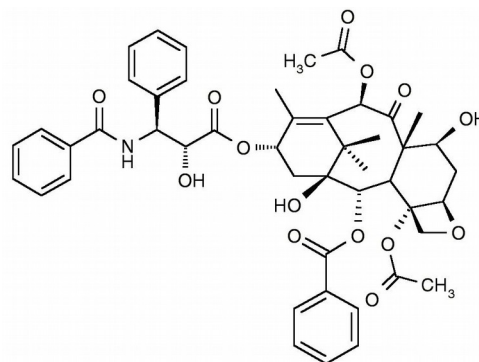


Paclitaxel

Antimicrotubule agent that promotes the assembly of microtubules from tubulin dimers and stabilizes microtubules by preventing depolymerization.

Product Description

Name :	Paclitaxel
Catalog Number :	FP-08426A, 100 mg FP-084261, 250 mg FP-084262, 500 mg FP-084263, 1gg FP-084264, 2gg FP-084265, 5gg FP-084266, 10 g
Structure :	C ₄₇ H ₅₁ NO ₁₄
Molecular Weight :	MW= 853,91
Solubility:	DMSO (200mg/ml), ethanol (40mg/ml), very poorly in water (10-20µM), buffers, serum or other additives may increase or decrease the aqueous solubility.
Purity :	>99,5%
Melting Point :	212-214°C
Storage:	-20°C



Introduction

This product belongs to the taxane family of antitumor and antileukemic agents. By binding to β -tubulin and promoting the assembly of microtubules, paclitaxel prevents microtubule depolymerization and blocks normal cell division. The microtubule dysfunction induced by paclitaxel results in aberrant cell mitosis and sometimes apoptosis. The IC₅₀ of paclitaxel-induced mitotic block is 4 nM.

Directions for use

Guidelines for use

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.

Paclitaxel is more stable as a powder than in solution; it is therefore recommended to dissolve as close as possible prior to use. Store solution at or below -20°C.

- ▲ Antitumor and antileukemic agent isolated from the bark of the yew tree, *Taxus brevifolia*.
Wani, M.C., et al. "Plant antitumor agents. VI. The isolation and structure of taxol, a novel antileukemic and antitumor agent from *Taxus brevifolia*." *J. Am. Chem. Soc.* 93: 2325-2327 (1971).
McGuire, W.P., et al. "Taxol: a unique antineoplastic agent with significant activity in advanced ovarian epithelial neoplasms" *Ann. Int. Med.* 111: 273-279 (1989).
- ▲ Binds to β -tubulin and promotes the assembly of microtubules that resist depolymerization preventing normal cell division.
Rowinsky, E.K., et al. "Taxol: a novel investigational antimicrotubule agent." *J. Natl. Cancer Inst.* 82: 1247-1259 (1990). Parekh, H. and Simpkins, H. "The transport and binding of taxol." *Gen. Pharmacol.* 29: 167-172 (1997). Jordan, A., et al. "Tubulin as a target for anticancer drugs: agents which interact with the mitotic spindle investigational antimicrotubule agent." *Med. Res. Rev.* 18: 259-296 (1998).
- ▲ Induces apoptosis through a JNK-dependent pathway in the early phase followed by a JNK-independent pathway that results in Bcl-2 phosphorylation.
Wang, T.H., et al. "Microtubule dysfunction induced by paclitaxel initiates apoptosis through both c-Jun N-terminal kinase (JNK)-dependent and -independent pathways in ovarian cancer cells." *J. Biol. Chem.* 274: 8208-8216 (1999). Shtil, A.A., et al. "Differential regulation of mitogen-activated protein kinases by microtubule-binding agents in human breast cancer cells." *Oncogene* 18: 377-384 (1999). Srivastava, R.K., et al. "Involvement of microtubules in the regulation of Bcl2 phosphorylation and apoptosis through cyclic AMP-dependent protein kinase." *Mol. Cell. Biol.* 18: 3509-3517 (1998). Torres, K., and Horwitz, S.B. "Mechanisms of Taxol-induced cell death are concentration dependent." *Cancer Res.* 58: 3620-3626 (1998).

References

- **Augustin S. et al.**, Matrix Metalloproteinases Are Involved in Both Type I (Apoptosis) and Type II (Autophagy) Cell Death Induced by Sodium Phenylacetate in MDA-MB-231 Breast Tumour Cells, *Anticancer Res*, 29: 1335 - 1343 (2009) [Article](#)
- **Bressenot A. et al.**, Assessment of Apoptosis by Immunohistochemistry to Active Caspase-3, Active Caspase-7, or Cleaved PARP in Monolayer Cells and Spheroid and Subcutaneous Xenografts of Human Carcinoma, *Journal of Histochemistry & Cytochemistry*, 57: 289 - 300 (2009) [Article](#)
- **Pujade-Lauraine E. et al.**, Pegylated Liposomal Doxorubicin and Carboplatin Compared With Paclitaxel and Carboplatin for Patients With Platinum-Sensitive Ovarian Cancer in Late Relapse, *J. Clin. Oncol.*, 28: 3323 - 3329 (2010) [Article](#)

Technical and scientific information

Related / associated products and documents

See [Product highlights](#), [BioSciences Innovations catalogue](#) and [e-search tool](#).

- FluoProbes 547H-Phalloidin, FP-BZ9620
- Carboplatin, 47842K

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Catalog size quantities and prices may be found at <http://www.interchim.com>.
Please inquire for higher quantities (availability, shipment conditions).

For any information, please ask : FluoProbes® / Interchim; Hotline : +33(0)4 70 03 73 06

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