

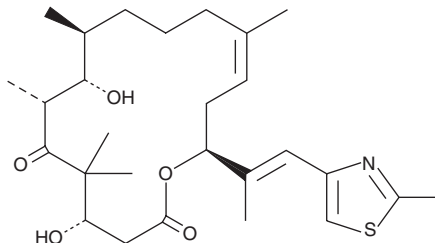
PRODUCT INFORMATION



Epothilone D

Item No. 18765

CAS Registry No.: 189453-10-9
Formal Name: (4S,7R,8S,9S,13Z,16S)-4,8-dihydroxy-5,5,7,9,13-pentamethyl-16-[(1E)-1-methyl-2-(2-methyl-4-thiazolyl)ethenyl]-oxacyclohexadec-13-ene-2,6-dione
Synonyms: Desoxyepothilone B, NSC 73147
MF: C₂₇H₄₁NO₅S
FW: 491.7
Purity: ≥95%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years
Item Origin: Synthetic



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Epothilone D is supplied as a solid. A stock solution may be made by dissolving the epothilone D in the solvent of choice, which should be purged with an inert gas. Epothilone D is soluble in organic solvents such as ethanol and DMSO.

Description

Epothilones are microtubule-stabilizing agents with potential anti-neoplastic actions.¹⁻³ They are natural macrolides that have high potency in both taxane-sensitive and taxane-resistant models.^{2,3} Epothilone D is a desoxy form of epothilone B (Item No. 10924) that inhibits the growth of a variety of cancer cells both *in vitro* (IC₅₀ values range from 0.97 to 21 nM) and in mice.^{3,4} Epothilone D is brain penetrant and reduces neurodegeneration in aged tau transgenic mice.^{5,6} Effects include improved axonal transport, decreased tau neuropathology, and reduced hippocampal neuron loss.^{5,6} Epothilone D also rescues microtubule defects and attenuates nigrostriatal degeneration in a mouse model of Parkinson's disease.⁴

References

1. Bollag, D.M., McQueney, P.A., Zhu, J., *et al.* Epothilones, a new class of microtubule-stabilizing agents with a taxol-like mechanism of action. *Cancer Res.* **55(11)**, 2325-2333 (1995).
2. Goodin, S., Kane, M.P., and Rubin, E.H. Epothilones: Mechanism of action and biologic activity. *J. Clin. Oncol.* **22(10)**, 2015-2025 (2011).
3. Cheng, K.L., Bradley, T., and Budman, D.R. Novel microtubule-targeting agents - the epothilones. *Biologics* **2(4)**, 789-811 (2008).
4. Cartelli, D., Casagrande, F., Busceti, C.L., *et al.* Microtubule alterations occur early in experimental parkinsonism and the microtubule stabilizer epothilone D is neuroprotective. *Sci. Rep.* **3**, (2013).
5. Brunden, K.R., Zhang, B., Carroll, J., *et al.* Epothilone D improves microtubule density, axonal integrity, and cognition in a transgenic mouse model of tauopathy. *J. Neurosci.* **30(41)**, 13861-13866 (2010).
6. Lou, K., Yao, Y., Hoyer, A.T., *et al.* Brain-penetrant, orally bioavailable microtubule-stabilizing small molecules are potential candidate therapeutics for Alzheimer's disease and related tauopathies. *J. Med. Chem.* **57(14)**, 6116-6127 (2014).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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