Product sheet

NCI-H526 Cells | 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.
Organism	Human
Tissue	Lung
Disease	Small cell carcinoma
Metastatic site	Bone marrow
Synonyms	H526, H-526, NCIH526

Characteristics

Age	55 years
Gender	Male
Ethnicity	European
Morphology	Epithelial
Growth properties	Clusters in Suspension

Regulatory Data

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Citation	NCI-H526 (Cytion catalog number 305278)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_1569

Biomolecular Data

Oncogenes	Myc+, myb+, fes+, fms+, raf+, ras+
Tumorigenic	Yes, in athymic mice
Mutational profile	Mutation: TP53, c.97-1G>C (IVS3-1G>C), 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
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
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.