D425 Med Human Medulloblastoma Cell Line

Cancer Cell Line

Cat. # SCC290

Pack size: ≥1x10^6 viable cells/vial

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

Store in liquid nitrogen

Data Sheet

Background

Medulloblastoma is one of the most common malignant brain tumors in children, with the highest number of diagnoses occurring in patients between 6 and 8 years of age.[1] Medulloblastomas are subdivided into four subtypes based on molecular genetic characteristics: WNT, sonic hedgehog (SHH), group 3 and group 4.[1] Of these group 3 is characterized by amplification of the oncogene *MYC*, one of the most common gene alterations associated with medulloblastoma.

The D425 Med human medulloblastoma cell line is one of the most highly cited cellular models for medulloblastoma and is classified as a subgroup 3, harboring *MYC* amplification as well as mutant *P53*.[2] The D425 Med medulloblastoma cell line was derived from tumor cells of 6-year old patient and grows as suspended or lightly-adherent cell clumps in culture. D425 Med medulloblastoma cells are positive for neurofilament proteins but negative for GFAP.[3] The D425 Med cell line is representative of a common aggressive form of medulloblastoma and is a well-established cellular disease model.

Source

The D425 Med medulloblastoma cell line was derived from biopsy of a tumor from a 6-year-old male patient.[2]

Short tandem repeat (STR) Profile

D3S1358: 14, 17
TH01: 6, 9.3
D21S11: 29, 33.2
D18S51: 15, 17, 18
Penta E: 14, 15
D5S818: 12, 13
D13S317: 11
D7S820: 11, 12
D16S539: 11, 12
CSF1PO: 9, 12
Penta D: 9, 10
vWA: 16, 17
D8S1179: 11, 15
TPOX: 8
FGA: 20, 24
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 and Handling

D425 Med Human Medulloblastoma 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 ≥ $1X10^6$ 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 mouse, rat, 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.

Representative Data

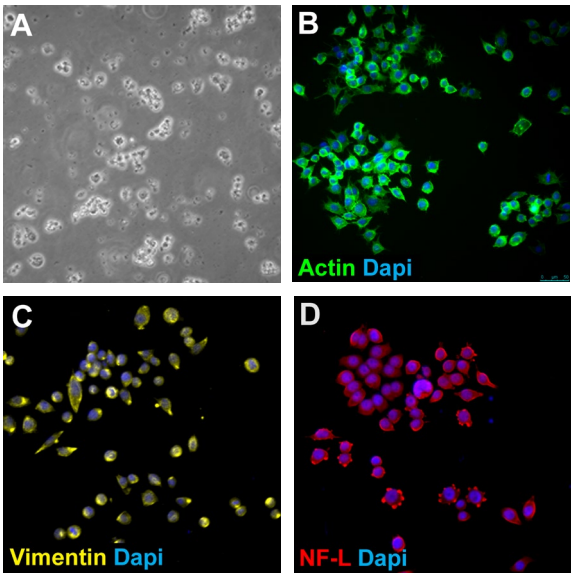

Figure 1. Bright-field image of cells one day after thaw (**A**). D425 cells express actin (**B**, Sigma P5282), vimentin (**C**, Sigma AB5733) and Neurofilament - L (NFL) (**D**, Sigma AB9568). Cells are counterstained with the nuclear dye, Dapi (Sigma D9542).

References

1. *Nat Rev Dis Primers.* 2019; 5(1): 11.
2. *Lab Invest.* 1991; 64(6): 833-43.
3. *J Biotechnol.* 2016; 236: 10-25.

Rev.1.0/2020-07-01/SCC290/AN

Protocols

D425 Med cells grow as suspension cells and thus do not require enzymatic detachment or dissociation. Passage when the cell density reaches 1–1.5 million cells/mL. Optimal plating density should be ~200,000 - 250,000 cells/mL. The cells should not be grown at excessively high densities. Cells may clump together and/or be loosely attached to the tissue culture flask. Dislodge clumps and lightly adherent cells by pipetting up and down.

1. Do not thaw the cells until the recommended medium is on hand. Cells are thawed and expanded in MEM (Richter's modification) (Thermo Fisher Scientific A1048801) containing 20% FBS (Sigma ES-009-B).
2. Remove the vial of frozen D425 Med 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 D425 Med 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 – 20 mL of D425 Med Expansion Medium.
10. Transfer the cell suspension to a T75 flask.
11. Incubate the cells at 37°C in a humidified incubator with 5% CO_2. D425 Med suspension cells require media replenishment every 2-3 days. Passage cells when the cell density is at 1 -1.5 million cells/mL.
12. Cells are typically plated at a density of 200,000 - 250,000 cells/mL

Cryopreservation of Cells

D425 Med Human Medulloblastoma Cell Line may be frozen in 90% FBS and 10% DMSO using a Nalgene slow freeze Mr. Frosty container.

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