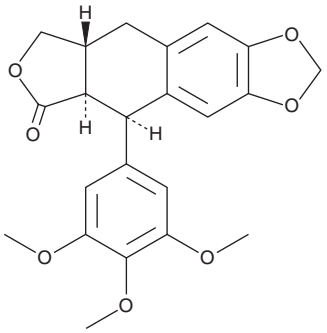
PRODUCT INFORMATION

Deoxypodophyllotoxin

Item No. 36434

CAS Registry No.:	19186-35-7
Formal Name:	(5R,5aR,8aR)-5,8,8a,9-tetrahydro-5-(3,4,5-trimethoxyphenyl)-furo[3′,4′:6,7]naphtho[2,3-d]-1,3-dioxol-6(5aH)-one
Synonyms:	Anthricin, (–)-Deoxypodophyllotoxin, 4-Deoxypodophyllotoxin, DPT, RD4-6266
MF:	$C_{22}H_{22}O_7$
FW:	398.4
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

Deoxypodophyllotoxin (DPT) is supplied as a solid. A stock solution may be made by dissolving the DPT in the solvent of choice, which should be purged with an inert gas. DPT is slightly soluble in chloroform (warmed) and methanol (warmed).

Description

DPT is a flavolignan that has been found in *J. sabina* and has diverse biological activities.[1-5] It inhibits tubulin polymerization in a cell-free assay when used at a concentration of 50 nM.[1] DPT in also inhibits COX-2 and 5-lipoxygenase (5-LO) in isolated mouse bone marrow-derived mast cells stimulated with KL, IL-10, and LPS (IC_{50}s = 1.89 and 0.37 µM, respectively).[2] It reduces viral yield in the supernatant of MRC-5 cells infected with herpes simplex virus 1 (HSV-1) or HSV-2 when used at a concentration of 0.02 µg/ml.[3] DPT inhibits aggregation of rabbit platelets induced by platelet-activating factor (PAF), collagen, or arachidonic acid (Item Nos. 90010 | 90010.1 | 10006607) in a concentration-dependent manner.[4] It induces mortality in *P. rapae* fifth instar larvae (LC_{50} = 0.02 g/L).[5] DPT (70 µg/kg) reduces tumor growth in a CT26 murine colon cancer model.[5]

References

1. Gamage, C.D.B., Park, S.-Y., Yang, Y., *et al.* Deoxypodophyllotoxin exerts anti-cancer effects on colorectal cancer cells through induction of apoptosis and suppression of tumorigenesis. *Int. J. Mol. Sci.* **20(11)**, 2612 (2019).
2. Lee, S.H., Son, M.J., Ju, H.K., *et al.* Dual inhibition of cyclooxygenases-2 and 5-lipoxygenase by deoxypodophyllotoxin in mouse bone marrow-derived mast cells. *Biol. Pharm. Bull.* **27(6)**, 786-788 (2004).
3. Sudo, K., Konno, K., Shigeta, S., *et al.* Inhibitory effects of podophyllotoxin derivatives on herpes simplex virus replication. *Antivir. Chem. Chemother.* **9(3)**, 263-267 (1998).
4. Chen, J.-J., Chang, Y.-L., Teng, C.-M., *et al.* Anti-platelet aggregation alkaloids and lignans from *Hernandia nymphaeifolia*. *Planta Med.* **66(3)**, 251-256 (1999).
5. Gao, R., Gao, C., Tian, X., *et al.* Insecticidal activity of deoxypodophyllotoxin, isolated from *Juniperus sabina* L, and related lignans against larvae of *Pieris rapae* L. *Pest Manag. Sci.* **60(11)**, 1131-1136 (2004).

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