PRODUCT INFORMATION

Etoposide-d_3

Item No. 26488

Formal Name: (5R,5aR,8aR,9S)-9-[[4,6-O-(1R)-ethylidene-β-D-glucopyranosyl]oxy]-5,8,8a,9-tetrahydro-5-(4-hydroxy-3-methoxy-5-(methoxy-d_3)phenyl)-furo[3',4':6,7]naphtho[2,3-d]-1,3-dioxol-6(5aH)-one

Synonyms: EPE-d_3, VP-16-123-d_3

MF: $C_{29}H_{29}D_3O_{13}$

FW: 591.6

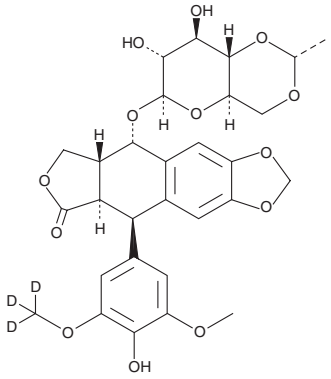
Chemical Purity: ≥98% (Etoposide)

Deuterium Incorporation: ≥99% deuterated forms (d_1-d_3); ≤1% d_0

Supplied as: A 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-d_3 is intended for use as an internal standard for the quantification of etoposide (Item No. 12092) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Etoposide-d_3 is supplied as a solid. A stock solution may be made by dissolving the etoposide-d_3 in the solvent of choice, which should be purged with an inert gas. Etoposide-d_3 is soluble in the organic solvent methanol.

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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