Product sheet

HFL1 Cells | 305065

General information

Description	The HFL1 cell line, derived from human fetal lung tissue, is commonly used in biological and medical research. These cells exhibit fibroblast-like properties, making them particularly valuable for studies related to cellular morphology, fibrosis, and tissue repair mechanisms. HFL1 cells are instrumental in the exploration of pulmonary diseases, including investigations into the pathogenesis of lung fibrosis and the evaluation of antifibrotic therapies. In addition to their application in disease models, HFL1 cells are often utilized in pharmacological research and toxicology studies. Their sensitivity to viral infections and responsiveness to pharmacological agents enable researchers to study the effects of various drugs and compounds on lung tissues. The HFL1 cell line supports the propagation of viruses, facilitating studies on viral life cycles and host-virus interactions, which are crucial for the development of antiviral drugs and vaccines. Overall, the HFL1 cell line is a versatile tool in the fields of respiratory disease research, pharmacology, and toxicology, providing insights into cellular processes and potential therapeutic approaches for lung-related diseases.
Organism	Human
Tissue	Lung
Synonyms	HFL-1, HFL 1, Human fetal lung fibroblast 1, HFL

Characteristics

Age	Fetus
Gender	Male
Morphology	Fibroblast
Growth properties	Adherent

Regulatory Data

Citation	HFL1 (Cytion catalog number 305065)
Biosafety level	1
NCBI_TaxID	9606

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CellosaurusAccession	CVCL_0298

Biomolecular Data

Handling

Culture Medium	Ham's F12K Medium, w: 2.0 mM L-Glutamine, w: 2.0 mM Sodium pyruvate, w: 2.5 g/L NaHCO3 (Cytion article number 820608a)
Supplements	Supplement the medium with 10% FBS
Dissociation Reagent	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.
Fluid renewal	2 to 3 times per week
Freeze medium	As a cryopreservation medium, we use complete growth medium (including FBS) + 10% DMSO for adequate post-thaw viability, or CM-1 (Cytion catalog number 800100), which includes optimized osmoprotectants and metabolic stabilizers to enhance recovery and reduce cryo-induced stress.

Thawing and Culturing Cells	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.
Incubation Atmosphere	37°C, 5% CO_2, humidified atmosphere.
Flask Coating	None
Shipping Conditions	Cryopreserved cell lines are shipped on dry ice in validated, insulated packaging with sufficient refrigerant to maintain approximately −78 °C throughout transit. On receipt, inspect the container immediately and transfer vials without delay to appropriate storage.
Storage Conditions	For long-term preservation, place vials in vapor-phase liquid nitrogen at about −150 to −196 °C. Storage at −80 °C is acceptable only as a short interim step before transfer to liquid nitrogen.

Quality Control & Molecular Analysis

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.