

Combinatorial Ablative Strategies Yield Improved Destruction of Pancreatic Cancer Cells

In vitro study details how the combination of hyperthermia and cryoablation may provide an alternate path for the development of new approaches to treat pancreatic cancer.

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OWEGO, NY - CPSI Biotech announced today the publication of a peer-reviewed article detailing the potential benefit of the combination of heat (hyperthermia) and freezing (cryoablation) based ablation strategies for the targeting of pancreatic cancer. The study, titled *Dual Thermal Ablation of Pancreatic Cancer Cells as an Improved Combinatorial Treatment Strategy*, published as an open access article in the journal *Liver and Pancreatic Sciences*, was a multi-institutional collaboration between researchers from CPSI and Binghamton University.

The article details the impact of treating pancreatic cancer cells using two ablative strategies, cryo and hyperthermic ablation, used clinically to treat pancreatic as well as other cancers. One arm of the study investigated the impact of the combined application of these ablative treatments strategies on pancreatic cancer in an *in vitro* cell model. The data show that the combination of exposing cancer cells to heat based ablation followed by freezing results in increased cell death compared to when either is applied as a single exposure (mono) therapy. Commenting on the article, Dr. John M. Baust (President and Lead Scientist, CPSI Biotech) stated “this study demonstrates that ablative therapies provide for an effective means of destroying pancreatic cancer cells. These initial findings from this *in vitro* suggest that further investigation into the use of a dual thermal ablation regime for treating pancreatic cancer is warranted.”

This study was conducted as part of CPSI’s ongoing research and technology development program focused on the development of a next generation cryoablation device (*FrostBite*[™]) and approach for the treatment of pancreatic cancer. CPSI has been actively working on the development of the *FrostBite*[™] cryocatheter for several years. *FrostBite*[™] is designed to be used in conjunction with CPSI’s patented cryoengine technologies to freeze (cryoablate) cancer *in situ* (in place within the body), thereby destroying a tumor. This new device and approach is designed to support the growing field of natural orifice transluminal endoscopic surgery (NOTES) in which "scarless" abdominal operations can be performed with an endoscope passed through the mouth thereby enabling the introduction of surgical tools, such as *FrostBite*[™], into the stomach to target various tissues via the stomach wall avoiding the need for invasive external surgical procedures. The initial development efforts behind *FrostBite*[™] and the DTA study have been supported, in part, by a Phase I and II SBIR grant awarded to CPSI by the National Cancer Institute.

Ongoing efforts at CPSI continue to build upon this success and are focusing on further development, optimization and testing of *FrostBite*[™] for the treatment of pancreatic cancer as well as other gastroenterological (GI) based cancers. Speaking to this program, Dr Baust noted “the ongoing Phase II award from NCI has provided CPSI engineers and scientist the opportunity to ramp up our R&D efforts around the *FrostBite*[™] platform for the GI-based treatment of various cancers. The current project incorporates several of CPSI’s patented technologies, including our cryoengines, dual thermal ablation probe and adjunctive agents (*SensitICERs*). With success, *FrostBite*[™] will provide an advanced

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minimally invasive approach for treating pancreatic and other cancers.” With development underway, CPSI is poised to embark down the commercialization path. To this end, Baust commented “We are actively seeking investors and partners to join our team to bring this potentially lifesaving technology platform to the market.” To enable this, a start-up company (GI Cryo, Inc.) has been formed focused in the GI area to commercialize *FrostBite*[™] and other related technologies.

The open access article, initially published online November 30th, is timely in view of the recent increased interest in use of cryoablation for the treatment of cancer and can be accessed free of charge via the *Liver and Pancreatic Science* website at <http://www.oatext.com/Dual-thermal-ablation-of-pancreatic-cancer-cells-as-an-improved-combinatorial-treatment-strategy.php#Article>.

More information on the *FrostBite*[™] cryoablation platform can be found on CPSI’s website at 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.

Disclosure Notice: The information contained in this release is as of January 12, 2018. CPSI assumes no obligation to update forward-looking statements contained in this release as the result of new information or future events or developments. CPSI’s technologies do not have regulatory clearance for commercial sale and are currently intended for “Research Use Only”.

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 defensible, 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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