



For immediate release

Canadian stem cell technology expected to offer new options for blood stem cell transplants

Peter Zandstra receives the 2013 Till & McCulloch Award

September 25, 2013, Ottawa – A Canadian technology that has the potential to boost the number of stem cells given to patients undergoing transplants of the blood-forming system has been recognized as the most impactful stem cell research paper authored by a Canadian in the past year. Dr. Peter Zandstra has been given the 2013 Till & McCulloch Award in recognition of this contribution to global stem cell research. Dr. Zandstra will accept the award and present a lecture entitled "Engineering pluripotent stem cell derived microtissues" as part of the Till & McCulloch Meetings, Canada's premier stem cell event.

Dr. Michael Rudnicki, Scientific Director of the Stem Cell Network, who launched the Till & McCulloch Award in 2005 and will make the award presentation, says the Zandstra group's publication was chosen due to the impact their technology is expected to have. "This technology will hasten the promise of regenerative medicine and the therapeutic possibilities of umbilical cord blood and hematopoietic stem cells in particular. It is very likely that Fed-Batch technology will improve the outcome of blood system transplants for many patients. We are proud to award the 2013 lecture to Dr. Zandstra for his pioneering work."

First author Elizabeth Cszar, Zandstra and his team have developed a new culture system that has the ability to dramatically expand the clinical applications of hematopoietic (blood) stem cells (HSCs). Their breakthrough discovery is based on a Fed-Batch bioreactor technology and has the potential to improve the viability and success of cord blood stem cell transplantation by allowing for better-matched donors and increasing the number of stem cells in a transplant unit.

This new system will accelerate the possibilities of using HSC transplantation in clinical settings, especially in the treatment of certain forms of leukemia. The success rate of blood system transplantation is strongly correlated to the number of cells used. Dr. Zandstra's Fed-Batch technology can produce over 11 times more HSCs than originally existed and is designed to be adaptively scaled-up for human transplantations in clinical settings.

The article for which the award was granted, published in the February 2012 issue of *Cell Stem Cell*, entitled “Rapid Expansion of Human Hematopoietic Stem Cells by Automated Control of Inhibitory Feedback Signaling,” explains this novel discovery to expand cord blood cells. Dr. Zandstra is a professor at the University of Toronto’s Institute for Biomaterials & Biomedical Engineering, a principal investigator with the McEwen Centre for Regenerative Medicine and the Chief Scientific Officer at the Centre for Commercialization of Regenerative Medicine.

Dr. Zandstra, the Canadian Research Chair in Stem Cell Bioengineering, was very pleased to learn he had been chosen for this honour. “When I was told I would be receiving the 2013 lecture award, I was very honoured to be recognized in this way by the scientific community. I am thrilled to be in the same company as the previous winners, who are all exceptional researchers in our field and help to drive advances in health care that will improve the lives of many. This technology, and others being supported and developed through the Stem Cell Network, the Leukemia and Lymphoma Society and CCRM funding, represents an exciting opportunity for Canadian leadership in the clinically important area of cell transplantation to treat leukemia.”

The Till & McCulloch lecture will take place in Banff, Alberta, on Thursday, October 24, 2013 at 8:45 a.m. at the Fairmont Banff Springs Hotel. The lecture will be broadcast live to the World Conference on Regenerative Medicine being held in Leipzig, Germany.

The Stem Cell Network established the Till & McCulloch Award in honour of Canadians Drs. James Till and Ernest McCulloch, whose pioneering work established the field of stem cell research. The Till and McCulloch Award is presented each year by the Stem Cell Network, as part of the Till & McCulloch Meetings. The Award is given to one researcher in Canada, who is nominated through a public process. The Adjudication Committee chooses the awardee based on what is determined to be the year’s most influential peer-reviewed article by a Canadian stem cell researcher.

Additional background on the Till & McCulloch Award, and a list of previous winners, is available at: <http://bit.ly/aYUdmr>

About the Till & McCulloch Meetings

The Till & McCulloch Meetings are Canada’s premier stem cell research event. As the only conference of its kind in Canada, the Till & McCulloch Meetings provides a forum for the exchange of ideas and research among Canada’s leading stem cell scientists, clinicians, bioengineers and ethicists, as well as representatives from industry, government, health and NGO sectors from around the world. The Stem Cell Network and the Centre for Commercialization of Regenerative Medicine are pleased to be co-hosting the 2013 Meetings, which will be held in Banff, Alberta October 23-25, 2013. www.tillandmcculloch.ca

About the Stem Cell Network

The Stem Cell Network, established in 2001, brings together more than 100 leading scientists, clinicians, engineers, and ethicists from universities and hospitals across

Canada. The Network supports cutting-edge projects that translate research discoveries into new and better treatments for millions of patients in Canada and around the world. Hosted by the University of Ottawa, the Stem Cell Network is one of Canada's Networks of Centres of Excellence funded through Industry Canada and its three granting councils. www.stemcellnetwork.ca

About the Centre for Commercialization of Regenerative Medicine (CCRM)

CCRM, a Canadian not-for-profit organization funded by the Government of Canada's Networks of Centres of Excellence program and six academic partners, supports the development of technologies that accelerate the commercialization of stem cell- and biomaterials-based technologies and therapies. A network of academics, industry and entrepreneurs, CCRM aims to translate scientific discoveries into marketable products for patients. CCRM launched in Toronto's Discovery District on June 14, 2011. CCRM is hosted by the University of Toronto. www.ccrm.ca

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