

Data Sheet

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BCRJ Code: 0325

Cell Line: Daoy

Species: Homo sapiens

Vulgar Name: Human

Tissue: Brain/Cerebellum

Morphology: Polygonal

Disease: Desmoplastic Cerebellar Medulloblastoma

Growth Properties: Adherent

Sex: Male

Age/Ethnicity: 4 Year / Caucasian

Derivation: The Daoy cell line was established in 1985 by P. F Jacobsen of the Royal Perth Hospital in Western Australia. The line was derived from biopsy material taken from a tumor in the posterior fossa of a 4 year old boy.

Applications: This cell line is a suitable transfection host.

Tumor Formation:: Yes, in nude mice (The cells form serially transplantable intracranial and subcutaneous tumors.)

Biosafety: 1

Additional Info: Although the original tumor had characteristics of both neuronal and glial differentiation, these were not retained by the cell line. Treatment of the cells with dibutyryl cyclic amp (cAMP) does not induce expression of those characteristics as measured by staining for S100 (S-100) protein and glial fibrillary acidic proteins (GFAP).

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Culture Medium:

Dulbecco's Modified Eagle's Medium (DMEM) with 2 mM L-glutamine, 1.0 g/L glucose and 10% of fetal bovine serum.

Subculturing:

Volumes are given for a 75 cm² flask. Increase or decrease the amount of dissociation medium needed proportionally for culture vessels of other sizes. Remove and discard culture medium. Briefly rinse the cell layer with PBS without calcium and magnesium to remove all traces of serum that contains trypsin inhibitor. Add 2.0 to 3.0 ml of Trypsin-EDTA solution to flask and observe cells under an inverted microscope until cell layer is dispersed (usually within 5 to 15 minutes). Note: To avoid clumping do not agitate the cells by hitting or shaking the flask while waiting for the cells to detach. Cells that are difficult to detach may be placed at 37°C to facilitate dispersal. Add 6.0 to 8.0 ml of complete growth medium and aspirate cells by gently pipetting. Add appropriate aliquots of the cell suspension to new culture vessels. Incubate cultures at 37°C. NOTE: For more information on enzymatic dissociation and subculturing of cell lines consult Chapter 12 in Culture of Animal Cells, a manual of Basic Technique by R. Ian Freshney, 6th edition, published by Alan R. Liss, N.Y., 2010.

Subculturing Medium Renewal:

2 to 3 times per week

Subculturing Subcultivation Ratio:

1:4 to 1:6 is recommended

Culture Conditions:

Atmosphere: air, 95%; carbon dioxide (CO₂), 5% Temperature: 37°C

Cryopreservation:

95% FBS + 5% DMSO (Dimethyl sulfoxide)

Thawing Frozen Cells:

SAFETY PRECAUTION: It is highly recommended that protective gloves and clothing always be used and a full face mask always be worn when handling frozen vials. It is important to note that some vials leak when submerged in liquid nitrogen and will slowly fill with liquid nitrogen. Upon thawing, the conversion of the liquid nitrogen back to its gas phase may result in the vessel exploding or blowing off its cap with dangerous force creating flying debris. 1. Thaw the vial by gentle agitation in a 37°C water bath. To reduce the possibility of contamination, keep the O-ring and cap out of the water. Thawing should be rapid (approximately 2 minutes). 2. Remove the vial from the water bath as soon as the contents are thawed, and decontaminate by dipping in or spraying with 70% ethanol. All of the operations from this point on should be carried out under strict aseptic conditions. 3. For cells that are sensitive to DMSO it is recommended that the cryoprotective agent be removed immediately. Transfer the vial contents to a centrifuge tube containing 9.0 mL complete culture medium and spin at approximately 125 x g for 5 to 7 minutes. 4. Discard the supernatant and Resuspend cell pellet with the recommended complete medium (see the specific batch information for the culture recommended dilution ratio). 5. Incubate the culture in an appropriate atmosphere and temperature (see "Culture Conditions" for this cell line). **NOTE:** It is important to avoid excessive alkalinity of the medium during recovery of the cells. It is suggested that, prior to the addition of the vial contents, the culture vessel containing the growth medium be placed into the incubator for at least 15 minutes to allow the medium to reach its normal pH (7.0 to 7.6).

References:

He XM, et al. Expression of O6-methylguanine-DNA methyltransferase in six human medulloblastoma cell lines. *Cancer Res.* 52: 1144-1148, 1992. PubMed: 1737373
Jacobsen PF, et al. Establishment of a human medulloblastoma cell line and its heterotransplantation into nude mice. *J. Neuropathol. Exp. Neurol.* 44: 472-485, 1985. PubMed: 2993532
Rostomily RC, et al. Expression of neurogenic basic helix-loop-helix genes in primitive neuroectodermal tumors. *Cancer Res.* 57: 3526-3531, 1997. PubMed: 9270024
The cells form serially transplantable intracranial and subcutaneous tumors.

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