SF126

300608

GENERAL INFORMATION

Description

The SF126 cell line is a human glioblastoma cell line, widely utilized in research on brain tumors, particularly in studies exploring the molecular mechanisms of glioblastoma and its response to various treatments. Derived from a patient with glioblastoma multiforme, SF126 cells are known for their aggressive growth and invasive behavior, typical of glioblastomas, making them a crucial model for investigating therapeutic strategies and understanding tumor biology. One of the notable features of SF126 is its use in exploring both apoptosis (programmed cell death) and autophagy, as these processes are central to cancer cell survival and resistance to treatment.
SF126 has been extensively studied for its interactions with p53, a tumor suppressor gene frequently mutated in cancers. In SF126, researchers have investigated the effects of wild-type and mutant p53 on cell death mechanisms. It was found that p53 induces both apoptosis and autophagy, with autophagic cell death playing a significant role in p53-dependent cell death. This has implications for therapies targeting autophagic pathways, which may enhance the efficacy of treatments aimed at inducing tumor cell death. Additionally, studies have shown that manipulating autophagy can influence the overall tumor response to p53 activation, offering potential therapeutic angles for glioblastoma treatment.
Further research on SF126 has explored its binding properties with opioid peptides, such as β-endorphins, revealing specific binding sites for these molecules. This has provided insights into how glioblastoma cells might interact with endogenous hormones and signaling molecules in the brain, further underscoring the complexity of glioblastoma biology and potential novel therapeutic targets.

Tissue	Brain, left frontal lobe
Disease	Glioblastoma

Applications

cell biology studies of gliomas

Synonyms

- SF-126
- SF 126

CLASSIFICATION

Organism	Human
Sex	Female
Growth properties	Adherent
Biosafety level	1

CHARACTERISTICS

Tumourigenic	No (tested in athymic mice)
Ploidy status	Aneuploid

IDENTIFIERS

Citation

SF126 (Cytion catalog number 300608)

NCBI TaxID	9606

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Cellosaurus	CVCL_1688

EXPRESSION AND SUSCEPTIBILITY

Products

Procollagen III, forms collagen fibers in vitro (interstitial collagen synthesis)

HANDLING AND CULTURE

Culture medium

EMEM (MEM Eagle), w: 2 mM L-Glutamine, w: 2.2 g/L NaHCO3, w: EBSS (Cytion article number 820100a)

Incubation atmosphere	37°C, 5% CO_2, humidified atmosphere.

Supplements

Supplement the medium with 10% FBS and 1% NEAA

Dissociation reagent	Accutase

Subculturing

Remove the old medium from the adherent cells and wash them with PBS that lacks calcium and magnesium. For T25 flasks, use 3-5 ml of PBS, and for T75 flasks, use 5-10 ml. Then, cover the cells completely with Accutase, using 1-2 ml for T25 flasks and 2.5 ml for T75 flasks. Let the cells incubate at room temperature for 8-10 minutes to detach them. After incubation, gently mix the cells with 10 ml of medium to resuspend them, then centrifuge at 300xg for 3 minutes. Discard the supernatant, resuspend the cells in fresh medium, and transfer them into new flasks that already contain fresh medium.

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 50% basal medium + 40% FBS + 10% DMSO, 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	50 years
Ethnicity	European

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.

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

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