Product sheet

SHP-77 Cells | 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.
Organism	Human
Tissue	Lung, left upper lobe
Disease	small cell carcinoma
Applications	3D cell culture, Cancer research
Synonyms	SHP77, Shadyside Hospital Pittsburgh-77

Characteristics

Age	54 years
Gender	Male
Ethnicity	Caucasian
Morphology	Round cells
Cell type	Epithelial cells
Growth properties	Mixed: suspension with some loosely adherent cells

Regulatory Data

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Citation	SHP-77 (Cytion catalog number 305498)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_1693

Biomolecular Data

Antigen expression	Blood Type O; Rh +; CD56; CD57 (HNK-1,Leu-7)
Tumorigenic	Yes; Yes, the cells form tumors in athymic nude mice, and usually grow as circumscribed nodules without evidence of metastases
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

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
Doubling time	85 hours
Fluid renewal	2 to 3 times per week
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.