Product sheet

HCC4006 Cells | 305785

Description	HCC4006 is a human non-small cell lung cancer (NSCLC) cell line derived from a lung adenocarcinoma. It is characterized by an activating exon 19 deletion in the EGFR gene, which makes it particularly sensitive to EGFR tyrosine kinase inhibitors (TKIs) such as erlotinib and gefitinib. This feature has made HCC4006 a widely used model for studying EGFR-mutant NSCLC and resistance mechanisms to EGFR-targeted therapies. In the Cancer Cell Line Encyclopedia (CCLE), HCC4006 has been comprehensively profiled at the genomic, transcriptomic, and epigenetic levels, confirming its high sensitivity to EGFR inhibition and highlighting its use as a pharmacogenomic reference model. High-resolution genomic studies have revealed that HCC4006 displays a relatively simple karyotype compared to other NSCLC models, which may facilitate clearer interpretation of drug responses and genomic alterations. It lacks common resistance mutations such as T790M in the EGFR gene, making it suitable for modeling initial treatment responses. However, resistance can be induced in vitro, allowing researchers to study mechanisms of acquired resistance. For example, resistance to EGFR TKIs in HCC4006 has been linked to epithelial-mesenchymal transition (EMT) and activation of alternative signaling pathways, such as AXL kinase overexpression. HCC4006 has also been assessed in large-scale transcriptomic comparisons of cell lines and primary tumors. It is one of the lung adenocarcinoma cell lines that demonstrates a moderate correlation to primary tumor gene expression profiles, though the degree of correlation can vary depending on the purity of the tumor samples used for comparison. These analyses underscore the relevance of HCC4006 in modeling certain molecular aspects of lung adenocarcinoma, particularly those associated with EGFR-driven oncogenesis, while also emphasizing its limitations in fully recapitulating the heterogeneity of primary tumors.
Organism	Human
Tissue	Metastatic
Disease	Lung adenocarcinoma
Metastatic site	Pleural effusion
Synonyms	HCC-4006, Hamon Cancer Center 4006

Age	>50 years
Gender	Male
Ethnicity	Caucasian
Morphology	Epithelial

Product sheet

HCC4006 Cells | 305785

Cell type	Epithelial cell
Growth properties	Adherent

Citation	HCC4006 (Cytion catalog number 305785)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_1269

Mutational profile	Mutation: EGFR, Simple, p.Leu747_Glu749del (c.2239_2247delTAAGAGAA), Heterozygous (ATCC=CRL-2871, TP53, Simple, p.Tyr205His (c.613T>C), Homozygous (DepMap=ACH-000066).

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% FBS
Dissociation Reagent	Accutase
Doubling time	46 hours
Fluid renewal	2 to 3 times per week
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.

HCC4006 Cells | 305785

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.

HCC4006 Cells | 305785

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.