



iCell[®] Mesenchymal Stem Cells

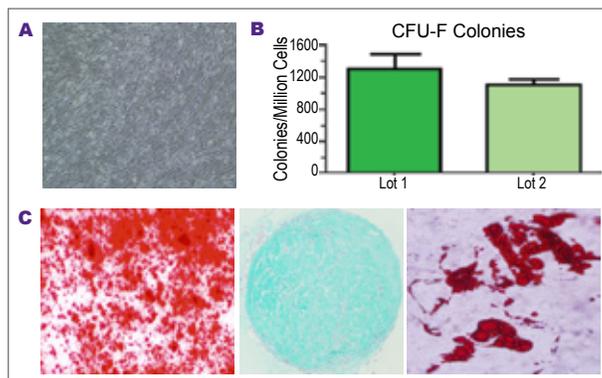
FUJIFILM Cellular Dynamics, Inc. (FCDI), offers iCell[®] Mesenchymal Stem Cells. Derived from human induced pluripotent stem (iPS) cells, iCell Mesenchymal Stem Cells exhibit expected physiology, are available on-demand in large-scale quantities, and show batch-to-batch consistency, thereby overcoming many problems associated with current sources.

Mesenchymal stem cells (MSCs) are the source material for several terminal cell types within various tissue systems. In particular, the ability of MSCs to differentiate into bone, fat, or cartilage has shown promise in bioengineering and tissue regeneration applications. However, limitations including preparation and donor variability, as well as overall scalability, present challenges for utilizing MSCs in research. Thus, there is a need across the scientific community for a reliable source of highly pure, industrial quantities of MSCs.

iCell Mesenchymal Stem Cells are generated using FCDI's proprietary derivation and purification protocols, expressing the glycoproteins CD105, CD73, and CD44 on the cell surface. These mesoderm lineage-derived stromal cells exhibit classic MSC morphology and are capable of forming colonies. As iCell Mesenchymal Stem Cells differentiate into bone, fat, or cartilage, the levels of MSC-specific markers decrease, and the expression of lineage-specific markers are acquired. Multipotent, consistent, readily available, and easy to use, iCell Mesenchymal Stem Cells provide an ideal *in vitro* test system for basic research and regenerative biology initiatives.

Advantages

- **Human cells:** iCell Mesenchymal Stem Cells are differentiated from human iPS cells and exhibit functional characteristics similar to primary umbilical cord, bone marrow, and adipose tissue-derived MSCs.
- **Homogenous and reproducible:** iCell Mesenchymal Stem Cells are highly pure, providing biologically relevant and reproducible results.
- **Multipotent potential:** iCell Mesenchymal Stem Cells possess the ability to differentiate into stable terminal cell types, thus enabling assessment of both transitory and terminal cell types.
- **Easy to implement:** iCell Mesenchymal Stem Cells are shipped cryopreserved with re-animation instructions. Simply thaw and use.



▲ **Figure 1: iCell Mesenchymal Stem Cells Provide a Reliable Source Material for Bioengineering and Tissue Regeneration**
iCell Mesenchymal Stem Cells (A) are highly pure, adherent cells with fibroblast-like morphology, (B) have the ability to form colonies, and (C) have the multipotent potential to differentiate into osteocyte (bone, alizarin S staining, red), chondrocyte (cartilage, Alcian blue staining, blue) or adipocyte (fat, Oil Red O staining, red) tissue.

Applications

iCell Mesenchymal Stem Cells are amenable to use on multiple platforms to study a variety of cellular applications and assay endpoints including:

- Bioengineering
- Tissue regeneration
- Therapeutic assay development
- Fibrosis modeling

Specifications

Cell Type	Mesenchymal stem cells
Organism	Human
Source	Differentiated from an FCDI reprogrammed human iPS cell line
Quantity	≥1.0 x 10 ⁶ viable cells per vial
Shipped	Frozen

Ordering Information

Kit	Component(s)*	Catalog Number
iCell Mesenchymal Stem Cells Kit, 01279	≥1.0 x 10 ⁶ viable cells	R1098

* A User's Guide is provided in each kit.

For More Information

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iCell Products

Provide access to biologically relevant, human iPS cells for disease modeling, drug discovery, toxicity testing, and regenerative medicine. FCDI's rapidly growing portfolio of iCell products includes human cardiomyocytes, GABAergic, glutamatergic, dopaminergic and motor neurons, hepatocytes, endothelial cells, astrocytes, hematopoietic progenitor cells, skeletal myoblasts, macrophages, and others.

Visit the FCDI website for the most current list of supported cell types.

