**Product sheet**

# NCI-H146 Cells | 300182

## General information

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| **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

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

## Identifiers / Biosafety / Citation

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| **Citation** | NCI-H146 (Cytion catalog number 300182) |
| **Biosafety level** | 1 |

## Expression / Mutation

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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. |

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| **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 |
| **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

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| **Culture Medium** | RPMI 1640, w: 2.1 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a) |
| **Medium supplements** | Supplement the medium with 10% 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. |
| **Split ratio** | A ratio of 1:2 to 1:6 is recommended |
| **Seeding density** | 1 to 2 x 10^5 cells/ml |
| **Fluid renewal** | 2 to 3 times per week |
| **Freezing recovery** | After thawing allow the cells to recover from the freezing process for at least 24 to 48 hours. |
| **Freeze medium** | CM-1 (Cytion catalog number 800100) or CM-ACF (Cytion catalog number 806100) |

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| **Handling of cryopreserved cultures** | 1. Confirm that the vial remains deeply frozen upon delivery, as cells are shipped on dry ice to maintain optimal temperatures during transit.<br>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.<br>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.<br>4. Perform all subsequent steps under sterile conditions in a flow hood, disinfecting the cryovial with 70% ethanol before opening.<br>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.<br>6. Centrifuge the mixture at 300 x g for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium. Optionally, skip centrifugation but remove any remaining freezing medium after 24 hours.<br>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.<br>8. Adhere to established subculture protocols for continued growth and maintenance of the cell line, ensuring reliable experimental outcomes. |

## Quality control / Genetic profile / HLA

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| **Sterility** | Mycoplasma contamination is excluded using both PCR-based assays and luminescence-based mycoplasma detection methods.<br>To ensure there is no bacterial, fungal, or yeast contamination, cell cultures are subjected to daily visual inspections. |
| **STR profile** | **Amelogenin**: x,x |

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| **HLA alleles** | **A***: 01:01:01, 03:01:01<br>**B***: 14:02:01, 44:03:01<br>**C***: 08:02:01, 16:01:01<br>**DRB1***: 08:01:01, 15:01:01G<br>**DQA1***: 01:02:01, 04:01:01<br>**DQB1***: 04:02:01, 06:02:01<br>**DPB1***: 02:01:02, 05:01:01<br>**E**: 01:01:01 |