

HROBMC01 Cells | 300800

General information

Description This is one of a series of colorectal carcinoma cell lines which have been established by PD Dr. Michael Linnebacher since 2006. This line was established from a brain metastasis of a primary colorectal carcinoma.

Organism Human

Tissue Colorectal

Disease Adenocarcinoma

Metastatic site Brain

Applications Colorectal cancer brain metastasis research; CRC-to-brain metastasis biology; PTEN-negative CRC modeling; drug sensitivity testing; brain-specific metastatic CRC biology; HROC patient-matched biobank studies; CNS metastasis mechanisms

Characteristics

Age 60 years

Gender Female

Ethnicity Caucasian

Morphology Epithelial-like

Cell type Epithelial

Growth properties Adherent

Regulatory Data

Citation HROBMC01 (Cytion catalog number 300800)

Biosafety level 1

NCBI_TaxID 9606

CellosaurusAccession CVCL_1D08

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GMO Status No genetic modification; wildtype patient-derived CRC brain metastasis cell line established by PD Dr. Linnebacher

Biomolecular Data

Protein expression PTEN-

MSI-status MSS

Mutational profile P53 mut, APC mut, K-RasG12VA, N-Raswt, H-Raswt, PIK3CAwt, B-Rafwt

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

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 1×10^4 cells/cm²

Fluid renewal Every 3 to 5 days

Post-Thaw Recovery After thawing, plate the cells at 5×10^4 cells/cm² and allow the cells to recover from the freezing process and to adhere for at least 48 hours.

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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 $300 \times g$ 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.

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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.