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Paclitaxel

#9807 Store at -20°C

1 mg

For Research Use Only. Not for Use in Diagnostic Procedures.

Background

Paclitaxel belongs to the taxane family of antitumor and antileukemic agents (3). By binding to β -tubulin and promoting the assembly of microtubules, paclitaxel prevents microtubule depolymerization and blocks normal cell division (1-3). The microtubule dysfunction induced by paclitaxel results in aberrant cell mitosis and sometimes apoptosis. The IC_{50} of paclitaxel-induced mitotic block is 4 nM (4).

Molecular Formula

$C_{47}H_{51}NO_{14}$

Molecular Weight

853.9 g/mol

Purity

>99.5%

CAS

33069-62-6

Solubility

Soluble in DMSO at 25mg/ml or EtOH at 20mg/ml.

Storage

Store lyophilized or in solution at -20°C, desiccated. Protect from light. In lyophilized form, the chemical is stable for 24 months. Once in solution, use within 3 months to prevent loss of potency. Aliquot to avoid multiple freeze/thaw cycles.

Directions for Use

Paclitaxel is supplied as 1 mg powder. Store at or below -20°C. Before use, dissolve powder in 1.15 ml DMSO to make a 1 mM paclitaxel stock solution. For working concentrations of 100 nM-1000 nM, dilute DMSO stock 1:10,000 to 1:1000. Treat cells with the desired concentration for 6-48 hours.

Background References

1. Rowinsky, E.K. et al. (1990) *J. Natl. Cancer Inst.* 82, 1247-1259.
2. Jordan, A. et al. (1998) *Med. Res. Rev.* 18, 259-296.
3. Abal, M. et al. (2003) *Curr. Cancer Drug Targets* 3, 193-203.
4. Long, B.H. and Fairchild, C.R. (1994) *Cancer Res.* 54, 4355-4361.

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