

CytoSorbents Corporation



**Working to Save Lives
Through Blood Purification**

**OneMedForum Presentation
January 11, 2012**

OTCBB: CTSO

Safe Harbor Statement

Statements in this presentation regarding CytoSorbents Corporation and its operating subsidiary CytoSorbents, Inc that are not historical facts are forward-looking statements and are subject to risks and uncertainties that could cause actual future events or results to differ materially from such statements. Any such forward-looking statements are made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. It is routine for our internal projections and expectations to change. Although these expectations may change, we are under no obligation to inform you if they do. Actual events or results may differ materially from those contained in the projections or forward-looking statements. The following factors, among others, could cause our actual results to differ materially from those described in a forward-looking statement: our history of losses; potential fluctuations in our quarterly and annual results; competition, inability to achieve regulatory approval for our device, technology systems beyond our control and technology-related defects that could affect the companies' products or reputation; risks related to adverse business conditions; our dependence on key employees; competition for qualified personnel; the possible unavailability of financing as and if needed; and risks related to protecting our intellectual property rights or potential infringement of the intellectual property rights of third parties. This list is intended to identify only certain of the principal factors that could cause actual results to differ from those discussed in the forward-looking statements. Readers are referred to a discussion of important risk factors detailed in the Company's Form 10-K filed with the Securities and Exchange Commission on May 31, 2011 and other reports and documents filed from time to time by us, which are available online at www.sec.gov.

CytoSorbents Overview

CytoSorbents is a publicly-traded critical care-focused device company using blood purification to treat disease, with its first European Union approved product, **CytoSorb™**



Recent Company Highlights

- CytoSorb™ is now approved for use in the European Union as a first-in-class cytokine filter, clinically proven to reduce “cytokine storm” in patients with septic shock, one of the biggest killers in the intensive care unit

Recent Company Highlights

- CytoSorb™ is now approved for use in the European Union as a first-in-class cytokine filter, clinically proven to reduce “cytokine storm” in patients with septic shock, one of the biggest killers in the intensive care unit
- This reduction in “cytokine storm” led to a statistically significant improvement in mortality in patients at highest risk of death from sepsis, in a subgroup, post-hoc analysis

Recent Company Highlights

- CytoSorb™ is now approved for use in the European Union as a first-in-class cytokine filter, clinically proven to reduce “cytokine storm” in patients with septic shock, one of the biggest killers in the intensive care unit
- This reduction in “cytokine storm” led to a statistically significant improvement in mortality in patients at highest risk of death from sepsis, in a subgroup, post-hoc analysis
- We have now recorded our first ever initial revenue, albeit modest, with sales to hospitals in Germany in a limited market release begun in September. A formal market launch in Germany is planned for Q2 2012

Recent Company Highlights

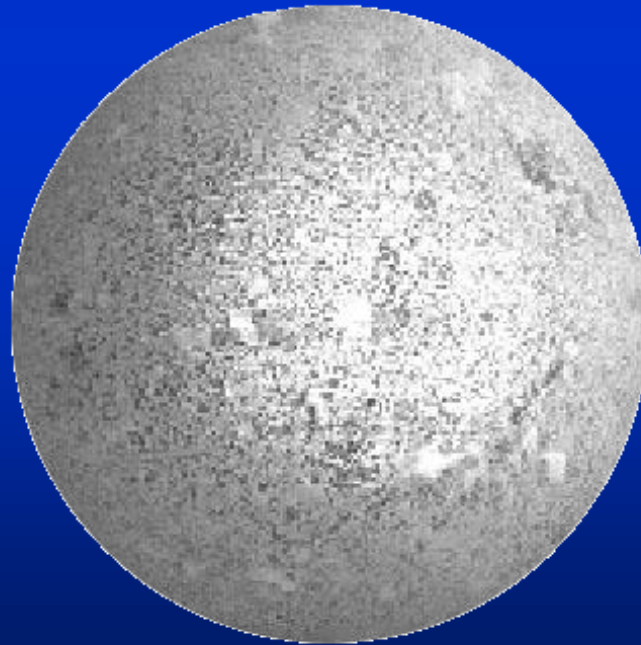
- CytoSorb™ is now approved for use in the European Union as a first-in-class cytokine filter, clinically proven to reduce “cytokine storm” in patients with septic shock, one of the biggest killers in the intensive care unit
- This reduction in “cytokine storm” led to a statistically significant improvement in mortality in patients at highest risk of death from sepsis, in a subgroup, post-hoc analysis
- We have now recorded our first ever initial revenue, albeit modest, with sales to hospitals in Germany in a limited market release begun in September. A formal market launch in Germany is planned for Q2 2012
- The US Army is funding a Phase I SBIR grant to evaluate the use of CytoSorb™ and our next generation technologies to treat trauma

Recent Company Highlights

- CytoSorb™ is now approved for use in the European Union as a first-in-class cytokine filter, clinically proven to reduce “cytokine storm” in patients with septic shock, one of the biggest killers in the intensive care unit
- This reduction in “cytokine storm” led to a statistically significant improvement in mortality in patients at highest risk of death from sepsis, in a subgroup, post-hoc analysis
- We have now recorded our first ever initial revenue, albeit modest, with sales to hospitals in Germany in a limited market release begun in September. A formal market launch in Germany is planned for Q2 2012
- The US Army is funding a Phase I SBIR grant to evaluate the use of CytoSorb™ and our next generation technologies to treat trauma
- DARPA recently informed us that our cytokine and toxin binding technology has been selected for funding in its “Dialysis-like Therapies” initiative to treat sepsis, pending successful contract negotiations

Technology Overview

The heart of the technology is a biocompatible, highly porous, polymer bead that can remove a wide range of toxic substances from blood and fluids based on pore capture and surface adsorption



Beads Can Be Used In Many Forms



Hemoperfusion



“Beads in a Bag”



In-line Filter

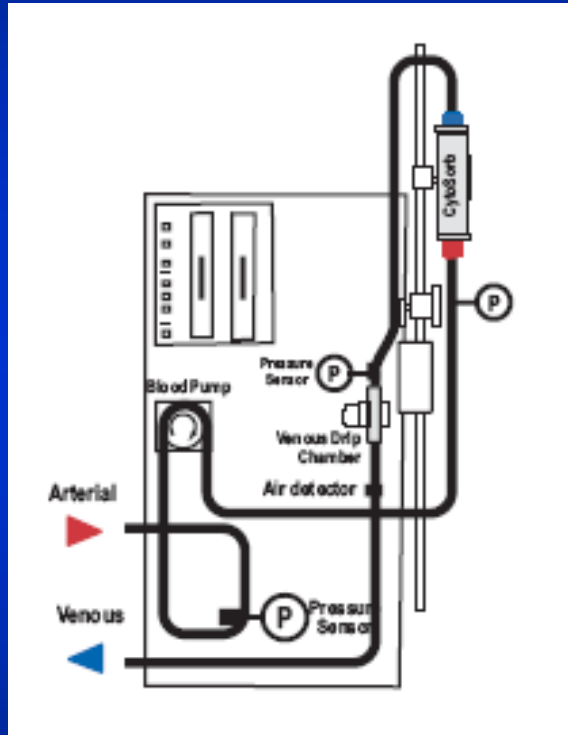
CytoSorb™ Is Our Flagship Product

CytoSorb™ is the cornerstone of our critical care strategy that is now approved for sale in the European Union



as an Extracorporeal Cytokine Filter
to be used whenever cytokines are elevated

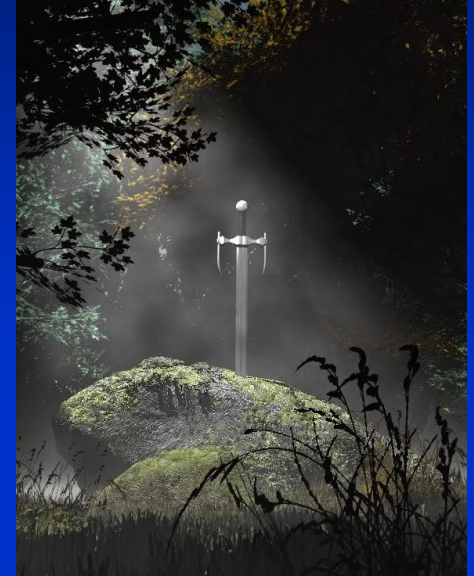
CytoSorb™ is Elegant and Easy to Use



- Obtain venous access with temporary dialysis catheter
- Pump blood through the cartridge using standard dialysis machines found in most hospitals
- The polymer beads remove cytokines
- “Purified” blood is pumped back into the patient
- Can treat 20-30 total blood volumes per 6 hr treatment
- Each treatment uses a new cartridge

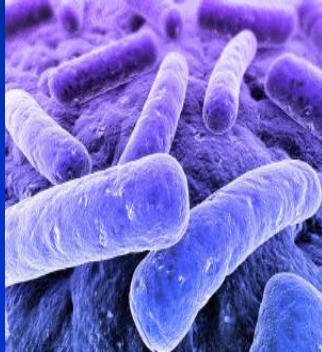
Cytokines: A Dual-Edged Sword

- Cytokines are small proteins that, in moderation, normally help stimulate and regulate the immune system. They are required for proper immune system function
- However, in mild to moderate excess, cytokines can cause or exacerbate disease (e.g. autoimmune diseases)
- \$14 billion in worldwide sales of specific anti-cytokine therapies such as Enbrel (Amgen), Remicade (J&J) and Humira (Abbott) have validated the anti-cytokine approach
- But in vast excess, often called “cytokine storm”, as seen in critical care illnesses, broader, more powerful therapies are needed



Cytokine Storm Is Common in the ICU

Infection



ARDS



Burns



Trauma

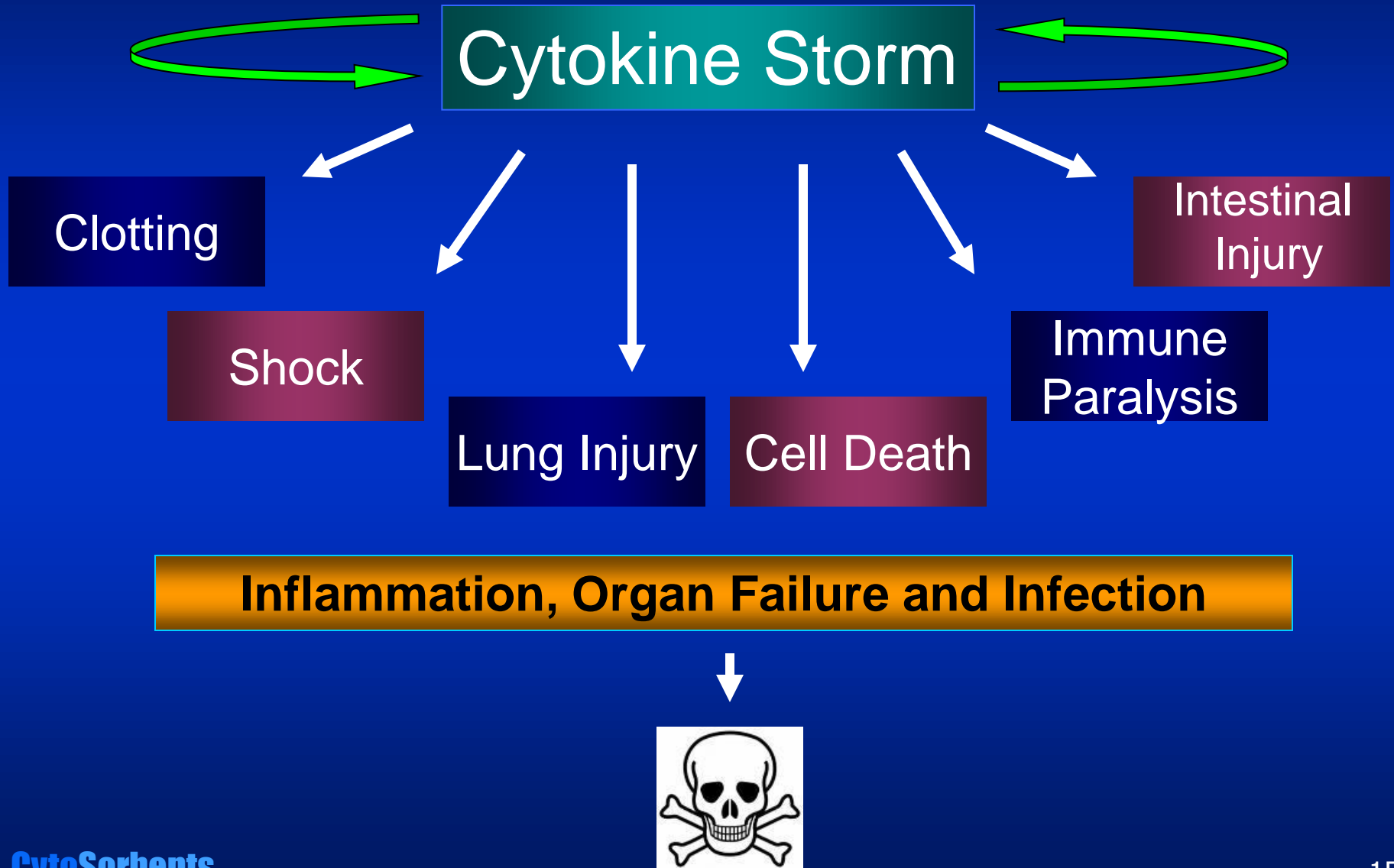


Surgery



Cytokine Storm

Cytokine Storm Leads to Organ Failure



Sepsis is a Worldwide **Crisis**

Sepsis is the result of an overzealous immune response to infection driven by “cytokine storm”

- Top 10 killer afflicting 18 million people worldwide every year
- Incidence of sepsis doubled in the past 10 years and is increasing
- Severe sepsis kills 1 in every 3 despite the best medical treatment. Septic shock kills 1 in every 2
- Kills more people in the U.S. than either heart attacks, strokes, or any single type of cancer
- Now there are NO approved therapies to treat it, with the withdrawal of Xigris (Lilly) from all markets following a failed post-marketing study

CytoSorb™ European Sepsis Trial

Completed a randomized, controlled clinical trial in 43 patients with predominantly septic shock and respiratory failure

- Compared Standard of Care (SOC) therapy alone versus SOC therapy plus **CytoSorb™** treatment
- Patients had a very high risk of death
 - All had multiple organ failure
 - Roughly half were age ≥ 65 (13-fold risk of death)
 - Roughly one third had very high cytokine levels
- Two goals of the trial
 - Demonstrate safety of treatment
 - Achieve statistical significance of primary endpoint of IL-6 reduction



CytoSorb™ Treatment was Safe

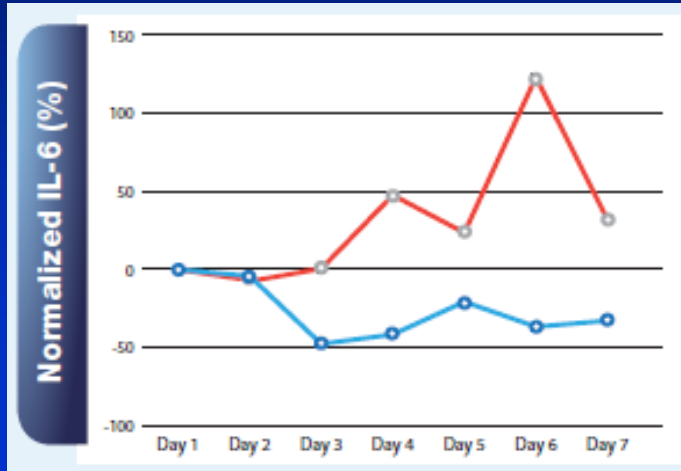
- No serious device related adverse events in more 300 treatments in septic patients in the trial, increasing the total number of safely administered human CytoSorb™ treatments to more than 650
- Treatment was well-tolerated by patients



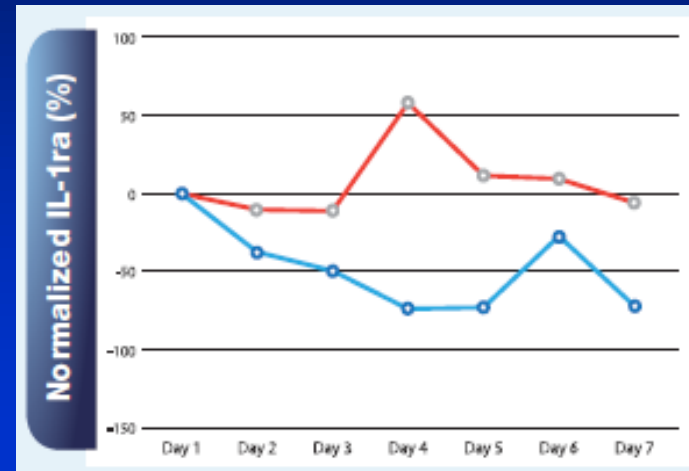
First Do No Harm

CytoSorb™ Broadly Reduces Cytokines

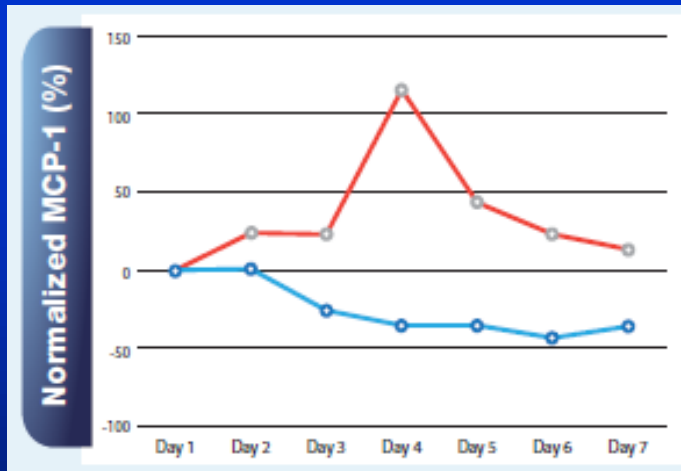
49.1%
reduction
 $p=0.01^*$



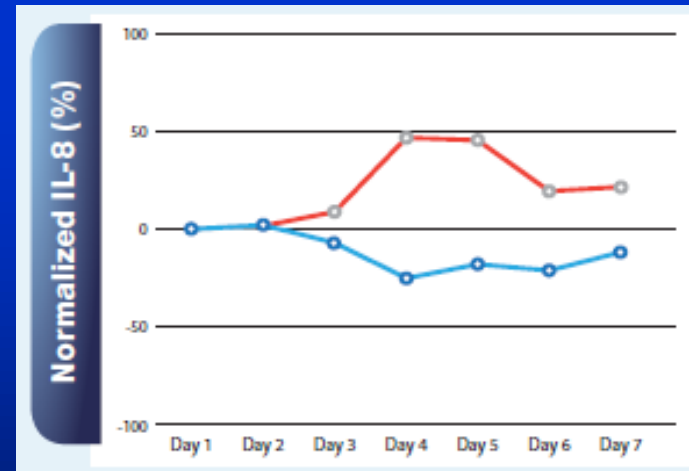
36.5%
reduction
 $p=0.001$



49.5%
reduction
 $p=0.002$



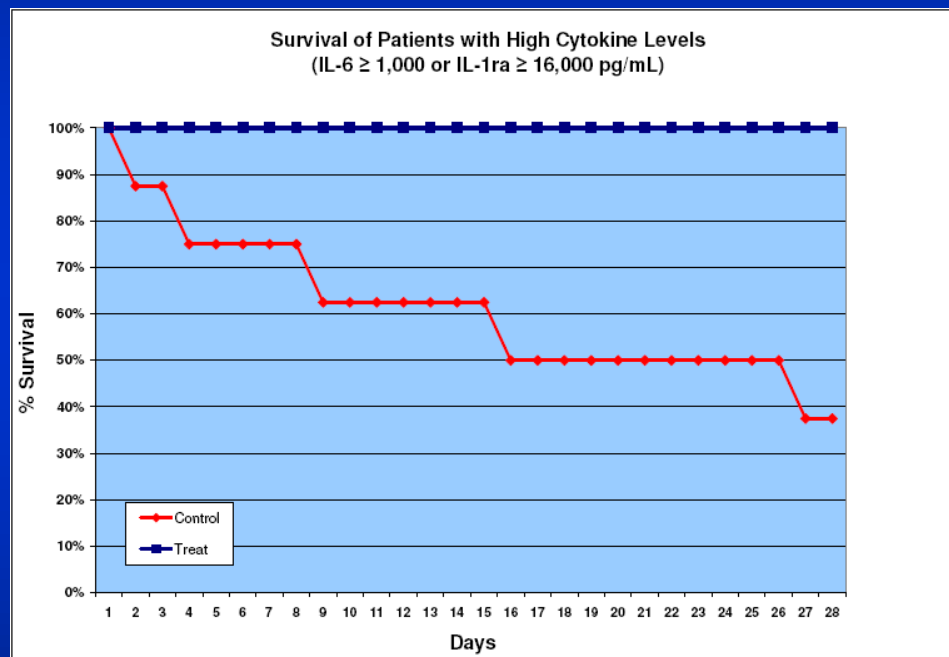
30.2%
reduction
 $p=0.002$



Achieved statistically significant 30-50% reduction in key cytokines across the 7-day treatment period. Others are pending

CytoSorb™ Reduces Mortality in Patients with High Cytokines Levels*

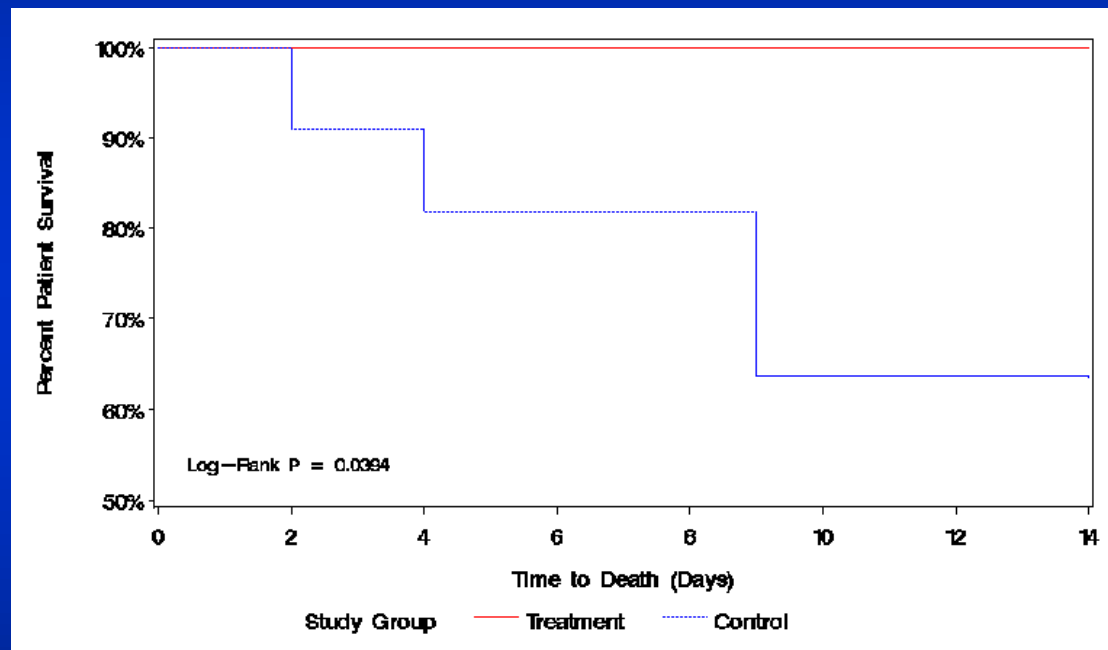
CytoSorb™ treatment shows statistically significant reduction in 28-day mortality (0% vs 63% control, $p=0.03$, $n=14$)



- Also, treatment showed a trend to benefit in the reduced need for mechanical ventilation at 28-days (33% vs 87% control, $p=0.09$, $n = 14$)

CytoSorb™ Reduces 14-day Mortality in Patients Age ≥ 65

CytoSorb™ treatment for 7 days shows statistically significant reduction in 14-day mortality (0.0% vs 36% control, $p=0.04$, $n=21$)



- To achieve mortality benefit at 28-days in this very sick population, we are investigating more aggressive treatment

CytoSorb™ Has Achieved First Revenue

- Initial focus is on direct sales in Germany
 - * Sepsis
 - * Acute Respiratory Distress Syndrome
 - * Trauma
 - * Burn and smoke inhalation injury
 - * Pancreatitis
 - * Surgical complications
- Initial orders from early adopters has begun with early modest revenue for 2011 as part of a controlled market release of **CytoSorb™** in select areas in Germany. Plan a broader launch in Germany in Q2 2012
- Manufacturing under ISO 13485 certification is in full swing
- The reimbursement path for **CytoSorb™** has been established in Germany
- Plan to use partners or independent distributors to expand in Europe
- Will eventually target a US trial to seek FDA approval



CytoSorb™ Gaining Support from Home

- We were awarded a Phase I SBIR grant from the US Army Medical Research and Materiel Command to develop and evaluate **CytoSorb™** and our next generation technologies as a treatment for trauma and rhabdomyolysis
 - \$100,000 over 6 months with option for additional \$50,000
 - Designed to allow us to plan and optimize our technological approach for a planned Phase II SBIR submission in 2012 valued at up to \$1 million
- DARPA (Defense Advanced Research Projects Agency) selected our research proposal for funding for its multi-million dollar, multi-year “Dialysis-Like Therapeutics” program for the treatment of sepsis, pending successful contract negotiations
 - Our proposal targets the removal of cytokines and toxins from blood
 - Until the contract is negotiated and signed, which may take several months, there is no guarantee of funding

CytoSorbents Has a Robust Pipeline

With strong development capabilities

NAME	INDICATION	DESCRIPTION	STATUS
CytoSorb™	Severe sepsis and septic shock ARDS/ acute lung injury Burn and smoke inhalation injury Trauma Severe acute pancreatitis Complications of influenza Autoimmune disease flares	Highly efficient cytokine filter that is designed to treat cytokine storm and inflammation	European CE Mark approved as a cytokine filter in cases where cytokines are elevated
CytoSorb™	Cardiac Surgery Protection of organ transplants	Highly efficient cytokine filter to reduce cytokine-induced organ injury	Observational human study completed Human pilot study completed
HemoDefend	Purification of blood transfusion products	“Beads in a Bag” purification technology	Pre-clinical proof of concept completed
BetaSorb™	Improvement of hemodialysis in end-stage renal disease	Removal of mid-molecular weight toxins that are inefficiently removed by standard dialysis	Four human pilot studies completed
CST 101/201	Drug overdose/ Chemotherapy removal during high dose regional chemotherapy	Efficient single pass removal of drugs and certain chemotherapy agents from blood	Pre-clinical proof of concept completed
CST 301	Trauma	Removal of myoglobin from blood caused by muscle breakdown and rhabdomyolysis in trauma	Pre-clinical proof of concept completed

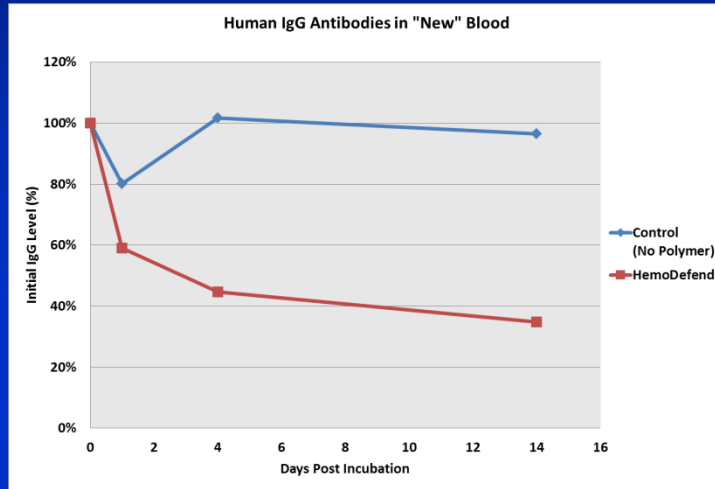
HemoDefend Protection for Blood Transfusions

- 30M blood transfusions in US each year
- Hundreds of thousands of people develop transfusion reactions due to contaminants in blood products
- HemoDefend beads are designed to go into the blood storage bag and remove these contaminants continuously during storage
- Neutrally buoyant beads distribute evenly, so no mixing is needed
- A macrofilter prevents bead escape
- No additional equipment is needed

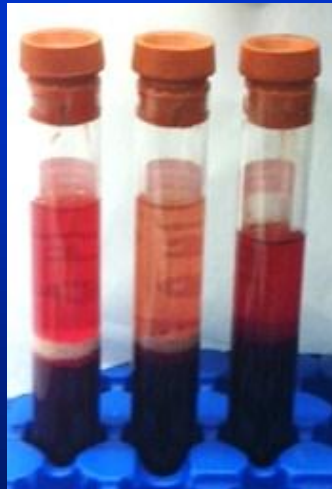
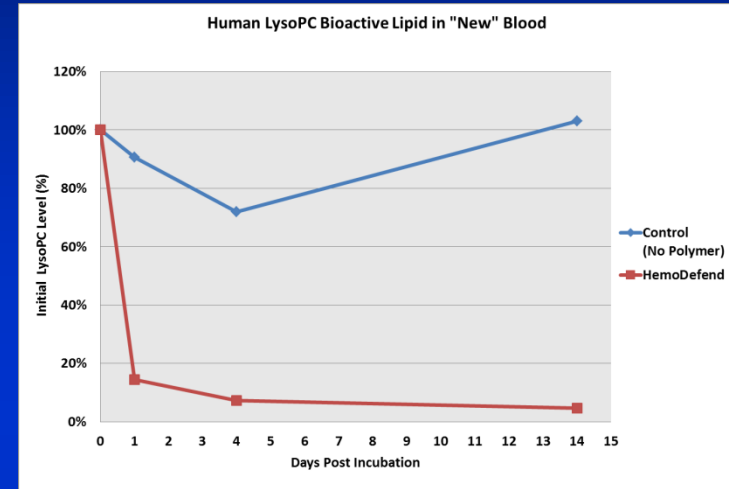


Removes A Broad Range of Substances

Antibodies



Bioactive Lipids



Hemoglobin

Cytokines

CytoSorb™ removes a broad spectrum of cytokines in the ~10-50 kDa range.

Cytokine	Molecular weight	% removal
IL-8	8 kDa	100%
IL-1ra	17 kDa	100%
IL-1 α	17 kDa	100%
IL-10	18 kDa	85%
IL-6	26 kDa	87%
HMGB1	30 kDa	80%
TNF- α trimer	51 kDa	55%

CytoSorbents Seeks Strategic Alliances

CytoSorbents has an active business development program seeking partners for its growth technology portfolio

CytoSorb™

HemoDefend

Others

Potential partners include companies involved in:

- Dialysis and renal therapies
- Pharmaceuticals
- Critical care
- Advanced materials
- Blood transfusion and blood purification

Partnerships help validate the technology, provide resources to further develop products, are a source of non-dilutive funding, and are potential M&A candidates

CytoSorbents Seeks New Investors

CytoSorbents represents a major potential growth story

- **CytoSorb™** targets some of the biggest unmet medical needs in medicine today by addressing the root cause of why many patients die in the ICU
- The total addressable market in critical care exceeds \$10 billion
- With approval of **CytoSorb™**, the company is transitioning for the first time in its history from a development-stage company to a revenue-based company with early revenue
- The company has a strong IP position with 29 issued patents
- The pipeline for products continues to expand with **HemoDefend** and others, enabling the company to monetize its rich technology portfolio while pursuing core applications on its own

CytoSorbents Corporation



**Working to Save Lives
Through
Blood Purification**

OTCBB: CTSO

Phillip P. Chan, MD, PhD
CEO and President
7 Deer Park Drive, Suite K
Monmouth Junction, NJ 08852
(732) 329-8885
pchan@cytosorbents.com