

APPLICATIONS, INC.

Published on Cell Applications (https://www.cellapplications.com)

Home > Human Mesenchymal Stem Cells: HMSC

Human Mesenchymal Stem Cells: HMSC

- Description
- Details
- Products
- Resources
- Citations^{NEW}

Instructions HMSC. Instructions HMSC-AD MSDS Cryopreserved Cells Cell Apps Flyer Skeletal System Cells 5 Important Cell Culture Rules Cell Apps Poster Primary Cells

Description

Human Mesenchymal Stem Cells (HMSC) can maintain multipotency and proliferate extensively in vitro, providing new avenues for cell-based therapy in the restoration of damaged or diseased tissue. Bone marrow is the major blood creating organ, but in addition to supporting hematopoietic growth and differentiation, marrow stromal cells can be induced to produce cells of other connective tissues, such as bone, cartilage, and fat, as well as cells from neuroectodermal (neurons) and endodermal (hepatocytes) lineages.

Human Mesenchymal Stem Cells are also found in adipose tissue, and similarly possess the ability to differentiate into several different cell lineages.

Human Mesenchymal Stem Cells can maintain multipotency and proliferate extensively in vitro, providing new avenues for cell-based therapy in the restoration of damaged or diseased tissue. HMSC are an immune-privileged cell type with both anti-inflammatory and anti-fibrotic capabilities, which can either be cell-based or through the vehicle of HMSC-derived extracellular vesicles.

Human Mesenchymal Stem Cells are also being explored in numerous clinical applications involving autoimmune, cardiovascular, neurodegenerative, bone and cartilage diseases.

HMSC are capable of forming bone, cartilage, muscle and fat. As such they can potentially form tissues utilizing 3D printed scaffolds.

Cell Applications is proud to offer HMSC from 4 different sites, each with their own distinctive properties:

bone marrow stromal-derived (HMSC-BM), placental-derived (HMSC-PL), adipose stromal-derived (HMSC-AD), and dedifferentiated/defatted adipocytes (HMSC-DFAT).

Read about HMSC in "Mesenchymal Stem Cells - Global Strategic Business Report," ID: <u>2769226</u> [1] , September 2016, by Global Industry Analysts, Inc

HMSC from Cell Applications, Inc. have been utilized to investigate

- Effects of TGF-?1 on differentiation toward different lineages, and show that it inhibits adipogenic differentiation and induces either chondrogenic, osteogenic or smooth muscle cell differentiation, depending the specific culture conditions
- The differentiation potential of stem cells
- HLA expression profiles of bone marrow-derived and adipose-derived stem cells
- Heart valve-shaped tri-layered collagen-based constructs for stem cell seeding and differentiation to use in heart valve tissue engineering



(Click to Enlarge) **Human Mesenchymal Stem Cells (HMSC)** from bone marrow (A) differentiating into multiple lineages. Adipogenic - Oil Red O staining (B), Chondrogenic - Alcian Blue Staining (C) and Osteogenic - Alzarin Red S staining (D).

Details

Tissue	Normal healthy human bone marrow (HMSC), placenta (HMSC-PL), adipose tissue (HMSC-AD), or dedifferetiated fat (HMSC-DFAT)	
QC	No bacteria, yeast, fungi, mycoplasma, virus	
Character	Bone mineralization in Osteoblast Differentiation Med, Lipid accumulation in Adipocyte Diff Medium	
Bioassay	Attach, spread, proliferate in Growth Med	
Cryovial	500,000 HMSC frozen in Freezing Medium w/ 10% FBS, 10% DMSO	
Kit	Cryovial frozen HMSC (492-05a/f, 290-05n, 492Ad-05a, or 492DFAT- 05a), Growth Medium (419-500), Subcltr Rgnt Kit (090K)	
Proliferating	Shipped in Gr Med, 3rd psg (flasks or plates)	
Doublings	At least 10	
Applications	Laboratory research use only (RUO). Not for human, clinical, diagnostic or veterinary use.	

Instructions HMSC.

Format: PDF

Download Now [3]

Instructions HMSC-AD

Format: PDF

Download Now [3]

MSDS Cryopreserved Cells

Format: PDF

Download Now [4]

Products

Related Products

Extended Family Products

Resources/Documents

Cell Apps Flyer Skeletal System Cells

Format: PDF

Downoad Now [5]

5 Important Cell Culture Rules

Format: PDF

Downoad Now [6]

Cell Apps Poster Primary Cells

Format: PDF

Downoad Now [7]

Citations

Powered by Bioz [8] See more details on Bioz [9]

Misc. Links

•	Site
•	Privacy
•	<u>Returns</u>
•	<u>Shipping</u>
•	Terms
•	Disclaimer
•	Distributors

Contact Us

Cell Applications, Inc

6455 Weathers Place San Diego, CA 92121 Open M-F, 8am-5pm PST

800-645-0848 info@cellapplications.com

Socialize With Us

Newsletter Signup

Subscribe to our newsletter

Source URL:https://www.cellapplications.com/human-mesenchymal-stem-cells-hmsc

Links

.

[1] https://www.globenewswire.com/news-release/2016/12/16/898353/0/en/Mesenchymal-Stem-Cells-Global-Strategic-Business-Report.html

[2]

https://www.cellapplications.com/sites/default/files/images_product_type/HMSC%20Diff%20%283%20Types%29%2 [3] https://www.cellapplications.com/sites/default/files/documents/instructions/Instructions HMSC-AD.pdf [4] https://www.cellapplications.com/sites/default/files/documents/msds/MSDS Cryopreserved Cells.pdf [5] https://www.cellapplications.com/sites/default/files/documents/misc/Cell Apps Flyer Skeletal System Cells.pdf [6] https://www.cellapplications.com/sites/default/files/documents/misc/5 Important Cell Culture Rules 241111.pdf [7] https://www.cellapplications.com/sites/default/files/documents/misc/Cell Apps Poster Primary Cells (2017).pdf [8] https://www.bioz.com/ [9] https://www.bioz.com/result/492-05a/product/Cell Applications Inc/?cn=492-05a