SW-1573

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.

Tissue	Lung
Disease	Minimally invasive adenocarcinoma, Alveolar Cell

Applications

3D cell culture, Cancer research

Synonyms

- SW-1573
- SW 1573

CLASSIFICATION

Organism	Human
Sex	Female
Growth properties	Adherent
Biosafety level	1

CHARACTERISTICS

Morphology	Epithelial
Doubling time	23 hours

IDENTIFIERS

Citation

SW-1573 (Cytion catalog number 305644)

NCBI TaxID	9606

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Cellosaurus	CVCL_1720

EXPRESSION AND SUSCEPTIBILITY

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 AND CULTURE

Culture medium

RPMI 1640, w: 2.0 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)

Incubation atmosphere	37°C, 5% CO_2, humidified atmosphere.

Supplements

Supplement the medium with 10% FBS

Dissociation reagent	Accutase

Thawing and culturing

Confirm that the vial remains deeply frozen upon delivery, as cells are shipped on dry ice to maintain optimal temperatures during transit.
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.
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.
Perform all subsequent steps under sterile conditions in a flow hood, disinfecting the cryovial with 70% ethanol before opening.
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.
Centrifuge the mixture at 300 x g for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium.
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.
Adhere to established subculture protocols for continued growth and maintenance of the cell line, ensuring reliable experimental outcomes.

QUALITY CONTROL AND CRYOPRESERVATION

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.

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.

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.

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.

DONOR

Donor age	44 years
Ethnicity	Caucasian

LEGAL AND SAFETY

Safety precautions

When planning to store a cryovial in liquid nitrogen for future thawing, it is mandatory to adhere to stringent safety measures. Appropriate protective gloves and clothing are essential, and the use of a face mask or safety goggles is required during the transfer of frozen samples to or from the liquid nitrogen tank. This is to mitigate the risk of injury from potential cryovial explosions upon removal, which can result in the projection of sharp fragments.

Warranty

At Cytion, we stand behind the quality and viability of our products.
We guarantee that our cells will be viable at the start of culture for
60 days after shipment from our facilities.
We assure that all materials conform to the specifications described in the
Certificate of Analysis and/or Product Sheet.
For full details, please refer to our
Warranty Statement.

Material Transfer Agreement required	Yes

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