Product sheet

SF188 | 305870

Description	The SF188 cell line is a human glioblastoma multiforme (GBM) model established from a pediatric patient. It is used extensively to study the mechanisms of chemotherapeutic resistance, particularly to alkylating agents such as 1,3-bis(2-chloroethyl)-1-nitrosourea (BCNU). Compared to other glioma-derived cell lines such as SF126, SF188 exhibits significantly higher resistance to BCNU-induced cytotoxicity and genotoxicity. Specifically, SF188 shows approximately threefold greater resistance in survival assays and 14-fold lower susceptibility to BCNU-induced sister chromatid exchange (SCE), indicating a robust DNA damage tolerance phenotype. The resistance in SF188 is attributed to enhanced DNA repair capacity, especially the rapid and efficient removal of O^6-alkylguanine adducts. Upon exposure to methylating agents like N-methyl-N-nitrosourea, SF188 cells demonstrate marked removal of O^6-methylguanine lesions, whereas more sensitive cell lines show minimal repair activity. This efficient lesion repair likely prevents the formation of interstrand crosslinks, thereby maintaining genomic integrity and increasing cell survival. Importantly, SF188 also exhibits a high chromosomal count (modal number 91) and lacks expression of glial fibrillary acidic protein (GFAP), confirming its poorly differentiated glioma origin and making it an excellent model for studying the interplay between DNA repair and chemoresistance in high-grade gliomas.
Organism	Human
Tissue	Brain, right frontal lobe
Disease	Glioblastoma
Synonyms	SF-188, SF 188

Age	8 years
Gender	Male

Citation	SF188 (Cytion catalog number 305870)
NCBI_TaxID	9606
CellosaurusAccession	CVCL_6948

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Mutational profile	Mutation: TP53, Simple, p.Gly266Glu (c.797G>A), Homozygous (PubMed=9614553, PubMed=10416987).
Doubling time	26 hours
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.

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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.

/ / HLA

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.