

NCI-H1299 Cells | 300485

General information

Description	NCI-H1299, also known as H1299, is a cell line established from a lymph node metastasis of the lung from a 43-year-old white male patient with carcinoma. H1299 and H292 are non-small cell lung cancer (NSCLC) cell lines. Regarding their genetic profile, H1299 cells have a homozygous partial deletion of the p53 protein and lack expression of p53 protein. While KRAS mutations are commonly found in various types of cancer, including NSCLC, H1299 expresses KRAS WT. A549 is another NSCLC cell line that homozygously expresses endogenous KRAS G12S. Understanding the biology of KRAS and its downstream signalling pathways is crucial for developing effective cancer therapies. Therefore, this epithelial-like cell line is commonly used in cancer and immunology research. The morphology of H1299 cells is characterized by adherent flattened cells with a thickness of fewer than 5 microns. H1299 cells have an approximate doubling time of 22 - 30 hours. H1299 cells express keratin and vimentin but are negative for neurofilament triplet protein. They are also reported to be able to synthesize the peptide neuromedin B (NMB) at 0.1 pmol/mg protein but not the gastrin-releasing peptide (GRP). Compared to A549 cells with more epithelial characteristics, H1299 cells have more mesenchymal characteristics and less effective epithelial marker expression.
Organism	Human
Tissue	Lung
Disease	Carcinoma
Synonyms	H1299, H-1299, NCIH1299

Characteristics

Age	59 years
Ethnicity	Caucasian
Growth properties	Adherent

Identifiers / Biosafety / Citation

Citation	H1299 (Cytion catalog number 300485)
Biosafety level	1

Expression / Mutation

Handling

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Culture Medium RPMI 1640, w: 4.5 g/L Glucose, w: 2 mM L-Glutamine, w: 10 mM HEPES, w: 1 mM Sodium pyruvate, w: 1.5 g/L NaHCO₃ (Cytion article number 820702a)

Medium supplements Supplement the medium with 10% FBS

Passaging solution Accutase

Fluid renewal 2 to 3 times per week

Freeze medium CM-1 (Cytion catalog number 800100) or CM-ACF (Cytion catalog number 806100)

Handling of cryopreserved cultures NCI-H1299 cells are shipped in a deep-frozen state on dry ice. Upon receipt, confirm that the vial remains frozen. For storage, place the cryovial immediately at temperatures below -150 degrees. If you plan to culture the cells immediately, swiftly thaw the vial by shaking it in a 37 degrees water bath with clean water and an antimicrobial agent for 40-60 seconds. Remove the vial once a small ice clump persists, ensuring it remains cold. Proceed with all subsequent steps under aseptic conditions. In a sterile flow hood, disinfect the cryovial with 70% ethanol. Then, gently open the vial and transfer the cell suspension into a 15 ml centrifuge tube pre-filled with 8 ml of room temperature culture medium. Gently mix the cells. For cell separation, centrifuge at 300 x g for 3 minutes and dispose of the supernatant. Skipping centrifugation is optional, although any residual freezing medium should be removed after 24 hours. Resuspend the pellet gently in 10 ml of fresh culture medium and divide between two T25 culture flasks. Follow the subculture protocol for subsequent steps.

Handling of proliferating cultures One or two cell culture flasks come filled with cell culture medium. Collect the entire medium in a 50 ml centrifuge tube. Spin down the collected medium at 300 x g for 3 minutes to collect the cells which may have detached during transit. If a cell pellet is visible, resuspend the cells in 5 ml of cell culture medium and transfer to a T25 cell culture flask. Carefully add 5 ml of cell culture medium to each T25 cell culture flask. Examine cell morphology and confluency using a microscope. Finally, incubate the flasks at 37 degrees Celsius for at least 24 hours.

Quality control / Genetic profile / HLA

Sterility Mycoplasma contamination is rigorously 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.