LCLC-103H

300169

GENERAL INFORMATION

Description

The LCLC-103H cell line is derived from a large cell lung carcinoma (LCLC), specifically established from the pleural effusion of an adult male patient with a diagnosis of large cell lung carcinoma with giant cells. The patient had previously undergone chemotherapy and radiotherapy. This cell line is particularly notable for its partial expression of neuroendocrine markers, which are typically associated with small cell lung cancer (SCLC) and certain neuroendocrine tumors. In particular, the antigen detected by the monoclonal antibody RNL-1 shows a focal surface expression in LCLC-103H cells, similar to that observed in some neuroendocrine carcinomas. However, the expression is not uniform across all cells, indicating heterogeneity within the cell population.
LCLC-103H has been described in the literature as PAS (Periodic Acid-Schiff) negative, distinguishing it from other lung cancer subtypes. It also exhibits remarkable stroma formation, which is a significant characteristic of its histopathological profile. Moreover, this cell line is known to overexpress the proto-oncogene MYC, which plays a critical role in cell proliferation and tumorigenesis. Immunocytochemical studies have shown that LCLC-103H does not exhibit the full spectrum of neuroendocrine differentiation seen in SCLC, as it lacks reactivity with other neuroendocrine markers such as those identified by the antibodies RNL-2 and RNL-3. This distinction is crucial for differentiating LCLC from SCLC, which is more aggressive and typically exhibits a higher sensitivity to certain chemotherapeutic agents. The unique expression profile of LCLC-103H makes it a valuable model for studying the molecular and immunological characteristics of large cell lung carcinoma and its overlap with neuroendocrine features.

Tissue	Lung
Disease	Large cell carcinoma
Metastatic site	Pleural effusion

Synonyms

- LCLC103H
- Large Cell Lung Cancer-103H

CLASSIFICATION

Organism	Human
Sex	Male
Growth properties	Adherent
Biosafety level	1

CHARACTERISTICS

Morphology	Pleomorph
Ploidy status	Aneuploid
Doubling time	26 hours

IDENTIFIERS

Citation

LCLC-103H (Cytion catalog number 300169)

NCBI TaxID	9606

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Cellosaurus	CVCL_1375

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	0.5 to 1 x 10^4 cells/cm^2
Fluid renewal	2 to 3 times per week
Post-thaw recovery	Cells will recover from freezing within 24 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	61 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