NCI-H146

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.

Tissue	Lung
Disease	Small cell carcinoma
Metastatic site	Bone marrow

Synonyms

- H146
- H-146
- NCIH146

CLASSIFICATION

Organism	Human
Sex	Male
Growth properties	Suspension
Biosafety level	1

CHARACTERISTICS

Morphology	Epithelial-like
Tumourigenic	Forms transplantable tumors in nude mice which histologically resemble tumor cells from the original biopsy specimen
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.

IDENTIFIERS

Citation

NCI-H146 (Cytion catalog number 300182)

NCBI TaxID	9606
Cellosaurus	CVCL_1473

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EXPRESSION AND SUSCEPTIBILITY

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

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.

HANDLING AND CULTURE

Culture medium

RPMI 1640, w: 2.0 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)

Incubation atmosphere	37°C, 5% CO_2, humidified atmosphere.

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.

Thawing and culturing

Confirm that the vial remains deeply frozen upon delivery, as cells are shipped on dry ice to maintain optimal temperatures during transit. 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.
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.
Perform all subsequent steps under sterile conditions in a flow hood, disinfecting the cryovial with 70% ethanol before opening.
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.
Centrifuge the mixture at 300 x g for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium.
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.
Adhere to established subculture protocols for continued growth and maintenance of the cell line, ensuring reliable experimental outcomes.

QUALITY CONTROL AND CRYOPRESERVATION

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.

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.

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.

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.

DONOR

Donor age	59 years
Ethnicity	Caucasian

LEGAL AND SAFETY

Safety precautions

When planning to store a cryovial in liquid nitrogen for future thawing, it is mandatory to adhere to stringent safety measures. Appropriate protective gloves and clothing are essential, and the use of a face mask or safety goggles is required during the transfer of frozen samples to or from the liquid nitrogen tank. This is to mitigate the risk of injury from potential cryovial explosions upon removal, which can result in the projection of sharp fragments.

Warranty

At Cytion, we stand behind the quality and viability of our products.
We guarantee that our cells will be viable at the start of culture for
60 days after shipment from our facilities.
We assure that all materials conform to the specifications described in the
Certificate of Analysis and/or Product Sheet.
For full details, please refer to our
Warranty Statement.

Material Transfer Agreement required	Yes