

SF295 Human Glioblastoma Cell Line

Cancer Cell Line

Cat. # SCC289

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

Pack size: $\geq 1 \times 10^6$
viable cells/vial

Store in liquid nitrogen



Data Sheet

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Background

Glioblastoma multiforme is the most common and malignant primary brain tumor in adults, with a high recurrence rate and a five-year survival rate of less than 5%.¹ Nearly 50% of glioblastomas originate in the frontal or temporal lobes of the brain.¹ Glioblastomas are the most aggressive form of cancer and demonstrate a high degree of chemotherapy resistance, highlighting the importance of relevant human patient-derived cell models for advancing research into characteristics and treatment of this disease.

SF295 is a patient-derived glioblastoma cell line originating from a temporal lobe tumor.² SF295 cells do not express the glial markers GFAP or glutamine synthetase, but have been shown to positively express neurofibromin-1, identified as one of the most frequently mutated factors in glioblastoma multiforme.³ SF295 cells exhibit hypertriploidy and glial-like morphology in culture and are non-tumorigenic in athymic mice.² The SF295 cell line is highly published in studies of chemotherapeutic treatments for glioblastoma, representing a valuable cellular model for assessment of drugs and molecular modulators for their effect on glioblastomas.

Source

The SF295 glioblastoma cell line was derived from the left frontal lobe tumor of a 67-year-old female patient.²

Short tandem repeat (STR) Profile

D3S1358: 16, 18	D16S539: 12, 13
TH01: 9.3, 10	CSF1PO: 10, 13
D21S11: 28, 30	Penta D: 13, 14.4
D18S51: 15, 18	vWA: 16, 17
Penta E: 5, 7	D8S1179: 13, 14
D5S818: 11, 12	TPOX: 8, 11
D13S317: 10	FGA: 22, 25
D7S820: 9, 13	Amelogenin: X

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 & Handling

SF295 Human 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 $\geq 1 \times 10^6$ 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 rat, mouse, 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.

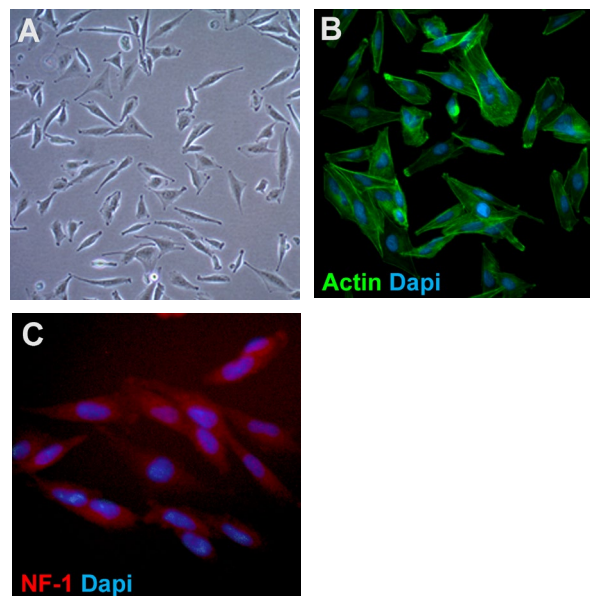


Figure 1. SF295 cells one day after thawing (A). Cells express actin (B, Phalloidin-FITC; Sigma P5282) and Neurofibromin-1 (NF-1) (C, Thermo Fisher Scientific MA1-084).

References

1. *Clin J Oncol Nurs.* 2016; 20(5 Suppl): S2-8.
2. *Acta Neuropathol.* 1987; 75(1): 92-103.
3. *Mol Cancer Ther.* 2010; 9(5): 1234-43.

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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.
SF295 Expansion Medium: Cells are thawed and expanded in MEM (Sigma M2279) supplemented with 2 mM L-Glutamine (TMS-002-C) and 10% FBS (Cat. No. ES-009-B).
2. Remove the vial of frozen SF295 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 SF295 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 SF295 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% CO₂.

Subculturing Cells

1. Do not allow the cells to grow to confluency. SF295 cells should be passaged at ~80-85% confluence.
2. Carefully remove the medium from the T75 tissue culture flask containing the SF295 cells.
3. Rinse the flask with 10 mL 1X PBS. Aspirate after the rinse.
3. Apply 5-7 mL of Trypsin (Cat. No. T2605) and incubate in a 37°C incubator for 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 SF295 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 SF295 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 1:5 – 1.6.

Cryopreservation of Cells

SF295 human glioblastoma cell line may be frozen in the expansion medium plus 10% DMSO using a Nalgene slow freeze Mr. Frosty container.

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