Product sheet

HT-1197 Cells | 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.
Organism	Human
Tissue	Urinary bladder
Disease	Recurrent bladder carcinoma
Synonyms	HT 1197, HT1197, HT 1197.T

Characteristics

Age	44 years
Gender	Male
Ethnicity	Caucasian
Growth properties	Adherent

Regulatory Data

Citation	HT-1197 (Cytion catalog number 305800)

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Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_1291

Biomolecular Data

Isoenzymes	G6PD, B
Tumorigenic	Yes; Yes, in mice and hamsters
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

Culture Medium	EMEM (MEM Eagle), w: 2 mM L-Glutamine, w: 2.2 g/L NaHCO3, w: EBSS (Cytion article number 820100a)
Supplements	Supplement the medium with 10% FBS
Dissociation Reagent	Accutase
Doubling time	61 hours
Fluid renewal	twice weekly
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.