Product sheet

NCI-H2087 Cells | 305824

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.
Organism	Human
Tissue	Lymph node
Disease	Lung adenocarcinoma
Synonyms	H2087, H-2087, NCIH2087

Age	69 years
Gender	Male
Ethnicity	Caucasian
Morphology	Epithelial-like and/or rounded
Growth properties	Adherent

Citation	NCI-H2087 (Cytion catalog number 305824)
Biosafety level	1

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NCBI_TaxID	9606
CellosaurusAccession	CVCL_1524
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
Culture Medium	RPMI 1640, w: 2.0 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)
Supplements	51 hours
Dissociation Reagent	Accutase
Seeding density	4 x 10^4 cells/cm^2
Freeze medium	As a cryopreservation medium, we use complete growth medium + 10% DMSO for adequate post-thaw viability.

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

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.