Product sheet

HCT-8 (HRT-18) Cells | 300210

General information

Description	HCT-8 cells, also known as human ileocecal colorectal adenocarcinoma cells, are an epithelial cell line originally derived from a 67-year-old Caucasian male patient with ileocecal adenocarcinoma. The HCT-8 cell line was established in the late 1960s and is widely utilized in cancer research, particularly in the study of colorectal cancer pathogenesis, metastasis, and treatment response. Morphologically, HCT-8 cells are epithelial-like and exhibit a monolayer growth pattern with a polygonal shape. They possess the capability to grow in both adherent and semi-suspended cultures, which is characteristic of some transitional stages of cancer cell metastasis. This feature makes them particularly useful for studies related to cancer cell invasion and migration. Genotypically, HCT-8 cells are hypertriploid, containing several chromosomal aberrations common in colorectal carcinomas, including mutations and deletions which are relevant to cancer progression and resistance mechanisms. This genetic profile supports their use in oncological studies, especially those focusing on genetic pathways involved in tumorigenesis and drug resistance. Research utilizing HCT-8 cells has contributed significantly to the understanding of colorectal cancer biology, including the elucidation of molecular pathways involved in cancer cell proliferation, apoptosis, and chemoresistance. The cell line continues to be a critical model for investigating the efficacy of new therapeutic agents and for exploring the molecular mechanisms underlying colorectal cancer.
Organism	Human
Tissue	Rectum
Disease	Adenocarcinoma
Synonyms	HCT 8, HCT8

Characteristics

Age	67 years
Gender	Male
Morphology	Epithelial-like
Growth properties	Adherent

Regulatory Data

HCT-8 (HRT-18) Cells | 300210

Citation	HCT-8 (Cytion catalog number 300210)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_2478

Biomolecular Data

Antigen expression	CDx (+/-), CDy (-),
Isoenzymes	AK-1, 1, ES-D, 1-2, GLO-1, 2, G6PD, B, PGM1, 1, PGM3, 1, Me-2, 1
Tumorigenic	In nude mice
Viruses	Reverse Transcriptase negative
Products	Carcinoembryonic antigen (CEA) 0.5 ng/10 exp6 cells/10 days, alkaline phosphatase, keratin
Mutational profile	HRT-18 cells carry a mutation in codon 13 of Kras gene: GGC(Wt Gly) >GAC(Asp)

Handling

Culture Medium	DMEM:Ham's F12 (1:1), w: 3.1 g/L Glucose, w: 2.5 mM L-Glutamine, w: 15 mM HEPES, w: 0.5 mM Sodium pyruvate, w: 1.2 g/L NaHCO3 (Cytion article number 820400a)
Supplements	Supplement the medium with 10% FBS
Dissociation Reagent	Accutase
Doubling time	15 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.

HCT-8 (HRT-18) Cells | 300210

Seeding density	2 to 4 x 10^4 cells/cm^2
Fluid renewal	2 to 3 times per week
Post-Thaw Recovery	Fast
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.
Flask Coating	None

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.