Product sheet

SW-1573 Cells | 305644

General information

Description	SW-1573 is a human non-small cell lung carcinoma (NSCLC) cell line derived from the lung tissue of a female patient diagnosed with squamous cell carcinoma. This cell line has been extensively characterized for its genetic, biochemical, and pharmacological properties, making it a valuable model for studying lung cancer biology and drug responses. SW-1573 is known for its epithelial morphology and moderate growth rate in vitro. It has been included in numerous studies to assess the impact of chemotherapeutic agents and targeted therapies in lung cancer. Genomic analyses of SW-1573 have revealed key mutations relevant to NSCLC pathogenesis. Studies have shown that SW-1573 lacks common driver mutations in KRAS and EGFR, which distinguishes it from other NSCLC cell lines that are frequently used in lung cancer research. Instead, it carries other genomic alterations that contribute to tumor progression and drug resistance. Large-scale pharmacogenomic efforts, such as those in the Cancer Cell Line Encyclopedia (CCLE), have assessed its drug sensitivity profile, identifying vulnerabilities to specific cytotoxic agents and small-molecule inhibitors. SW-1573 has been employed in radiation biology studies, as it has demonstrated varying sensitivity to ionizing radiation. Researchers have used this cell line to investigate DNA damage response mechanisms and the role of cell cycle checkpoints in lung cancer therapy. Furthermore, enzyme polymorphism studies have confirmed its genetic stability and distinct identity among other tumor-derived cell lines, ensuring its reliability as a research tool.
Organism	Human
Tissue	Lung
Disease	Minimally invasive adenocarcinoma, Alveolar Cell
Applications	3D cell culture, Cancer research
Synonyms	SW-1573, SW 1573

Characteristics

Age	44 years
Gender	Female
Ethnicity	Caucasian
Morphology	Epithelial

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Growth properties	Adherent

Regulatory Data

Citation	SW-1573 (Cytion catalog number 305644)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_1720

Biomolecular Data

Antigen expression	Blood Type O, Rh +
Mutational profile	Gene deletion: CDKN2A, Homozygous; .Gene deletion: SMAD4, Homozygous; Mutation: CTNNB1, Simple, p.Ser33Phe (c.98C>T), Heterozygous; Mutation: KRAS, Simple, p.Gly12Cys (c.34G>T), Homozygous; Mutation: PIK3CA, Simple, p.Lys111Glu (c.331A>G), Heterozygous; Mutation: SMARCB1, Simple, c.362+1G>C, Heterozygous, Note=Splice donor mutation (Cosmic-CLP=724878).

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	23 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.