# HROC348Met

300871

## GENERAL INFORMATION

### Description

HROC348Met is a human colorectal carcinoma cell line established from a metachronous liver metastasis of a colorectal adenocarcinoma resected from an adult patient within the HROC (Hansestadt Rostock Colorectal Cancer) model collection. The HROC platform was generated through a standardized biobanking and tumor-modeling pipeline integrating clinical annotation, molecular characterization, patient-derived xenografts (PDX), and corresponding in vitro cultures. HROC348Met represents one of the metastatic models derived from surgically resected colorectal cancer tissue and was established under low-passage conditions to preserve tumor-specific biological features.
Within the HROC collection, metastatic specimens - particularly liver metastases - demonstrated a high engraftment efficiency in immunodeficient mice, with an overall PDX take rate of approximately 68% across the cohort, and even higher success for metastatic compared to primary tumors. Multivariate analyses identified nodal involvement and activating mutations in KRAS and BRAF as independent predictors of successful model establishment. The collection encompasses all major molecular subtypes of colorectal carcinoma, including chromosomal instability (CIN), CpG island methylator phenotype (CIMP), microsatellite stable (MSS), and microsatellite instability-high (MSI-H) tumors, ensuring molecular representativeness of advanced-stage disease. HROC348Met was established within this rigorously characterized framework, with clinicopathological and molecular annotation according to standardized protocols.
As a metastasis-derived, low-passage colorectal carcinoma model, HROC348Met is suitable for investigations of metastatic tumor biology, genotype-phenotype correlations, and therapeutic response testing in both 2D culture and in vivo PDX settings. The integrated biobank approach underlying its generation ensures availability of matched clinical data and, where applicable, corresponding xenograft material, enabling translational studies in precision oncology and drug-response prediction.

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| **Tissue** | Liver metastasis |
| **Disease** | Adenocarcinoma |
| **Metastatic site** | Liver |

## CLASSIFICATION

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| **Organism** | Human |
| **Sex** | Male |
| **Growth properties** | Adherent |
| **Biosafety level** | 1 |

## CHARACTERISTICS

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| **MSI status** | MSS |

## IDENTIFIERS

### Citation

HROC348Met (Cytion catalog number 300871)

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| **NCBI TaxID** | 9606 |
| **Cellosaurus** | CVCL_1U99 |

## HANDLING AND CULTURE

### 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)

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| **Incubation atmosphere** | 37°C, 5% $CO_2$, humidified atmosphere. |

### Supplements

Supplement the medium with 10% FBS

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| **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.

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| **Fluid renewal** | Every 3 to 5 days |

### Thawing and culturing

Confirm that the vial remains deeply frozen upon delivery, as cells are shipped on dry ice to maintain optimal temperatures during transit.
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.
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.
Perform all subsequent steps under sterile conditions in a flow hood, disinfecting the cryovial with 70% ethanol before opening.
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.
Centrifuge the mixture at 300 x g for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium.
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.
Adhere to established subculture protocols for continued growth and maintenance of the cell line, ensuring reliable experimental outcomes.

## QUALITY CONTROL AND CRYOPRESERVATION

### 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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| **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. |

### 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.

### 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.

## DONOR

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| **Donor age** | 77 years |

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| **Ethnicity** | Caucasian |

## LEGAL AND SAFETY

**Safety precautions**

When planning to store a cryovial in liquid nitrogen for future thawing, it is mandatory to adhere to stringent safety measures. Appropriate protective gloves and clothing are essential, and the use of a face mask or safety goggles is required during the transfer of frozen samples to or from the liquid nitrogen tank. This is to mitigate the risk of injury from potential cryovial explosions upon removal, which can result in the projection of sharp fragments.

**Warranty**

At Cytion, we stand behind the quality and viability of our products.
We guarantee that our cells will be viable at the start of culture for
60 days after shipment from our facilities.
We assure that all materials conform to the specifications described in the
Certificate of Analysis and/or Product Sheet.
For full details, please refer to our
Warranty Statement.

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| **Third-party agreements apply** | Yes |