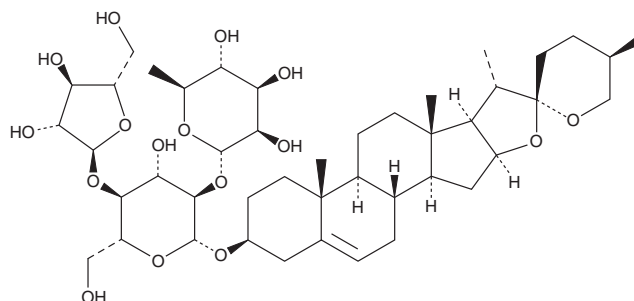


PRODUCT INFORMATION



Polyphyllin I Item No. 29179

CAS Registry No.: 50773-41-6
Formal Name: (3 β ,25R)-spirost-5-en-3-yl O- α -L-arabinofuranosyl-(1 \rightarrow 4)-O-[6-deoxy- α -L-mannopyranosyl-(1 \rightarrow 2)]- β -D-glucopyranoside
Synonym: (+)-Polyphyllin D
MF: C₄₄H₇₀O₁₆
FW: 855.0
Purity: \geq 95%
Supplied as: A solid
Storage: -20°C
Stability: \geq 4 years
Item Origin: Plant/*Rhizoma paridis*



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

Laboratory Procedures

Polyphyllin I is supplied as a solid. A stock solution may be made by dissolving the polyphyllin I in the solvent of choice, which should be purged with an inert gas. Polyphyllin I is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of polyphyllin I in these solvents is approximately 20 and 25 mg/ml, respectively.

Polyphyllin I is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, polyphyllin I should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Polyphyllin I has a solubility of approximately 0.3 mg/ml in a 1:2 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Polyphyllin I is a steroid saponin that has been found in *P. polyphylla* and has anticancer activity.¹ It decreases proliferation of, and induces apoptosis in, MCF-7 and MDA-MB-231 cells (IC₅₀s = 5 and 2.5 μ M, respectively). It disrupts the mitochondrial membrane potential, activates caspase-3, and increases protein levels of the caspase-3 substrate poly(ADP-ribose) polymerase (PARP) in HepG2 and drug-resistant R-HepG2 cells.² Polyphyllin I (2.05 and 2.73 mg/kg for 10 days) reduces tumor growth in an MCF-7 mouse xenograft model.¹

References

1. Lee, M.S., Yuet-Wa, J.C., Kong, S.K., *et al.* Effects of polyphyllin D, a steroidal saponin in Paris polyphylla, in growth inhibition of human breast cancer cells and in xenograft. *Cancer Biol. Ther.* **4(11)**, 1248-1254 (2005).
2. Ong, R.C., Lei, J., Lee, R.K., *et al.* Polyphyllin D induces mitochondrial fragmentation and acts directly on the mitochondria to induce apoptosis in drug-resistant HepG2 cells. *Cancer Lett.* **261(2)**, 158-164 (2008).

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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