Product sheet

HCC78 Cells | 302156

General information

Description	HCC78 is a cell line derived from a primary tumor of a lung adenocarcinoma, specifically a subtype known as mucinous bronchioloalveolar carcinoma. This cell line was established from a male adult patient. HCC78 cells are particularly noted for harboring a unique chromosomal rearrangement involving the ROS1 and SLC34A2 genes, which results in the SLC34A2-ROS1 fusion protein. This fusion protein has been implicated in oncogenic signaling pathways, making HCC78 a valuable model for studying the molecular mechanisms of ROS1 fusion-positive lung cancers and for testing targeted therapies against ROS1. In research contexts, HCC78 has been utilized extensively to explore the efficacy and mechanism of action of ROS1 inhibitors. These studies have demonstrated the cell line's utility in preclinical assessments of drug sensitivity, resistance mechanisms, and the cellular pathways affected by ROS1 activity. The cell line grows adherently and exhibits epithelial-like morphology, which is characteristic of bronchioloalveolar tumors. The genetic and phenotypic features of HCC78 make it an essential tool for lung cancer research, especially for investigations focused on targeted therapies and personalized medicine in the treatment of ROS1-positive cancers.
Organism	Human
Tissue	Pleural effusion
Disease	Adenocarcinoma
Synonyms	HCC-78, HCC0078, Hamon Cancer Center 78

Characteristics

Age	65 years
Gender	Male
Ethnicity	European
Growth properties	Monolayer, adherent

Regulatory Data

Citation	HCC78 (Cytion catalog number 302156)
Biosafety level	1

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NCBI_TaxID	9606
CellosaurusAccession	CVCL_2061

Biomolecular Data

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% 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.
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

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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.