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Cryo-Cell Announces Publication of Collective Paper Outlining Potential Benefits of Transplanting Umbilical Cord and Menstrual Blood-Derived Stem Cells

OLDSMAR, Fla., March 8, 2011 (GLOBE NEWSWIRE) -- Cryo-Cell International, Inc. (OTCBB:CCEL) (the "Company"), one of the world's largest and most established family cord blood banks and an industry leader of innovative stem cell solutions, today announced the publication of a collective paper outlining the potential benefits of transplanting stem cells derived from umbilical cord and menstrual blood cells. The paper was a collaborative effort between Cryo-Cell, the University of South Florida's Department of Neurosurgery and Brain Repair, and two private-sector research groups, Saneron CCEL Therapeutics, Inc. and Cell PRAXIS Bioengenharia, and is published in the current issue of Cell Transplantation (20:1), now freely available online at http://www.ingenta.com/journals/browse/cog/ct.

"Umbilical cord blood cells and stem cells derived from menstrual blood are relatively easy to obtain, appear to be able to differentiate into many kinds of cells, and are immunologically immature, offering them the potential to promote cell survival rather than play a cell replacement role when transplanted," said Dr. Paul Sanberg, distinguished university professor and executive director of the Center of Excellence on Aging and Brain Repair at the University of South Florida.

According to Dr. Eduardo Cruz, CEO of Cell PRAXIS BioRio, human umbilical cord blood cells (hUCBs) are limited to collection at the time of birth, but menstrual blood-derived stem cells (MenSCs) could be collected once a month for 40 years from women during their reproductive stage.

"Both hUCBs and MenSCs have been used successfully in laboratory experiments with animal models of diseases," noted Dr. Cruz.

MenSCs have been transplanted into animal models of stroke and have been shown to be able to differentiate into a number of neural cell types. Transplanting hUCBs into animal models of stroke, Alzheimer's disease, and ALS has demonstrated their therapeutic potential for reducing inflammation, a key component of many neurodegenerative diseases.

According to Mercedes Walton, Chairman & CEO of Cryo-Cell International, Inc., stem cell science and stem cell therapies have been emerging with amazing speed in the last several years. "Our breakthrough discovery that menstrual blood cells contain proliferative stem cells that can differentiate into many different types of cells, including cardiac and neural cells, has opened new therapy possibilities," she said.

Stroke

Studies examining transplantation of MenSCs into laboratory cultures and animal models (in vitro and in vivo) of stroke have demonstrated a potential for protection against oxygen-glucose deprivation.

"Factors secreted by the transplanted cells were able to offer a neuroprotective effect," said Dr. Cesar Borlongan, a professor in the Department of Neurosurgery and Brain Repair. "This may relate to the cells secreting vascular endothelial growth factors (VEGF), brain-derived growth factors (BDNF), and neurotrophin-3 (NT-3), all of which have potential benefits for the treatment of stroke."

A decade of studies using animal models of stroke has found that in many cases hUCBs failed to enter the brain following transplantation, yet behavioral improvements were often observed, said Dr. Borlongan.

"These cells have anti-inflammatory properties and are pro-angiogenic, that is, they encourage cell growth and tissue repair," he said.

Alzheimer's disease

Similarly, studies using animal models of Alzheimer's disease have found that hUCBs also play an anti-inflammatory role. According to Dr. Jun Tan, professor of psychiatry and Robert A. Silver, chair at the Rashid Laboratory for Developmental Neurobiology, USF Silver Child Development Center, one of the major causes of AD is the deposition of amyloid beta (AB), a chemical that activates the immune response in a number of key brain cell types, and this leads to an inflammatory state.

"It is likely that hUCBs can modify this inflammatory response and provide beneficial effects in animal models of AD," said Dr. Tan, who recently completed a study in which the brain-to-blood clearance of AB was demonstrated. Based on the findings of this research, Dr. Tan is developing clinical protocols with Saneron CCEL Therapeutics, Inc. and the USF Health Byrd Alzheimer's Institute.

"Our immediate goal is to move our beneficial findings with cord blood cells into clinical trials for patients with mild to moderate Alzheimer's disease," said Dr. Tan.

This research is part of an ongoing research partnership between USF and Saneron*, Cryo-Cell and Cryopraxis aimed at determining the therapeutic benefits hUCBs present for a variety of neurological diseases, including Parkinson's disease, Lou Gehrig's disease (ALS), Alzheimer's disease, and stroke.

"Our next stage of research is translational, with the goal of bringing these advancements to the patient bedside," said Nicole Kuzmin-Nichols, president and chief operating officer of Saneron. "Saneron is very pleased and excited that our long-standing research partnership with USF has provided to further the technology developed at USF and transferred to Saneron for further development."

ALS

When hUCB transplantation was studied in animal models of ALS, also a neurodegenerative disease with an inflammatory component, hUCB transplantation was shown to help regulate the inflammatory response by reducing the number of microglia - brain cells that initiate an

inflammatory response. In this case, the benefits of injected hUCBs were dose-related.

"In contrast to when hUCBs were transplanted into animal models of stroke and AD, a considerable number of hUCBs were detected within the spinal cord in animal models of ALS," said Dr. Svitlana Garbuzova-Davis, an assistant professor in the USF Department of Neurosurgery and Brain Repair. "A relatively high dose was necessary, however."

For Cryo-Cell's Mercedes Walton, the synergy of collaboration is driving the future of stem cell transplantation technologies. "Cryo-Cell is extraordinarily fortunate to partner with some of the world's most distinguished stem cell researchers," she concluded.

Citation: Sanberg, P. R.; Eve, D. J.; Willing, A. E.; Garbuzova-Davis, S.; Tan, J.;, Sanberg, C. D.; Allickson, J. G.;, Cruz,, L. E.; Borlongan,, C. V. The treatment of neurodegenerative disorders using umbilical cord blood and menstrual blood-derived stem cells. Cell Transplant. 20(1):85-94; 2011.

* All USF faculty member study authors are consultants to Saneron CCEL Therapeutics, Inc.

About Cryo-Cell International, Inc.

Based in Oldsmar, Florida, with over 230,000 clients worldwide, Cryo-Cell is one of the largest and most established family cord blood banks. ISO 9001:2008 certified and accredited by the AABB, Cryo-Cell operates in a state-of-the-art Good Manufacturing Practice and Good Tissue Practice (cGMP/cGTP)-compliant facility. In November 2007, the Company launched CélleSM (pronounced "C-L"), the world's first-ever commercial service allowing women to cryopreserve their own menstrual stem cells. Cryo-Cell is a publicly traded company (OTCBB:CCEL). Expectant parents or healthcare professionals may call 1-800-STOR-CELL (1-800-786-7235) or visit www.cryo-cell.com.

About Célle

The CélleSM service was introduced in November 2007 as the first and only service that empowers women to collect and cryopreserve menstrual flow containing undifferentiated adult stem cells for future utilization by the donor or possibly their first-degree relatives in a manner similar to umbilical cord blood stem cells. For more information, visit www.celle.com.

About Saneron CCEL Therapeutics, Inc.

Saneron CCEL Therapeutics, Inc. is a biotechnology R&D company, focused on neurological and cardiac cell therapy for the early intervention and treatment of several devastating or deadly diseases, which lack adequate treatment options. Saneron, a University of South Florida spin-out company is located at the Tampa Bay Technology Incubator. An affiliate of Cryo-Cell International, Inc., Saneron is committed to providing readily available, non-controversial stem cells for cellular therapies and has patented and patent-pending technology relating to our platform technology of umbilical cord blood and Sertoli cells.

About Cell PRAXIS Bioengenharia

Cell PRAXIS Bioengenharia is a platform corporation dedicated to translating research into viable therapeutic tools for use in regenerative and individualized medicine in order to improve the lives of millions of people through cell therapy and tissue engineering.

Forward-Looking Statement

Statements wherein the terms "believes," "intends," "projects," "anticipates," "expects," and similar expressions as used are intended to reflect "forward-looking statements" of the Company. The information contained herein is subject to various risks, uncertainties and other factors that could cause actual results to differ materially from the results anticipated in such forward-looking statements or paragraphs, many of which are outside the control of the Company. These uncertainties and other factors include the success of the Company's global expansion initiatives and product diversification, the Company's actual future ownership stake in future therapies emerging from its collaborative research partnerships, the success related to its IP portfolio, the Company's future competitive position in stem cell innovation, future success of its core business and the competitive impact of public cord blood banking on the Company's business, the Company's ability to minimize future costs to the Company related to R&D initiatives and collaborations and the success of such initiatives and collaborations, the success and enforceability of the Company's Célle technology license agreements and U-Cord license agreements and their ability to provide the Company with royalty fees, the ability of Cryology RTS to generate new revenues for the Company and those risks and uncertainties contained in risk factors described in documents the Company files from time to time with the Securities and Exchange Commission, including the most recent Annual Report on Form 10-K, Quarterly Reports on Form 10-Q and any Current Reports on Form 8-K filed by the Company. The Company disclaims any obligations to subsequently revise any forward-looking statements to reflect events or circumstances after the date of such statements.

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