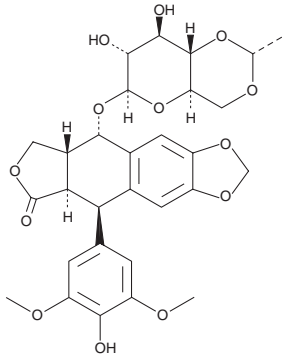
PRODUCT INFORMATION

Etoposide

Item No. 12092

CAS Registry No.:	33419-42-0
Formal Name:	(5aR)-9S-[[4,6-O-ethylidene-β-D-glucopyranosyl]oxy]-5R,8,8aR,9-tetrahydro-5-(4-hydroxy-3,5-dimethoxyphenyl)-furo[3',4':6,7]naphtho[2,3-d]-1R,3-dioxol-6(5aH)-one
Synonyms:	EPE, NSC 141540, VP-16-123
MF:	$C_{29}H_{32}O_{13}$
FW:	588.6
Purity:	≥98%
UV/Vis.:	λ_{max}: 206, 283 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

Etoposide is supplied as a crystalline solid. A stock solution may be made by dissolving the etoposide in the solvent of choice. Etoposide is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of etoposide in these solvents is approximately 10 and 0.5 mg/ml, respectively.

Etoposide is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, etoposide should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Etoposide has a solubility of approximately 0.1 mg/ml in a 1:5 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Etoposide is a plant alkaloid and an inhibitor of topoisomerase II (IC_{50} = 60.3 µM).[1,2] It inhibits proliferation of a variety of adenocarcinoma cells (IC_{50}s = 0.005-12,200 µM) and human umbilical vein endothelial (HUVEC) cells (IC_{50} = 0.249 µM).[3] It reduces tumor growth in an Ma human embryonal carcinoma mouse xenograft model when administered at a dose of 25 mg/kg, an effect that is enhanced by concomitant administration of the immunosuppressant cyclosporin A (Item No. 12088).[4] Etoposide also inhibits nuclear receptor coactivator 3 (IC_{50} = 2.48 µM).[5] Formulations containing etoposide have been used in combination therapy in the treatment of cancer.

References

1. Chen, G.L., Yang, L., Rowe, T.C., *et al. J. Biol. Chem.* **259(21)**, 13560-13566 (1984).
2. Wu, W.B., Ou, J.B., Huang, Z.H., *et al. Eur. J. Med. Chem.* **46(8)**, 3339-3347 (2011).
3. Drevs, J., Fakler, J., Eisele, S., *et al. Anticancer Res.* **24(3a)**, 1759-1764 (2004).
4. Osieka, R., Seeber, S., Pannenbäcker, R., *et al. Cancer Chemother. Pharmacol.* **18(3),** 198-202 (1986).
5. O'Malley, B. "Luminescence-based cell-based high throughput dose response assay for inhibitors of the Steroid Receptor Coactivator 3 (SRC;NCOA3)." National Center for Biotechnology Information. PubChem Compound Database. Accessed January 21, 2019. https://pubchem.ncbi.nlm.nih.gov/bioassay/602166#section=Entrez-Crosslinks.

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