Product sheet

NCI-H1792 Cells | 305835

General information

Description	NCI-H1792 is a human non-small cell lung carcinoma (NSCLC) cell line derived from a lung adenocarcinoma of an adult patient. It has been utilized extensively in cancer research, particularly in studies focusing on lung tumorigenesis, genetic aberrations, and drug sensitivity profiling. The cell line is characterized by an epithelial morphology and forms adherent monolayers in culture. Its inclusion in large-scale datasets such as the Cancer Cell Line Encyclopedia (CCLE) has enabled extensive genomic and proteomic profiling, facilitating comparative analyses with other lung cancer models. Genomically, NCI-H1792 exhibits several molecular alterations common in NSCLC. It is known to harbor a KRAS mutation, a common oncogenic driver in lung adenocarcinoma, which contributes to aberrant MAPK signaling. The cell line has also been analyzed in proteomic studies, where its protein expression profile has provided insight into signaling pathway dependencies and vulnerabilities. Proteomic data highlight its utility in understanding pathway regulation and drug target validation across KRAS-mutant cancers. These datasets also underscore its classification within a subtype of KRAS-driven cancers that show distinct metabolic and signaling characteristics. NCI-H1792 is typically cultured in RPMI-1640 medium supplemented with 10% fetal bovine serum and maintained under standard cell culture conditions (37°C, 5% CO_2). Its moderate growth rate and epithelial phenotype make it suitable for high-throughput drug screening and pathway interrogation studies. Due to its defined mutational background and widespread profiling, NCI-H1792 serves as a reliable model for exploring therapeutic responses in KRAS-driven lung adenocarcinomas.
Organism	Human
Tissue	Metastatic
Disease	Lung adenocarcinoma
Synonyms	H1792, H-1792, NCIH1792

Characteristics

Age	50 years
Gender	Male
Ethnicity	Caucasian
Cell type	Epithelial
Growth properties	Adherent

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Regulatory Data

Citation	NCI-H1792 (Cytion catalog number 305835)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_1495

Biomolecular Data

Mutational profile	Mutation: CDKN2A, Simple, p.Trp110Ter (c.330G>A) (p.Gly125Arg, c.373G>A), Heterozygous.Mutation, KRAS, Simple, p.Gly12Cys (c.34G>T), Heterozygous, TP53, Simple, c.672+1G>A, Homozygous, Note=Splice donor mutation

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
Dissociation Reagent	Accutase
Doubling time	45 hours
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.

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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 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

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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.