Product sheet

HROC18 Cells | 300808

General information

Description	This is one cell line of a series of tumor cell lines which have been established by PD Dr. Michael Linnebacher since 2006. HROC18 was derived from a primary clear cell adenocarcinoma. The cells are globular with indistinct borders, have a high nucleus to cytoplasm ratio and exhibit both microvilli and desmosomes. They can be cultured in soft agar.
Organism	Human
Tissue	Colon (coecum), UICC I
Disease	Primary adenocarcinoma, TNM stage T2N0M0 R0L0V0, grading G2, Lk(n) + 0, ∑ Lk(n) 28
Metastatic site	Not applicable (UICC stage I; TNM T2N0M0; no regional or distant metastasis)
Applications	Colorectal cancer research; early-stage CRC biology; APC/p53 mutant CRC modeling; drug sensitivity and targeted therapy evaluation; CRC immunology; patient-matched HROC biobank studies
Synonyms	HROC 18

Characteristics

Age	65 years
Gender	Female
Ethnicity	Caucasian
Morphology	Epithelial-like
Cell type	Epithelial cells
Growth properties	Adherent

Regulatory Data

Citation	HROC18 (Cytion catalog number 300808)
Biosafety level	1

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NCBI_TaxID	9606
CellosaurusAccession	CVCL_0B45
GMO Status	No genetic modification; wildtype patient-derived CRC cell line established by PD Dr. Linnebacher. Confirmed free of HBV, HCV, HIV.

Biomolecular Data

Protein expression	Beta-actin, osteopontin, PTEN
Antigen expression	CD15+, CD24+, CD44+, CD55+, CD58+, CD50+, CD 54+, CD66acde+, CD71+, CD102+, CD326+ , CD80- , CD86-, EpCAM+, HLA-A2+, EGFR+
Tumorigenic	Yes, in immune-suppressed nude mice
Viruses	Free of human pathogenic viruses HBV, HCV, HIV.
Ploidy status	Aneuploid
MSI-status	MSS
Mutational profile	APCmut, p53mut, K-Raswt, N-Raswt, H-Raswt, B-RAFwt, PIK3CA mut

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	30 hours

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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	1 to 3
Seeding density	2×10^4 cells/cm^2
Fluid renewal	Every 3 to 5 days
Post-Thaw Recovery	1 to 2 weeks
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.