NCI-H889

305842

GENERAL INFORMATION

Description

NCI-H889 is a human small cell lung cancer (SCLC) cell line with neuroendocrine features. It was established from an adult patient and is categorized as a classic SCLC model based on morphological and molecular criteria. The cells grow in suspension and display the round-to-oval morphology typical of SCLC. NCI-H889 expresses several neuroendocrine markers and has been widely used in mechanistic and pharmacologic studies related to this aggressive lung cancer subtype.
Functionally, NCI-H889 is characterized by autocrine signaling through the insulin-like growth factor II (IGF-II) and its receptor IGF-R. While IGF-I mRNA is widely detected among lung cancer cell lines, direct secretion of IGF-I protein is rare; in NCI-H889, the predominant ligand involved in growth stimulation is IGF-II. This is consistent with findings that support IGF-II/IGF-R signaling loops as key drivers of autocrine growth in SCLC cell lines. These autocrine interactions make NCI-H889 a valuable system for studying IGF-mediated mitogenic signaling and its therapeutic disruption.
Epigenetic analyses of NCI-H889 have also provided insight into the regulation of drug response. Methylation profiling indicates alterations in several genes involved in DNA damage response, cell cycle regulation, and transcriptional control. For example, NCI-H889 has been included in studies showing differential methylation and expression of genes like SLFN11, which is associated with sensitivity to DNA-damaging agents, and EZH2, a histone methyltransferase frequently upregulated in SCLC. These characteristics collectively position NCI-H889 as a relevant preclinical model for exploring therapeutic vulnerabilities associated with neuroendocrine lung tumors.

Tissue	Metastatic
Disease	Lung small cell carcinoma
Metastatic site	Lymph node

Synonyms

- H889
- H-889
- NCIH889

CLASSIFICATION

Organism	Human
Sex	Female
Growth properties	Suspension
Biosafety level	1

CHARACTERISTICS

Morphology	Epithelial
Cell type	Epithelial like

IDENTIFIERS

Citation

NCI-H889 (Cytion catalog number 305842)

NCBI TaxID	9606

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Cellosaurus	CVCL_1598

EXPRESSION AND SUSCEPTIBILITY

Mutational profile

Mutation: TP53, Simple, p.Cys242Ser (c.725G>C), Unspecified (PubMed=1312696, PubMed=1565469).

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

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

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