NCI-H526

305278

GENERAL INFORMATION

Description

The NCI-H526 cell line is derived from a small cell lung carcinoma (SCLC) of a human adult. This cell line is widely used in cancer research, particularly in the study of small cell lung cancer, which is known for its aggressive nature and poor prognosis. NCI-H526 cells provide a crucial model for investigating the biology of SCLC, understanding its rapid growth and metastasis, and developing new therapeutic strategies.
NCI-H526 cells exhibit a round, suspension-growing morphology characteristic of small cell lung cancer. They express neuroendocrine markers such as chromogranin A and synaptophysin, which are typical of SCLC. Researchers use NCI-H526 cells to study the genetic and epigenetic changes associated with SCLC, including alterations in the TP53 and RB1 genes, which are frequently mutated in this type of cancer. These cells are also employed to explore signaling pathways that drive SCLC progression, such as the Notch, PI3K/Akt, and Hedgehog pathways. In drug discovery and development, NCI-H526 cells are utilized to evaluate the efficacy of chemotherapeutic agents, targeted therapies, and novel treatment combinations. The relevance of the NCI-H526 cell line in small cell lung cancer research underscores its importance in advancing our understanding of this challenging disease and in the development of more effective treatments.

Tissue	Lung
Disease	Small cell carcinoma
Metastatic site	Bone marrow

Synonyms

- H526
- H-526
- NCIH526

CLASSIFICATION

Organism	Human
Sex	Male
Growth properties	Suspension
Biosafety level	1

CHARACTERISTICS

Morphology	Epithelial
Tumourigenic	Yes, in athymic mice

IDENTIFIERS

Citation

NCI-H526 (Cytion catalog number 305278)

NCBI TaxID	9606
Cellosaurus	CVCL_1569

EXPRESSION AND SUSCEPTIBILITY

Oncogenes

Myc+, myb+, fes+, fms+, raf+, ras+

Mutational profile

Mutation: TP53, c.97-1G>C (IVS3-1G>C), 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

Subculturing

Suspension cells: Remove cells from substrate by pipetting with fresh medium. To obtain single cells, pass the suspension several times through a 22 gauge needle and dispense into new flasks.

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	55 years
Ethnicity	European

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

PRODUCT DETAILS

Composition table

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