Product sheet

HCC366 Cells | 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.
Organism	Human
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

Characteristics

Age	80 years
Gender	Female
Ethnicity	European
Morphology	Epithelial-like

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Cell type	Epithelial cells
Growth properties	Monolayer, adherent

Regulatory Data

Citation	HCC366 (Cytion catalog number 302155)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_2059
GMO Status	No genetic modification; wildtype NSCLC cell line with endogenous somatic mutations (TP53 p.Tyr220Cys homozygous; ATM p.Pro534Ala heterozygous)

Biomolecular Data

MSI-status	MSS
Mutational profile	TP53 p.Tyr220Cys (c.659A>G) Homozygous; ATM p.Pro534Ala (c.1600C>G) Heterozygous

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
Dissociation Reagent	Accutase
Doubling time	approx. 60 to 70 hours

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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.
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.