Product sheet

SW1088 Cells | 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.
Organism	Human
Tissue	Brain
Disease	Astrocytoma
Synonyms	SW-1088, SW 1088

Characteristics

Age	72 years
Gender	Male
Ethnicity	Caucasian
Morphology	Fibroblast
Growth properties	Adherent

Regulatory Data

Citation	SW 1088 (Cytion catalog number 305879)

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Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_1715

Biomolecular Data

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
Tumorigenic	Yes; Yes, in nude mice
Mutational profile	Mutation: NRAS, Simple, p.Gln61Lys (c.181C>A), Heterozygous (Cosmic-CLP=909745), TP53, Simple, p.Arg273Cys (c.817C>T), Homozygous
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.

Handling

Fluid renewal	2 to 3 times per week
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 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.