Product sheet

SCLC-22H Cells | 300445

General information

Description	The SCLC-22H cell line was established from the pericardial effusion of a male patient diagnosed with small cell lung cancer (SCLC) of the oat cell type, an aggressive subtype of lung cancer. The SCLC-22H cell line, derived from a small cell lung cancer (SCLC) patient, exhibits a mixture of features typical of both the classic and variant types of SCLC. This intermediate nature makes it a valuable model for studying the transition between these two subtypes. The cell line shows morphological characteristics such as small and large cell-like features, which are typically seen in both small cell and large cell lung cancer, especially when examined in xenografts. SCLC-22H expresses several neuroendocrine markers, including neuron-specific enolase (NSE), carcinoembryonic antigen (CEA), bombesin, and creatine kinase-BB (CK-BB), which are hallmarks of classic SCLC. However, compared to the closely related SCLC-21H cell line, SCLC-22H has a slower population doubling time and a lower colony-forming efficiency. These biochemical and kinetic properties distinguish it from SCLC-21H, which displays more features of the variant subtype with predominantly large cell morphology. SCLC-22H is considered an important model for understanding the in vivo progression from classic to variant SCLC. Its mixed phenotype suggests that it represents an intermediate or transitional phase, offering insights into how treatment resistance and changes in cell morphology and growth characteristics develop in aggressive lung cancers.
Organism	Human
Tissue	Lung
Disease	Small cell carcinoma
Metastatic site	Pericardial effusion
Synonyms	SCLC22H

Characteristics

Age	46 years
Gender	Male
Ethnicity	Caucasian
Morphology	Floating cell aggregates, few single cells
Growth properties	Suspension

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Regulatory Data

Citation	SCLC-22H (Cytion catalog number 300445)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_2186

Biomolecular Data

Tumorigenic	Yes, in nude mice
Reverse transcriptase	Negative
Karyotype	Modal number 43

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
Subculturing	Maintain cultures by periodically adding or replacing the medium. Initiate cultures with a density of 5 x 10^5 cells/ml and keep the cell concentration within the range of 1 x 10^5 to 1 x 10^6 cells/ml for optimal growth.
Seeding density	1 x 10^5 cells/ml
Fluid renewal	1 to 2 times per week
Freeze medium	As a cryopreservation medium, we use 50% basal medium + 40% FBS + 10% DMSO, or CM-1 (Cytion catalog number 800100), which includes optimized osmoprotectants and metabolic stabilizers to enhance recovery and reduce cryo-induced stress.

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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.