HROG12 T0 M1

300882

GENERAL INFORMATION

Description

HROG12 T0 M1 is a primary human glioblastoma multiforme (GBM) cell line established from freshly resected tumor tissue of an adult patient diagnosed with WHO grade IV glioblastoma. The designation “T0” indicates that the specimen was obtained at the initial surgical intervention, while “M1” refers to the corresponding in vitro model derived from this primary tumor. The cell line was generated within the HROG (Hansestadt Rostock Glioma) model platform, which focuses on establishing ultra-low passage glioma cultures that retain patient-specific molecular and biological characteristics.
HROG12 T0 M1 exhibits adherent growth under standard culture conditions and displays a fibroblast-like morphology typical of primary GBM cultures. Immunophenotypic characterization of HROG-derived cell lines demonstrates expression of neural and glial lineage markers such as glial fibrillary acidic protein (GFAP), nestin, and vimentin, supporting astrocytic tumor origin. Within the HROG collection, molecular profiling includes assessment of clinically relevant biomarkers such as MGMT promoter methylation, EGFR amplification status, and mutational analysis of genes including TP53, IDH1/2, KRAS, and BRAF, confirming preservation of tumor-associated genomic alterations in early passage cultures.
HROG12 T0 M1 has been used for in vitro evaluation of therapeutic responses to standard-of-care glioblastoma treatments, including alkylating agents, as well as investigational targeted therapies. Comparative analyses across HROG models indicate stable morphology, reproducible growth kinetics, and consistent drug sensitivity profiles in early passages. As a patient-derived, low-passage glioblastoma model, HROG12 T0 M1 provides a clinically relevant platform for studying tumor biology, molecular heterogeneity, and mechanisms of therapeutic resistance in high-grade glioma.

Tissue	Brain
Disease	Glioblastoma

CLASSIFICATION

Organism	Human
Growth properties	Adherent
Biosafety level	1

IDENTIFIERS

Citation

HROG12 T0 M1 (Cytion catalog number 300882)

NCBI TaxID	9606
Cellosaurus	CVCL_B7FR

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)

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.

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.

Freeze medium	As a cryopreservation medium, we use 50% basal medium + 40% FBS + 10% DMSO, 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

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.

Third-party agreements apply	Yes

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