Product sheet

Hs 578T Cells | 305089

General information

Description	The Hs 578T cell line is a human breast cancer cell line derived from a carcinoma of the mammary gland. These cells exhibit an epithelial-like morphology and are characterized by their adherent growth pattern. The Hs 578T cell line is commonly used in cancer research, particularly for studying the mechanisms of breast cancer progression and metastasis. The cells display mutations in the TP53 gene, which is a critical tumor suppressor gene, and this mutation is often associated with the aggressive behavior of certain cancer types. Hs 578T cells are hormone receptor-negative, meaning they do not express estrogen or progesterone receptors, which classifies them as triple-negative breast cancer cells. This makes them particularly valuable in research focused on treatments for this aggressive subtype of breast cancer, which typically has fewer therapeutic options and a poorer prognosis compared to hormone receptor-positive breast cancers. Researchers utilize the Hs 578T cell line to explore various aspects of tumor biology, including cell proliferation, migration, and response to chemotherapy and targeted therapies. The Hs 578T cell line also expresses vimentin, a marker associated with epithelial-to-mesenchymal transition (EMT), a process that plays a crucial role in cancer metastasis. Studies involving these cells help to elucidate the molecular pathways involved in EMT and provide insights into potential therapeutic targets to inhibit cancer spread. Additionally, the Hs 578T cells have been used in drug screening assays to identify compounds with potential anti-cancer activity.
Organism	Human
Tissue	Mammary gland, breast
Disease	Invasive breast carcinoma
Synonyms	HS 578T, Hs-578T, HS-578T, Hs_578t, Hs-578-T, HS-578-T, Hs 578.T, HS578T, Hs578T, Hs578t, HS0578T, 578T, HS578, Hs578, Homo sapiens No. 578, tumor cells

Characteristics

Age	74 years
Gender	Female
Ethnicity	European
Morphology	Epithelial
Growth properties	Adherent

Hs 578T Cells | 305089

Regulatory Data

Citation	Hs 578T (Cytion catalog number 305089)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_0332

Biomolecular Data

Receptors expressed	Receptor expression: estrogen receptor, not expressed
Tumorigenic	No

Handling

Culture Medium	DMEM, w: 4.5 g/L Glucose, w: 4 mM L-Glutamine, w: 3.7 g/L NaHCO3, w: 1.0 mM Sodium pyruvate (Cytion article number 820300a)
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.
Fluid renewal	2 to 3 times per week
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.