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Product Information

Human Dermal Fibroblasts

Catalog Number	10HU-013 (Neonatal) 10HU-014 (Adult) 10HU-219 (Type I Diabetes)	Cell Number	0.5 million cells/vial 1.0 million cells/vial
Species	*Homo sapiens*	Storage Temperature	Liquid Nitrogen

Description

Human Dermal Fibroblasts (HDF) are the most prevalent cell in human dermis, and one of the most important architects of cutaneous would healing [1]. The fibroblast is a malleable cell, capable of altering its function and physiology or even transforming into a new cell type, based on its location within the body. The dermal fibroblast also has the unique title of being the first human somatic cell to be induced into a pluripotent stem cell line [2,3].

iXCells Biotechnologies provides high quality Human Dermal Fibroblasts (HDF) from normal donors including neonatal foreskin (Cat# 10HU-013) and adult skin (Cat# 10HU-014), or from adult skin of Type 1 Diabetes patients. These cells are derived from the dermis of normal human neonatal foreskin or adult skin and cryopreserved at the end of primary culture. HDF are negative for HIV-1, HBV, HCV, mycoplasma, bacteria, yeast, and fungi. They can further expand in **Fibroblast Growth Medium** (Cat# MD-0011) for no more than 3 passages under the condition suggested by iXCells Biologies. Further expansion may decrease the proliferation rate and purity.

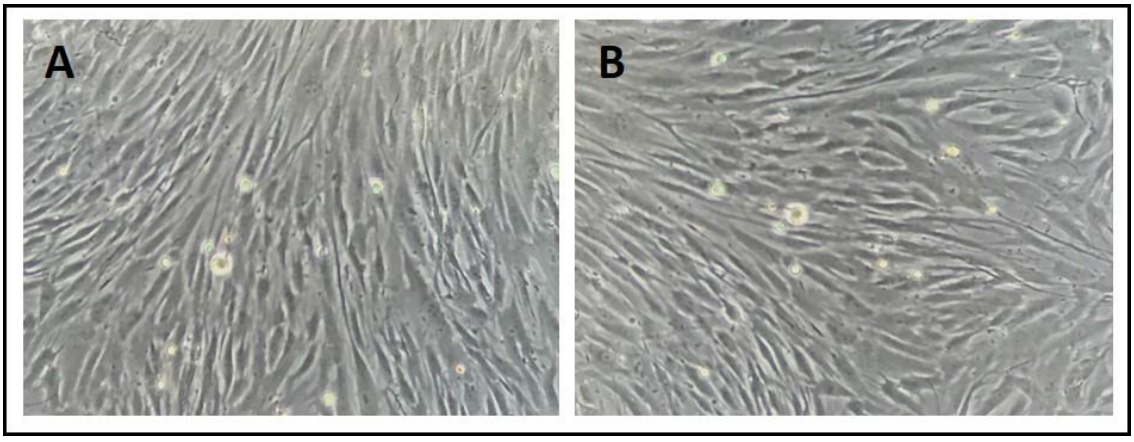

Figure 1. (A) Human Neonatal Dermal Fibroblasts (10HU-013). **(B)** Human Adult Dermal Fibroblasts (10HU-014).

Product Details

Tissue	Human Dermal Fibroblasts, Normal (Neonatal foreskin, adult skin)
Package Size	0.5 million cells/vial, 1.0 million cells/vial
Shipped	Cryopreserved
Storage	Liquid nitrogen
Growth Properties	Adherent
Media	Fibroblast Growth Medium (Cat# MD-0011)

Protocols

Thawing of Frozen Cells

1. Upon receipt of the frozen Human Dermal Fibroblasts (HDF), 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 5mL fresh **Fibroblast Growth Medium** (Cat# MD-0011).
4. Centrifuge at 1,000 rpm (~220 g) for 5 minutes under room temperature.
5. Remove the supernatant and resuspend the cells in Fibroblast Growth Medium.
6. Culture the cell in a T75 flask. Change the medium every other day until cells reach 80-90% confluence.

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

Standard Culture Procedure

1. HDFs can be cultured in **Fibroblast Growth Medium** (Cat# MD-0011).
2. When cells reach ~80-90% confluence, remove the medium, and wash once with sterile PBS (5 mL/T75 flask).
3. Add 3 mL of 0.25% Trypsin-EDTA to the flask and incubate for 3-5 minutes at 37°C. Neutralize the Trypsin by adding 2-3 volumes of cell culture medium.
4. Centrifuge 1,000 rpm (~220 g) for 5 minutes and resuspend the cells in desired volume of medium.
5. Seed the cells onto the new culture vessels at 5 × 10^3 cells/cm^2. Change the medium every other day until cells reach 80-90% confluence.

References

[1] Lauren E. Tracy, Raquel A. Minasian, and E.J. Caterson (2016) Extracellular Matrix and Dermal Fibroblast Function in the Healing Wound. Adv Wound Care (New Rochelle). 2016 Mar 1; 5(3): 119–136.

[2] Takahashi K, Yamanaka S. (2006) Induction of pluripotent stem cells from mouse embryonic and adult fibroblast cultures by defined factors. Cell; 126:663–676.

[3] Kazutoshi Takahashi 1, Koji Tanabe, Mari Ohnuki, Megumi Narita, Tomoko Ichisaka, Kiichiro Tomoda, Shinya Yamanaka. (2007) Induction of pluripotent stem cells from adult human fibroblasts by defined factors. Cell; 131:861–872.

Disclaimers