

# PRODUCT INFORMATION

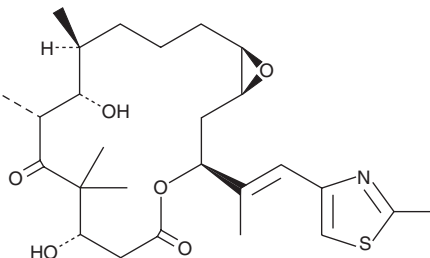


## Epothilone A

Item No. 16482

**CAS Registry No.:** 152044-53-6  
**Formal Name:** (1S,16R)-7S,11S-dihydroxy-8,8,10R,12S-tetramethyl-3S-[(1E)-1-methyl-2-(2-methyl-4-thiazolyl)ethenyl]-4,17-dioxabicyclo[14.1.0]heptadecane-5,9-dione

**Synonym:** Epo A  
**MF:** C<sub>26</sub>H<sub>39</sub>NO<sub>6</sub>S  
**FW:** 493.7  
**Purity:** ≥95%  
**UV/Vis.:** λ<sub>max</sub>: 211, 250 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



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

### Laboratory Procedures

Epothilone A (Epo A) is supplied as a crystalline solid. A stock solution may be made by dissolving the epo A in the solvent of choice, which should be purged with an inert gas. Epo A is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of epo A in ethanol and DMF is approximately 20 mg/ml and approximately 15 mg/ml in DMSO.

Epo A is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, epo A should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Epo A has a solubility of approximately 0.5 mg/ml in a 1:1 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Epo A is a biologically active macrolide produced from the fermentation of the soil bacteria *S. cellulosum* that was discovered as a potent antimicrotubule agent.<sup>1-3</sup> In competition assays, epo A binds to β-tubulin with a similar order of magnitude as the binding of paclitaxel (Item No. 10461) to β-tubulin (IC<sub>50</sub>s = 2.3 and 3.6 μM, respectively).<sup>1-4</sup> Epo A is cytotoxic to human T-24 bladder carcinoma cells (IC<sub>50</sub> = 0.05 μM *in vitro*) but has poor pharmacological properties and is 2-fold less potent in stabilizing microtubules compared to epothilone B (Item No. 10924).<sup>1</sup>

### References

1. Cheng, K.L., Bradley, T., and Budman, D.R. Novel microtubule-targeting agents - the epothilones. *Biologics* **2(4)**, 789-811 (2008).
2. 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).
3. Goodin, S., Kane, M.P., and Rubin, E.H. Epothilones: Mechanism of action and biologic activity. *J. Clin. Oncol.* **22(10)**, 2015-2025 (2011).
4. Kowalski, R.J., Giannakakou, P., and Hamel, E. Activities of the microtubule-stabilizing agents epothilones A and B with purified tubulin and in cells resistant to paclitaxel (Taxol(R)). *J. Biol. Chem.* **272(4)**, 2534-2541 (1997).

#### 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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