LxF-289

300269

GENERAL INFORMATION

Description

The LxF-289 cell line is a human lung adenocarcinoma cell line established from a 63-year-old male patient. This cell line has a doubling time of approximately 50 hours, making it suitable for studies that require consistent cell proliferation. LxF-289 is particularly valuable in research focused on lung cancer, especially non-small cell lung cancer (NSCLC), as it provides a robust in vitro model for studying the molecular mechanisms underlying cancer progression, treatment resistance, and the effects of therapeutic interventions.
Studies on LxF-289 have demonstrated that this cell line exhibits characteristics that make it responsive to specific genetic and therapeutic manipulations. For instance, research has shown that LxF-289, along with other lung cancer cell lines, can undergo significant cell death when treated with an adenovirus expressing antisense heat shock protein 70 (Hsp70). This cell death is p53-independent and does not require DNA cleavage, suggesting that Hsp70 plays a crucial role in the survival of lung cancer cells. Notably, this response is selective to cancer cells, as normal lung fibroblasts and bronchial epithelial cells do not show similar levels of cytotoxicity when Hsp70 is downregulated, highlighting the potential of targeting Hsp70 in lung cancer therapy.
Moreover, LxF-289 has been used to study the effects of irradiation on drug resistance-related proteins. The cell line exhibited overexpression of glutathione S-transferase (GSTπ) at both mRNA and protein levels following irradiation. This overexpression is associated with the development of multidrug resistance, which is a significant challenge in the clinical management of lung cancer. These findings underscore the utility of LxF-289 in exploring the mechanisms of resistance and testing novel strategies to overcome it.

Tissue	Lung
Disease	Adenocarcinoma

Synonyms

- LxF289
- LxF 289
- LxF 289L

CLASSIFICATION

Organism	Human
Sex	Male
Growth properties	Adherent
Biosafety level	1

CHARACTERISTICS

Morphology	Epithelial-like
Tumourigenic	Yes, in nude mice

IDENTIFIERS

Citation

LxF-289 (Cytion catalog number 300269)

NCBI TaxID	9606
Cellosaurus	CVCL_1394

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EXPRESSION AND SUSCEPTIBILITY

Reverse transcriptase	Negative

HANDLING AND CULTURE

Culture medium

RPMI 1640, w: 2.0 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)

Incubation atmosphere	37°C, 5% CO_2, humidified atmosphere.

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.

Seeding density	1 x 10^4 cells/ml
Fluid renewal	Every 3 to 5 days
Post-thaw recovery	24 to 48 hours

Thawing and culturing

Confirm that the vial remains deeply frozen upon delivery, as cells are shipped on dry ice to maintain optimal temperatures during transit.
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.
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.
Perform all subsequent steps under sterile conditions in a flow hood, disinfecting the cryovial with 70% ethanol before opening.
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.
Centrifuge the mixture at 300 x g for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium.
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.
Adhere to established subculture protocols for continued growth and maintenance of the cell line, ensuring reliable experimental outcomes.

QUALITY CONTROL AND CRYOPRESERVATION

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.

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.

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.

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.

DONOR

Donor age	62 years
Ethnicity	Caucasian

LEGAL AND SAFETY

Safety precautions

When planning to store a cryovial in liquid nitrogen for future thawing, it is mandatory to adhere to stringent safety measures. Appropriate protective gloves and clothing are essential, and the use of a face mask or safety goggles is required during the transfer of frozen samples to or from the liquid nitrogen tank. This is to mitigate the risk of injury from potential cryovial explosions upon removal, which can result in the projection of sharp fragments.

Warranty

At Cytion, we stand behind the quality and viability of our products.
We guarantee that our cells will be viable at the start of culture for
60 days after shipment from our facilities.
We assure that all materials conform to the specifications described in the
Certificate of Analysis and/or Product Sheet.
For full details, please refer to our
Warranty Statement.

Material Transfer Agreement required	Yes