Product sheet

LCLC-103H Cells | 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.
Organism	Human
Tissue	Lung
Disease	Large cell carcinoma
Metastatic site	Pleural effusion
Synonyms	LCLC103H, Large Cell Lung Cancer-103H

Characteristics

Age	61 years
Gender	Male
Ethnicity	Caucasian
Morphology	Pleomorph

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Growth properties	Adherent

Regulatory Data

Citation	LCLC-103H (Cytion catalog number 300169)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_1375

Biomolecular Data

Ploidy status	Aneuploid

Handling

Culture Medium	RPMI 1640, w: 2.0 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)
Supplements	Supplement the medium with 10% FBS
Dissociation Reagent	Accutase
Doubling time	26 hours
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

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Post-Thaw Recovery	Cells will recover from freezing within 24 hours.
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.
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.