

LCLC-97TM1 Cells | 300409

General information

Description

The LCLC-97TM1 cell line is derived from a large cell lung carcinoma (LCLC) and was established using a xenograft approach, specifically from the first nude mouse passage of a primary large cell carcinoma. This cell line exhibits densely packed epithelioid islets in culture, with cell borders that are typically indistinguishable under standard microscopic examination. Unlike many other cell lines, LCLC-97TM1 cultures do not generally reach confluency, which may be attributed to their unique growth patterns.

Cytologically, LCLC-97TM1 cells are characterized by a large, single, round nucleus that contains one or two prominent nucleoli, and an evenly distributed chromatin pattern. This nuclear morphology is indicative of the aggressive nature often associated with large cell lung carcinoma. The cell line is also noted for being PAS (Periodic Acid-Schiff) negative and showing no reactivity with Alcian blue staining, which are consistent with the characteristics observed in both the original tumor and the xenograft derived from the cell line.

Chromosomal analysis of LCLC-97TM1 reveals its complex karyotype, which is typical of large cell carcinomas and suggests significant genetic instability. This genetic profile, combined with its distinct morphological features, makes LCLC-97TM1 a valuable model for studying the pathobiology of large cell lung carcinoma, particularly in the context of tumorigenesis, metastasis, and therapeutic response in non-small cell lung cancer (NSCLC).

Organism

Human

Tissue

Lung

Disease

Large cell carcinoma

Synonyms

LCLC97TM1

Characteristics

Age

44 years

Gender

Male

Ethnicity

Caucasian

Morphology

Epithelial-like

Growth properties

Adherent

Regulatory Data

LCLC-97TM1 Cells | 300409**Citation** LCLC-97TM1 (Cytion catalog number 300409)**Biosafety level** 1**NCBI_TaxID** 9606**CellosaurusAccession** CVCL_1376**Biomolecular Data****Protein expression** P53 expression**Tumorigenic** Yes, in nude mice**Reverse transcriptase** Negative**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

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 to 3 x 10⁵ cells/cm²**Fluid renewal** Every 3 to 5 days

Post-Thaw Recovery After thawing, plate the cells at 5 x 10⁴ cells/cm² and allow the cells to recover from the freezing process and to adhere for at least 24 hours.

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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% CO₂, 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.

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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.