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Product Information

Rat Dermal Fibroblasts-Adult (RDF-a)

Catalog Number	10RA-013	Cell Number	0.5 x 10^6 cells/vial
Species	*Rattus norvegicus*	Storage Temperature	Liquid Nitrogen

Description

Fibroblasts are mesenchymal cells derived from the embryonic mesoderm. They have been extensively used for a wide range of cellular and molecular studies as they are one of easiest types of cells to grow in culture. Their durability also makes them amenable to a variety of manipulations ranging from studies employing gene transfection to microinjection. In general, fibroblasts secrete a non-rigid extracellular matrix which is rich in type I and/or type III collagen [1]. There is evidence showing that fibroblasts in different organs are intrinsically different [2]. Dermal fibroblasts switch from a proliferative, migratory phase to a contractile, matrix-remodeling phase during wound healing. In addition, they secrete large quantities of hyaluronan in response to inflammatory stimuli [3].

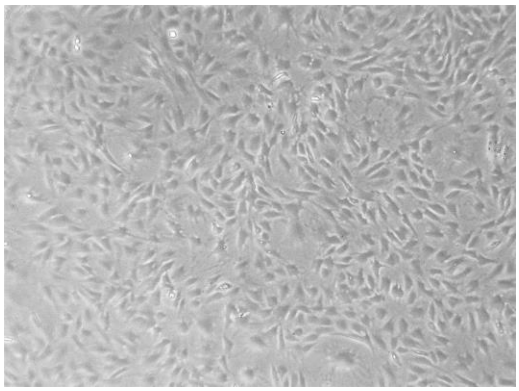

Figure 1. Rat Dermal Fibroblasts-Adult (RDF-a) (phase contrast)

iXCells Biotechnologies provides high quality Rat Dermal Fibroblasts-Adult (RDF-a), which are isolated from adult rat skin and cryopreserved at P1, with >0.5 million cells in each vial. RDF-a express fibronectin and are negative for HIV-1, HBV, HCV, mycoplasma, bacteria, yeast, and fungi. They can further expand for 5 population doublings in Fibroblast Growth Medium (Cat# MD-0011) under the condition suggested by iXCells Biotechnologies.

Product Details

Tissue	Rat Dermal Fibroblasts-Adult (RDF-a)
Package Size	0.5 x 10^6 cells/vial
Passage Number	P1
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 Rat Dermal Fibroblasts (RDF), 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 minute. Keep the cap out of water to minimize the risk of contamination.
3. Pipette the cells into a 15ml conical tube with 5ml fresh Fibroblast Growth Medium (Cat# MD-0011).
4. Centrifuge at 1,000rpm (~220g) for 5 minutes under room temperature.
5. Remove the supernatant and resuspend the cells in fresh culture medium.
6. Culture the cells in 100 mm culture dish or T75 flask.

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

Standard Culture Procedure

1. Rat Dermal Fibroblasts (RDF) 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 (5ml/T75 flask).
3. Add ~2.5ml of 0.25% Trypsin-EDTA to the flask and incubate for ~3 minutes at 37°C. Neutralize the enzyme by adding 2-3 volumes of cell culture medium.
4. Centrifuge 1,000rpm (~220g) for 5min and resuspend the cells in desired volume of medium.
5. Seed the cells on the culture vessels at 5 × 10^3 cells/cm^2.

References

[1] Conrad, G. W., Hart, G. W., Chen, Y. (1977) Differences in vitro between fibroblast-like cells from cornea, heart, and skin of embryonic chicks. J. Cell Sci. 26:119-137.

[2] Gabbiani, G., Rungger-Brandle, E., The fibroblast. In Tissue Repair and Regeneration (L. E. Glynn, ed.), pp 1- 50. Handbook of Inflammation, Vol. 3. Amsterdam, Elsevier, 1981.

[3] Stair S, Carlson KW, Shuster S, Wei ET, Stern R (2002) Mystixin peptides reduce hyaluronan deposition and edema formation. Eur J Pharmacol 30;450(3):291-6.

Disclaimers

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