SW1271

305880

GENERAL INFORMATION

Description

The SW1271 cell line is a human small cell lung carcinoma (SCLC) model derived from an adult patient. It is characterized by its neuroendocrine phenotype, which is typical of SCLC, and displays molecular features relevant to therapeutic sensitivity and resistance. In a comprehensive epigenome-wide methylation analysis of SCLC cell lines, including SW1271, the line exhibited specific DNA methylation patterns that correlated with chemosensitivity to several classes of anticancer drugs. These included Aurora kinase inhibitors, CDK inhibitors, and DNA-damaging agents. The methylation status of key genes such as TREX1, SLFN11, CEP350, and KDM1A in SW1271 and other SCLC models has been associated with altered drug response, implicating epigenetic modulation as a determinant of therapeutic efficacy. Furthermore, SW1271 has been used in integrated genomic and epigenomic studies to understand subtype-specific vulnerabilities in SCLC. This cell line, along with others representing different SCLC transcriptional subtypes (ASCL1, NEUROD1, POU2F3, and YAP1), helps delineate the heterogeneity within the disease. The methylation profile of SW1271 contributes to our understanding of the regulatory mechanisms affecting gene expression and drug response, including suppression of tumor suppressor genes and dysregulation of lineage-specific transcription factors. These insights position SW1271 as a valuable model for investigating epigenetically driven pathways in SCLC and for identifying potential biomarkers and therapeutic targets.

Tissue	Lung
Disease	Lung small cell carcinoma

Synonyms

- SW-1271
- SW 1271

CLASSIFICATION

Organism	Human
Sex	Male
Growth properties	Adherent
Biosafety level	1

CHARACTERISTICS

Morphology	Epithelial
Cell type	Epithelial cell

IDENTIFIERS

Citation

SW1271 (Cytion catalog number 305880)

NCBI TaxID	9606
Cellosaurus	CVCL_1716

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EXPRESSION AND SUSCEPTIBILITY

Antigen expression

Blood Type A; Rh +

Mutational profile

Mutation: NRAS, Simple, p.Gln61Arg (c.182A>G), Homozygous, SMARCA4, Simple, p.Asn774Lys (c.2322C>A), Homozygous.Mutation, TP53, Simple, p.Cys277Phe (c.830G>T), Homozygous

HANDLING AND CULTURE

Culture medium

DMEM:Ham's F12 (1:1), w: 3.1 g/L Glucose, w: 2.5 mM L-Glutamine, w: 15 mM HEPES, w: 0.5 mM Sodium pyruvate, w: 1.2 g/L NaHCO3 (Cytion article number 820400a)

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

Supplements

Supplement the medium with 10% FBS, AB, 5µg/mL Insulin

Dissociation reagent	Accutase
Fluid renewal	2 to 3 times per week

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	69 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.

Disclaimer

Our cells are provided for in vitro laboratory research purposes exclusively and are not intended for clinical or diagnostic use, nor are they to be administered to humans or used for veterinary purposes. Users must adhere to all applicable guidelines and regulations for the handling and use of these cells in a research setting.

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