Product sheet

HT-1080 Cells | 300216

General information

Description	HT-1080 cells, derived from the connective tissue of a 35-year-old male patient with Fibrosarcoma in 1972, are widely used for studying the mechanisms of tumor invasiveness and metastasis due to their highly aggressive and invasive nature. HT-1080 cells have been extensively utilized in studies involving cell migration, invasion assays, and the testing of anti-cancer compounds. In the realm of therapeutic development, HT-1080 cells are employed in the screening of anti-cancer drugs and in the evaluation of their effects on cell viability, apoptosis, and metastatic potential. HT-1080 cells have also been used in research focusing on the extracellular matrix, angiogenesis, and the role of various genes and proteins in cancer progression. HT-1080 cells produce matrix metalloproteinases (MMPs), enzymes that degrade components of the extracellular matrix and play a critical role in tumor invasion and metastasis. This feature makes the HT-1080 cell line useful for studies investigating the regulation of MMPs and their inhibitors. In summary, the HT-1080 cell line, with its extensive applications in the study of cancer research, cell adhesion, migration, and invasion models, as well as in the development of therapeutic strategies, continues to be a valuable resource in cancer research.
Organism	Human
Disease	Fibrosarcoma
Synonyms	Ht-1080, HT 1080, HT1080, HT 1080.T

Characteristics

Age	35 years
Gender	Male
Ethnicity	Caucasian
Morphology	Epithelial-like
Cell type	Fibroblast
Growth properties	Adherent

Identifiers / Biosafety / Citation

Citation	HT-1080 (Cytion catalog number 300216)
Biosafety level	1

Expression / Mutation

Isoenzymes	G6PD, B
Oncogenes	ras+
Tumorigenic	Yes, in immunosuppressed mice
Virus susceptibility	poliovirus 1, vesicular stomatitis (Indiana), RD114, feline leukemia virus (FeLV)
Reverse transcriptase	negative
Karyotype	Modal number: 2n=46, pseudodiploid

Handling

Culture Medium	EMEM, w: 2 mM L-Glutamine, w: 1.5 g/L NaHCO3, w: EBSS, w: 1 mM Sodium pyruvate, w: NEAA (Cytion article number 820100c)
Medium supplements	Supplement the medium with 10% FBS
Passaging solution	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.
Split ratio	A ratio of 1:4 to 1:8 is recommended
Seeding density	1 x 10^4 cells/cm^2

Fluid renewal	Every 3 days
Freezing recovery	After thawing, plate the cells at 5 x 10^4 cells/cm^2 and allow the cells to recover from the freezing process and to adhere for at least 24 hours.
Freeze medium	CM-1 (Cytion catalog number 800100) or CM-ACF (Cytion catalog number 806100)

Handling of cryopreserved cultures

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. Optionally, skip centrifugation but remove any remaining freezing medium after 24 hours.
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.

Quality control / Genetic profile / HLA

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.

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STR profile	**Amelogenin**: x,y **CSF1PO**: 12 **D13S317**: 12,14 **D16S539**: 9,12 **D5S818**: 11,13 **D7S820**: 9,10 **TH01**: 6 **TPOX**: 8 **vWA**: 14,19 **D3S1358**: 16 **D21S11**: 28,30 **D18S51**: 12,18 **Penta E**: 5,15 **Penta D**: 9,12 **D8S1179**: 13,14 **FGA**: 22,25
HLA alleles	**A***: 01.01.1900 07:01, 02.01.1900 20:01 **B***: 01.01.1900 03:05 **C***: 02:02:02 **DRB1***: 03:01:01, 04:07:01 **DQA1***: 03:03:01, 05:01:01 **DQB1***: 02:01:01, 03:01:01 **DPB1***: 03:01, 04:01 **E**: 01:01, 01:03