



THE UNIVERSITY of TEXAS

HEALTH SCIENCE CENTER AT HOUSTON

Office of Technology Management

NOVEL STEM CELL LINE; METHODS, AND NEWLY ISOLATED REAGENTS

Market: Regenerative medicine is used to repair or replace damaged tissues and organs. Examples of diseases and conditions include diabetes, heart disease, renal failure, osteoporosis, and spinal cord injuries. In addition to addressing a broad range of indications, the demand for regenerative medicines is further increased by an ever-increasing population of senior citizens. By 2010 it is estimated that the US alone will have nearly 57 million senior citizens, with a projected 70 million by 2040. This places a tremendous demand, and therefore a tremendous market on regenerative medicine. The demand will likely be further augmented by governments and insurance companies, who will struggle to meet the rising healthcare costs. Worldwide stem cell therapies, cytokine therapies, and growth factor therapies will likely reach nearly \$21 billion by 2010. The current world market for replacement organs alone is in excess of \$350 billion, with the worldwide market for all regenerative medicine expected to reach \$500 billion by 2010.

Competitors and Current Problems: There are currently very few regenerative medicine products on the market, due largely to the lack of fundamental basic research in regenerative medicine, particularly with respect to more complex tissue interactions. There is a significant need for tools to study the various aspects of cell therapies. Certainly access to stem cell lines has recently met with challenges.

The Technology: Scientists at the University of Texas Health Science Center at Houston established and characterized a unique non-human mammalian stem cell line. They determined growth characteristics of the cell line, notably the line's ability to differentiate into chondroblasts and chondrocytes. Further, they gathered gene expression data and isolated specific proteins. One such identified protein was found to have concentration-dependent angiogenic properties, as shown in vitro. The cell line and resulting active components have the potential to be powerful tools with applications in the areas of wound healing, bone disease, infarction, transplantation, gene therapy, stem cells, and regenerative medicine. They can be also used in alternative medicine for various degenerative diseases.

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. 2004-0026

Inventors: Drs. Geng and Willerson

Patent Status: Pending

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

To obtain further information about this technology, please contact:
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