Product sheet

HS-683 Cells | 300213

Renseignements généraux

Description	HS-683 is a human glioma cell line derived from the brain tissue of an adult patient diagnosed with glioblastoma multiforme. Glioblastoma multiforme is a highly aggressive type of brain cancer, known for its rapid growth and poor prognosis. The HS-683 cell line is valuable in cancer research due to its ability to provide insights into the molecular mechanisms driving glioma proliferation, invasion, and resistance to therapies. HS-683 cells exhibit many characteristics typical of glioma cells, including high proliferative capacity and the expression of markers such as GFAP (glial fibrillary acidic protein), which is indicative of their glial origin. These cells are commonly used in studies investigating the efficacy of chemotherapeutic agents, radiation treatments, and novel targeted therapies. Researchers utilize HS-683 to explore genetic and epigenetic alterations, signal transduction pathways, and the tumor microenvironment's role in glioma progression. The HS-683 cell line, therefore, serves as a crucial model for developing and testing new therapeutic strategies aimed at improving outcomes for patients with glioblastoma.
Organism	Human
Tissue	Brain
Disease	Oligodendroglioma
Synonyms	HS 683, Hs 683, Hs-683, Hs683, HS683, Hs 683.T, HS 683T, Hs683T

Caractéristiques

Age	76 years
Gender	Male
Ethnicity	Caucasian
Morphology	Fibroblast-like
Growth properties	Adherent

Données réglementaires

Citation	HS-683 (Cytion catalog number 300213)
Biosafety level	1

HS-683 Cells | 300213

NCBI_TaxID	9606
CellosaurusAccession	CVCL_0844

Données biomoléculaires

Isoenzymes	G6PD, B, PGM1, 1, PGM3, 1-2, ES-D, 1, Me-2, 2, AK-1, 1, GLO-1, 2, Phenotype Frequency Product: 0.0029
Tumorigenic	No
Ploidy status	Aneuploid
MSI-status	Stable (MSS)
Karyotype	(P15) hypotetraploid with mode = 88, range = 44 to 97, Y chromosomes present

Manipulation

Culture Medium	DMEM, w: 4.5 g/L Glucose, w: 4 mM L-Glutamine, w: 3.7 g/L NaHCO3, w: 1.0 mM Sodium pyruvate (Cytion article number 820300a)
Supplements	Supplement the medium with 10% FBS
Dissociation Reagent	Accutase
Doubling time	45 to 50 hours
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.
Seeding density	When seeded at 1 x 10^4 cells/cm^2 the cells will reach 80% confluence within 3 to 4 d.
Fluid renewal	Every 3 days
Post-Thaw Recovery	After thawing, plate the cells at 4 x 10^4 cells/cm^2 and allow the cells to recover from the freezing process and to adhere for at least 24 hours.

HS-683 Cells | 300213

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.

Contrôle de la qualité et analyse moléculaire

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.