Product sheet

Human Foreskin Fibroblast Cells (HFFC) | 300715

General information

Description	Human Foreskin Fibroblast Cells (HFFC) are derived from the fibroblastic tissue of neonatal foreskin. These cells are an essential tool in the study of human biology, particularly in research related to wound healing, skin biology, and cellular senescence. Fibroblasts play a critical role in the synthesis of the extracellular matrix and collagen, which are crucial components of the connective tissue. HFFC are often utilized in experiments exploring the mechanisms of skin development, dermal remodeling, and the cellular responses to various growth factors and cytokines. HFFC are characterized by their spindle-shaped morphology and their ability to proliferate rapidly in vitro, making them suitable for various experimental applications, including tissue engineering, regenerative medicine, and drug screening. These cells are also valuable in studies investigating the effects of UV radiation on skin cells, the pathophysiology of fibrotic diseases, and the aging process of skin. Due to their neonatal origin, HFFC are less likely to have accumulated mutations compared to adult fibroblasts, making them an ideal model for studying primary cellular functions.
Organism	Human
Tissue	Foreskin

Characteristics

Morphology	Fibroblast
Growth properties	Adherent

Identifiers / Biosafety / Citation

Citation	Human Foreskin Fibroblast Cells (HFFC) (Cytion catalog number 300715)

Expression / Mutation

Handling

Culture Medium	DMEM:Ham's F12, w: 3.1 g/L Glucose, w: 1.6 mM L-Glutamine, w: 15 mM HEPES, w: 1.0 mM Sodium pyruvate, w: 1.2 g/L NaHCO3 (Cytion article number 820400a)
Medium supplements	Supplement the medium with 10% FBS, 10 ng/mL bFGF, 10 microgram/L Insulin

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Passaging solution	Accutase
Subculturing	Remove the old medium from the adherent cells and wash them with PBS that lacks calcium and magnesium. For T25 flasks, use 3-5 ml of PBS, and for T75 flasks, use 5-10 ml. Then, cover the cells completely with Accutase, using 1-2 ml for T25 flasks and 2.5 ml for T75 flasks. Let the cells incubate at room temperature for 8-10 minutes to detach them. After incubation, gently mix the cells with 10 ml of medium to resuspend them, then centrifuge at 300xg for 3 minutes. Discard the supernatant, resuspend the cells in fresh medium, and transfer them into new flasks that already contain fresh medium.
Freeze medium	CM-1 (Cytion catalog number 800100)

Handling of cryopreserved cultures

1. Confirm that the vial remains deeply frozen upon delivery, as cells are shipped on dry ice to maintain optimal temperatures during transit.
2. Upon receipt, either store the cryovial immediately at temperatures below -150°C to ensure the preservation of cellular integrity, or proceed to step 3 if immediate culturing is required.
3. For immediate culturing, swiftly thaw the vial by immersing it in a 37°C water bath with clean water and an antimicrobial agent, agitating gently for 40-60 seconds until a small ice clump remains.
4. Perform all subsequent steps under sterile conditions in a flow hood, disinfecting the cryovial with 70% ethanol before opening.
5. Carefully open the disinfected vial and transfer the cell suspension into a 15 ml centrifuge tube containing 8 ml of room-temperature culture medium, mixing gently.
6. Centrifuge the mixture at 300 x g for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium.
7. Gently resuspend the cell pellet in 10 ml of fresh culture medium. For adherent cells, divide the suspension between two T25 culture flasks; for suspension cultures, transfer all the medium into one T25 flask to promote effective cell interaction and growth.
8. Adhere to established subculture protocols for continued growth and maintenance of the cell line, ensuring reliable experimental outcomes.

Quality control / Genetic profile / HLA

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Sterility	Mycoplasma contamination is excluded using both PCR-based assays and luminescence-based mycoplasma detection methods. To ensure there is no bacterial, fungal, or yeast contamination, cell cultures are subjected to daily visual inspections.