D283Med

300330

GENERAL INFORMATION

Description

The D283Med cell line is a human medulloblastoma cell line that was derived from the cerebellum of a 6-year-old male. Medulloblastoma is a type of primitive neuroectodermal tumor that primarily affects children and is located in the cerebellum, the part of the brain responsible for motor control and coordination. D283Med cells are widely used in oncological research, particularly in studies focused on the biology and pharmacology of medulloblastomas.
This cell line exhibits an adherent growth pattern and has been used extensively to explore the molecular pathways involved in medulloblastoma pathogenesis, such as the Sonic Hedgehog (SHH) and WNT signaling pathways, which are known to play significant roles in the development and progression of these tumors. Researchers utilize the D283Med line to assess therapeutic efficacy and resistance, study gene expression profiles, and explore novel therapeutic targets. The line's robust growth and typical medulloblastoma genetic features make it a valuable model for preclinical studies aimed at understanding tumor biology and testing anticancer drugs.
Furthermore, D283Med cells are utilized in genetic studies to understand the impact of mutations and to assess mechanisms of metastasis and recurrence in medulloblastoma. They provide a crucial tool for the investigation of oncogenic processes at the cellular level, thereby contributing significantly to the development of targeted therapies for this aggressive pediatric brain tumor.

Tissue	Brain
Disease	Medulloblastoma

Applications

3D cell culture, Neuroscience

Synonyms

- D283 Med
- D283 MED
- D283-MED
- D283_Med
- D-283 Med
- D-283MED
- D283MED
- D283-Med
- D-283
- D283
- Med 283
- H283

CLASSIFICATION

Organism	Human
Sex	Male
Growth properties	Adherent and suspension
Biosafety level	1

CHARACTERISTICS

Morphology	Epithelial

Cytion GmbH
Nikola-Tesla-Str. 3
69124 Heidelberg
Tel: +49 (0)6221 405780
info@cytion.com
cytion.com

Registered office Heidelberg
VAT ID: DE283292917
Local court Mannheim - HRB 714394
CEO / Geschäftsführer: Jonathan Steubing

Banking information
Sparkasse Heidelberg
IBAN: DE35 6725 0020 0009 2076 86
BIC: SOLADES1HDB

Tumourigenic	Yes, in nude mice

Karyotype

The karyotype is 45, xY, -7, -8, -17, -20, der(20)t(1,20)(q12,q13), 8q+, 17p+ (range = 41 to 46). This is a hypodiploid cell line with a frequency of higher ploidies of 5.4%. Three marker chromosomes are present in all cells. They are: der(20)t(1,20)(q12,q13), 8q+ and 17p+. N7, N17 and N20 have single copies. The single x is structurally normal, and the Y chromosome is present as confirmed by fluorescence microscopy.

IDENTIFIERS

Citation

D283Med (Cytion catalog number 300330)

NCBI TaxID	9606
Cellosaurus	CVCL_1155

EXPRESSION AND SUSCEPTIBILITY

Protein expression

Glutamine synthetase positive, neuron specific enolase positive, glial fibrillary acidic proteins negative, S100 (S-100) protein negative

Isoenzymes

AK-1, 1, ES-D, 1, G6PD, B, GLO-I, 2, Me-2, 0, PGM1, 1, PGM3, 1

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

Subculturing

Collect suspension cells in a 15 ml tube and carefully rinse the adherent cells using PBS without calcium and magnesium (3-5 ml PBS for T25, 5-10ml for T75 cell culture flasks). Add Accutase (1-2ml per T25, 2.5ml per T75 cell culture flask), the cell sheet must be covered completely. Incubate at ambient temperature for 10 minutes, then centrifuge the cells growing in suspension and the adherent cells together. Carefully resuspend the cells and dispense into new flasks which 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 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.

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	6 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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