Product sheet

NCI-H1793 Cells | 305911

Description	NCI-H1793 is a human non-small cell lung cancer (NSCLC) cell line derived from an adult patient with lung adenocarcinoma. The cells exhibit epithelial morphology and grow adherently in standard tissue culture conditions. As a representative model of pulmonary adenocarcinoma, NCI-H1793 retains key molecular and phenotypic characteristics associated with this histological subtype, making it suitable for in vitro studies of lung cancer biology, tumor progression, and therapeutic response. Molecular characterization of NCI-H1793 has identified an activating mutation in the KRAS oncogene (G12C), a common driver alteration in lung adenocarcinoma. This mutation results in constitutive activation of downstream signaling pathways, including the MAPK and PI3K-AKT cascades, promoting proliferation and survival. The presence of KRAS G12C makes NCI-H1793 particularly valuable for investigating RAS-driven oncogenic signaling and for evaluating targeted inhibitors directed against mutant KRAS or its downstream effectors. The cell line has also been reported to harbor additional genomic alterations typical of NSCLC, supporting its relevance as a preclinical model for molecularly defined lung cancer. Due to its defined oncogenic background and epithelial tumor phenotype, NCI-H1793 is widely used in studies assessing targeted therapies, resistance mechanisms, and combination treatment strategies in KRAS-mutant lung cancer. It serves as a robust platform for functional genomics, drug screening, and pathway analysis aimed at elucidating vulnerabilities in RAS-driven malignancies.
Organism	Human
Tissue	Lung
Disease	Lung adenocarcinoma
Synonyms	H1793, H-1793, NCIH1793

Age	52 years
Gender	Female
Ethnicity	Caucasian
Morphology	epithelial
Growth properties	adherent

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Citation	NCI-H1793 (Cytion catalog number 305911)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_1496
Mutational profile	Mutation: p.Arg209Ter, Heterozygous; Mutation: p.Arg273His, Heterozygous

Culture Medium

HITES medium supplemented

The base medium for this cell line is **DF12**. To make the complete growth medium, add the following components to the base medium:

- 0.005 mg/ml Insulin
- 0.01 mg/ml Transferrin
- 30 nM Sodium selenite (final conc.)
- 10 nM Hydrocortisone (final conc.)
- 10 nM beta-estradiol (final conc.)
- Extra 2 mM L-glutamine (for final conc. of 4.5 mM)
- 5% fetal bovine serum (final conc.)

Dissociation Reagent	Accutase
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.

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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.