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Human stromal vascular fraction (hSVF, from adipose tissue)

Catalog Number	10HU-025 (Normal) 10HU-231 (Obesity) 10HU-233 (Type 2 Diabetes)	**Cell Number**	1.0 million cells/vial (Normal) 0.5 million cells/vial (Diseased)
Species	*Homo sapiens*	**Storage Temperature**	Liquid Nitrogen

Description

Human stromal vascular fraction (hSVF) is freshly isolated heterogeneous cell fraction derived from native adipose tissue or liposuction aspirates from normal donors, patients with Obesity (BMI>30) or Type 2 Diabetes [1]. SVF contains mature cells (e.g., fibroblasts, smooth muscle, endothelial, blood cells), progenitor cells (e.g., preadipocytes and endothelial, vascular, and hematopoietic progenitors), and, most importantly, stem cells (e.g., mesenchymal and hematopoietic stem cells, pericytes, and supra-adventitial cells), which are also known as adipose tissue-derived stromal cells (ADSCs) [2]. SVF has attracted substantial attention for its potential use in regenerative medicine in various fields, including internal medicine, orthopedics, plastic and general surgery, and wound healing [3].

iXCells Biotechnologies provides SVF from human subcutaneous white fat tissue by enzymatic isolation and cryopreserved at P0, with ≥ 1.0 million cells/vial (Normal) or 0.5 million cells/vial (Diseased). These cells are negative for HIV-1, HBV, HCV, mycoplasma, bacteria, yeast, and fungi.

Product Details

Tissue	SVF from human adipose tissues (Normal, Obesity, Type 2 Diabetes)
Package Size	1.0 million cells/vial (Normal); 0.5 million cells/vial (Diseased)
Passage Number	P0
Shipped	Cryopreserved
Storage	Liquid nitrogen
Growth Properties	Adherent
Media	Adipose-Derived Stem Cell Attachment Medium (Cat# MD-0002) Adipose-Derived Stem Cell Growth Medium (Cat# MD-0003)

Protocols

Standard Culture Procedure

1. Upon receipt of the frozen cells, it is recommended to thaw the cells and initiate the culture immediately in order to retain the highest cell viability.
2. To thaw the cells, put the vial in 37°C water bath with gentle agitation for 1-2 minutes. Keep the cap out of water to minimize the risk of contamination.
3. Pipette the cells into a 15 mL conical tube with 5 mL fresh **Adipose-Derived Stem Cells Attachment Medium** (Cat# MD-0002).
4. Centrifuge at 1,000 rpm (~220 g) for 5 minutes under room temperature.
5. Remove the supernatant and re-suspend the cells in fresh Adipose-Derived Stem Cells Attachment Medium.
6. Seed one vial cells in Adipose-Derived Stem Cells Attachment Medium onto one well of 6 well plate or one 35 mm dish (0.5-1.0 x 10^6 cells/well).

Note: *6 well plate or 35 mm dish should be coated with 0.1% gelatin to achieve maximum cell attachment.*

7. Leave the cells undisturbed for 1~2 days. Most of cells would be floating. Remove them along the Adipose-derived Stem Cells Attachment Medium. Rinse cells once with PBS, and then add **Adipose-derived Stem Cells Growth Medium** (Cat# MD-0003) to the cells. Change medium every day for the first 2 days and then every other day until cell reach >85% confluence (it may take about 7-10 days).
8. Cells can be subcultured when they reach > 85% confluency.

Safety Precaution: *it is highly recommended that protective gloves and clothing should be used when handling frozen vials.*

References

[1] Zimmerlin L, Donnenberg VS, Pfeifer ME, et al. Stromal vascular progenitors in adult human adipose tissue. Cytometry. Part A the Journal of the International Society for Analytical Cytology. 2010 Jan;77(1):22-30

[2] Bora P, Majumdar AS. Adipose tissue-derived stromal vascular fraction in regenerative medicine: a brief review on biology and translation. Stem Cell Res Ther. 2017;8(1):145.

[3] Stefanis AJ, Groh T, Arenbergerova M, Arenberger P, Bauer PO. Stromal Vascular Fraction and its Role in the Management of Alopecia: A Review. J Clin Aesthet Dermatol. 2019;12(11):35-44.

Disclaimers

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