Product sheet

NCI-H358 Cells | 300430

General information

Description	NCI-H358, also known as H-358 or NCIH358, is an epithelial-like cell line derived from a patient with bronchioalveolar carcinoma, a subtype of non-small cell lung cancer (NSCLC). These cells display ultrastructural characteristics typical of Clara cells, such as specific cytoplasmic features. NCI-H358 cells are particularly relevant in cancer research focused on NSCLC, especially for exploring the biology and treatment of lung adenocarcinomas. This cell line is crucial for studying the effectiveness of therapies targeting the Epidermal Growth Factor Receptor (EGFR), as mutations in EGFR are a significant focus in the treatment of NSCLC. Additionally, NCI-H358 cells are valuable for investigating the role of KRAS mutations, which are prevalent in lung cancer and known to drive oncogenic activity. The study of these mutations in NCI-H358 cells helps to elucidate the molecular pathways involved in lung cancer progression and resistance to therapies. The NCI-H358 cell line harbors a homozygous deletion of p53, a major tumor suppressor. The H358 lung cancer cell line is also used to assess the potential of novel therapeutic approaches, such as SOS1 PROTACs, aimed at targeting specific oncogenic pathways. In summary, the NCI-H358 cell line, derived from bronchioalveolar carcinoma, is a vital tool in NSCLC research. It is instrumental for studying EGFR-targeted therapies and KRAS mutations' role in lung cancer. Its application in cancer research extends to the development of new therapeutic strategies aimed at mitigating the effects of oncogenic mutations and improving patient outcomes in lung cancer.
Organism	Human
Tissue	Lung
Disease	Minimally invasive lung adenocarcinoma
Synonyms	NCI-H358, H-358, NCIH358

Characteristics

Age	Age unspecified
Gender	Male
Ethnicity	European
Cell type	Club cell
Growth properties	Adherent

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Regulatory Data

Citation	NCI-H358 (Cytion catalog number 300430)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_1559

Biomolecular Data

Protein expression	UGT -, GST +, PST +, p53 -
Tumorigenic	Yes, in nude mice.
Mutational profile	P53 homozygously deleted

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
Dissociation Reagent	Accutase
Subculturing	Remove the old medium from the adherent cells and wash them with PBS that lacks calcium and magnesium. For T25 flasks, use 3-5 ml of PBS, and for T75 flasks, use 5-10 ml. Then, cover the cells completely with Accutase, using 1-2 ml for T25 flasks and 2.5 ml for T75 flasks. Let the cells incubate at room temperature for 8-10 minutes to detach them. After incubation, gently mix the cells with 10 ml of medium to resuspend them, then centrifuge at 300xg for 3 minutes. Discard the supernatant, resuspend the cells in fresh medium, and transfer them into new flasks that already contain fresh medium.
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.