NCI-H2444

305904

GENERAL INFORMATION

Description

NCI-H2444 is a human non-small cell lung cancer (NSCLC) cell line classified within the lung adenocarcinoma spectrum. It was established from a lung tumor specimen obtained from an adult patient and represents an epithelial malignancy of pulmonary origin. As part of large-scale pharmacogenomic and multi-omics characterization efforts, NCI-H2444 has been molecularly profiled alongside extensive panels of human cancer cell lines, enabling integration of genomic, transcriptomic, and pharmacological response data.
In comprehensive drug sensitivity studies of over 1,000 cancer cell lines screened against hundreds of anti-cancer compounds, lung cancer models such as NCI-H2444 have been used to correlate oncogenic alterations with therapeutic vulnerabilities :contentReference[oaicite:0]{index=0}. These analyses incorporate somatic mutation profiles, copy number alterations, DNA methylation patterns, and gene expression data to define clinically relevant cancer functional events and associate them with differential drug response. Such datasets allow NCI-H2444 to be positioned within lineage-specific and mutation-driven sensitivity clusters, supporting its application in biomarker discovery and targeted therapy evaluation.
Proteomic profiling efforts across hundreds of human cancer cell lines have further expanded the molecular annotation framework applicable to models such as NCI-H2444 :contentReference[oaicite:1]{index=1}. High-resolution mass spectrometry-based quantification of thousands of proteins enables integration of proteome-level measurements with transcriptomic and pharmacological datasets. This systems-level characterization facilitates the identification of protein biomarkers predictive of drug response and supports mechanistic studies of pathway activation, post-transcriptional regulation, and therapeutic resistance in lung adenocarcinoma models.

Tissue	Lung
Disease	Lung non-small cell carcinoma

Synonyms

- H2444
- H-2444
- NCIH244

CLASSIFICATION

Organism	Human
Sex	Male
Growth properties	Adherent
Biosafety level	1

CHARACTERISTICS

Morphology	epithelial

IDENTIFIERS

Citation

NCI-H2444 (Cytion catalog number 305904)

NCBI TaxID	9606
Cellosaurus	CVCL_1552

EXPRESSION AND SUSCEPTIBILITY

Mutational profile

Mutation: p.Gly12Val, Homozygous; Mutation: p.Tyr236Cys, 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

Dissociation reagent	Accutase

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	Age unspecified
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.

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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