SF188 Human Glioblastoma Cell Line

Cancer Cell Line

Cat. # SCC282

Pack size: ≥1x10^6 viable cells/vial

Store in liquid nitrogen

FOR RESEARCH USE ONLY.
NOT FOR USE IN DIAGNOSTIC PROCEDURES.
NOT FOR HUMAN OR ANIMAL CONSUMPTION.

Data Sheet

Background

Glioblastoma multiforme is the most common and malignant primary brain tumor, with a high recurrence rate and a five-year survival rate of less than 5%.[1] Glioblastomas represent approximately 10% of brain tumors in children and pediatric forms often have characteristics distinct from adult forms.[2] Glioblastomas are the most aggressive form of cancer, highlighting the importance of relevant human patient-derived cell models for advancing research into characteristics and treatment of this disease.

SF188 is a patient-derived glioblastoma cell line originating from a temporal lobe tumor.[3] SF188 cells do not express the glial markers GFAP or glutamine synthetase but are positive for laminin and fibronectin expression in early passages, suggestive of proliferative or transformed mesenchymal cells of glioblastoma.[3] SF188 cells exhibit hypertriploidy and epithelial morphology in culture and are non-tumorigenic in athymic mice.[3] The SF188 cell line possesses genetic amplification of the proliferative factor *c-myc*.[4] The SF188 cell line represents an important cellular model for pediatric human glioblastoma.

Source

The SF188 glioblastoma cell line was derived from the left temporal lobe tumor of an 8-year-old male patient.[3]

Short tandem repeat (STR) Profile

D3S1358: 15, 18	D16S539: 11
TH01: 9.3	CSF1PO: 12
D21S11: 31	Penta D: 14
D18S51: 17	vWA: 16, 17
Penta E: 10, 13	D8S1179: 13, 15
D5S818: 11, 14	TPOX: 8, 11
D13S317: 13	FGA: 22, 22.2
D7S820: 8, 10	Amelogenin: X, Y

Cancer cell lines are inherently genetically unstable. Genetic instability may arise in the form of loss of heterozygosity of alleles at one or more genetic sites with increased passages.

Storage and Handling

SF188 Glioblastoma Cell Line should be stored in liquid nitrogen. The cells can be cultured for at least 10 passages after initial thawing without significantly affecting the cell marker expression and functionality.

Quality Control Testing

- Each vial contains ≥ $1X10^6$ viable cells.
- Cells are tested negative for infectious diseases by a Human Essential CLEAR panel by Charles River Animal Diagnostic Services.
- Cells are verified to be of human origin and negative for inter-species contamination from mouse, rat, chinese hamster, Golden Syrian hamster, and non-human primate (NHP) as assessed by a Contamination Clear panel by Charles River Animal Diagnostic Services
- Cells are negative for mycoplasma contamination.

Representative Data

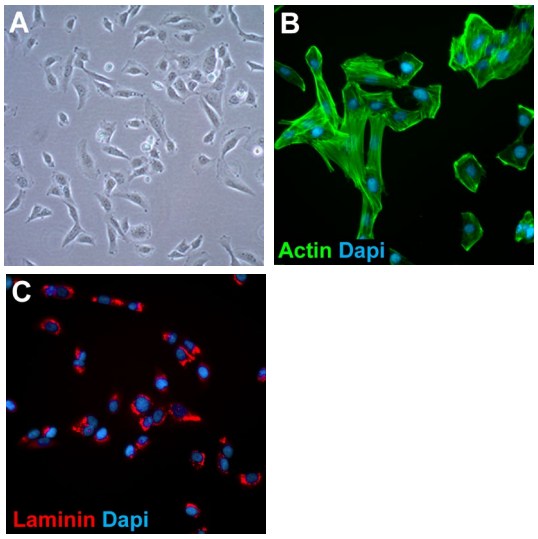

Figure 1. Bright-field image of cells one day after thaw (**A**). SF188 cells express actin (**B**, Sigma P5282) and laminin (**C**, Sigma AB19012).

References

1. *Clin J Oncol Nurs.* 2016; 20(5 Suppl): S2-8.
2. Das KK, Kumar R. Pediatric Glioblastoma. In: De Vleeschouwer S, ed. *Glioblastoma*. Brisbane (AU): Codon Publications; 2017.
3. *Acta Neuropathol.* 1987; 75(1): 92-103.
4. *Proc Natl Acad Sci U.S.A* 1986; 83(2): 470-3.

Rev.1.0/2020-06-02/SCC282/AN

Protocols

Thawing Cells

1. Do not thaw the cells until the recommended medium is on hand. Cells can grow on normal tissue cultureware surfaces without any additional coating.

   SF188 Expansion Medium: cells are thawed and expanded in MEM (Sigma M2279) containing 2 mM L-Glutamine (Sigma TMS-002-C) and 10% FBS (Sigma ES-009-B).
2. Remove the vial of frozen SF188 cells from liquid nitrogen and incubate in a 37°C water bath. Closely monitor until the cells are completely thawed. Maximum cell viability is dependent on the rapid and complete thawing of frozen cells.

   IMPORTANT: Do not vortex the cells.
3. As soon as the cells are completely thawed, disinfect the outside of the vial with 70% ethanol. Proceed immediately to the next step.
4. In a laminar flow hood, use a 1 or 2 mL pipette to transfer the cells to a sterile 15 mL conical tube. Be careful not to introduce any bubbles during the transfer process.
5. Using a 10 mL pipette, slowly add dropwise 9 mL of SF188 Expansion Medium (Step 1 above) to the 15 mL conical tube.

   IMPORTANT: Do not add the entire volume of media all at once to the cells. This may result in decreased cell viability due to osmotic shock.
6. Gently mix the cell suspension by slowly pipetting up and down twice. Be careful not to introduce any bubbles.

   IMPORTANT: Do not vortex the cells.
7. Centrifuge the tube at 300 x g for 2-3 minutes to pellet the cells.
8. Decant as much of the supernatant as possible. Steps 5-8 are necessary to remove residual cryopreservative (DMSO).
9. Resuspend the cells in 15 mL of SF188 Expansion Medium.
10. Transfer the cell mixture to a T75 tissue culture flask.
11. Incubate the cells at 37°C in a humidified incubator with 5% CO_2.

Subculturing Cells

1. Do not allow the cells to grow to confluency. SF188 should be passaged at ~80-85% confluence.
2. Carefully remove the medium from the T75 tissue culture flask containing the 80% confluent layer of SF188 cells.
3. Rinse the flask with 10 mL 1X PBS. Aspirate after the rinse.
3. Apply 5-7 mL of Accutase and incubate in a 37°C incubator for 3-5 minutes.
4. Inspect the flask and ensure the complete detachment of cells by gently tapping the side of the flask with the palm of your hand.
5. Add 5-7 mL of SF188 Expansion Medium to the plate.
6. Gently rotate the flask to mix the cell suspension. Transfer the dissociated cells to a 15 mL conical tube.
7. Centrifuge the tube at 300 x g for 3-5 minutes to pellet the cells.
8. Discard the supernatant, then loosen the cell pellet by tapping the tip of the tube with a finger.
9. Apply 2-5 mL of SF188 Expansion Medium to the conical tube and resuspend the cells thoroughly.

   IMPORTANT: Do not vortex the cells.
10. Count the number of cells using a hemocytometer.
11. Plate the cells to the desired density. Typical split ratio is 1:6.

Cryopreservation of Cells

SF188 Human Glioblastoma Cell Line may be frozen in SF188 Expansion Medium and 10% DMSO using a Nalgene slow freeze Mr. Frosty container.

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