

**Technology**

Method for isolating human primitive adult cells

Inventor

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Key Features

- Can differentiate into a broad range of cells
- Provides an enhanced rate of production
- Eliminates the risk of disease transmission and immunological complications

Stage of Development

Reduced to practice with successful demonstration

Keywords

- Therapeutic
- Stem cell therapy
 - Autologous cell therapy
 - Tissue engineering
 - Multipotent cells

Patent Status

Patent application has been filed

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Isolation and Characterization of Human Marrow-Isolated Adult Multipotent Inducible Cells (VA Reference No. 02-124)

Novel method for isolating newly identified human primitive adult cells with the capacity for differentiation into cell and tissue types

Technology

The Department of Veterans Affairs has developed a novel procedure for isolating, from persons of all ages, a population of newly identified human primitive adult cells with the capacity to differentiate toward a large variety of cell and tissue types found in the human body. The technology also provides a novel composition of matter, which can differentiate into a broad range of cells of mesodermal, endodermal and ectodermal-derived lineages to treat a variety of diseases.

Description

The technology developed by the VA provides a novel composition of matter, which can differentiate into a range of cells of mesodermal, endodermal and ectodermal-derived lineages to treat a variety of diseases. The technology also provides a unique and novel procedure for isolating, from persons of all ages, a population of newly identified human primitive adult cells (MIAMI cells) with the capacity to differentiate toward a large variety of cell and tissue types found in the human body. The MIAMI cells are derived from an easily accessible source, such as bone marrow, and they can be expanded to the desired mass and subsequently differentiated toward desired cell or tissue lineages, such as bone, cartilage, neurons or pancreatic islets. In these states, the cells can be utilized in autologous cellular therapies and tissue-engineering strategies tailored specifically to an individual to repopulate or repair damaged, aged or diseased organs and tissues.

Competitive Advantage

The greatest advantage claimed for the technology is that it isolates a defined normal population of primary cells and expands them in sufficient numbers to produce stable cell types ideal for cellular therapy uses from an adult rather than an embryonic source.

This invention:

- Could provide enhanced rates of production when compared to other research methods using adult human bone marrow.
- Eliminates the risk of disease transmission and immunological complications by the use of autologous cells.

Status

The Department of Veterans Affairs is looking for a partner for further development and commercialization of this technology through a license, and the VA inventors are available to collaborate with interested companies through a Cooperative Research and Development Agreement (CRADA).