



February 24, 2007 02:18 PM US Eastern Standard Time

Capricor Announces Publication Proof-of-Concept Studies of Human Derived Cardiac Stem Cells in the Journal *Circulation*

Baltimore, Maryland. – February 24, 2007. Capricor Inc. (www.capricor.com), announced today the publication of definitive proof of concept studies for its human cardiosphere derived stem cell technology in the Journal *Circulation*. The work follows discoveries in 2004 and 2005 by research groups from University of Rome and Johns Hopkins University, which have been exclusively licensed to Capricor.

Regenerative potential of cardiosphere-derived cells expanded from percutaneous endomyocardial biopsy specimens¹

The studies conducted by the Marbán group, show proof of concept in isolating human stem cells and testing them in mouse models. Human cardiac derived cells were isolated from patient's that had agreed to participate in the research. Seventy patients, ranging in age from 20 to 80, with and without heart health issues, donated biopsies for the study. The Marbán group could isolate cardiosphere-derived cells from virtually all of them, demonstrating the wide-applicability of Capricor's method.

Cells were grown from small patient biopsies, expanded in the laboratory, and then implanted directly into the hearts of SCID mice following myocardial infarct or heart attack. The mice, which do not have a functioning immune system, accepted the human cells into their hearts and were allowed to recover for 3 weeks. When the mice's heart functions were tested, those that had received the Capricor cells had significantly improved heart ejection fraction, a measure of the heart's ability to pump blood. Further study showed that some of the human stem cells had migrated to the area of injury reducing the scope of the injury to the rodent hearts. Many of those cells had started to form new heart tissue within the injured area.

Lead author, Dr. Rachel Smith, commented that, "this study paves the way for better understanding of these cardiosphere derived cardiac progenitor cells. The fact that these cells are able to find their way to the damaged area of the heart provides hope that these cells will prove to have substantial therapeutic impact by actually reforming damaged myocardium. We are looking forward to continue to explore their potential and see what these cells can do in a large animal model."

¹ Smith RR, Barile L, Cho HC, Leppo MK, Hare JM, Messina E, Giacomello A, Abraham MR, Marban E. Regenerative potential of cardiosphere-derived cells expanded from percutaneous endomyocardial biopsy specimens. *Circulation*. 2007;115:896-908

***Translating today's cardiac research innovations
into tomorrow's heart therapies***

Capricor Inc., located in Baltimore, Maryland, is a leading biotechnology company that specializes in discovering, developing, and commercializing biotherapeutics for the treatment of heart diseases. Capricor's mission is to revolutionize the treatment of cardiac disease by translating novel stem cell science into therapeutics that halt and reverse the disease process for patient's, their families, and society in general.

*Translating today's cardiac research innovations
into tomorrow's heart therapies*