

PRODUCT INFORMATION



Podophyllotoxin-d₆

Item No. 33547

Formal Name: (5R,5aR,8aR,9R)-5,8,8a,9-tetrahydro-9-hydroxy-5-(3-methoxy-4,5-bis(methoxy-d₃)phenyl)-furo[3',4':6,7]naphtho[2,3-d]-1,3-dioxol-6(5aH)-one

Synonym: PPT-d₆
MF: C₂₂H₁₆D₆O₈
FW: 420.4

Chemical Purity: ≥98% (Podophyllotoxin)

Deuterium

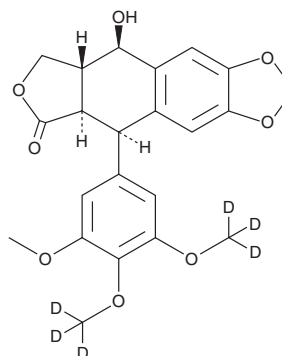
Incorporation: ≥99% deuterated forms (d₁-d₆); ≤1% d₀

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

Podophyllotoxin-d₆ is intended for use as an internal standard for the quantification of podophyllotoxin (Item No. 19575) and picropodophyllotoxin (Item No. 17329) 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).

Podophyllotoxin-d₆ is supplied as a solid. A stock solution may be made by dissolving the podophyllotoxin-d₆ in the solvent of choice, which should be purged with an inert gas. Podophyllotoxin-d₆ is soluble in acetonitrile, ethanol, methanol, DMSO, and dimethyl formamide.

Description

Podophyllotoxin is a lignan that has been found in *Podophyllum* and has diverse biological activities.¹⁻⁵ It inhibits polymerization of isolated chicken brain tubulin (IC₅₀ = 0.6 μM) and induces mitotic arrest at the G₂/M phase in CCRF CEM lymphoblastic leukemia cells when used at concentrations ranging from 0.01 to 5 μg/ml.^{2,3} Podophyllotoxin (5 μM) is protective against herpes simplex virus 1 (HSV-1) infection in Vero cells.⁴ It inhibits the proliferation of several diffuse large B cell lymphoma (DLBCL) cell lines (IC₅₀s = 0.0098-0.017 μM).⁵ Podophyllotoxin is a starting material in the semisynthesis of the anticancer compounds etoposide (Item No. 12092) and teniposide (Item No. 14425).⁶ Formulations containing podophyllotoxin have been used in the treatment of external genital warts.

References

1. Imbert, T.F. *Biochimie* **80**(3), 207-222 (1998).
2. Loike, J.D., Brewer, C.F., Sternlicht, H., et al. *Cancer Res.* **38**(9), 2688-2693 (1978).
3. Krishan, A., Paika, K., and Frei, E., III *J. Cell Biol.* **66**(3), 521-530 (1975).
4. Hammonds, T.R., Denyer, S.P., Jackson, D.E., et al. *J. Med. Microbiol.* **45**(3), 167-172 (1996).
5. Strömberg, T., Feng, X., Delforouh, M., et al. *Med. Oncol.* **32**(7), 188 (2015).
6. Xu, H., Lv, M., and Tian, X. *Curr. Med. Chem.* **16**(3), 327-349 (2009).

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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