



Heart Progenitor Cells Developed from Embryonic Stem Cells; New Hope for Testing Drugs and Treating Heart Failure Patients

TORONTO, ON (April 23, 2008) – Canadian scientist, Dr. Gordon Keller, and his team of international researchers have successfully grown human heart progenitor cells from embryonic stem cells. With this advancement, Dr. Keller, director of Toronto's McEwen Centre for Regenerative Medicine at the University Health Network, and his team, have taken a significant step towards the creation of functioning heart tissue.

"This development means that we can efficiently and accurately make different types of human heart cells for use in both basic and clinical research, says Dr. Keller. "The immediate impact of this is significant as we now have an unlimited supply of these cells to study how they develop, how they function and how they respond to different drugs. In the future, these cells may also be very effective in developing new strategies for repairing damaged hearts, following a heart attack."

The study, a medical first, details supplying embryonic stem cell cultures with a series of factors that direct them to develop into immature heart cells, known as heart progenitor cells. These progenitors are able to make three major cell types found in the human heart - cardiomyocytes, endothelial cells and vascular smooth muscle cells. These three cell types are integral to the healthy function of the human heart.

The full study can currently be found in the online version of Nature publication. Entitled, "Human cardiovascular progenitor cells develop from a KDR1 embryonic-stem-cell-derived population," the study will also appear in the print edition in the coming weeks.

About the McEwen Centre for Regenerative Medicine

The McEwen Centre for Regenerative Medicine was established in 2003 with a generous donation from Rob and Cheryl McEwen. Its mission is to be a catalyst for regenerative medicine by facilitating collaboration and promoting research and awareness in the field. The McEwen Centre's ultimate goal is to accelerate the development of better and more effective treatments for life-threatening conditions such as heart disease, diabetes, respiratory disease and spinal cord injury. The McEwen Centre for Regenerative Medicine is fully affiliated with University Health Network.

About University Health Network

University Health Network consists of Toronto General, Toronto Western and Princess Margaret Hospitals. The scope of research and complexity of cases at University Health Network has made it a national and international source for discovery, education and patient care. It has the largest hospital-based research program in Canada, with major research in transplantation, cardiology, neurosciences, oncology, surgical innovation, infectious diseases, and genomic medicine. University Health Network is a research hospital affiliated with the University of Toronto.

- 30 -

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