India Contact:
Life Technologies (India) Pvt. Ltd.
Mobile: +91-9810521400, Ph: +91-11-42208000
Email: customerservice@lifetechindia.com
Web: www.lifetechindia.com

Product Information

Human Epidermal Keratinocyte (Neonatal foreskin)

Catalog Number	10HU-022	Cell Number	0.5 x 10^6 cells/vial
Species	*Homo sapiens*	Storage Temperature	Liquid Nitrogen

Description

A keratinocyte is the predominant cell type in the epidermis, constituting 90% of the cells found there [1]. The primary function of keratinocytes is the formation of a barrier against environmental damage by pathogenic bacteria, fungi, parasites, viruses, heat, UV radiation and water loss. Keratinocytes are also able to produce a variety of cytokines, growth factors, interleukins and complement factors. Therefore keratinocytes are important for wound healing, inflammation, and immune response.

iXCells Biotechnologies provides high quality Human Epidermal Keratinocyte-neonatal (HEK-n), which are isolated from neonatal skin samples and cryopreserved at P1, with >0.5 million cells in each vial. HEK-a are negative for HIV-1, HBV, HCV, mycoplasma, bacteria, yeast, and fungi. They can further expand in Keratinocyte Growth Medium (Cat# MD-0047) under the condition suggested by iXCells Biotechnologies.

Product Details

Tissue	Neonatal foreskin
Package Size	0.5x10^6 cells/vial
Passage Number	P1
Shipped	Cryopreserved
Storage	Liquid nitrogen
Growth Properties	Adherent
Media	Keratinocyte Growth Medium (Cat# MD-0047)

Protocols

Thawing of Frozen Cells

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 Keratinocyte Growth Medium (Cat# MD-0047).
4. Centrifuge at 1,000 rpm (~220 g) for 5 minutes under room temperature.
5. Remove the supernatant and resuspend the cells in fresh culture medium.
6. Culture the cell in T75 flask precoated with Coating Matrix (Thermo Fisher Scientific, Cat# R011K) in a 37°C CO_2 incubator. For best results, do not disturb the culture for at least 24 hours after the culture has been initiated.
7. Change the culture medium every other day until the culture is approximately 50% confluent. Then change the medium every day until the culture is approximately 80% confluent.

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

Standard Culture Procedure

1. Keratinocytes can be cultured in Keratinocyte Growth Medium (Cat# MD-0047).
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 enzyme by adding 2-3 volumes of Keratinocyte Growth Medium to the flask and transfer the detached cells a sterile 15ml conical tube.
4. Centrifuge 1,000 rpm (~220 g) for 5 minutes and resuspend the cells in desired volume of medium.
5. Seed new culture vessels at 3×10^3 cells/cm^2.
6. Change the culture medium every other day until the culture is approximately 50% confluent. Then change the medium every day until the culture is approximately 80% confluent.

Reference

[1] McGrath JA, Eady RAJ, Pope FM. (2004). "Anatomy and Organization of Human Skin". In Burns T, Breathnach S, Cox N, Griffiths C. *Rook's Textbook of Dermatology* (7th ed.). Blackwell Publishing. p. 4190.

Disclaimers

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