PRODUCT INFORMATION



Picropodophyllotoxin

Item No. 17329

CAS Registry No.:	477-47-4	
Formal Name:	(5R,5aS,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:	AXL 1717, NSC 36407, Picropodophyllin, PPP	
MF:	C ₂₂ H ₂₂ O ₈	0
FW:	414.4	
Purity:	≥98%	
UV/Vis.:	λ _{max} : 289 nm	
Supplied as:	A crystalline solid	Ĥ L
Storage:	-20°C	OH
Stability:	≥4 years	

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

Laboratory Procedures

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

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

Description

PPP is a potent and selective inhibitor of the insulin-like growth factor-1 receptor (IGF-1R), blocking the phosphorylation of artificial substrates with an IC50 value of 6 nM.¹ It does not block substrate phosphorylation by insulin receptor, EGFR, FGFR, or PDGFR. PPP inhibits IGF-1R autophosphorylation (IC₅₀ = \sim 1 nM), causes cell cycle arrest in G₂/M phase, and induces apoptosis.^{1,2} It is orally active and causes complete tumor regression in xenografted and allografted mice.¹ Presumably through its effect on IGF-1R, PPP reduces VEGF expression and suppresses choroidal neovascularization in vivo.³

References

- 1. Girnita, A., Girnita, L., del Prete, F., et al. Cyclolignans as inhibitors of the insulin-like growth factor-1 receptor and malignant cell growth. Cancer Res. 64(1), 236-242 (2004).
- 2. Strömberg, T., Ekman, S., Girnita, L., et al. IGF-1 receptor tyrosine kinase inhibition by the cyclolignan PPP induces G₂/M-phase accumulation and apoptosis in multiple myeloma cells. Blood 107(2), 669-678 (2006).
- 3. Economou, M.A., Wu, J., Vasilcanu, D., et al. Inhibition of VEGF secretion and experimental choroidal neovascularization by picropodophyllin (PPP), an inhibitor of the insulin-like growth factor-1 receptor. Invest. Opthalmol. Vis. Sci. 49(6), 2620-2626 (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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