CytoSorbents Advances War On Sepsis with Development of CytoSorb-XL

Next Generation CytoSorb-XL Combines Industry Leading Cytokine, Toxin and Inflammatory Mediator Reduction of CytoSorb® with New Endotoxin Removal Capability to Fight Sepsis

MONMOUTH JUNCTION, NJ – September 8, 2016 – CytoSorbents Corporation (NASDAQ: CTSO), commercializing its European Union approved CytoSorb® blood purification cartridge to reduce deadly inflammation and to help save lives in sepsis and other life-threatening illnesses, announced the advanced development of its next generation, patent-pending CytoSorb-XL platform for the treatment of severe sepsis and septic shock, at the start of the 1st World Sepsis Congress and on the eve of World Sepsis Day.

CytoSorb-XL is a new, state-of-the-art porous polymer bead technology that combines lipopolysaccharide (LPS) endotoxin removal with the robust cytokine, toxin, and inflammatory mediator reduction achieved by CytoSorb®. CytoSorb-XL and its novel endotoxin binding chemistry is the subject of a broad composition of matter patent application, intended to protect the technology worldwide for the next two decades.

In a head-to-head comparison with the leading endotoxin adsorber, Toraymyxin™ (Toray, Japan), CytoSorb-XL matched the level of endotoxin reduction in an *in vitro* plasma recirculation system on a comparable volume basis. CytoSorb-XL is expected to eliminate the need for stand-alone endotoxin specific filters by offering superior performance in the removal of not just endotoxin, but a much broader array of inflammatory mediators that drive uncontrolled deadly inflammation, organ failure, and death in sepsis.

“The development of CytoSorb-XL is an outstanding achievement for our company and highlights a clear future evolution of sepsis treatment using blood purification,” stated Dr. Phillip Chan, Chief Executive Officer of CytoSorbents. “Endotoxin, produced by Gram negative bacteria such as *E. coli*, is a potent and deadly trigger of severe sepsis and septic shock, but wreaks its havoc through the activation of the immune system and generation of systemic inflammation through cytokine storm. This is why endotoxin removal alone is not enough and why the simultaneous removal of endotoxin, cytokines, exotoxins, and other inflammatory mediators is anticipated to be much more efficacious. In other words, treatment of sepsis by CytoSorb-XL is expected to be a classic case where one plus one equals three.”

Dr. Chan continued, “Today, our flagship extracorporeal cytokine adsorber CytoSorb® has already helped to save the lives of many, many septic patients around the world. As we continue international commercialization of CytoSorb® in critical care and cardiac surgery, we will actively pursue completion of pre-clinical and clinical development of CytoSorb-XL. CytoSorb-XL is intended to be a worthy eventual successor to CytoSorb® for all clinical applications.”

Sepsis is the overzealous immune response to a life-threatening infection often leading to organ dysfunction, organ failure, and death. According to the Global Sepsis Alliance, sepsis afflicts an estimated 30 million people each year, is more common than a heart attack, and claims more lives than any cancer, killing one person every 3-4 seconds. Sepsis remains the primary cause of death following an infection and remains a top 10 killer worldwide. The Agency for Healthcare Research and Quality (AHRQ) lists sepsis as the most expensive condition treated in U.S. hospitals, costing $23.7 billion in 2013, accounting for 6.2% of the aggregate cost of all hospitalizations.

About CytoSorbents Corporation (NASDAQ: CTSO)

CytoSorbents Corporation is a leader in critical care immunotherapy, specializing in blood purification. Its flagship product, CytoSorb®, is approved in the European Union with distribution in 37 countries worldwide, as a safe and effective extracorporeal cytokine adsorber, designed to reduce the "cytokine storm" or "cytokine release syndrome" that could otherwise cause massive inflammation, organ failure and death in common critical illnesses such as sepsis, burn injury, trauma, lung injury and pancreatitis, as well as in cancer immunotherapy. These are conditions where the risk of death is extremely high, yet no effective treatments exist. CytoSorb® is also being used during and after cardiac surgery to remove inflammatory mediators, such as cytokines and free hemoglobin, which can lead to post-operative complications, including multiple organ failure. CytoSorbents is currently conducting its REFRESH (REduction in FREe Hemoglobin) 1 trial - a multi-center, randomized controlled study evaluating the safety of intra-operative CytoSorb® use in a heart-lung machine during complex cardiac surgery. In early 2017, the company plans to initiate a pivotal REFRESH 2 trial intended to support U.S. FDA approval. CytoSorb® has been used safely in more than 14,000 human treatments to date.

CytoSorbents' purification technologies are based on biocompatible, highly porous polymer beads that can actively remove toxic substances from blood and other bodily fluids by pore

capture and surface adsorption. Its technologies have received non-dilutive grant and contract funding in excess of $18 million from DARPA, the U.S. Army, the U.S. Air Force, the U.S. Department of Health and Human Services, the National Institutes of Health (NIH), National Heart, Lung, and Blood Institute (NHLBI), U.S. Special Operations Command (SOCOM) and others. The Company has numerous products under development based upon this unique blood purification technology, protected by 32 issued U.S. patents and multiple applications pending worldwide, including HemoDefend™, ContrastSorb, DrugSorb and others. For more information, please visit the Company's websites: www.cytosorbents.com and www.cytosorb.com or follow us on Facebook and Twitter.

Forward-Looking Statements

This press release includes forward-looking statements intended to qualify for the safe harbor from liability established by the Private Securities Litigation Reform Act of 1995. These forward-looking statements include, but are not limited to, statements about our plans, objectives, representations and contentions and are not historical facts and typically are identified by use of terms such as "may," "should," "could," "expect," "plan," "anticipate," "believe," "estimate," "predict," "potential," "continue" and similar words, although some forward-looking statements are expressed differently. You should be aware that the forward-looking statements in this press release represent management's current judgment and expectations, but our actual results, events and performance could differ materially from those in the forward-looking statements. Factors which could cause or contribute to such differences include, but are not limited to, the risks discussed in our Annual Report on Form 10-K, filed with the SEC on March 9, 2016, as updated by the risks reported in our Quarterly Reports on Form 10-Q, and in the press releases and other communications to shareholders issued by us from time to time which attempt to advise interested parties of the risks and factors which may affect our business. We caution you not to place undue reliance upon any such forward-looking statements. We undertake no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events, or otherwise, other than as required under the Federal securities laws.

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