

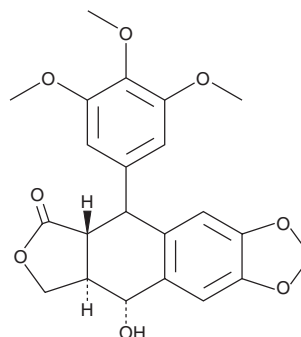
PRODUCT INFORMATION



Podophyllotoxin

Item No. 19575

CAS Registry No.: 518-28-5
Formal Name: (5R,5aR,8aR,9R)-5,8,8a,9-tetrahydro-9-hydroxy-5-(3,4,5-trimethoxyphenyl)-furo[3',4':6,7]naphtho[2,3-d]-1,3-dioxol-6(5aH)-one
Synonyms: NSC 24818, (-)-Podophyllotoxin, PPT
MF: C₂₂H₂₂O₈
FW: 414.4
Purity: ≥98%
UV/Vis.: λ_{max}: 294 nm
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



Special Conditions: Hygroscopic. Keep under inert gas. Protect from moisture.

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

Laboratory Procedures

Podophyllotoxin is supplied as a solid. A stock solution may be made by dissolving the podophyllotoxin in the solvent of choice, which should be purged with an inert gas. Podophyllotoxin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of podophyllotoxin in ethanol is approximately 0.14 mg/ml and approximately 15 mg/ml in DMSO and DMF.

Podophyllotoxin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, podophyllotoxin should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Podophyllotoxin has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMSO:PBS (pH 7.2) using this method. Podophyllotoxin is slightly soluble in PBS (pH7.2). We do not recommend storing the aqueous solution for more than one day.

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.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 07/02/2025

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM