Product sheet

HROC348 Cells | 300719

Renseignements généraux

Description	HROC348 is a human colorectal carcinoma cell line derived from a primary tumor resected from an adult male patient diagnosed with sigmoid colon cancer. The tumor was classified as a moderately advanced adenocarcinoma (T3, G3, N2), indicating significant local invasion and lymph node involvement, consistent with aggressive tumor behavior. The carcinoma originated in the sigmoid colon, a common anatomical site for sporadic colorectal cancer, and presented with microsatellite stability (MSS), which aligns it with the chromosomal instability (CIN) subtype rather than the MSI-high hypermutated class of colorectal tumors. Molecular profiling of HROC348 shows wild-type status for both KRAS and BRAF, suggesting the absence of common activating mutations in these genes that are frequently implicated in colorectal cancer progression and therapy resistance. This molecular background makes HROC348 particularly suitable for studies focused on non-mutated RAS/RAF signaling and its implications in tumor growth, therapeutic response, and resistance mechanisms. The cell line does not display the CpG island methylator phenotype (CIMP), further supporting its classification within the conventional (non-hypermutated) colorectal cancer subgroup. Clinically, the tumor was positive for lymph node metastasis (LN_pos = 2), but distant metastasis (M) was noted only once, and no right-sided colon involvement was recorded, consistent with a left-sided colorectal cancer profile. These features, combined with the MSS status and molecular markers, position HROC348 as a representative model for studying left-sided, KRAS/BRAF wild-type, microsatellite-stable colorectal adenocarcinoma. It also offers translational value for preclinical testing of targeted therapies and immune-modulatory agents in MSS tumors, which are typically less responsive to immune checkpoint blockade.
Organism	Human
Tissue	Sigmoid colon
Disease	Carcinoma
Metastatic site	Not reported (primary sigmoid colon adenocarcinoma; no confirmed distant metastasis at time of sampling)
Applications	Colorectal cancer research; KRAS/BRAF wild-type MSS CRC biology; left-sided colorectal cancer modeling; drug sensitivity in non-mutated RAS/RAF tumors; HROC Linnebacher biobank studies; CRC immunotherapy evaluation; preclinical oncology

Caractéristiques

Age	77 years
Gender	Male
Ethnicity	Caucasian
Morphology	Epithelial-like

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Cell type	Epithelial cells
Growth properties	Adherent

Données réglementaires

Citation	HROC348 (Cytion catalog number 300719)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	Not assigned
GMO Status	No genetic modification; wildtype patient-derived CRC cell line from the HROC Linnebacher biobank. KRAS wild-type, BRAF wild-type, MSS, CIMP-negative.

Données biomoléculaires

MSI-status	MSS

Manipulation

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
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

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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.

Contrôle de la qualité et analyse moléculaire

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.