Product sheet

U-118 MG Cells | 300362

General information

Description	This is one of a number of cell lines derived from malignant gliomas (see also U-87 MG, U-138 MG and U-373 MG) by J. Ponten and associates from 1966 to 1969.
Organism	Human
Tissue	Brain
Disease	Astrocytoma
Metastatic site	Not applicable (primary intracranial tumor; no distant metastasis)
Applications	Glioblastoma/astrocytoma research; glial tumor biology; radiation sensitivity; chemotherapy evaluation (temozolomide, CCNU); EGFR pathway analysis; NF-κB signalling; preclinical CNS tumor modeling
Synonyms	U-118 MG, U-118-MG, U118-MG, U118MG, U118, 118 MG, 118MG

Characteristics

Age	47 years
Gender	Male
Ethnicity	Caucasian
Morphology	Mixed
Cell type	Glial cells (astrocytic)
Growth properties	Adherent

Regulatory Data

Citation	U-118 MG (Cytion catalog number 300362)
Biosafety level	1
NCBI_TaxID	9606

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CellosaurusAccession	CVCL_0633
GMO Status	No genetic modification; wildtype glioma cell line isolated by J. Ponten et al. (1966–1969)

Biomolecular Data

Antigen expression	Blood Type A, Rh+, HLA Aw24, A28, B12, Bw47
Isoenzymes	Me-2, 1, PGM3, 2, PGM1, 2, ES-D, 1, AK-1, 1-2, GLO-1, 1-2, G6PD, B, Phenotype Frequency Product: 0.0001
Tumorigenic	Yes, in nude mice
Karyotype	The line has a near pentaploid chromosome number and a wide range of chromosome number distribution (40% of the cells had numbers ranging from 110 to 115). The following 14 markers were found in most metaphases: t(1p,2p), t(3p,?), t(4p,11q), t(7p,22q), M6, t(9q,?), i(11q)18q t(10q,?), M14, M15, M16, M17 and t(10q,22q), 6 of these were found in some and 10 were seen in one only. Normal chromosomes 7, 8, 12, 19, 20 and 22 had 5 to 6 copies per cell, the x had two copies and the Y was absent.

Handling

Culture Medium	DMEM, w: 4.5 g/L Glucose, w: 4 mM L-Glutamine, w: 3.7 g/L NaHCO3, w: 1.0 mM Sodium pyruvate (Cytion article number 820300a)
Supplements	Supplement the medium with 10% FBS
Dissociation Reagent	Accutase
Doubling time	approx. 36 to 48 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	2×10^4 cells/cm^2

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Fluid renewal	2 to 3 times per week
Post-Thaw Recovery	After thawing, plate the cells at 5 × 10^4 cells/cm^2 and allow at least 24 hours for adherence before the first medium change.
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.
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.