NCI-H2087

305824

GENERAL INFORMATION

Description

NCI-H2087 is a human non-small cell lung carcinoma (NSCLC) cell line derived from the metastatic site (specifically, a lymph node) of an adult patient with lung adenocarcinoma. This cell line is epithelial in morphology and is commonly utilized in studies investigating lung cancer pathogenesis, therapeutic responses, and molecular profiling of metastatic adenocarcinomas. It exhibits characteristics consistent with its origin, including expression of epithelial markers and various genetic alterations typical of lung adenocarcinomas.
Genetically, NCI-H2087 is known to harbor mutations relevant to oncogenesis and therapy resistance in NSCLC. Most notably, it contains a KRAS mutation, which is associated with constitutive activation of downstream signaling pathways such as MAPK and PI3K-AKT, leading to enhanced cell proliferation and survival. The presence of this mutation makes NCI-H2087 a valuable model for studying KRAS-driven tumorigenesis and for evaluating targeted inhibitors that disrupt KRAS signaling. Additionally, the cell line is p53 mutant, which can contribute to impaired apoptosis and genomic instability, further supporting its utility in preclinical cancer biology and drug screening research.

Tissue	Lymph node
Disease	Lung adenocarcinoma

Synonyms

- H2087
- H-2087
- NCIH2087

CLASSIFICATION

Organism	Human
Sex	Male
Growth properties	Adherent
Biosafety level	1

CHARACTERISTICS

Morphology	Epithelial-like and/or rounded

IDENTIFIERS

Citation

NCI-H2087 (Cytion catalog number 305824)

NCBI TaxID	9606
Cellosaurus	CVCL_1524

EXPRESSION AND SUSCEPTIBILITY

Mutational profile

Mutation: ATM, Simple, p.Glu848Gln (c.2542G>C), Heterozygous, BRAF, Simple, p.Leu597Val (c.1789C>G), Heterozygous, MYC, Simple, p.Glu54Lys (c.160G>A), Heterozygous, NRAS, Simple, p.Gln61Lys (c.181C>A), Heterozygous, TP53, Simple, p.Val157Phe (c.469G>T), Homozygous

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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

51 hours

Dissociation reagent	Accutase
Seeding density	4 x 10^4 cells/cm^2

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 200 x g for 5 minutes, carefully discard the supernatant containing freezing medium.
Follow the procedure described under Post-Thaw Recovery

QUALITY CONTROL AND CRYOPRESERVATION

Freeze medium	As a cryopreservation medium, we use complete growth medium + 10% DMSO for adequate post-thaw viability.

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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