HCC366

302155

GENERAL INFORMATION

Description

HCC366 is a human lung adenosquamous carcinoma cell line established from the malignant pleural effusion of an 80-year-old European female patient at the Hamon Cancer Center, UT Southwestern Medical Center. Adenosquamous carcinoma is a rare mixed histological subtype of non-small cell lung cancer (NSCLC) combining features of both adenocarcinoma and squamous cell carcinoma. HCC366 is is included in the Cancer Dependency Map (DepMap), CCLE, COSMIC cell lines, and MD Anderson Cell Lines Project panels. The line carries a homozygous TP53 p.Tyr220Cys mutation (a structural mutation of the DNA-binding domain) and a heterozygous ATM p.Pro534Ala mutation. It does not carry KRAS, EGFR, or STK11 driver mutations, and exhibits microsatellite stability (MSS). The doubling time is approximately 60–70 hours.
HCC366 is applicable in NSCLC research, particularly in studies of lung adenosquamous carcinoma biology, which remains understudied relative to pure adenocarcinoma or squamous cell carcinoma subtypes. Key applications include: TP53 gain-of-function mutation studies; ATM-mediated DNA damage response; chemotherapy sensitivity and resistance testing (cisplatin, paclitaxel, gemcitabine); evaluation of targeted agents; drug sensitivity profiling within DepMap and CCLE frameworks; biomarker discovery for mixed histology NSCLC; comparative genomics; and proteomic/transcriptomic profiling. HCC366 has also contributed to studies of lung cancer cell biology including proliferation, migration, and invasion mechanisms relevant to malignant pleural disease.

Tissue	Lung
Disease	Non-small cell lung cancer
Metastatic site	Malignant pleural effusion (site of sample collection)

Applications

NSCLC research; lung adenosquamous carcinoma biology; TP53 p.Tyr220Cys gain-of-function studies; ATM DNA damage response; chemotherapy sensitivity (cisplatin, paclitaxel, gemcitabine); DepMap/CCLE drug sensitivity profiling; biomarker discovery; NSCLC comparative genomics; malignant pleural disease biology

Synonyms

- HCC-366
- HCC0366
- Hamon Cancer Center 366

CLASSIFICATION

Organism	Human
Sex	Female
Growth properties	Adherent
GMO status	Non-GMO

GMO status details

No genetic modification; wildtype NSCLC cell line with endogenous somatic mutations (TP53 p.Tyr220Cys homozygous; ATM p.Pro534Ala heterozygous)

Biosafety level	1

CHARACTERISTICS

Morphology	Epithelial-like

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Cell type	Epithelial cells
MSI status	MSS
Doubling time	approx. 60 to 70 hours

IDENTIFIERS

Citation

HCC366 (Cytion catalog number 302155)

NCBI TaxID	9606
Cellosaurus	CVCL_2059

EXPRESSION AND SUSCEPTIBILITY

Mutational profile

TP53 p.Tyr220Cys (c.659A>G) Homozygous; ATM p.Pro534Ala (c.1600C>G) Heterozygous

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

Dissociation reagent	Accutase

Subculturing

Remove the old medium from the adherent cells and wash them with PBS that lacks calcium and magnesium. For T25 flasks, use 3-5 ml of PBS, and for T75 flasks, use 5-10 ml. Then, cover the cells completely with Accutase, using 1-2 ml for T25 flasks and 2.5 ml for T75 flasks. Let the cells incubate at room temperature for 8-10 minutes to detach them. After incubation, gently mix the cells with 10 ml of medium to resuspend them, then centrifuge at 300xg for 3 minutes. Discard the supernatant, resuspend the cells in fresh medium, and transfer them into new flasks that already contain fresh medium.

Split ratio	1 to 5
Seeding density	1 to 3 × 10^4 cells/cm^2
Fluid renewal	2 to 3 times per week
Post-thaw recovery	After thawing, plate the cells at 5 × 10^4 cells/cm^2 and allow at least 24 hours for adherence before the first medium change.

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	80 years
Ethnicity	European

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