Product sheet

SK-LU-1 Cells | 300335

General information

Description	SK-LU-1 is a human lung adenocarcinoma cell line widely used in cancer research, particularly in studies focused on non-small cell lung cancer (NSCLC). As a cisplatin-sensitive cell line, SK-LU-1 is often employed in studies evaluating chemotherapy resistance, cancer cell cycle progression, and apoptosis mechanisms. One of the defining features of SK-LU-1 is its utility in assessing the cytotoxic effects of various anti-cancer compounds, including those that modulate the cell cycle or induce apoptosis through targeted therapies. For instance, certain 6-substituted imidazopyridine derivatives have been shown to induce G2/M phase arrest and apoptosis in SK-LU-1 cells, indicating that these compounds may inhibit cyclin-dependent kinases (CDKs) involved in cancer cell division. Additionally, SK-LU-1 cells have been used in studies exploring the immunomodulatory effects of agents like melatonin. In co-culture experiments with peripheral blood mononuclear cells (PBMCs), melatonin was shown to enhance the immune system's ability to induce apoptosis in SK-LU-1 cells. The treatment led to increased oxidative stress, reduced glutathione (GSH) levels, and cell cycle arrest at the G0/G1 phase, suggesting that melatonin may have potential as a supplementary treatment in NSCLC by boosting immune response and promoting cancer cell death. Overall, SK-LU-1 provides a robust in vitro model for studying lung adenocarcinoma and testing novel therapeutic agents, including those that target the cell cycle, induce apoptosis, or modulate immune responses. Its responsiveness to chemotherapeutic agents like cisplatin and the wide range of experimental data available make it an important tool in NSCLC research.
Organism	Human
Tissue	Lung
Disease	Adenocarcinoma (grade III)
Synonyms	SK-Lu-1, SK LU 1, SK-Lu1, SK-LU1, SKLU-1, SKLU1, SKLU01

Characteristics

Age	60 years
Gender	Female
Ethnicity	Caucasian
Morphology	Epithelial-like
Growth properties	Adherent

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Regulatory Data

Citation	SK-LU-1 (Cytion catalog number 300335)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_0629

Biomolecular Data

Protein expression	P53 positive
Antigen expression	Blood Type O, Rh+, HLA Aw24, Aw32, B27, Bw41
Isoenzymes	Me-2, 1, PGM3, 1, PGM1, 2, ES-D, 2, AK-1, 1, GLO-1, 2, G6PD, B
Tumorigenic	Yes, in immunotolerant rats and nu-nu mice
Karyotype	The stemline chromosome number is hypotetraploid, with the 2S component occurring at 4.4%. Marker chromosomes 1p, t(1q,11q), 11q+, t(13,?), 16q+, t(12q, 18q). M10, t(2q,13q), i(15), and ?t(xp,21q) occurred in all S metaphases, and t(1p,?), t(1p,14q), t(16,?), and t(14,21) occurred in some. In addition, 4 to 9 small markers of unidentifiable origin occurred frequently. Chromosome No. 7 was generally hexasomic, x chromosomes were disomic, and normal No. 15 was absent. No Y chromosome was detected in the QM stained preparation. Phenotype Frequency Product: 0.00003

Handling

Culture Medium	EMEM (MEM Eagle), w: 2 mM L-Glutamine, w: 2.2 g/L NaHCO3, w: EBSS (Cytion article number 820100a)
Supplements	Supplement the medium with 10% FBS and 1% NEAA
Dissociation Reagent	Accutase

SK-LU-1 Cells | 300335

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/cm^2
Fluid renewal	2 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.
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.