

What are Stem Cells?

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Abstract

Stem cells are undifferentiated self regenerating multi potential cells. There are three types of stem cells categories by the ability to form after cells and correlated with the body's development process.

Totipotent: these stem cells can form an entire organism such as fertilized egg.

Pluripotent: pluripotent cells are those that can form any cell in the body but cannot form an entire organism such as developing embryo's totipotent cells become pluripotent

Multipotent: Multi potent stem cells are those that can only form specific cells in the body such as blood cells based.

Based on the sources of stem cells we have three types of these cells:

Autologous: Sources of the patient own cells are (Autologous) either the cells from patient own body or his or her cord blood. For this type of transplant the physician now usually collects the periphery rather than marrow because the procedure is easier on like a bone marrow harvest it take place outside of an operating room, and the patient does not to be under general anesthetic . Allogenic: Sources of stem cells from another donore are primarily relatives (familial allogenic) or completely unrelated donors.

Xenogenic: In these stem cells from different species are transplanted e .g striatal porcine fetal mesencephalic (FVM) xenotransplants for Parkinson's disease.

On sites of isolation such as embryo, umbilical cord and other body tissues stem cells are named embryonic, cord blood, and adult stem cells. The scope of results and clinical application of stem cells are such as: Neurodegenerative conditions (MS,ALS, Parkinson's, Stroke),

Ocular disorders- Glaucoma, retinitis Pigmentosa (RP), Auto Immune Conditions (Lupus, MS,R. arthritis, Diabetes, etc), Viral Conditions (Hepatitis C and AIDS), Heart Disease, Adrenal Disorders, Injury(Nerve, Brain, etc), Anti aging (hair, skin, weight control, overall well being/preventive), Emotional disorders, Organ / Tissue Cancers, Blood cancers, Blood diseases (Wiscott Aldrich's, Syndrome, etc), We know that one cell produce all cells. We have one dream that one cell can treat all disease?

Key words: Multi potential cells, Stem cells.

Oral Presentation

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