**Product sheet**

# D283Med Cells | 300330

## General information

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| **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.<br><br>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.<br><br>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. |
| **Organism** | Human |
| **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 |

## Characteristics

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| **Age** | 6 years |
| **Gender** | Male |
| **Ethnicity** | European |
| **Morphology** | Epithelial |

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| **Growth properties** | Clusters in Suspension/Adherent |

## Identifiers / Biosafety / Citation

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|---|---|
| **Citation** | D283Med (Cytion catalog number 300330) |
| **Biosafety level** | 1 |

## Expression / Mutation

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| **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 |
| **Tumorigenic** | 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. |

## Handling

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| **Culture Medium** | EMEM, w: 2 mM L-Glutamine, w: 1.5 g/L NaHCO3, w: EBSS, w: 1 mM Sodium pyruvate, w: NEAA (Cytion article number 820100c) |
| **Medium supplements** | Supplement the medium with 10% FBS |
| **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. |
| **Freeze medium** | CM-1 (Cytion catalog number 800100) |

**Handling of cryopreserved cultures**

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.

## Quality control / Genetic profile / HLA

**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.