SHP-77

305498

GENERAL INFORMATION

Description

The SHP-77 cell line is a human small-cell lung carcinoma (SCLC) model. It was derived from a primary lung tumor and is used extensively in cancer research, particularly for studies focused on lung cancer biology and drug development. SHP-77 cells exhibit the classic characteristics of SCLC, including rapid growth and high tumorigenic potential in xenograft models. This cell line is known for its ability to proliferate in serum-supplemented culture media and has been utilized in various experimental setups, such as studies of oncogenic signaling pathways and therapeutic response to chemotherapeutic agents.
SHP-77 cells are part of the Cancer Cell Line Encyclopedia (CCLE), a resource that enables researchers to correlate genetic profiles with drug sensitivities. Genomic profiling of SHP-77 has revealed mutations and alterations in critical oncogenes and tumor suppressors, providing a platform for studying the molecular mechanisms underlying SCLC pathogenesis. The cell line has also been included in drug screening studies, offering insights into its pharmacological vulnerabilities and aiding in the identification of compounds with therapeutic potential for lung cancer.

Tissue	Lung, left upper lobe
Disease	small cell carcinoma

Applications

3D cell culture, Cancer research

Synonyms

- SHP77
- Shadyside Hospital Pittsburgh-77

CLASSIFICATION

Organism	Human
Sex	Male
Growth properties	Adherent and suspension
Biosafety level	1

CHARACTERISTICS

Morphology	Round cells
Cell type	Epithelial cells
Tumourigenic	Yes; Yes, the cells form tumors in athymic nude mice, and usually grow as circumscribed nodules without evidence of metastases
Doubling time	85 hours

IDENTIFIERS

Citation

SHP-77 (Cytion catalog number 305498)

NCBI TaxID	9606
Cellosaurus	CVCL_1693

EXPRESSION AND SUSCEPTIBILITY

Antigen expression

Blood Type O; Rh +; CD56; CD57 (HNK-1,Leu-7)

Mutational profile

Mutation: ABL1, Simple, p.Val1128Glu (c.3383T>A), Zygosity=Heterozygous; Mutation: KRAS, Simple, p.Gly12Val (c.35G>T), Homozygous; Mutation: RAC1, Simple, p.Tyr32Cys (c.95A>G), Heterozygous; Mutation: TP53, Simple, p.Cys176Trp (c.528C>G), Homozygous

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

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	54 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