



THE UNIVERSITY of TEXAS

HEALTH SCIENCE CENTER AT HOUSTON

Office of Technology Management

NOVEL COMPOSITIONS AND METHODS FOR MYOGENESIS OF FAT-DERIVED STEM CELLS

Market: About one million Americans die of heart disease each year, and it was estimated that over 13 million US citizens have cardiovascular disease.

Peripheral artery disease is expected to effect 23 million people in developed countries by 2012 (Datamonitor). Coronary artery disease is the number one cause of death in the US, and as such, the demand for therapeutics in this area is extreme.

Competitors and Current Problems: Surgeries and drug interventions used to address heart muscle damaged by heart disease is not only expensive, but often not curative. In critical situations where heart transplant is needed, the wait list is long with donors in short supply. The best of all possibilities is for the damaged heart to actually heal. Stem cell therapies hold promise, but finding an adequate and approved source for cells that can effectively replace damaged heart tissue has proven difficult.

The Technology: Scientists at the University of Texas Health Science Center at Houston discovered an in vitro method of producing stem cells that have the potential to develop into cardiovascular myocytes and to promote angiogenesis. The method includes culturing, characterizing and bioengineering stromal or mesenchymal adult stem cells and vascular cell progenitors from adipose tissue in a novel medium. The stem cells are characterized, and shown to highly express genes that help maintain growth potential and the ability to differentiate into contractile cardiomyocytes. The technology includes compositions of fat-derived myogenic stem cells and vascular cell progenitors as well as their use in a method for treating cardiovascular disease.

NON-CONFIDENTIAL TECHNOLOGY DESCRIPTION

The preceding is intended to be a non-confidential summary of a novel technology created at the University of Texas Health Science center at Houston (UTHSCH), for which the University has obtained patent protection.

UTHSCH Ref. No. 2004-0021

Inventors: Drs. Geng and Willerson

Patent Status: Pending

License Available: world-wide; exclusive or non-exclusive

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