HuCC-T1

300469

GENERAL INFORMATION

Description

HuCC-T1 is a human cholangiocarcinoma cell line established from an intrahepatic bile duct carcinoma. Cholangiocarcinoma is a highly aggressive malignancy with limited treatment options and a poor prognosis. HuCC-T1 cells have been utilized extensively in research to study the pathophysiology of cholangiocarcinoma and to explore potential therapeutic approaches. The cell line is particularly valuable in studying the effects of various chemotherapeutic agents, including statins, which have shown potential in suppressing the proliferation of cholangiocarcinoma cells.

In studies involving HuCC-T1, statins such as pitavastatin and atorvastatin were observed to significantly inhibit cell proliferation, particularly when combined with conventional chemotherapeutic agents like gemcitabine, cisplatin, and 5-fluorouracil (5-FU). The combination of these drugs resulted in enhanced suppression of cell growth, indicating potential synergistic effects. The mechanism of action involves the induction of apoptosis via suppression of the MAPK/ERK signaling pathway, as evidenced by increased levels of cleaved caspase-3 and reduced levels of phosphorylated ERK (p-ERK). These findings suggest that statins may serve as a promising adjunct therapy in the treatment of cholangiocarcinoma, potentially improving outcomes when used alongside existing anticancer drugs.

Furthermore, the HuCC-T1 cell line has been characterized for various molecular markers, including p53 gene status, which plays a critical role in cell cycle regulation and apoptosis. The precise p53 mutation status in HuCC-T1 could provide insights into the cell line's response to DNA-damaging agents and its overall tumorigenic potential. Given its molecular characteristics, HuCC-T1 continues to be a pivotal tool in cholangiocarcinoma research, offering insights into the disease's molecular underpinnings and aiding in the development of novel therapeutic strategies.

Tissue	Liver
Disease	Intrahepatic cholangiocarcinoma
Metastatic site	Ascites

Applications

Studies of the mechanism of tumor marker secretion and tumor cell growth in the human cholangiocellular carcinoma

Synonyms

- HuCCT-1
- HUCCT-1
- HUCC-T1
- HUCCT1
- HuCCT1

CLASSIFICATION

Organism	Human
Sex	Male
Growth properties	Adherent
Biosafety level	1

CHARACTERISTICS

Morphology	Epithelial
Tumourigenic	Yes, in nude mice.

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IDENTIFIERS

Citation

HuCC-T1 (Cytion catalog number 300469)

NCBI TaxID	9606
Cellosaurus	CVCL_0324

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% FBS

Dissociation reagent	Accutase

Subculturing

Discard the old medium and wash the cells with PBS. Add a freshly prepared 0.025% trypsin/0.02% EDTA solution heated to 37 degrees Celsius and wait until the cells detach, which usually takes about 5 minutes. Neutralize the trypsin by adding fresh medium, then transfer the cell mixture to a tube and centrifuge. After centrifugation, remove the supernatant, resuspend the cell pellet in fresh culture medium, and transfer the suspension to new flasks. Incorporate G418 into the culture medium to achieve a final concentration of 0.5 mg/ml

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	56 years
Ethnicity	Japanese

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

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