Product sheet

Cytion

LLC1 (LL-2) Cells | 305311

Renseignements généraux

Description	LLC1 (LL-2) cells are a murine cell line derived from the Lewis Lung Carcinoma (LLC), a tumor model extensively used for cancer research. These cells were originally isolated and adapted to in vitro culture from the Lewis Lung Carcinoma in C57BL/6 mice. LLC1 (LL-2) cells have a doubling time of 21 hours and retain high tumorigenic potential, forming primary tumors and lung metastases in syngeneic C57BL/6 mice that are histologically similar to the original tumor. LLC1 (LL-2) cells have proven valuable for various experimental applications, including studies on cancer metastasis, tumor-host interactions, and drug sensitivity testing. Notably, while these cells show significant in vitro sensitivity to various chemotherapeutic agents, such as cisplatin and methotrexate, their in vivo response can differ, highlighting the complexity of translating in vitro findings to in vivo contexts. The ability of LLC1 (LL-2) cells to form discrete colonies on plastic substrates also makes them suitable for use in focus assays to evaluate drug-induced cytotoxicity, making them an important tool in the evaluation of new cancer therapies. LLC1 (LL-2) cells exhibit several features typical of aggressive lung carcinoma, including rapid proliferation, high metastatic potential, and resistance to certain chemotherapeutic agents. These cells provide a relevant model for understanding the molecular and genetic alterations associated with lung cancer progression. Studies utilizing LLC1 (LL-2) have contributed to the identification of key signaling pathways and genetic mutations involved in tumor development and metastasis. Moreover, this cell line has been instrumental in evaluating novel therapeutic strategies aimed at inhibiting tumor growth and spread, thereby advancing the field of oncology research.
Organism	Mouse
Tissue	Lung
Disease	Malignant tumors of the mouse pulmonary system
Synonyms	LL/2 (LLC1), LL/2 (LLc1), LL/2(LLc1), LL/2, LL2, LLC1, LLC, Lewis lung carcinoma line 1, Lewis lung carcinoma, Lewis Lung Cancer, Lewis-Lung, Lewis Lung

Caractéristiques

Breed/Subspecies	C57BL/6
Growth properties	Adherent

Données réglementaires

Citation	LLC1 (LL-2) (Cytion catalog number 305311)

Biosafety level	1
NCBI_TaxID	10090
CellosaurusAccession	CVCL_4358

Données biomoléculaires

Antigen expression	H-2b
Tumorigenic	Yes, in C57BL mice
Viruses	MAP-test negative: Sendai, Ektromelia, Polyoma, K-Virus, Kilham, Reo 3, PVM, LCM, M.pulmonis, MVM, Theiler's GD VII, Toolan's H-1, MHV, LDV, RCV/SDA, M-Adenovirus, B.piliformis.

Manipulation

Culture Medium	DMEM, w: 4.5 g/L Glucose, w: 4 mM L-Glutamine, w: 3.7 g/L NaHCO3, w: 1.0 mM Sodium pyruvate (Cytion article number 820300a)
Supplements	Supplement the medium with 10% FBS
Dissociation Reagent	Accutase
Doubling time	21 hours
Subculturing	Gather the suspension cells in a 15 ml tube and gently wash the adherent cells with PBS lacking calcium and magnesium (use 3-5 ml for T25 flasks and 5-10 ml for T75 flasks). Apply Accutase (1-2 ml for T25 flasks, 2.5 ml for T75 flasks) ensuring full coverage of the cell layer. Allow the cells to incubate at room temperature for 10 minutes. Following incubation, combine and centrifuge both the suspension and adherent cells. After centrifugation, carefully resuspend the cell pellet and transfer the cell suspension into new flasks containing fresh medium.
Seeding density	1 to 2 x 10^4 cells/cm^2
Fluid renewal	2 to 3 times per week
Post-Thaw Recovery	After thawing, plate the cells at 5 x 10^4 cells/cm^2 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% 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.

Contrôle de la qualité et analyse moléculaire

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.