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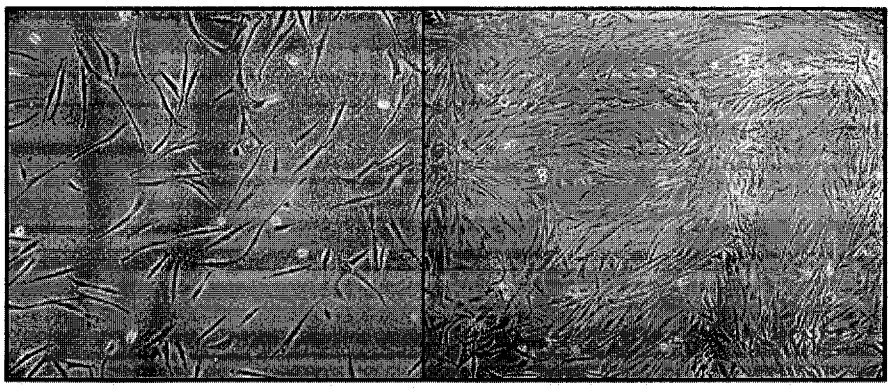
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(54) Title: MULTIPOTENT STEM CELLS DERIVED FROM HUMAN ADIPOSE TISSUE AND CELLULAR THERAPEUTIC AGENTS COMPRISING THE SAME



(57) Abstract: This invention relates to human adipose tissue-derived multipotent adult stem cells. More particularly, the invention relates to human adipose tissue-derived multipotent stem cells, which can be maintained in an undifferentiated state for a long period of time by forming spheres and have high proliferation rates, as well as methods for isolating and maintaining the adult stem cells, and methods for differentiating the multipotent adult stem cells into nerve cells, fat cells, cartilage cells, osteogenic cells and insulin-releasing pancreatic beta-cells. Also, the invention relates to cellular therapeutic agents for treating osteoarthritis, osteoporosis and diabetes and for forming breast tissue, which contain the differentiated cells or the adult stem cells. Although the multipotent stem cells are adult stem cells, they have the ability to differentiate into osteogenic cells, nerve cells, astrocytes, fat cells, chrondrogenic cells or insulin-releasing pancreatic beta-cells, and so are effective in treating osteoporosis, osteoarthritis, nerve disease, diabetes, etc. Also, the stem cells form spheres in a serum-free medium containing CORM-2, and thus can be maintained in an undifferentiated state for a long period of time. Also, the stem cells have very high proliferation rates. Accordingly, the stem cells are useful as cellular therapeutic agents.

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