010 will vest based on performance milestones in the Company’s long term incentive plan, no charge for these options has been recorded in the consolidated statements of operations for the year ended December 31, 2012. The Company will evaluate on an ongoing basis the probability and likelihood of any of these performance milestones being achieved and will accrue charges as it becomes likely that they will be achieved.

The Company has reserved a separate pool of 15.6 million shares of restricted stock that may be issued to employees and directors as part of a long term incentive plan tied to corporate objectives. As of December 31, 2012, none of these shares have been issued and due to the uncertainty over whether they will be issued, no charge for these shares has been recorded in the consolidated statement of operations for the year ended December 31, 2012.

As of December 31, 2012, the Company has the following warrants to purchase common stock outstanding:

Number of Shares To be Purchased	Warrant Exercise Price per Share	Warrant Expiration Date
3,986,429	$ 0.035	June 25, 2013
397,825	$ 0.0362	September 30, 2014
1,750,000	$ 0.10	August 16, 2015
1,600,000	$ 0.125	August 16, 2015
1,333,333	$ 0.15	August 16, 2015
490,000	$ 0.10	October 22, 2015
196,000	$ 0.125	October 22, 2015
163,333	$ 0.15	October 22, 2015
625,000	$ 0.10	November 2, 2015
250,000	$ 0.125	November 2, 2015
208,334	$ 0.15	November 2, 2015
500,000	$ 0.10	November 19, 2015
200,000	$ 0.125	November 19, 2015
166,667	$ 0.15	November 19, 2015
240,125	$ 1.25	October 24, 2016
5,000,000	$ 0.10	February 15, 2016
2,200,000	$ 0.125	February 15, 2016

1,833,333	$ 0.15	February 15, 2016
1,166,667	$ 0.175	February 15, 2017
22,307,046		

10. REDEEMABLE SERIES B CONVERTIBLE PREFERRED STOCK

10 % Series B Cumulative Convertible Preferred Stock

Each share of Series B Preferred Stock has a stated value of $100.00, and is convertible at the holder's option into that number of shares of Common Stock equal to the stated value of such share of Series B Preferred Stock divided by an initial conversion price of $0.035, subject to certain adjustments. Additionally, upon the occurrence of a stock split, stock dividend, combination of the Common Stock into a smaller number of shares, issuance of any of shares of Common Stock or other securities by reclassification of the Common Stock, merger or sale of substantially all of the Company's assets, the conversion rate will be adjusted so that the conversion rights of the Series B Preferred Stock stockholders will be equivalent to the conversion rights of the Series B Preferred Stock stockholders prior to such event.

The Series B Preferred Stock bears a dividend of 10% per annum payable quarterly; provided, that if an "Event of Default" as defined in the Certificate of Designation designating the Series B Preferred Stock has occurred and is then continuing, the dividend rate increases to 20% per annum. An Event of Default includes, but is not limited to, the following:

- the occurrence of "Non-Registration Events";
- an uncured breach by the Company of any material covenant, term or condition in the Certificate of Designation or any of the related transaction documents; and
- any money judgment or similar final process being filed against the Company for more than $100,000.

Dividends on the Series B Preferred Stock will be made in additional shares of Series B Preferred Stock, valued at the stated value thereof. Notwithstanding the foregoing, during the first three-years following the initial closing, upon the approval of the holders of a majority of the Series B Preferred Stock, including the lead investor, NJTC Venture Fund ("NJTC"), if it then owns 25% of the shares of Series B Preferred Stock initially purchased by it (the "Required Amount"), the Company may pay dividends in cash instead of additional shares of Series B Preferred Stock, and after such three-year period, the holders of a majority of the Series B Preferred Stock, including NJTC if it then owns the Required Amount, may require that such payments be made in cash.

In the event of the Company's dissolution, liquidation or winding up, the holders of the Series B Preferred Stock will receive, in priority over the holders of Series A Preferred Stock and Common Stock, a liquidation preference equal to the stated value of such shares plus accrued dividends thereon.

Holders of Series B Preferred Stock have the right to vote on matters submitted to the holders of Common Stock on an as converted basis.

The Company has agreed to file a registration statement under the Securities Act covering the Common Stock issuable upon conversion of the Series B Preferred Stock within 180 days following the initial closing and to cause it to become effective within 240 days of such closing. The Company also granted the investors demand and piggyback registration rights with respect to such Common Stock. The investors in the private placement are entitled to liquidated damages in an amount equal to two percent (2%) of the purchase price of the Series B Preferred Stock if the Company fails to timely file that registration statement with, or have it declared effective by, the SEC. The Company has received a waiver from a majority of the Series B holders for the non-registration event and the timing of the Series B registration does not create a cross-default of the Series A Preferred Series.

Following the fifth anniversary of the initial closing, the holders of a majority of the Series B Preferred Stock, including NJTC (if it then holds 25% of the shares of Series B Preferred Stock initially purchased by it) may elect to require the Company to redeem all (but not less than all) of their shares of Series B Preferred Stock at the original purchase price for such shares plus all accrued and unpaid dividends whether or not declared, provided the market price of the Company's Common Stock is then below the conversion price of the Series B Preferred Stock.

Pursuant to the Certificate of Designation designating the Series B Preferred Stock, for so long as NJTC holds the Required Amount, NJTC is entitled to elect (i) two directors to the Company's Board of Directors, which shall initially consist of six members, and (ii) two members to the Company's compensation committee, which shall consist of at least three members. Within twelve months following the initial closing, the Company agreed to reduce the number of Directors on the Company's Board of Directors to five members. Following the initial closing, two affiliates of NJTC joined the Company's Board of Directors and compensation committee pursuant to the foregoing provision.

The transaction documents entered into with the purchasers of the Series B Preferred Stock also provide for various penalties and fees for breaches or failures to comply with provisions of those documents, such as the timely payment of dividends, delivery of stock certificates upon conversion of the Series B Preferred Stock or exercise of the warrants, and obtaining and maintaining an effective registration statement with respect to the shares of Common Stock underlying the Series B Preferred Stock and warrants sold in the offering.

In accordance with accounting standards governing debt with conversion and other options, the Company allocates the proceeds associated with the issuance of preferred stock based on the relative fair value of the preferred stock and warrants. Additionally, the Company evaluates if the embedded conversion option results in a beneficial conversion feature by comparing the relative fair value allocated to the preferred stock to the market value of the underlying common stock subject to conversion. The value assigned to the warrants resulting from the relative fair value calculation as well as the value of the beneficial conversion feature is recorded as a preferred stock dividend and is presented in the consolidated statements of operations. In addition, the Company considers the guidance of accounting for derivative financial instruments indexed to, and potentially settled in, a company’s own common stock, and accounting for derivative instruments and hedging activities and concluded that the conversion feature embedded in the preferred stock only provides for physical settlement and there are no net settlement features. Accordingly, the Company has concluded that the conversion feature is not considered a derivative.

During the years ended December 31, 2012 and 2011, the Company issued 6,780.79 and 6,283.41 shares of Series B Preferred Stock respectively as payment of stock dividends at the stated value of $100.00 per share. The fair value of the non-cash stock dividends for the years ended December 31, 2012 and 2011 amounted to $2,493,930 and $3,015,020, respectively.

Determination of Stock Dividend Fair Value

Effective January 1, 2010 the Company has changed its basis for estimating the fair value of the preferred stock dividends from the underlying conversion prices of the Series A and Series B Preferred Stock, to a five day volume weighted average price of actual closing market prices for the Company’s Common Stock.

As the redemption events described above were not solely within the Company’s control, all shares of redeemable convertible Series B preferred stock were presented outside of permanent equity.

11. NET LOSS PER SHARE

Basic earnings per share and diluted earnings per share for the years ended December 31, 2012 and 2011 have been computed by dividing the net loss for each respective period by the weighted average number of shares outstanding during that period. All outstanding warrants and options representing approximately 59,134,662 and 61,473,817 incremental shares at December 31, 2012 and 2011, respectively, as well as shares issuable upon conversion of Series A & B Convertible Preferred Stock and Preferred Stock Warrants representing 200,484,837 and 182,041,312 incremental shares at December 31, 2012 and 2011, respectively, as well as potential shares issuable upon Promissory Note conversion into Common Stock representing approximately 11,050,000 and 11,330,000 shares at December 31, 2012 and 2011, respectively, and have been excluded from the computation of diluted loss per share as they are anti-dilutive.

12. SUBSEQUENT EVENTS

The Company has evaluated subsequent events occurring after the balance sheet date which include the following:

To date, in 2013, the Company received approximately $450,000 as proceeds from the sale of 4,154,436 shares of Common Stock per the terms of the Purchase Agreement with Lincoln Park Capital at an average price of approximately $0.108 per share of Common Stock. Per the terms of the Purchase Agreement the Company also issued an additional 86,535 shares of Common Stock as additional Commitment Fee shares.

In February 2013, we issued 4,699,000 and 5,041,000 shares of common stock in satisfaction of the February 2011 Convertible Promissory Notes and February 2012 Convertible Promissory Notes, respectively. Both convertible promissory notes matured in February 2013 and had automatic conversion provisions pursuant to the terms of the notes.

During Q1 2013 the Company requested and a majority of Common shareholders approved an increase to our authorized Common Stock raising the authorized shares from 500,000,000 to 800,000,000.

As of March 31, 2013 the Company issued 39,851 shares of its Series A Convertible Preferred Stock and 1,801.83 shares of its Series B Convertible Stock. The dividend shares are not included in the above financial statements.

As an approved participant of the Technology Business Tax Certificate Transfer Program sponsored by the New Jersey Economic Development Authority, in January 2013 we received $391,756 from the sale of our prior unused net operating loss carryovers.

On February 8, 2013, our Chief Financial Officer, Thomas Bocchino, resigned from his position with the Company due to personal reasons. The resignation was not a result of any disagreements relating to the Company’s operations, policies or practices. Mr. Bocchino agreed to continue to assist the Company on part-time basis. On the same day, the Board of Directors of the Company appointed Ronald Berger as the interim Chief Financial Officer until a new Chief Financial Officer is appointed.

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

The following plan of operation provides information which management believes is relevant to an assessment and understanding of our results of operations and financial condition. The discussion should be read along with our financial statements and notes thereto. This section includes a number of forward-looking statements that reflect our current views with respect to future events and financial performance. Forward-looking statements are often identified by words like believe, expect, estimate, anticipate, intend, project and similar expressions, or words which, by their nature, refer to future events. You should not place undue certainty on these forward-looking statements. These forward-looking statements are subject to certain risks and uncertainties that could cause actual results to differ materially from our predictions.

PLAN OF OPERATIONS

We are a development stage company and expect to remain so for at least the next several quarters. CytoSorbents is a critical care focused company using blood purification to treat disease. In March 2011, we received European Union (E.U.) regulatory approval under the CE Mark and Medical Devices Directive for our flagship product, CytoSorb®, as an extracorporeal cytokine filter to be used in clinical situations where cytokines are elevated. CytoSorbents has started the process of commercializing its operations with the launch of sales of its CytoSorb® device in the E.U. In mid-September we started to exhibit the CytoSorb® device at conferences in Germany as part of our product marketing under a controlled-market release in select geographic territories in Germany. Because of the limited nature of this initial release, we anticipate only modest sales until we expand our marketing efforts into the broader market.

Our CE Mark enables CytoSorb® to be sold in the European Union for clinical use. Potential uses include many critical care conditions where cytokines are elevated such as sepsis, trauma, ARDS, severe burn injury and acute pancreatitis. CytoSorbents has also achieved ISO 13485:2003 Full Quality Systems certification, an internationally recognized quality standard designed to ensure that medical device manufacturers have the necessary comprehensive management systems in place to safely design, develop, manufacture and distribute medical devices in the European Union. We intend to continue to research and seek the necessary regulatory approvals to sell our other proposed products, as well as potential label extensions of our current CE Mark.

We have completed the targeted enrollment in our European Sepsis clinical trial of one hundred (100) patients with sepsis and respiratory failure with the participation of fourteen trial sites. The purpose of the trial was to demonstrate safety and the broad, and statistically significant reduction of key cytokines such as IL-6 in these patients. Although the trial was not powered to demonstrate significant reduction in clinical endpoints such as mortality, these were included as secondary and exploratory endpoints in the trial. Taking into account all 100 patients, the treatment was well-tolerated with no serious device related adverse events reported in more than 300 human treatments in the trial. The first 22 patients in the study represented a sepsis pilot study. In the next 31 patients, a compromise of the manual randomization schedule at two trial sites led to an imbalance in the severity of illness between the control and treatment patient groups of the study. After a thorough review, the Scientific Advisory Board (SAB) and the independent Data Safety Monitoring Board (DSMB) both recommended that due to this enrollment bias, these 31 patients should only be used for safety evaluation purposes and that new patients should be enrolled into the trial using electronic web-based randomization to randomly assign patients into either the control or treatment arms. Excluding four patients that withdrew, the remaining forty three (43) patients enrolled under electronic randomization were relatively balanced in terms of the severity of illness in treatment and control patients, confirming the findings of the SAB and DSMB. In these forty three (43) patients the European Sepsis Trial successfully demonstrated, on a statistically significant basis ($p<0.05$), CytoSorb®'s ability to reduce circulating levels of key cytokines from whole blood in treated patients on the average of 30-50% over the 7 day treatment period. Additionally, post-hoc subgroup analyses of the clinical outcome data from patients enrolled under electronic randomization demonstrated statistically significant reduction in mortality in patients at high risk of death in sepsis, specifically in patients with very high cytokine levels (IL-6 ? 1,000 pg/mL and/or IL-1ra ? 16,000 pg/mL) where 28-day mortality was 0% treated vs 63% control, p=0.03, n=14 and patients ? age 65 (14-day mortality: 0% treated vs 36% control, p=0.04, n=21).

We are focusing our efforts on the commercialization of our CytoSorb® product and have begun direct sales in Germany and Austria. The initial major market focus for CytoSorb® is the adjunctive treatment of sepsis, a systemic inflammatory response to a serious infection or traumatic event. CytoSorb® has been designed to prevent or reduce the accumulation of high concentrations of cytokines in the bloodstream associated with sepsis and is intended for short-term use with standard of care therapy that includes antibiotics. We believe that current state of the art blood purification technology (such as dialysis) is incapable of effectively clearing the toxins intended to be absorbed by our CytoSorb® device.

In addition to the sepsis indication, we intend to continue to foster research in other critical care illnesses where CytoSorb® could be used, such as ARDS, trauma, severe burn injury and acute pancreatitis, or in other acute conditions that have demonstrated potential in preliminary studies to prevent or reduce the accumulation of cytokines in the bloodstream. These other conditions include the prevention of post-operative complications of cardiac surgery (cardiopulmonary bypass surgery) and damage to organs donated for transplant prior to organ harvest. We are also exploring the potential benefits our technology may have in removing drugs and other substances from blood and physiologic fluids.

The Company is currently manufacturing CytoSorb® under ISO 13485 Full Quality Systems certification for sale in the E.U. and for additional clinical studies. Concurrent with its commercialization plans, the Company intends to conduct additional clinical studies in sepsis and other critical care diseases to generate additional clinical data to expand the scope of clinical experience for marketing purposes, to increase the number of treated patients, and to

support potential future publications. Assuming availability of adequate and timely funding, and continued positive results from our clinical studies, the Company intends to continue commercializing its product in Europe.

The clinical protocol for our European Sepsis Trial was designed to allow us to gather information to support future U.S. studies. In the event we are able to successfully commercialize our products in the European market, we will review our plans for the United States to determine whether to conduct clinical trials in support of 510(k) or PMA registration. No assurance can be given that our CytoSorb® product will work as intended or that we will be able to obtain FDA approval to sell CytoSorb® in the United States. Even though we have obtained CE Mark approval, there is no guarantee or assurance that we will be successful in obtaining FDA approval in the United States or approval in any other country or jurisdiction.

Because of the limited studies we have conducted, we are subject to substantial risk that our technology will have little or no effect on the treatment of any indications that we have targeted.

At the end of the second quarter, Mr. David Lamadrid, the Company's Chief Financial Officer, gave notice of his resignation, effective July 13, 2012, due to personal reasons. Mr. Ronald Berger, a certified public accountant and the Company's controller for the past eight years, was appointed by the Board of Directors as Interim Chief Financial Officer and has assumed Mr. Lamadrid's duties as of July 16, 2012. On November 28, 2012, the Board of Directors unanimously appointed Thomas Bocchino as the Company's Chief Financial Officer and Vice President of Finance.

RESULTS OF OPERATIONS

Comparison for the Three Months Ended March 31, 2013 and 2012

Revenues

CytoSorbents generated revenues of approximately $371,000 and $50,000 for the three month periods ended March 31, 2013 and 2012 respectively. Product revenues of approximately $176,000 and $17,000 in the current three month periods ending March 31, 2013 and 2012 respectively were part of a direct sales effort to hospitals in Germany, Austria and Switzerland with a four person sales force in place only since August 2012, and an exploration of sales to distributor networks in other parts of Europe, versus an initial test market phase of CytoSorb in Germany. Additionally, grant revenue and other income approximated $195,000 and $33,000 for the three month periods ended March 31, 2013 and 2012 respectively. Product gross margins were approximately 61.5% for the quarter. Overall gross margins were approximately 31.7%, negatively impacted by the high cost materials and labor related to grant income.

Expenses

Our research and development costs were, approximately $704,000 and $633,000, for the three months ended March 31, 2013 and 2012 respectively. This represents an increase of approximately 11.3% or $71,000 primarily due to net decreases in expenditures related to our completed sepsis study and clinical and research programs of approximately $68,000, patent costs of $20,000 and lab supplies of $28,000 that were partially offset by increases in rent expenses of approximately $37,000, salaries of approximately $46,000 and option expenses of $104,000.

Our legal, financial and other consulting costs were $223,000 and $161,000 for the three months ended March 31, 2013 and 2012 respectively. This represents an increase of approximately 38.1%, or approximately $61,000 for the three months ended March 31, 2013 compared to the same time period in 2012. This is primarily comprised of an increase in legal fees of approximately $25,000 associated with patent review related costs, contract related legal fees

of approximately $28,000 and approximately $7,000 in accounting fees which were associated with annual audit fees.

Our general and administrative costs were $613,000 and $269,000 for the three months ended March 31, 2013 and 2012 respectively. This represents an increase of approximately 127.5%, or approximately $344,000 for the three months ended March 31, 2013 compared to the same time period in 2012. This is primarily due to increases in costs related to commencing our European sales operations of approximately $170,000, an increase in salaries and payroll taxes of approximately $20,000, increases in medical insurance payments totaling approximately $15,000 and option expenses of $114,000.

Our net interest expenses were approximately $207,000 and $359,000 for the three months ended March 31, 2013 and 2012 respectively. This represents a decrease of approximately 42.5% or $153,000 for the three months ended March 31, 2013 compared to the same time period in 2012. The decrease is primarily due to a decrease of approximately $153,000 in non-cash related charges associated with the amortization of debt discount, which is presented in the net interest expenses category of our statement of operations.

We have experienced substantial operating losses since inception. As of March 31, 2013, we had a deficit accumulated during the development stage of approximately $100,948,000, which included losses of approximately $1,629,000 and $1,427,000 for the three month periods ended March 31, 2013 and 2012, respectively. Historically, our losses have resulted principally from costs incurred in the research and development of our polymer technology, and general and administrative expenses, which together were approximately $1,317,000 and $902,000 for the three month periods ended March 31, 2013.

Comparison of the year ended December 31, 2012 and 2011

Revenues

CytoSorbents generated revenues of approximately $1,343,000 and $36,000 for the years ended December 31, 2012 and 2011 respectively. Product revenues of approximately $152,000 and $36,000 for the years ending December 31, 2012 and 2011 respectively were part of an initial test market phase of CytoSorb in Germany, a direct sales effort to hospitals in Germany, Austria and Switzerland with a four person sales force in place only since August 2012, and an exploration of sales to distributor networks in other parts of Europe. The device was not available or approved for sale during the first nine months of 2011. Additionally, CytoSorbents received grant revenue of approximately $1,191,000 and $-0- for the years ended December 31, 2012 and 2011 respectively.

Research and Development Expenses

Our research and development costs were, approximately $2,532,000 and $2,888,000, for the years ended December 31, 2012 and 2011 respectively. This represents a decrease of approximately 12.3% or approximately $356,000 for the year ended December 31, 2012 compared to the same time period in 2011. This decrease is primarily due to net decreases in expenditures related to our completed sepsis study and clinical and research programs of approximately $393,000, lab supplies of approximately $180,000 and non-cash stock option expense of approximately $425,000, that were partially offset by increases in patent related expenses of approximately $84,000, salaries of approximately $198,000, rent of approximately $84,000, lab tests of approximately $97,000 and R&D costs of approximately $136,000.

Legal, Financial and Other Consulting Expenses

Our legal, financial and other consulting costs were, approximately $627,000 and $343,000, for the years ended December 31, 2012 and 2011 respectively. This represents an increase of approximately 83.1%, or approximately $285,000 for the year ended December 31, 2012 compared to the same time period in 2011. This is primarily comprised of an increase in legal fees of approximately $137,000 associated with patent review related costs, contract related legal fees of approximately $43,000, approximately $46,000 in accounting fees which were associated with annual audit and S-1 registration related fees and approximately $57,000 in employment related fees.

General and Administrative Expenses

Our general and administrative costs were $1,355,000 and $1,230,000, for the years ended December 31, 2012 and 2011 respectively. This represents an increase of approximately 10.1%, or approximately $125,000 for the year ended December 31, 2012 compared to the same time period in 2011. This is primarily due to a decrease in non-cash stock option expense of approximately $370,000 which was primarily offset by increases in sales and marketing expenses of approximately $80,000, an increase in salaries and payroll taxes of approximately $290,000 and increases in insurance, travel and rent totaling approximately $137,000.

Interest Expenses

Our net interest expenses were $564,000 and $1,045,000 for the years ended December 31, 2012 and 2011 respectively. This represents a decrease of approximately 46.0% or $481,000 for the year ended December 31, 2012 compared to the same time period in 2011. The decrease is primarily due to a decrease of approximately $540,000 in non-cash related charges associated with the amortization of debt discount, which is presented in the net interest expenses category of our statement of operations.

Benefit from Income Taxes

Our benefit from income taxes was approximately $392,000 and $-0- for the years ended December 31, 2012 and 2011, respectively. This increase of approximately $392,000 is primarily due to the sale of net operating losses to the State of NJ during 2012.

We have experienced substantial operating losses since inception. As of December 31, 2012, we had a deficit accumulated during the development stage of $98,732,460, which included losses of $3,664,000 and $5,482,000 for years ended December 31, 2012 and 2011 respectively. Historically, our losses have resulted principally from costs incurred in the research and development of our polymer technology, and general and administrative expenses, which together were $3,555,000 and $4,118,000 for the years ended December 31, 2012 and 2011 respectively.

LIQUIDITY AND CAPITAL RESOURCES

Since inception, our operations have been financed through the private placement of our debt and equity securities. At December 31, 2012, we had cash of approximately $1,729,000 and current liabilities of approximately $2,077,000. As of March 31, 2013, we had cash on hand of approximately $1,365,000 and current liabilities of approximately $993,000.

We believe that we have sufficient cash to fund our operations into the third quarter of 2013, following which we will need additional funding before we can complete additional clinical studies and commercialize our products. The SEC approved a registration statement for common stock filed for the funding agreement with Lincoln Park Capital Fund LLC (“LPC”). Subject to minimum pricing restrictions per the terms of the funding agreement, Management believes that the Company will be able to receive ongoing funding per the terms of this purchase agreement (See Note 9 to the Company’s Annual Report on Form 10-K filed with the Commission on April 03, 2013). The agreement with LPC has the potential to significantly extend the time that we may be able to fund our operations, provided that our share price remains at or above $0.10.

During April and May 2013, the Company received approximately $100,000 as proceeds from the sale of 911,205 shares of Common Stock per the terms of the Purchase Agreement with LPC at an average price of $0.110 per share of Common Stock. Per the terms of the Purchase Agreement the Company also issued an additional 19,230 shares of Common Stock as additional Commitment Fee shares.

In September 2012, the Company was granted a $1 million Phase 2 SBIR award from the U.S. Army Medical Research and Materiel Command to fund the further development of the Company's technologies to treat trauma and burn injury. Payments under this award are contingent upon achievement of certain milestones, availability of funds, and finalizing the award contract with the granting agency. The Company is exploring potential eligibility in several other government sponsored grant programs which could, if approved, represent a substantial source of non-dilutive funds for our research programs. We will also continue to seek other funding sources for the long term needs of the Company. There can be no assurance that financing will be available on acceptable terms or at all. If adequate funds are unavailable, we may have to suspend, delay or eliminate one or more of our research and development programs or product launches or marketing efforts, or cease operations.

In addition, the Company received approximately $187,000 from the Defense Advanced Research Projects Agency (DARPA) in Q1 2013 following achievement of initial milestones of a five year technology development contract valued at $3.8 million, that was awarded in August 2012. The Company is eligible, pending achievement of certain development milestones in this “Dialysis-Like Therapeutics” initiative to treat sepsis, to receive up to $1.5 million (of the $3.8 million contract) in payments in the first 12 months of this contract, of which nearly $1.3 million has been received as of Q1 2013.

Off-balance Sheet Arrangements

We have no off-balance sheet arrangements.

Going Concern

The accompanying consolidated financial statements have been prepared on a going concern basis, which contemplates the realization of assets and satisfaction of liabilities in the normal course of business. The Company has experienced negative cash flows from operations since inception and has a deficit accumulated during the development stage at March 31, 2013 of approximately $100,947,819. The Company is not currently generating significant revenue and is dependent on the proceeds of present and future financings to fund its research, development and commercialization program. These matters raise substantial doubt about the Company's ability to continue as a going concern. The Company is continuing its fund-raising efforts. Although the Company has historically been successful in raising additional capital through equity and debt financings, there can be no assurance that the Company will be successful in raising additional capital in the future or that it will be on favorable terms. Furthermore, if the Company is successful in raising the additional financing, there can be no assurance that the amount will be sufficient to complete the Company's plans. These consolidated financial statements do not include any adjustments related to the outcome of this uncertainty.

Effects of Recent Accounting Pronouncements

There have been no recently issued accounting standards which would have an impact on the Company's financial statements.

CRITICAL ACCOUNTING POLICIES

The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates. We believe the following critical accounting policies have significant effect in the preparation of our consolidated financial statements.

Development Stage Corporation

The Company's consolidated financial statements have been prepared in accordance with the provisions of accounting and reporting by development stage enterprises.

Patents

Legal costs incurred to establish patents are capitalized. When patents are issued, capitalized costs are amortized on the straight-line method over the related patent term. In the event a patent is abandoned, the net book value of the patent is written off.

Revenue Recognition

The Company recognizes revenue when it is earned. Delivery of the goods generally completes the criteria for revenue recognition.

Research and Development

All research and development costs, payments to laboratories and research consultants are expensed when incurred.

Stock Based-Compensation

The Company accounts for its stock-based compensation under the recognition requirements of accounting standards for accounting for stock-based compensation, for employees and directors whereby each option granted is valued at fair market value on the date of grant. Under these accounting standards, the fair value of each option is estimated on the date of grant using the Black-Scholes option pricing model.

The Company also follows the guidance of accounting standards for accounting for equity instruments that are issued to other than employees for acquiring, or in conjunction with selling, goods or services for equity instruments issued to consultants.

Determination of Fair Value for Stock Dividend and Stock Based Compensation

Effective January 1, 2010 the Company has changed its basis for estimating the fair value of the preferred stock dividends from the underlying conversion prices of the Series A and Series B Preferred Stock, to a five day volume weighted average price of actual closing market prices for the Company's common stock. The Company believes that there has been relative improvement in stock trading volumes of its Common Stock over the past two years, and that this new market based methodology is a better proxy for fair valuation of its preferred stock dividends.

CHANGES IN AND DISAGREEMENTS WITH ACCOUTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

There have been no changes in or disagreements with our accountants on accounting or financial disclosure matters.

Directors and Executive Officers

The following table sets forth our directors and executive officers, their ages and the positions they hold:

Name	Age	Position
Phillip Chan, MD	42	President and Chief Executive Officer, Director
Al Kraus	67	Chairman of the Board
Joseph Rubin, Esq.	73	Director
Edward R. Jones, MD, MBA	62	Director
James Gunton	45	Director
Vincent Capponi	53	Chief Operating Officer

Ron Berger	68	Former Interim Chief Financial Officer
Robert Bartlett, MD	71	Chief Medical Officer
Kathleen O. Bloch	58	Chief Financial Officer

Phillip Chan, MD, PhD. Dr. Chan became a director of the Company in 2008 and since January 2009 is also Chief Executive Officer. Prior to CytoSorbents, Dr. Chan led healthcare and life science investments as Partner for the NJTC Venture Fund. Dr. Chan co-founded Andrew Technologies, a medical device company developing novel surgical instruments for plastic surgery. He is a Board-certified Internal Medicine physician with a strong background in clinical medicine and research. Dr. Chan received his MD and PhD from the Yale University School of Medicine and completed his Internal Medicine residency at Beth Israel Deaconess Medical Center at Harvard. He also holds a BS in cell and molecular biology from Cornell University.

Al Kraus. Mr. Kraus has been a director of the Company since 2003 and up until the end of 2008 was the Company's President and CEO. Mr. Kraus currently serves as Chairman of the Board of Directors. Mr. Kraus has more than twenty-five years' experience managing companies in the dialysis, medical device products, personal computer and custom software industries. Prior to joining us, from 2001 to 2003, Mr. Kraus was President and CEO of NovoVascular Inc., an early stage company developing coated stent technology. From 1996 to 1998, Mr. Kraus was President and CEO of Althin Healthcare and from 1998 to 2000, of Althin Medical Inc., a manufacturer of products for the treatment of end stage renal disease. While CEO of Althin, he provided strategic direction and management for operations throughout the Americas. From 1979 to 1985, Mr. Kraus was U.S. Subsidiary Manager and Chief Operating Officer of Gambro Inc., a leading medical technology and healthcare company. Mr. Kraus was the Chief Operating Officer of Gambro when it went public in the United States in an offering led by Morgan Stanley.

Joseph Rubin, Esq. Mr. Rubin became a director of the Company in 1997. Mr. Rubin is a founder and Senior Partner of, Rubin & Bailin, LLP an international and domestic corporate and commercial law firm in New York City, where he has practiced law since 1986. Mr. Rubin also taught at the Columbia University School of International and Public Affairs, where he is also Executive Director of the International Technical Assistance Program for Transforming Economies (ITAP). Mr. Rubin was Adjunct Professor at the Columbia University Graduate School of Business from 1973 to 1994, and taught at Columbia Law School in 1996. Mr. Rubin received his law degree from Harvard Law School, and his B.A., MIA, and M.Phil degrees in political science and international relations from Columbia University.

Edward R. Jones, MD, MBA . Dr. Jones has been a director of the Company since April 2007. Dr. Jones is an attending physician at the Albert Einstein Medical Center and Chestnut Hill Hospital as well as Clinical Professor of Medicine at Temple University Hospital. Dr. Jones has published or contributed to the publishing of 30 chapters, articles, and abstracts on the subject of treating kidney-related illnesses. He is a sixteen-year member of the Renal Physicians Association, the Philadelphia County Medical Society and a past board member of the National Kidney Foundation of the Delaware Valley. Dr. Jones is a past President of the Renal Physicians Association.

James Gunton. Mr. Gunton became a director of the Company in 2008. He is a cofounder of the NJTC Venture Fund. Mr. Gunton has been investing in privately-held growth technology companies for fifteen years. Before co-founding in 2001 the $80 million NJTC Venture Fund, Jim was a manager at Oracle Corporation in the Silicon Valley. He represents NJTC Venture Fund at nine portfolio companies and is a former Governor of the National Association of Small Business Investment Companies. Jim earned a BS from Stanford University and an MBA with distinction from Duke University.

Vincent Capponi. Mr. Capponi joined the Company as Vice President of Operations in 2002 and became its Chief Operating Officer in July 2005. He has more than 20 years of management experience in medical device, pharmaceutical and imaging equipment at companies including Upjohn, Sims Deltec and Sabratek. Prior to joining CytoSorbents in 2002, Mr. Capponi held several senior management positions at Sabratek and its diagnostics division GDS, and was interim president of GDS diagnostics in 2001. From 1998 to 2000, Mr. Capponi was Senior Vice President and Chief Operating Officer for Sabratek and Vice President Operations from 1996 to 1998. He received his MS in Chemistry and his BS in Chemistry and Microbiology from Bowling Green State University.

Robert Bartlett, MD. Dr. Bartlett became our Chief Medical Officer in January 2009. He is Professor Emeritus of Surgery at the University of Michigan Health System. Prior to becoming Professor Emeritus in 2005, Dr. Bartlett was Director of the Surgical Intensive Care Unit, Chief of the Trauma/Clinical Care Division and Director of the Extracorporeal Life Support Program at the University of Michigan Medical Center. Dr. Bartlett was the pioneer in the development of the extracorporeal membrane oxygenation machine (ECMO), used to oxygenate blood in critically ill patients worldwide. He received his MD from the University of Michigan Medical School, cum laude. He completed his general surgery residency at Peter Bent Brigham Hospital in Boston, and was Chief resident in thoracic surgery. Dr. Bartlett was also a NIH Trainee in Academic Surgery at Harvard Medical School, and was previously faculty at the University of California, Irvine. Dr. Bartlett is the recipient of 26 separate research grants, 14 from the

National Institute of Health, including an RO1 grant for the development of a totally artificial lung. He has also received numerous national and international awards for his contributions to critical care medicine.

Kathleen P. Bloch. Ms. Bloch has more than 20 years of executive financial experience in both public and private companies. Most recently, she was Chief Financial Officer of Laureate Biopharmaceutical Services, Inc., a leader in biopharmaceutical contract development and manufacturing. Previously, Ms. Bloch was Chief Operating Officer and CFO of PC Group, Inc., a $70 million in revenue, NASDAQ-listed, publicly traded company with a diverse group of holdings, including several medical device subsidiaries. Prior to that, Ms. Bloch was CFO of Silver Line Building Products Corporation for seven years, helping it grow from $100 million in sales, into the world's largest manufacturer of vinyl windows with more than $750 million in revenue, employing over 7,000 people nationwide in 35 states with nine manufacturing facilities. In 2006, she oversaw the acquisition of Silver Line by Andersen Corporation, a leading international manufacturer of windows. Previously, Ms. Bloch was CFO of ERD Waste Corporation, a NASDAQ-listed, publicly-traded environmental services provider, operating in 16 states with more than $60 million in sales. She began her career at Peat Marwick International, which became KPMG LLP, one of the big four accounting firms. Ms. Bloch holds a Master of Business Administration degree and a Bachelor of Science Accounting degree from LaSalle University, and is a Certified Public Accountant.

Audit Committee Financial Expert

We do not have an Audit Committee, and therefore do not have an "audit committee financial expert."

EXECUTIVE COMPENSATION

Summary Compensation Table

The following table shows for the fiscal year ended December 31, 2012, compensation awarded to or paid to, or earned by, our Chief Executive Officer, our Chief Operating Officer, our Chief Financial Officer, and our Chief Medical Officer (the "Named Executive Officers").

Name and Principal Position	Year	Salary ($)	Bonus ($)	Option Awards (1) ($)	All Other Compensation	Total ($)
Phillip Chan						
Chief Executive Officer	2012	231,496	-0-	-0-	8,000	239,496
	2011	231,496	-0-	-0-	8,000	239,496
Vincent Capponi,						
Chief Operating Officer	2012	219,674	30,200	-0-	-0-	249,874
	2011	219,674	250	-0-	-0-	219,924
David Lamadrid,						
Chief Financial Officer (2)	2012	108,706	-0-	-0-	-0-	108,706
	2011	201,942	250	-0-	-0-	202,192
Ronald Berger						
Interim Chief Financial Officer	2012	-0-	200	1,030	(3) 102,472	103,702
	2011	-0-	-0-	-0-	52,219	52,219
Dr. Robert Bartlett						
Chief Medical Officer	2012	52,000	-0-	-0-	-0-	52,000
	2011	51,083	-0-	-0-	-0-	51,083

(1) The value of option awards granted to the Named Executive Officers has been estimated pursuant to recognition requirements of accounting standards for accounting for stock-based compensation for the options described in the

footnotes below, except that for purposes of this table, we have assumed that none of the options will be forfeited. The Named Executive Officers will not realize the estimated value of these awards in cash until these awards are vested and exercised or sold. For information regarding our valuation of option awards, see “Stock-Based Compensation” in Note 2 of our financial statements for the period ended December 31, 2012.

(2) David Lamadrid resigned as our Chief Financial Officer effective July 11, 2012. Ronald Berger, CPA, assumed the position of Interim CFO on July 11, 2012.

(3) Ronald Berger was issued 30,000 stock options on January 18, 2012 with an exercise price of $0.168.

Outstanding Equity Awards at Fiscal Year End

The following table shows for the fiscal year ended December 31, 2012, certain information regarding outstanding equity awards at fiscal year-end for the Named Executive Officers.

Outstanding Equity Awards At December 31, 2012

	Option Awards				
Name	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price ($)		Option Expiration Date
Phillip Chan	15,000		0.08	(1)	12/31/18
	2,503,858		0.084	(1)	1/8/19
	300,000	200,000	0.173	(2)	1/4/20
	882,500	1,345,000	0.138	(3)	5/5/20
Vincent Capponi	50,000		1.65	(1)	12/31/16
	1,100,000		0.25	(1)	01/16/18
	2,200,000		0.035	(1)	06/25/18
	400,000		0.168	(1)	01/28/19
	300,000	200,000	0.173	(4)	1/4/20
	910,000	1,122,500	0.138	(8)	5/5/20
David Lamadrid	150,000		1.90	(1)	01/16/17
	1,400,000		0.25	(1)	01/16/18
	2,434,461		0.035	(1)	06/25/18
	400,000		0.168	(1)	01/28/19
	240,000		0.173	(5)	1/4/20
	830,000	700,000	0.138	(9)	5/5/20
Robert Bartlett	37,500	12.500	0.084	(6)	01/08/14
	105,000	70,000	0.173	(7)	1/4/20
	200,000	315,000	0.138	(10)	5/5/20

(1) Fully vested

(2) Vests and becomes exercisable as to (i) 100,000 shares on January 4, 2010; (ii) 100,000 shares on January 4, 2011; (iii) 100,000 shares on January 4, 2012; (iv) 100,000 shares on January 4, 2013; and (v) 100,000 shares on January 4, 2014.

(3) As of the date of this filing, 2,227,500 of these options have been approved for vesting by the Board of Directors

(4) Vests and becomes exercisable as to (i) 100,000 shares on January 4, 2010; (ii) 100,000 shares on January 4, 2011; (iii) 100,000 shares on January 4, 2012; (iv) 100,000 shares on January 4, 2013; and (v) 100,000 shares on January 4, 2014.

(5) Vests and becomes exercisable as to (i) 80,000 shares on January 4, 2010; (ii) 80,000 shares on January 4, 2011; (iii) 80,000 shares on January 4, 2012; (iv) 80,000 shares on January 4, 2013; and (v) 80,000 shares on January 4, 2014. Remaining shares vesting on January 4, 2013 and January 4, 2014 have been cancelled.

(6) Vests and becomes exercisable as to (i) 12,500 shares on January 8, 2010; (ii) 12,500 shares on January 8, 2011; (iii) 12,500 shares on January 8, 2012 and (iv) 12,500 shares on January 8, 2013.

(7) Vests and becomes exercisable as to (i) 35,000 shares on January 4, 2010; (ii) 35,000 shares on January 4, 2011; (iii) 35,000 shares on January 4, 2012; (iv) 35,000 shares on January 4, 2013; and (v) 35,000 shares on January 4, 2014.

(8) As of the date of this filing, 2,032,500 of these options have been approved for vesting by the Board of Directors

(9) As of the date of this filing, 1,530,000 of these options have been approved for vesting by the Board of Directors

(10) As of the date of this filing, 515,000 of these options have been approved for vesting by the Board of Directors.

Director Compensation

The following table shows for the fiscal year ended December 31, 2012 certain information with respect to the compensation of all non-employee directors of the Company.

Director Compensation for Fiscal 2012

Name	Fees Earned or Paid in Cash ($)	Option Awards ($) (1)		Total ($)
Joseph Rubin	8,000	6,694	(2)(3)	14,694
Edward R. Jones	8,000	6,694	(2)(4)	14,694
James Gunton (5)	—	7,230	(2)(5)	7,230
Al Kraus	20,000	6,694	(2)(6)	26,694
Phillip Chan (7)	—	—	(7)	—

(1) The value of option awards granted to directors has been estimated pursuant to the recognition requirements of accounting standards for accounting for stock-based compensation for the options described in the footnotes below, except that for purposes of this table, we have assumed that none of the options will be forfeited. The directors will not realize the estimated value of these awards in cash until these awards are vested and exercised or sold. For information regarding our valuation of option awards, see “Stock-Based Compensation” in Note 2 of our financial statements for the period ended December 31, 2012.

(2) Fully vested

(3) In connection with his service as a director in 2012 we issued Mr. Rubin options to purchase 100,000 shares of our Common Stock at an exercise price of $0.138 per share, which were granted on January 8, 2012 and expire on January 8, 2022.

(4) In connection with his service as a director in 2012 we issued Dr. Jones options to purchase 100,000 shares of our Common Stock at an exercise price of $0.138 per share, which were granted on January 8, 2012 and expire on January 8, 2022.

(5) In connection with Mr. Gunton's service as a director in 2012, the NJTC Venture Fund was issued options to purchase 108,000 shares of our Common Stock at an exercise price of $0.138 per share, which were granted on January 8, 2012 and expire on January 8, 2022.

(6) Pursuant to an agreement and in connection with Mr. Kraus' service as a director in 2012 we issued options to purchase 100,000 shares of our Common Stock at an exercise price of $0.138 per share, which were granted on January 8, 2012 and expire on January 8, 2022.

(7) Effective July 24, 2008, Dr. Chan was appointed to the Company's Board of Directors and Compensation Committee. Effective January 1, 2009, Dr. Chan entered into an employment agreement becoming interim Chief Executive Officer of the Company. In January 2009, Dr. Chan resigned his position as a member on the Compensation Committee. Dr. Chan officially became CEO and President in 2010. During 2012, Dr. Chan was an employee Director and was not eligible to receive compensation for Director services.

In 2007, we approved arrangements under which each non-employee director receives a fee of $2,000 for each quarterly Board meeting attended in person and a fee of $1,000 for each quarterly Board meeting participated in by telephone. In addition, our Board approved a policy under which each non-employee director will be eligible to be issued options to purchase up to 10,000 shares of our Common Stock on December 31 of each year based on attendance at quarterly Board meetings held during the year. Such options will be exercisable in accordance with the Company's option pricing policy on the date of grant. Our directors are also reimbursed for actual out-of-pocket expenses incurred by them in connection with their attendance at meetings of the Board of Directors.

In connection with his appointment as Chairman of the Board in January 2009, we agreed to compensate Mr. Kraus at the rate of $20,000 per annum, and on January 8, 2009 we issued Mr. Kraus a ten year option to purchase 200,000 shares of our Common Stock at a price of $0.084 per share. In December 2009, we issued Mr. Kraus an additional option to purchase 100,000 shares of Common Stock at an exercise price of $0.166 per share. Additionally for services performed as Chief Executive Office of the company through December 31, 2008, the Board approved a 10 year option to purchase 450,000 shares of our Common Stock at a price of $0.168 per share on January 28, 2009. In January 2011, we renewed the agreement with Al Kraus, as Chairman of the Board of Directors for an additional two year term period.

In 2012, non-employee Directors compensation terms remained the same as they were during 2011. Our Chairman of the Board, Mr. Kraus, was compensated per the terms of his renewal agreement entered into in January 2011.

Employment Agreements with Named Executive Officers

Phillip Chan

Effective December 3, 2012, we renewed the employment agreement by and between Dr. Phillip Chan and the Company as Chief Executive Officer retroactive to January 1, 2012. Per the terms of the agreement, we agree to pay Phillip Chan an annual base compensation of $231,496 payable in equal semimonthly installments in accordance with our usual practice. This base compensation shall be subject to review by our Compensation Committee, but his compensation may not be reduced from then current level. He is eligible for employee stock options, which will be adjusted on the same basis as all other shareholders to account for any stock split, stock dividends, combination or recapitalization.

Vincent Capponi

Effective December 3, 2012, we renewed the employment agreement by and between Vincent Capponi and the Company as Chief Operating Officer retroactive to January 1, 2012. Per the terms of the agreement, we agree to pay Vincent Capponi an annual base compensation of $219,674 payable in equal semimonthly installments in accordance with our usual practice. This base compensation shall be subject to review by our Compensation Committee, but his compensation may not be reduced from then current level. He is eligible for employee stock options, which will be adjusted on the same basis as all other shareholders to account for any stock split, stock dividends, combination or recapitalization.

Robert Bartlett

Effective December 3, 2012, we renewed the consulting agreement with Dr. Bartlett. Pursuant to this consulting agreement, we agree to pay Dr. Robert Bartlett consulting fees at an annualized rate of $52,000 payable in equal monthly installments of $4,333.33 per month. He is eligible for stock options, which will be adjusted on the same basis as all other shareholders to account for any stock split, stock dividends, combination or recapitalization.

CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

Joseph Rubin is a director of ours and performs legal services for us from time to time. At December 31, 2012, we owed Mr. Rubin's firm approximately $12,000 in respect of legal services provided by his firm to us.

Director Independence

All members of our Board of Directors, other than Joseph Rubin, who performs legal services for us as disclosed above, Al Kraus, formerly an employee, and Phillip Chan, our Chief Executive Officer, are independent under the standards set forth in Nasdaq Marketplace Rule 4200(a)(15).

PRINCIPAL STOCKHOLDERS

The following table sets forth information known to us with respect to the beneficial ownership of Common Stock held of record as of April 1, 2013, by (1) all persons who are owners of 5% or more of our Common Stock, (2) each of our named executive officers (see "Summary Compensation Table"), (3) each director, and (4) all of our executive officers and directors as a group. Each of the stockholders can be reached at our principal executive offices located at 7 Deer Park Drive, Suite K, Monmouth Junction, New Jersey 08852.

	SHARES BENEFICIALLY OWNED(1)		
	Number	**Percent (%)**	
Directors and Executive Officers			
Al Kraus(2), *Chairman of the Board of Directors*	10,757,001	2.2	%
Phillip Chan (3), *President and Chief Executive Officer, Director*	6,450,760	1.3	%
David Lamadrid (4)**	6,158,195	1.3	%
Vince Capponi (5) *Chief Operating Officer*	6,700,586	1.4	%
Joseph Rubin (6) *Director*	1,390,641	*	

Robert Bartlett (7) *Chief Medical Officer*	740,000	*	
James Gunton (8) *Director*	96,135,105	19.6	%
Edward R. Jones (9) *Director*	382,500	*	
Thomas Bocchino***	0	*	
Ronald Berger (10) *Interim Chief Financial Officer*	800,982	*	
All directors and executive officers as a group (ten persons)(11)	129,512,036	26.4	%
Beneficial Owners of more than 5% of Common Stock (other than directors and executive officers)			
Robert Shipley(12)	54,197,656	11.1	%
NJTC Venture Fund SBIC, LP(13)	96,135,105	19.6	%

*Less than 1%.

** At the end of the second quarter 2012, Mr. David Lamadrid, the Company's Chief Financial Officer, gave notice of his resignation, effective July 13, 2012, due to personal reasons. Mr. Ronald Berger, a certified public accountant and the Company's controller for the past eight years, was appointed by the Board of Directors as Interim Chief Financial Officer and has assumed Mr. Lamadrid's duties as of July 16, 2012.

*** On February 8, 2013, Mr. Thomas Bocchino, the Company's Chief Financial Officer, gave notice of his resignation, effective immediately, due to personal reasons. Mr. Ronald Berger, a certified public accountant and the Company's controller for the past eight years, was appointed by the Board of Directors as Interim Chief Financial Officer and has assumed Mr. Bocchino's duties as of February 8, 2013. Mr. Bocchino has agreed to stay on in a part-time capacity.

1 Based on 489,956,053 fully-diluted shares of Common Stock and common stock equivalents as of December 31, 2012. Shares of Common Stock subject to options or warrants currently exercisable or expected to be exercisable with the passage of time, are deemed outstanding for purposes of computing the percentage of the person holding such options or warrants, but are not deemed outstanding for purposes of computing the percentage of any other person.

2 Includes 9,363,370 shares of Common Stock issuable upon exercise of stock options.

3 Includes 811,713 shares of Common Stock issuable upon conversion of Series B Preferred Stock, 116,022 shares of Common Stock issuable upon conversion of Convertible Note, 190,000 shares of Common Stock and 5,333,025 shares of Common Stock issuable upon exercise of warrants and stock options.

4 With the exception of 3,734 shares of common stock that he owns directly, these shares are issuable upon exercise of stock options.

5 Includes 6,282,500 shares of Common Stock issuable upon exercise of stock options.

6 Includes 3,709 shares of Common Stock issuable upon conversion of Series A Preferred Stock, 562,265 shares of Common Stock issuable upon conversion of Series B Preferred Stock, and 657,454 shares of Common Stock issuable upon exercise of warrants and stock options, and 84,949 shares of Common Stock beneficially owned by Mr. Rubin's spouse, as to which he disclaims beneficial ownership.

7 These shares are issuable upon exercise of stock options.

8 Includes 95,796,105 shares of Common Stock issuable upon conversion of Series B Preferred Stock, and 339,000 shares of Common Stock issuable upon exercise of stock options. These securities are held directly by NJTC Venture Fund SBIC, LP, of which Mr. Gunton is a partner. Mr. Gunton disclaims beneficial ownership.

9 These shares are issuable upon exercise of stock options.

10 Includes 190,138 shares of Common Stock issuable upon conversion of Series B Preferred Stock, 58,011 shares of Common Stock issuable upon conversion of Convertible Note, and 546,333 shares of Common Stock issuable upon

exercise of warrants and stock options. This amount includes 6,500 shares of Common Stock beneficially owned by Mr. Berger's spouse, as to which he disclaims beneficial ownership.

11 Includes an aggregate of 3,709 shares of Common Stock issuable upon conversion of Series A Preferred Stock, 97,360,221 shares of Common Stock issuable upon conversion of Series B Preferred Stock, 174,033 shares of Common Stock issuable upon conversion of Convertible Notes, and 29,798,643 shares of Common Stock issuable upon exercise of warrants and stock options.

12 Includes 593,989 shares of Common Stock issuable upon conversion of Series A Preferred Stock, 48,713,398 shares of Common Stock issuable upon conversion of Series B Preferred Stock, and 3,384,254 shares of Common Stock issuable upon exercise of warrants.

13 Includes 95,796,105 shares of Common Stock issuable upon conversion of Series B Preferred Stock, and 339,000 shares of Common Stock issuable upon exercise of stock options. These securities are held directly by NJTC Venture Fund SBIC, LP and indirectly through James Gunton, a partner at NJTC.

EQUITY COMPENSATION PLAN INFORMATION

The following table summarizes outstanding options as of December 31, 2012, after giving effect to the Merger and subsequent grants. The Registrant had no options outstanding prior to the Merger, and all of the options below were issued either in connection with the Merger to former option holders of CytoSorbents or subsequently as new grants to employees, directors, and consultants.

	Number of securities to be issued upon exercise of outstanding options		**Weighted-average exercise price of outstanding options**		**Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in first column)**	
Equity compensation plans approved by stockholders	0		n/a		400,000	(1)
Equity compensation plans not approved by stockholders	36,827,616		$ 0.23		166,562	(2)
Total	36,827,616	(3)	$ 0.23	(3)	166,562	

(1) Represents options that may be issued under our 2003 Stock Option Plan.

(2) Represents the unadjusted number of options that may be issued under our 2006 Long-Term Incentive Plan. The options available under the pool may be increased to maintain 15% of the fully diluted share count as needed.

(3) Represents options to purchase (i) 402 shares of Common Stock at a price of $41.47 per share, (ii) 5,574 shares of Common Stock at a price of $21.57 per share, (iii) 439,740 shares of Common Stock at a price of $6.64 per share, (iv) 170,000 shares of Common Stock at a price of $1.90 per share, (v) 306,000 shares of Common Stock at a price of $1.65 per share, (vi) 400,000 shares of Common Stock at a price of $1.26 per share, (vii) 166,756 shares of Common Stock at a price of $1.25 per share, (viii) 3,014,000 shares of Common Stock at a price of $0.25, (ix) 137,622 shares of Common Stock at a price of $0.22, (x) 2,530,000 shares of Common Stock at a price of $0.173, (xi) 2,425,000 shares of Common Stock at a price of $0.168, (xii) 25,000 shares of Common Stock at a price of $0.167, (xiii) 408,000 shares of Common Stock at a price of $0.166, (xiv) 408,000 shares of Common Stock at a price of $0.165, (xv)25,000 shares of Common Stock at a price of $0.164, (xvi) 5,000 shares of Common Stock at a price of $0.159, (xvii) 25,000 shares of Common Stock at a price of $0.156, (xviii) 52,000 shares of Common Stock at a price of $0.154, (xix) 500,000 shares of Common Stock at a price of $0.148, (xx) 35,000 shares of Common Stock at a price of $0.143, (xxi) 100,000 shares of Common Stock at a price of $0.14, (xxii) 9,020,000 shares of Common Stock at a price of $0.138, (xxiii) 90,000 shares of Common Stock at a price of $0.136 per share, (xxiv) 302,000 shares of Common Stock at a price of $0.134, (xxv) 50,000 shares of Common Stock at a

price of $0.133, (xxvi) 525,000 shares of Common Stock at a price of $0.13, (xxvii) 200,000 shares of Common Stock at a price of $0.129, (xxviii) 30,000 shares of Common Stock at a price of $0.097, (xxix) 2,000 shares of Common Stock at a price of $0.09, (xxx) 7,000 shares of Common Stock at a price of $0.089, (xxxi) 2,753,858 shares of Common Stock at a price of $0.084, (xxxii) 115,000 shares of Common Stock at a price of $0.08, and (xxxiii) 12,554,664 shares of Common Stock at a price of $0.035.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports and other information with the SEC. You may read and copy any reports, statements or other information we file at the SEC's public reference rooms in Washington D.C., New York, New York and Chicago, Illinois. Please call the SEC at 1-800-SEC-0330 for further information on the public reference rooms. Our filings are also available to the public from commercial document retrieval services and at the web site maintained by the SEC at http://www.sec.gov.

We have filed a registration statement on Form S-1 under the Securities Act with the SEC covering the Common Stock to be offered by the selling stockholders. As permitted by the rules and regulations of the SEC, this document does not contain all information set forth in the registration statement and exhibits thereto, all of which are available for inspection as set forth above. For further information, please refer to the registration statement, including the exhibits thereto. Statements contained in this document relating to the contents of any contract or other document referred to herein are not necessarily complete, and reference is made to the copy of that contract or other document filed as an exhibit to the registration statement or other document, and each statement of this type is qualified in all respects by that reference.

No person is authorized to give any information or make any representation not contained in this document. You should not rely on any information provided to you that is not contained in this document. This prospectus does not constitute an offer to sell or a solicitation of an offer to purchase the securities described herein in any jurisdiction in which, or to any person to whom, it is unlawful to make the offer or solicitation. Neither the delivery of this document nor any distribution of shares of Common Stock made hereunder shall, under any circumstances, create any implication that there has not been any change in our affairs as of any time subsequent to the date hereof.

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution.

The estimated expenses of this offering in connection with the issuance and distribution of the securities being registered, all of which are to be paid by the Registrant, are as follows:

Registration Fee	$635.90
Legal Fees and Expenses	$7,500.00
Accounting Fees and Expenses	$3,000.00
Printing	
Miscellaneous Expenses	
Total	$11,135.90

Item 14. Indemnification of Directors and Officers.

Our directors and officers are indemnified as provided by the Nevada Revised Statutes and our bylaws. We have been advised that in the opinion of the Securities and Exchange Commission indemnification for liabilities arising under the Securities Act of 1933 is against public policy as expressed in the Securities Act of 1933, and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities is asserted by one of our directors, officers, or controlling persons in connection with the securities being registered, we will, unless in the opinion of our legal counsel the matter has been settled by controlling precedent, submit the question of whether such indemnification is against public policy to a court of appropriate jurisdiction. We will then be governed by the court's decision.

Item 15. Recent Sales of Unregistered Securities.

On June 25, 2008, we sold (i) 44,531.47 shares of our Series B Preferred Stock, at a price of $100 per share and (ii) a security (the " Additional Security ") to purchase additional shares of Series B Preferred Stock within 15 months following the Initial Closing at $100 per share, to a group of ten accredited investors led by NJTC Venture Fund SBIC, L.P. (" NJTC "). On August 25, 2008, we sold 8,400 shares of our Series B Preferred Stock, at a price of $100 per share to a group of seven accredited investors. The 52,931.47 shares of Series B Preferred Stock are initially convertible into 146,219,530 shares our common stock, par value $.001 per share ("Common Stock"). In addition, in connection with the private placement, $50,000 in principal amount of indebtedness plus accrued interest was converted into 576.05 additional shares of Series B Preferred Stock.

In October 2009, investors exercised warrants to purchase 13,357.52 shares of our Series B Preferred Stock, at a price of $100 per share.

In January 2010 the Company issued a 12-month Promissory Note in the principal amount of $172,500, which bears interest at the rate of 5% per annum.

On August 18, 2010, the Company issued Convertible Notes to certain accredited investors in the aggregate principal amount of $800,000 which bear interest at the rate of 8% per annum and mature on August 18, 2012.

On February 15, 2011, the Company, issued Convertible Notes to certain accredited investors in the aggregate principal amount of $1,250,000 which bear interest at the rate of 8% per annum and mature on February 15, 2013.

In February 2012, we issued 12-month Promissory Notes in the aggregate principal amount of $700,000, which accrue interest at the rate of 8% per annum. Per the terms of the Promissory Notes, the investors may, at any time, convert outstanding principal and interest into Common Stock of the Company at a rate of $0.15 per share. In connection with the sale of the Promissory Note, we issued each note holder a warrants exercisable into 1,166,667 shares with an exercise price equal to $0.175 per share of Common Stock.

These securities were issued in a private offering exempt from registration pursuant to Section 4(2) and Regulation D (Rule 506) under the Securities Act of 1933, as amended (the " Securities Act ").

Item 16. Exhibits.

The following exhibits are filed as part of, or incorporated by reference into this document:

Exhibit No.	**Description**
3.1	Certificate of Amendment to Articles of Incorporation dated February 17, 2010, incorporated by reference to Exhibit 3.1 on Registrant's Registration Statement on Form S-1, filed on June 4, 2010.
4.1	Form of Purchase Agreement, dated December 8, 2011, by and among CytoSorbents Corporation and Lincoln Park Capital Fund, LLC (incorporated by reference to Exhibit 10.1 on Registrant's Current Report on

	Form 8-K, filed on December 9, 2011).
4.2	Form of Registration Rights Agreement, dated December 8, 2011 by and among CytoSorbents Corporation and Lincoln Park Capital Fund, LLC (incorporated by reference to Exhibit 10.2 on Registrant's Current Report on Form 8-K, filed on December 9, 2011).
5.1	Legal Opinion of Anslow & Jaclin, LLP filed herewith.
23.1	Consent of WithumSmith + Brown, PC
23.2	Consent of Anslow & Jaclin, LLP refer to exhibit 5.1

101.INS *	XBRL Instance Document
101.SCH *	XBRL Taxonomy Schema
101.CAL *	XBRL Taxonomy Calculation Linkbase
101.DEF *	XBRL Taxonomy Definition Linkbase
101.LAB *	XBRL Taxonomy Label Linkbase
101.PRE *	XBRL Taxonomy Presentation Linkbase

*XBRL (Extensible Business Reporting Language) information is furnished and not filed or a part of a registration statement or prospectus for purposes of Sections 11 or 12 of the Securities Act of 1933, as amended, is deemed not filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and otherwise is not subject to liability under these sections.

Item 17. Undertakings.

The undersigned registrant hereby undertakes:

(1) To file, during any period in which it offers or sells securities, a post-effective amendment to this registration statement to:

(i) Include any prospectus required by Section 10(a)(3) of the Securities Act;

(ii) Reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of the securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of a prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20 percent change in the maximum offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement;

(iii) Include any additional or changed material information on the plan of distribution;

(2) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the bona fide offering thereof.

(3) To file a post-effective amendment to remove from registration any of the securities that remain unsold at the end of the offering.

Insofar as indemnification arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of

the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question of whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

SIGNATURES

In accordance with the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-1 and authorized this registration statement to be signed on its behalf by the undersigned in Monmouth Junction, State of New Jersey, on May 31, 2013.

CYTOSORBENTS CORPORATION

(Registrant)

By: /s/ Dr. Phillip Chan
Dr. Phillip Chan

Chief Executive Officer

In accordance with the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the dates indicated:

Signature	Title	Date
/s/ Dr. Phillip Chan Dr. Phillip Chan	Chief Executive Officer (Principal Executive Officer) and Director	May 31, 2013
/s/ Kathleen P. Bloch Kathleen P. Bloch	Chief Financial Officer (Principal Accounting and Financial Officer)	May 31, 2013
/s/ Vincent Capponi Vincent Capponi	Chief Operating Officer	May 31, 2013
/s/ Joseph Rubin, Esq. Joseph Rubin, Esq.	Director	May 31, 2013
/s/ Edward Jones Edward Jones, MD	Director	May 31, 2013
/s/ James Gunton James Gunton	Director	May 31, 2013
/s/Al Kraus Al Kraus	Director	May 31, 2013

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