Product sheet

HT-1376 Cells | 305100

General information

Description	The HT-1376 cell line is derived from a human bladder carcinoma, specifically a grade 3 transitional cell carcinoma. This cell line was established from a tumor obtained via transurethral resection from an adult female patient who had a history of invasive bladder carcinoma. HT-1376 cells exhibit epithelial characteristics, including the presence of microvilli and tonofibrils, which are indicative of their epithelial origin. Additionally, these cells display several marker chromosomes, which distinguish them from other known tumor cell lines. HT-1376 cells are also known to grow in soft agar and are highly tumorigenic, forming tumors when injected into immunocompromised mice and hamsters. HT-1376 is significant in bladder cancer research due to its genetic profile, including notable alterations in the 9p21 chromosomal region. This region often undergoes large homozygous deletions, leading to the inactivation of critical tumor suppressor genes such as CDKN2, CDKN2B, and MTAP. These deletions are common in bladder cancer and are crucial for understanding the molecular mechanisms underlying tumorigenesis. For instance, the loss of CDKN2 and CDKN2B is associated with the dysregulation of the cell cycle, which is a key event in cancer progression. Furthermore, HT-1376 cells have been studied for their expression of the p16 protein, a product of the CDKN2 gene, which is often correlated with the absence of pRb expression, another tumor suppressor protein. The HT-1376 cell line has also been used in virology research to assess the presence of tumor viruses, although no virus expression has been detected in these cells. This makes HT-1376 a valuable model for studying the non-viral mechanisms of bladder cancer development and progression. The cell line's genetic alterations and its ability to grow in vitro and in vivo provide a robust platform for preclinical studies, including drug testing and the exploration of new therapeutic strategies targeting specific genetic pathways in bladder cancer.
Organism	Human
Tissue	Urinary bladder
Disease	Bladder carcinoma
Synonyms	HT1376, HT 1376, HT 1376.T

Characteristics

Age	58 years
Gender	Female
Ethnicity	European
Morphology	Epithelial

HT-1376 Cells | 305100

Growth properties	Adherent

Regulatory Data

Citation	HT-1376 (Cytion catalog number 305100)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_1292

Biomolecular Data

Protein expression	Fibrinolytic activity, interferon
Tumorigenic	Yes

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 and 1% NEAA
Dissociation Reagent	Accutase
Doubling time	31 hours
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.
Fluid renewal	2 to 3 times per week

HT-1376 Cells | 305100

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.