Product sheet

HROC450Met1 T0 M1 Cells | 300725

General information

Description	The HROC (Hansestadt Rostock Colorectal cancer) cell line panel comprises patient-derived colorectal cancer models developed from primary tumor tissue and/or matched metastatic lesions. These cell lines are frequently accompanied by corresponding patient-derived xenografts (PDXs) and organoids, enabling integrative modeling of colorectal cancer (CRC) in both in vitro and in vivo systems. HROC models preserve critical clinical and molecular diversity found in colorectal cancer, including variations in microsatellite instability (MSI vs. MSS) and key genetic drivers such as mutations in APC, KRAS, BRAF, PIK3CA, and TP53. Cultured as adherent epithelial monolayers and typically used at low passage numbers, HROC lines maintain phenotypic and genomic fidelity to their patient tumors, supporting translational relevance in drug and biomarker research. The nomenclature system for HROC cell lines provides detailed metadata on origin and experimental history. For example, “Tu” identifies cell lines derived from primary tumors, “Met” from metastatic lesions, while “T#” and “M#” indicate the number of PDX transfers and the specific mouse host, respectively. This systematic naming allows for easy tracking of matched sets, such as primary-metastasis pairs or in vitro-in vivo derivatives. These matched models support studies on clonal evolution, metastasis, therapy resistance, and pharmacokinetic behavior—including transporter expression and barrier integrity relevant for drug absorption. Cell lines undergo routine authentication (e.g., STR profiling) and are tested regularly for mycoplasma contamination. Characterization data for numerous HROC models are publicly available in Cellosaurus and in peer-reviewed publications. HROC cell lines are particularly valuable for subtype-stratified drug screening, biomarker discovery across MSI-H and MSS tumors, and mechanistic studies involving primary vs. metastatic disease. When paired with PDXs and/or organoids, they provide a robust platform for preclinical evaluation, including drug sensitivity testing and modeling of tumor-stroma or immune interactions. Due to their comprehensive annotation and clinical relevance, HROC models are suitable for both basic and translational research in colorectal cancer.
Organism	Human
Tissue	Metastasis
Disease	Colorectal Adenocarcinoma
Metastatic site	Liver

Characteristics

Age	59 years
Gender	Male
Growth properties	Adherent

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Regulatory Data

Citation	HROC450Met1 T0 M1 (Cytion catalog number 300725)
Biosafety level	1
NCBI_TaxID	9606

Biomolecular Data

MSI-status	MSS

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	TrypLE Express 15 min 37°C
Subculturing	Seeding after thawing $4*10^4/cm^2$
Freeze medium	As a cryopreservation medium, we use complete growth medium + 10% DMSO for adequate post-thaw viability.

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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 200 x g for 5 minutes, carefully discard the supernatant containing freezing medium. 7. Follow the procedure described under Post-Thaw Recovery
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