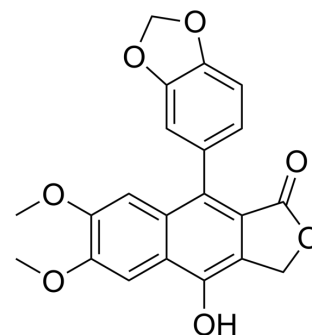


Diphyllin

Cat. No.:	HY-N2532	
CAS No.:	22055-22-7	
Molecular Formula:	C ₂₁ H ₁₆ O ₇	
Molecular Weight:	380.35	
Target:	HIV; Influenza Virus; Proton Pump; VSV	
Pathway:	Anti-infection; Membrane Transporter/Ion Channel	
Storage:	Powder	-20°C 3 years
	In solvent	-80°C 6 months
		-20°C 1 month



SOLVENT & SOLUBILITY

In Vitro	DMSO : 14.29 mg/mL (37.57 mM; Need ultrasonic)				
	Preparing Stock Solutions	Solvent Concentration	Mass	1 mg	
				5 mg	
				10 mg	
				10 mg	
			1 mg	5 mg	10 mg
	1 mM		2.6292 mL	13.1458 mL	26.2916 mL
	5 mM		0.5258 mL	2.6292 mL	5.2583 mL
	10 mM		0.2629 mL	1.3146 mL	2.6292 mL
Please refer to the solubility information to select the appropriate solvent.					
In Vivo	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 1.43 mg/mL (3.76 mM); Clear solution				
	2. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 1.43 mg/mL (3.76 mM); Clear solution				

BIOLOGICAL ACTIVITY

Description	Diphyllin is an arylnaphthalene lignan isolated from <i>Justicia procumbens</i> and is a potent HIV-1 inhibitor with an IC ₅₀ of 0.38 μM. Diphyllin is active against vesicular stomatitis virus (VSV) and influenza virus ^[1] . Diphyllin is a vacuolar type H ⁺ -ATPase (V-ATPase) inhibitor with an IC ₅₀ value of 17 nM and inhibits lysosomal acidification in human osteoclasts ^[2] . Diphyllin inhibits NO production with an IC ₅₀ of 50 μM and has anticancer and anti-inflammatory activities ^[3] .		
IC ₅₀ & Target	HIV-1 0.38 μM (IC ₅₀)	Vacuolar type H ⁺ -ATPase 17 nM (IC ₅₀)	Vesicular stomatitis virus (VSV)

REFERENCES

[1]. Xin-Ya Xu, et al. Anti-HIV Lignans From *Justicia Procumbens*. *Chin J Nat Med*. 2019 Dec;17(12):945-952.

[2]. Mette G Sørensen, et al. Diphyllin, a Novel and Naturally Potent V-ATPase Inhibitor, Abrogates Acidification of the Osteoclastic Resorption Lacunae and Bone Resorption. *J Bone Miner Res*. 2007 Oct;22(10):1640-8.

[3]. Yerra Koteswara Rao, et al. Anti-inflammatory Activities of Constituents Isolated From *Phyllanthus Polyphyllus*. *J Ethnopharmacol*. 2006 Jan 16;103(2):181-6.

Caution: Product has not been fully validated for medical applications. For research use only.

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