SmartThaw™ Offers a New Standard in Thawing of Cryopreserved Products

Article published in BioProcessing Journal details how the novel *SmartThaw*™ dry thawing device could revolutionize frozen sample thawing

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OWEGO, NY – A peer-reviewed research article detailing the development of CPSI's *SmartThaw* ™ device was published in this month's issue of *BioProcessing Journal* (Volume 15, Number 1; pages 30-41). The manuscript, titled *Development and Assessment of a Novel Device for the Controlled Dry Thawing of Cryopreserved Cell Products*, focuses on comparative evaluations between *SmartThaw* ™ and water bath thawing (the gold standard) using human mesenchymal stem cell (hMSC) and prostate cancer (PC-3) cell cultures and demonstrates the improvement in sample processing and quality obtained using *SmartThaw*™.

Speaking about *SmartThaw*™, Dr. John M Baust, Lead Scientist on the project, stated "this study investigated the sample thawing process and its impact on downstream cell product quality. This is a critical area impacting the bioprocessing and cell therapy industries which is often overlooked. There are a number of unrecognized issues associated with the water bath thawing process making it highly suboptimal. Issues include constant manual manipulation, sterility, consistency, controllability, documentation, cleanliness, container compatibility and protocol standardization. Each of these items can highly impact sample quality and utility."

Summarize the findings; Dr. Kristi Snyder, Director of Operations and Principal Scientist, stated "*SmartThaw*™ is designed to provide a viable alternative to water baths offering a clean, dry and documentable process while delivering enhanced cell recovery. Our research demonstrated that *SmartThaw*™ provided for a controlled, hands free thawing environment yielding process improvement while delivering increased sample quality post-thaw. Importantly, the findings illustrated that *SmartThaw*™ was able to achieve this for cells frozen in a variety of freeze media, sample volumes and storage containers types (standard cryovials, 25, 250 and 500 ml freeze bags). This is important given the diversity of sample types which are used across the cell therapy, bioprocessing and life science arenas. Further, sample traceability and elimination of end user variability and error is of paramount importance when transitioning from the research laboratory to clinical utilization. The study also demonstrated the *SmartThaw*™ integrated thermosensing pad, allowed for documentation of the sample thawing profile, further improving the overall process."

Publication of the article is timely given the targeted commercial launch of *SmartThaw*™ later this year. When asked about availability, Dr. Snyder responded "The system is now in the final industrial design stages and we are targeting final testing over the next few months and anticipate initial production and first shipments in Q3 2016. We currently have a number of pre-production

prototype systems available for groups interested in bringing a *SmartThaw*™ system online sooner. These systems are exactly like the one featured in the BiopProcessing article."

Addressing the potential of *SmartThaw*™, Dr. Baust stated "we are excited about the launch. As cell culture is a critical link in research translation in biopharma, cancer research, cell/gene therapy and stem cell research, there is an unprecedented need for cell products. As cryopreservation is an enabling tool, the demand for devices which improve handling and distribution continues to grow. In 2013, over $380 million was spent on cryopreservation equipment in the United States alone. It is estimated that the global market grew to >$750 million in 2015. It is our belief that the *SmartThaw*™ has tremendous potential and will have a significant impact on the industry."

The article is available for download on CPSI's website as well as can be accesses via the Bioprocessing Journals website at http://www.bioprocessingjournal.com/. More information on *SmartThaw*™ or any of CPSI's other technologies is available on CPSI's website www.cpsibiotech.com.

About CPSI Biotech - CPSI Biotech, a private, integrative bio/medtech greenhouse company, develops and designs life science research products and cryo-medical devices for applications in cancer, cardiovascular disease treatments and cell therapy bioprocessing. Ongoing R&D and business development activities continue to produce innovative technologies, devices and intellectual property for commercialization, licensing or sales in support of diverse clinical and research applications. By leveraging the innovation, flexibility and R&D strengths of CPSI in combination with the development, commercialization, manufacturing and clinical expertise of partnering organizations, rapid and efficient product development is attainable.

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With the exception of the historical information contained in this release, this release contains materials and statements related to future business, financial performance, future events and/or developments involving CPSI which constitute forward-looking statements. The matters described herein contain forward-looking statements that involve risk and uncertainties that may individually or mutually impact the matters herein described, including but not limited to, CPSI's ability to develop and market new products, to retain and attract key employees, to obtain regulatory clearances and approvals for its products, to effectively react to other risks and uncertainties, such as fluctuation of quarterly financial results, contract and grants acquisition, reliance on third party manufacturers and suppliers, litigation or other proceedings, economic, competitive, governmental impacts, whether pending patents will be granted or defendable, validity of intellectual property and patents, the ability to license patents, the ability to commercialize developmental products, competition from existing and new products and procedures and CPSI's ability to raise the capital that is required to accomplish the foregoing.

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