Product sheet

NCI-H146 Cells | 300182

General information

Description	The NCI-H146 cell line was derived by A.F. Gazdar and associates in 1979 from the pleural fluid of a patient with small cell cancer of the lung. The bone marrow specimen was taken prior to therapy.
Organism	Human
Tissue	Lung
Disease	Small cell carcinoma
Metastatic site	Bone marrow
Synonyms	H146, H-146, NCIH146

Characteristics

Age	59 years
Gender	Male
Ethnicity	Caucasian
Morphology	Epithelial-like
Growth properties	Aggregates in suspension

Regulatory Data

Citation	NCI-H146 (Cytion catalog number 300182)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_1473

Biomolecular Data

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Receptors expressed	Insulin-like growth factor II receptor (IGF II)
Protein expression	The cells stain positively for vimentin and keratin, but are negative for neurofilament triplet protein.
Antigen expression	The line expresses elevated levels of four biochemical markers: neuron specific enolase, brain isoenzyme of creatine kinase, L-DOPA decarboxylase and bombesin-like immunoreactivity
Isoenzymes	G6PD, B, PGM1, 1-2, PGM3, 1-2, ES-D, 1, Me-2, 2, AK-1, 1, GLO-1, 1, Phenotype Frequency Product = 0.0009
Tumorigenic	Forms transplantable tumors in nude mice which histologically resemble tumor cells from the original biopsy specimen
Products	The cells produce relatively high amounts of c-myc mRNA, but c-myc DNA sequences are not amplified. The cells do not express vasopressin, oxytocin or gastrin releasing peptide.
Ploidy status	Aneuploid
MSI-status	Stable (MSS)
Karyotype	This is a near triploid human cell line. The modal chromosome number is 68, but cells with 66, 70 and 71 chromosomes also occurred frequently. The x chromosomes were paired, and no Y chromosome was detected in QM stained preparations.

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% heat-inactivated FBS
Subculturing	The cells should be subcultured by transferring part of the suspension into fresh new cell culture flasks prefilled with fresh medium. Alternatively, the clusters may be collected by centrifugation and resuspended in fresh medium.
Seeding density	1 to 2 x 10^5 cells/ml
Fluid renewal	2 to 3 times per week
Post-Thaw Recovery	After thawing allow the cells to recover from the freezing process for at least 24 to 48 hours.

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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.

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

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.