SW 1088

305879

GENERAL INFORMATION

Description

The SW1088 cell line is a human glioma-derived line established from a tumor biopsy of the cerebral cortex. It is classified histologically as an astrocytoma and was originally reported in a study of tumorigenic human cell lines capable of forming tumors in nude mice. In that context, SW1088 was shown to form solid tumors when inoculated subcutaneously into immunodeficient hosts, although tumor development required longer latency periods compared to more aggressive glioblastoma cell lines. This suggests a relatively less proliferative or less aggressive phenotype in vivo.
SW1088 cells exhibit characteristics consistent with astrocytic origin and are commonly used in neuro-oncology research to model lower-grade gliomas. Their slower in vivo tumorigenicity compared to high-grade glioblastoma models such as U87MG or U251 reflects biological features relevant to astrocytoma pathology. Genomic and transcriptomic profiling of SW1088 has contributed to understanding molecular differences among glioma subtypes. However, these cells may not fully recapitulate the high-grade glioma phenotype due to their lower proliferation and reduced capacity for rapid tumor formation, making them a more suitable model for studying earlier-stage or less aggressive gliomas.

Tissue	Brain
Disease	Astrocytoma

Synonyms

- SW-1088
- SW 1088

CLASSIFICATION

Organism	Human
Sex	Male
Growth properties	Adherent
Biosafety level	1

CHARACTERISTICS

Morphology	Fibroblast
Tumourigenic	Yes; Yes, in nude mice

Karyotype

Hypertriploid; modal number = 72 to 74. The rate of higher ploidies was 4.2%. Most chromosomes were morphologically normal. Three marker chromosomes were common to all cells: del(1) (q11), der (9)t(7;?;9) (q11?;?;p24), and der (10)t(4;10) (q21;q15)., The der (9) was paired in nearly 50% of the cells. Usually one, but occasionally three double minutes (DM) were seen in a few cells. Five copies of normal N5, N7 and N20 were seen in most cells., The X and Y were paired. The presence of Y chromosomes was confirmed in the QM stained preparation.

IDENTIFIERS

Citation

SW 1088 (Cytion catalog number 305879)

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NCBI TaxID	9606
Cellosaurus	CVCL_1715

EXPRESSION AND SUSCEPTIBILITY

Antigen expression

Blood type A; Rh+

Isoenzymes

AK-1, 1
ES-D, 1
G6PD, B
GLO-I, 1
Me-2, 1-2
PGM1, 1-2
PGM3, 1

Mutational profile

Mutation: NRAS, Simple, p.Gln61Lys (c.181C>A), Heterozygous (Cosmic-CLP=909745), TP53, Simple, p.Arg273Cys (c.817C>T), Homozygous

HANDLING AND CULTURE

Incubation atmosphere	37°C, 5% CO_2, humidified atmosphere.
Fluid renewal	2 to 3 times per week

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 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

Donor age	72 years
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.

Disclaimer

Our cells are provided for in vitro laboratory research purposes exclusively and are not intended for clinical or diagnostic use, nor are they to be administered to humans or used for veterinary purposes. Users must adhere to all applicable guidelines and regulations for the handling and use of these cells in a research setting.

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.

Material Transfer Agreement required	Yes