Product sheet

Daoy Cells | 305053

General information

Description	The Daoy cell line, established in 1985 by P.F. Jacobsen at the Royal Perth Hospital in Western Australia, is a human cell line derived from a medulloblastoma, a type of brain tumor predominantly found in children. This cell line originated from a biopsy of a posterior fossa tumor in a 4-year-old boy. Medulloblastomas are typically located in the cerebellum, an area of the brain crucial for motor control and coordination, and are the most common malignant brain tumors in children. Daoy cells are widely used as a model system for studying the biology of medulloblastoma, including tumor initiation, progression, and response to therapies. The cell line has been instrumental in medulloblastoma research, particularly in understanding the molecular and genetic basis of the disease, as well as in testing chemotherapeutic agents. The cells exhibit typical features of malignant medulloblastomas, including rapid growth rates and the ability to form tumors when transplanted into immunocompromised mice. Research using the Daoy cell line has contributed to the development of potential new treatments and therapeutic targets for medulloblastoma.
Organism	Human
Tissue	Brain, cerebellum
Disease	Medulloblastoma
Synonyms	DAOY, D324 Med, D-324 Med, D324 MED, D-324MED, D324

Characteristics

Age	4 years
Gender	Male
Ethnicity	European
Morphology	Polygonal
Growth properties	Adherent

Regulatory Data

Citation	Daoy (Cytion catalog number 305053)
Biosafety level	1

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NCBI_TaxID	9606
CellosaurusAccession	CVCL_1167

Biomolecular Data

Handling

Culture Medium	EMEM (MEM Eagle), w: 2 mM L-Glutamine, w: 2.2 g/L NaHCO3, w: EBSS (Cytion article number 820100a)
Supplements	Supplement the medium with 10% FBS and 1% NEAA
Dissociation Reagent	Accutase
Doubling time	34 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.
Fluid renewal	2 to 3 times per week
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.

Quality Control & Molecular Analysis

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.