

# CytoSorbents Corporation

OTCBB: CTSO

An Emerging Leader in  
Critical Care Immunotherapy

Q1 2014 Review – May 14, 2014



# 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 March 31, 2014 and other reports and documents filed from time to time by us, which are available online at [www.sec.gov](http://www.sec.gov).

# Conference Call Participants

Dr. Phillip Chan, MD, PhD

Chief Executive Officer and President

Vincent Capponi, MS

Chief Operating Officer

Kathleen Bloch, MBA, CPA

Chief Financial Officer

Dr. Christian Steiner, MD

Vice President of Sales and Marketing

Christopher Cramer, MS, MBA

Vice President of Business Development

**Moderator: Amy Vogel – CytoSorbents Corporation**

# **CytoSorbents** is an Emerging Leader in the \$20B Critical Care Immunotherapy Space

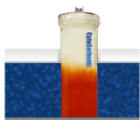


Leading the Prevention or Treatment of  
Life-Threatening Inflammation in the ICU



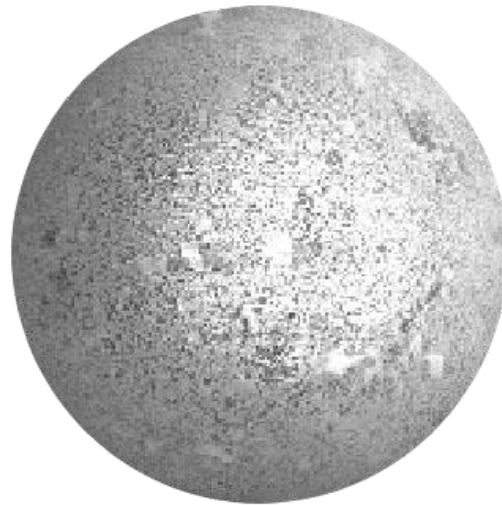
# CytoSorb® Removes the Fuel to the Fire

- CytoSorb® represents a powerful immunotherapy to control inflammation
- Approved in the European Union as the only specifically approved extracorporeal cytokine filter
- Clinically proven to reduce key cytokines in blood by 30-50% in critically ill patients
- Approved for use in any situation where cytokines are elevated
- Safe: More than 3,000 human treatments, with no serious device related adverse events reported



# The Heart of the Technology

The underlying blood purification technology is based on state-of-the-art biocompatible, highly porous polymer beads that act like tiny sponges to remove harmful substances from blood



Each bead is about the size of a grain of salt

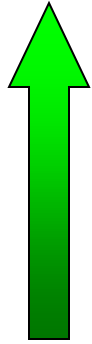


- Protected by 32 issued US patents and multiple applications pending
- Manufactured at our ISO 13485 certified facility in New Jersey
- One of the highest grade medical sorbents on the medical market today

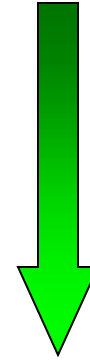




# Goal: To Prevent or Treat Organ Failure

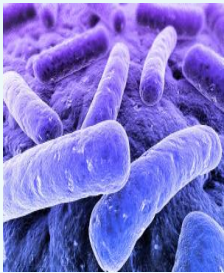


Improve  
Patient  
Outcome  
and  
Survival

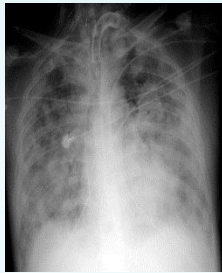


Decrease  
Costs Of  
ICU and  
Patient  
Care

Sepsis



ARDS



Burn Injury



Trauma



Pancreatitis



Influenza



Surgical



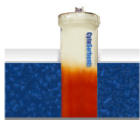
The Potential to Revolutionize Critical Care Medicine



**CytoSorbents**

Working to Save Lives Through Blood Purification

# Q1 2014 Operating and Financial Highlights



**CytoSorbents**

Working to Save Lives Through Blood Purification



# CytoSorb® An Excellent Business Model

- **Huge market**

CytoSorb® is sold to hospitals and critical care physicians, targeting a “need to have” \$20 billion worldwide critical care opportunity addressing organ failure

- **Little to no competition**

- **Critical care physicians understand the problem**

- **It is a plug and play high margin disposable “razorblade”**

Hospital’s existing hemodialysis infrastructure is the “razor”, no new hardware

- **Technicians already know how to use the device**

- **CytoSorb® is reimbursed in Germany/Austria at >\$500/cartridge.**

Depending on the application and devices used, revenue potential per patient ~\$1-5K

- **Affordable yet profitable with gross margins of 60%+, target > 80%**

- **Intensive care units are highly centralized easy for a small sales force to access**

# Raised \$10.2M in March 2014

- Fortified balance sheet with net proceeds of \$9.5M cash from our financing
- Enables aggressive growth strategy, focused on growing CytoSorb® sales, generating clinical data, and product development
- Currently have estimated 1-2 years of cash to be supplemented with
  - CytoSorb sales
  - Grant income
  - Potential strategic partnerships
- Led by Brean Capital

# Middle East Expansion with Techno Orbits



- Exclusive distribution agreement
- Includes the Gulf Cooperation Council (GCC) countries of Saudi Arabia, United Arab Emirates, Kuwait, Qatar, Oman, and Bahrain and related states of Yemen, Iraq, and Jordan
- 105 million people in this territory
- Many trends in our favor:
  - Growing population
  - Government sponsored universal healthcare
  - Strong purchasing power from government agencies due to rise in oil prices
  - Significant interest in innovative new medical technologies
- Product registration is pending



# E.U. Approval Opens Global Distribution

Signed 18 countries including the UK, Ireland, Netherlands, Turkey, Russia, India and Middle East covering ~1.7 billion lives. Expanding to other parts of Europe and other countries outside the EU that accept the CE Mark

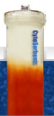
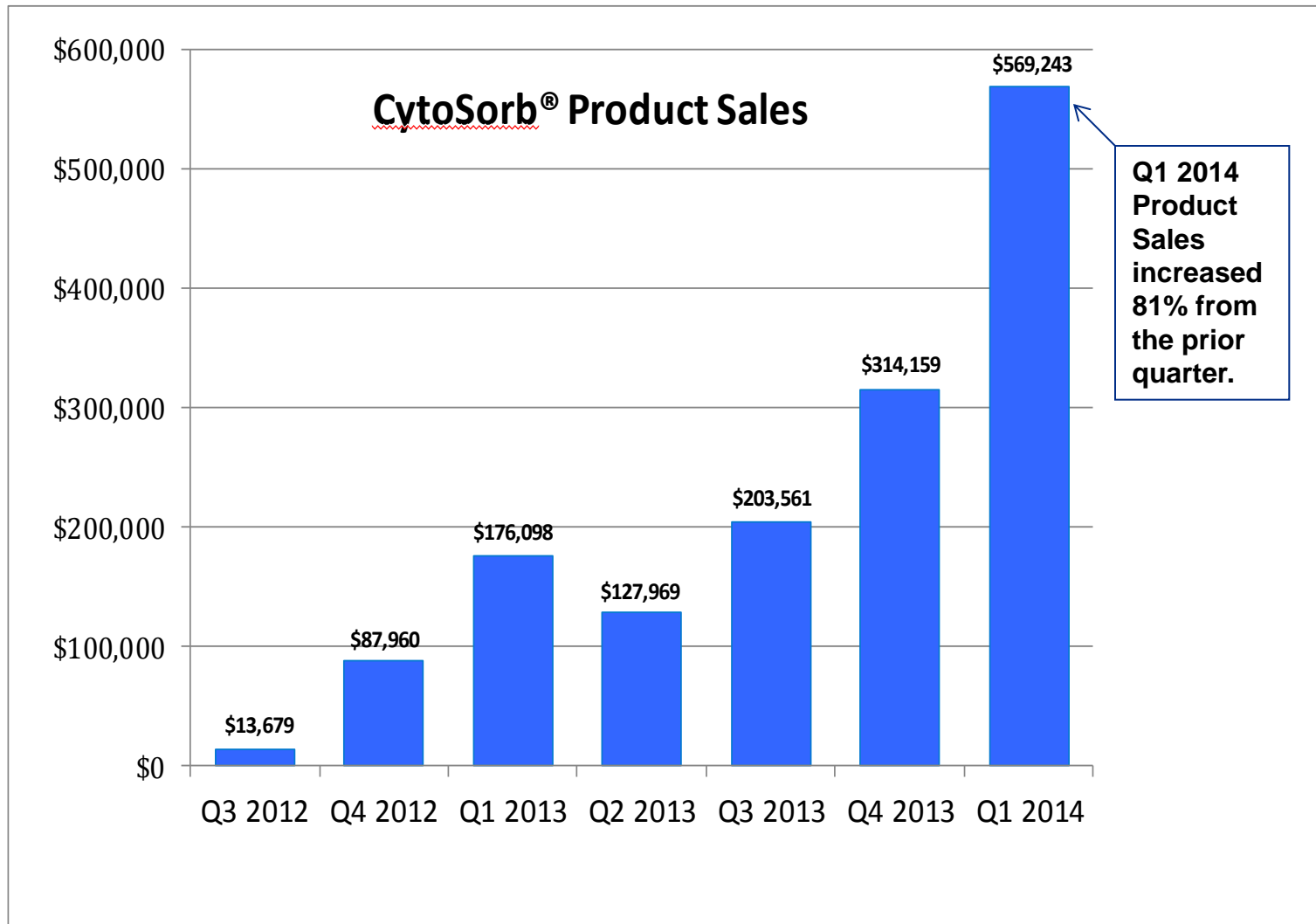


# Q1 2014 Revenue Results

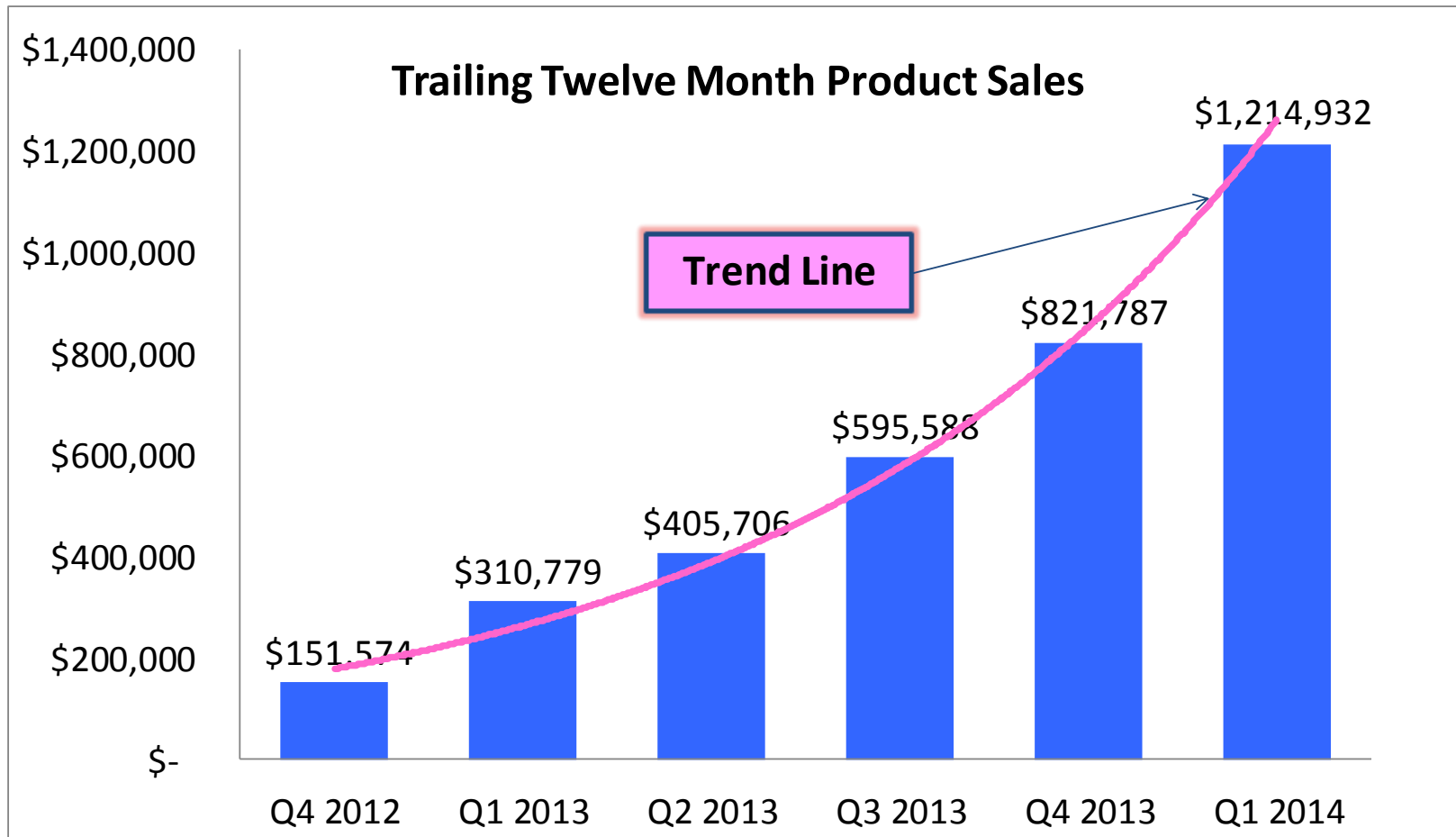
	Q1 2014		Q1 2013		% Incr.
Product revenue	\$ 569,243		\$ 176,098		223%
Grant and other income	492,929		195,232		152%
Total revenue	\$ 1,062,172		\$ 371,330		186%

- Q1 2014 total revenue was ~\$1.1M, compared to total Q1 2013 revenues of \$371,000
- CytoSorb® Q1 2014 product sales were ~\$569,000, an increase of 223% over Q1 2013 product sales of ~\$176,000
- Grant income for Q1 2014 was ~\$491,000, compared to grant income of ~\$195,000 for the first quarter of 2013, an increase of 152%
- Q1 2014 product gross margins were in excess of 60%

# Continuing Strong Product Growth

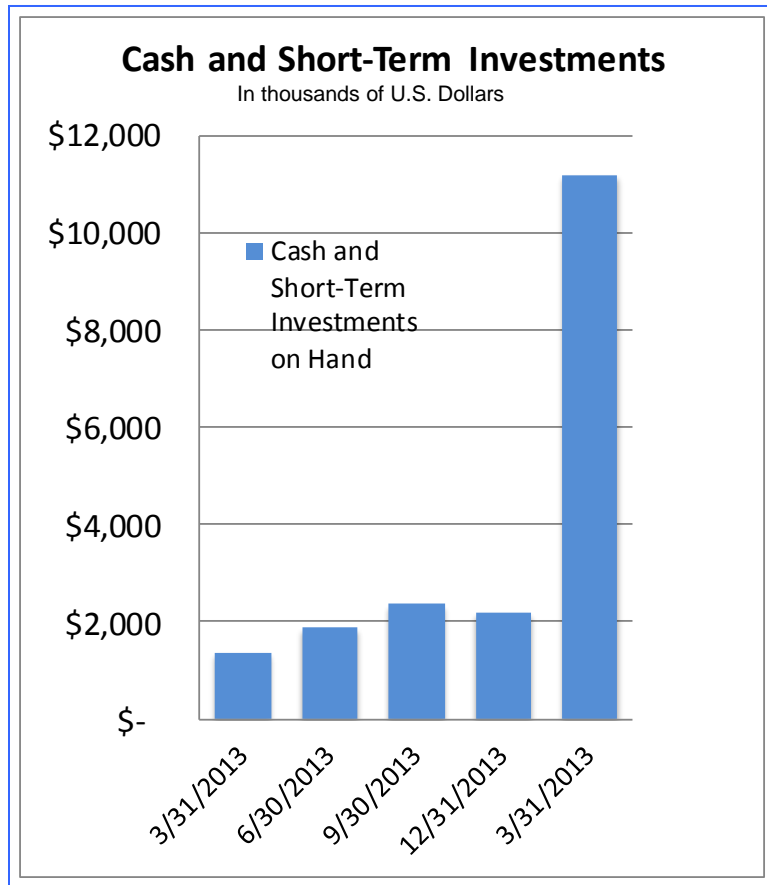


# Product Sales (TTM)





# Working Capital



## Capital Available to Fund Growth

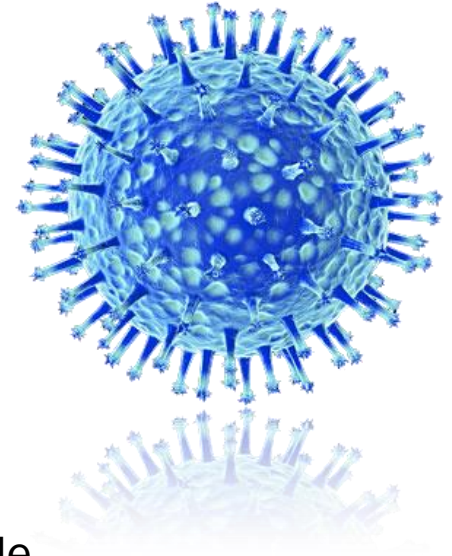
- Receipt of net proceeds of \$9,451,000 from our March 11, 2014 preregistered offering has strengthened our balance sheet.
- Receipt of approximately \$458,000 from sale of our operating losses under the New Jersey Technology Business Tax Certificate Transfer Program
- Increasing Product Sales with high gross product margins will help offset operating expenses. Gross margin for Q1 2014 was approximately \$400,000

# Rationale for Using CytoSorb® for Existing and Emerging Viral Threats



# The Influenza Emergency

Seasonal influenza afflicts 60+ million Americans each year, hospitalizing 200,000 and killing 36,000 despite broad availability of vaccines and anti-virals\*



- Swine flu (2009 H1N1) pandemic lessons
  - We cannot rely on vaccination alone. 30-70M Americans contracted H1N1 before the vaccine became widely available in December 2009 (per CDC statistics)
    - Lengthy production for new outbreaks
    - Low yields, potency, and quality problems
    - Initial short supply and limited availability
    - Not everyone chose to get vaccinated
  - We cannot rely on anti-virals alone
    - Many miss the 24 - 48 hour window after onset of symptoms
    - Known resistance of highly pathogenic strains such as the deadly avian flu



# The Other Important Lesson Learned

Influenza patients often die when they develop  
“cytokine storm” and multiple-organ failure

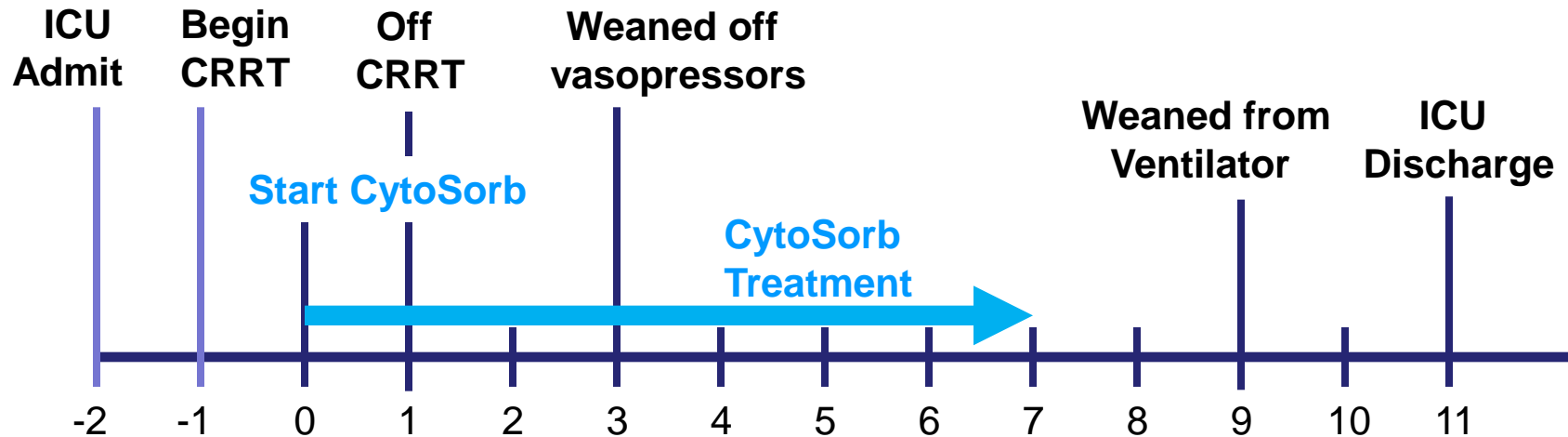
- Seasonal flu only affects the lungs, yet patients routinely die of multiple organ failure and secondary bacterial sepsis
- Cytokines are an essential part of the anti-viral immune response. However, when produced in excess, or “cytokine storm”, patients frequently develop a massive inflammatory response (SIRS/Sepsis) that can rapidly lead to fatal organ failure
  - Those with robust immune systems died rapidly in multiple epidemics
  - Cytokine storm is correlated with mortality in highly pathogenic influenza strains such as H5N1, and others like SARS
- Yet, there are few, if any therapies, capable of controlling cytokine storm and reducing the SIRS/sepsis response

Direct reduction of cytokine storm with CytoSorb® could help treat these patients

# Influenza Case Report

56 year old man with documented H1N1 influenza with multiple organ failure

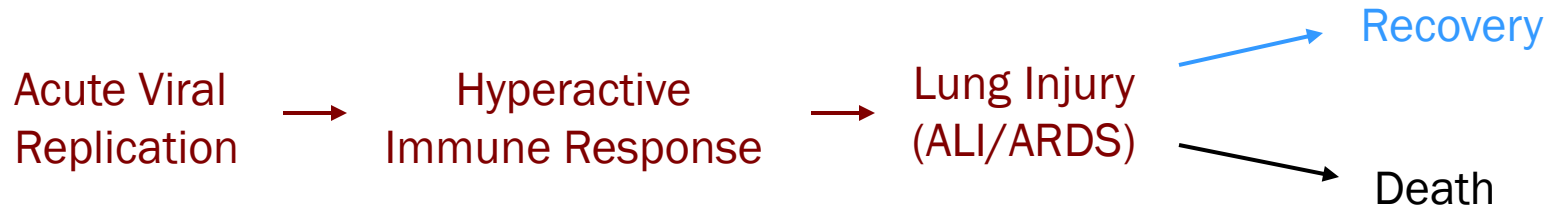
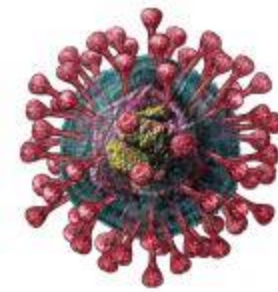
Treatment day	1	2	3	4	5	6	7
IL-6 (before) pg/mL	8,076	1,025	527	172	117	120	107
IL-6 (after) pg/mL	2,621	663	289	76	110	111	94
IL-6 (% change)	-68%	-35%	-45%	-56%	-6%	-8%	-12%



Patient was alive and well at 60-day follow-up



# Lessons Learned from SARS



- 2002-2003 Pandemic: 8,098 infected, 774 people died (~10% mortality)\*
- Patients died due to pulmonary complications such as ARDS (particularly in age > 60), multiple organ failure, secondary bacterial pneumonias, and had other complications such as diarrhea and lymphopenia
- Pathology caused by viral replication and immune system mediated events
- Hyperactive immune response was characterized by high levels of inflammatory cytokines (e.g IFN- $\gamma$ , IL-1, IL-6, IL-12) and chemokines (e.g. IL-8, MCP-1, and IP-10). IL-8 was correlated with ARDS. No significant elevation in TNF- $\alpha$ , IL-4 or IL-10\*\*
- No specific treatment for SARS, though many patients were treated with ribavirin and corticosteroids

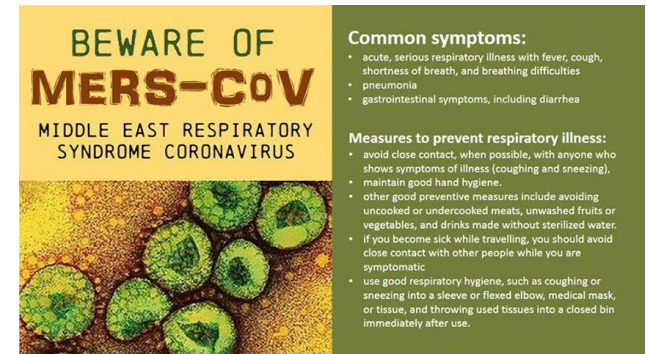
\* World Health Organization statistics

\*\* Wong, et al. Clin Exp Immunol 2004: 136:95-103



# MERS Coronavirus

- The mechanism of injury is likely the same as SARS and influenza, though mortality appears significantly higher
- Based on WHO reports, there have been 538 documented cases of MERS in 17 countries, with 174 deaths (~25% mortality) with an increasing number of cases since March
  - Majority of cases in Middle East
  - 2 documented cases in the U.S.
  - 1 in 5 infections are in healthcare workers thought due to patient exposure
- Causes severe viral pneumonia with the development of acute respiratory distress syndrome, sepsis, and multiple organ failure
- Treatment: No cure, no vaccine. Currently supportive care.

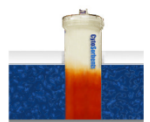




# Recent Visit to Saudi Arabia



Prince Mohammed bin Abdulaziz Hospital in Riyadh, Saudi Arabia



# Where We Stand with MERS

- We have used CytoSorb® successfully in several patients with viral sepsis and multi-organ failure due to influenza, where a reduction in cytokines coincided with clinical improvement
- Similarly, there is good scientific rationale to why CytoSorb® could be helpful in the treatment of patients afflicted with the MERS, and how a reduction in “cytokine storm” could be of help
- CytoSorb® is available for use in the Middle East with registration of CytoSorb® possible in the near term
- We have visited Saudi Arabia recently, introduced CytoSorb® to one of the three main hospitals treating MERS in Saudi Arabia and trained our distributor Techno Orbits
- Although we have not yet treated a patient with MERS and do not know if or how CytoSorb® may help these patients, we are well-positioned to potentially have our first treatment case soon

# **CytoSorbents** is Leading the Way To Prevent or Treat Life Threatening Inflammation

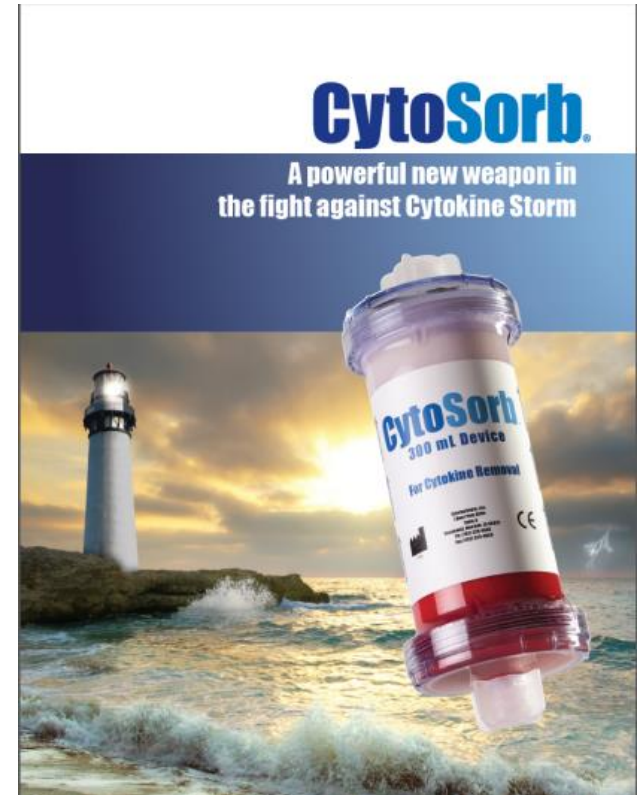
- CytoSorb® targets deadly inflammation in the ICU that leads to organ failure and death
- It is approved in the E.U. and is generating international revenue
- Untapped \$20B market opportunity and crucial unmet medical need
- Validation of the company and technology from many fronts
- Unique, highly profitable product and pipeline with little to no competition
- Experienced and responsible management team
- Potential major catalysts in the next 6-9 months
  - Revenue Growth
  - Strategic Partnerships
  - Clinical Data
  - Up-listing to National Market
  - New Product Development
  - Institutional Ownership

# Q&A Session

## CytoSorbents Corporation

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## The Rise of An Emerging Critical Care Immunotherapy Company

