HT-1197

305800

GENERAL INFORMATION

Description

HT-1197 is a human urothelial carcinoma cell line established from a high-grade transitional cell carcinoma of the bladder in an adult male patient. This line was derived from a recurrent tumor after multiple surgical resections and showed aggressive clinical behavior with widespread metastases prior to the patient's death. Morphologically, HT-1197 cells exhibit epithelial features, including the presence of microvilli, tonofibrils, and desmosomes as observed under electron microscopy, indicating their urothelial epithelial origin. These cells are karyotypically distinct with identifiable marker chromosomes and demonstrate the ability to grow in soft agar, a hallmark of anchorage-independent growth, and are tumorigenic in both nude mice and immunosuppressed hamsters.
At the molecular level, HT-1197 harbors several key oncogenic mutations commonly associated with bladder cancer. It carries an activating S249C mutation in FGFR3 and an E545K mutation in PIK3CA, both of which are prevalent in the pathogenesis of urothelial bladder carcinoma. Additionally, HT-1197 has a Q61R mutation in NRAS and mutations in the TERT promoter region, suggesting enhanced proliferative capacity and telomerase activity. The TP53 status includes a c.1094A>G alteration, further implicating disruption of cell cycle control and genomic stability. Genomic profiling indicates that HT-1197 belongs to a subset of urothelial cancer cell lines marked by high genomic instability and molecular features consistent with the more aggressive, muscle-invasive subtype of bladder cancer.

Tissue	Urinary bladder
Disease	Recurrent bladder carcinoma

Synonyms

- HT 1197
- HT1197
- HT 1197.T

CLASSIFICATION

Organism	Human
Sex	Male
Growth properties	Adherent
Biosafety level	1

CHARACTERISTICS

Tumourigenic	Yes; Yes, in mice and hamsters
Doubling time	61 hours

IDENTIFIERS

Citation

HT-1197 (Cytion catalog number 305800)

NCBI TaxID	9606
Cellosaurus	CVCL_1291

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Banking information
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EXPRESSION AND SUSCEPTIBILITY

Isoenzymes

G6PD, B

Mutational profile

Mutation: NRAS, Simple, p.Gln61Arg (c.182A>G), Unspecified. Mutation, TERT, Simple, c.1-124C>T (c.228C>T) (C228T), Unspecified, Note=In promoter. Mutation, TP53, Simple, p.His365Arg (c.1094A>G), Unspecified

HANDLING AND CULTURE

Culture medium

EMEM (MEM Eagle), w: 2 mM L-Glutamine, w: 2.2 g/L NaHCO3, w: EBSS (Cytion article number 820100a)

Incubation atmosphere	37°C, 5% CO_2, humidified atmosphere.

Supplements

Supplement the medium with 10% FBS

Dissociation reagent	Accutase
Fluid renewal	twice weekly

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	44 years

Ethnicity	Caucasian

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.

Disclaimer

Our cells are provided for in vitro laboratory research purposes exclusively and are not intended for clinical or diagnostic use, nor are they to be administered to humans or used for veterinary purposes. Users must adhere to all applicable guidelines and regulations for the handling and use of these cells in a research setting.

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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