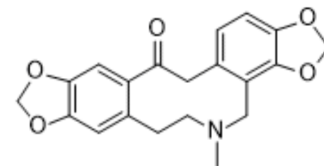


Protopine

Cat. No.:	HY-N0793		
CAS No.:	130-86-9		
Molecular Formula:	C ₂₀ H ₁₉ NO ₅		
Molecular Weight:	353.37		
Target:	Reactive Oxygen Species		
Pathway:	Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 12.5 mg/mL (35.37 mM; ultrasonic and warming and heat to 60°C)

Concentration	Solvent	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	2.8299 mL	14.1495 mL	28.2990 mL
	5 mM	0.5660 mL	2.8299 mL	5.6598 mL
	10 mM	0.2830 mL	1.4149 mL	2.8299 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 1.47 mg/mL (4.16 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 1.25 mg/mL (3.54 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 1.25 mg/mL (3.54 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Protopine, an isoquinoline alkaloid contained in plants in northeast Asia. IC50 Value: Target: In vitro: Protopine was found to reduce nitric oxide (NO), cyclooxygenase-2 (COX-2), and prostaglandin E(2) (PGE(2)) production by LPS-stimulated Raw 264.7 cells, without a cytotoxic effect. Pre-treatment of Raw 264.7 cells with protopine reduced the production of pro-inflammatory cytokines [2]. Protopine is a novel microtubule stabilizer with anticancer activity in HRPC cells through apoptotic pathway by modulating Cdk1 activity and Bcl-2 family of proteins [3]. In HepG2 cells, protopine significantly increased CYP1A1 mRNA levels after 24h exposure at concentrations from 25 and 10 μM. Protopine also dose-dependently increased CYP1A1 and CYP1A2 mRNA levels in human hepatocytes [4]. In vivo: Assays were performed on MDA-MB-231

human breast cancer cells, and the result showed that protopine exhibited anti-adhesive and anti-invasion effects in MDA-MB-231 cells; after treatment with protopine for 90 min, the expression of EGFR, ICAM-1, α v-integrin, β 1-integrin and β 5-integrin were remarkably reduced [1].

REFERENCES

- [1]. Bae DS, et al. Protopine reduces the inflammatory activity of lipopolysaccharide-stimulated murine macrophages. *BMB Rep.* 2012 Feb;45(2):108-13.
- [2]. Chen CH, et al. Protopine, a novel microtubule-stabilizing agent, causes mitotic arrest and apoptotic cell death in human hormone-refractory prostate cancer cell lines. *Cancer Lett.* 2012 Feb 1;315(1):1-11.
- [3]. Vrba J, et al. Protopine and allocryptopine increase mRNA levels of cytochromes P450 1A in human hepatocytes and HepG2 cells independently of AhR. *Toxicol Lett.* 2011 Jun 10;203(2):135-41.
- [4]. He K, et al. Protopine inhibits heterotypic cell adhesion in MDA-MB-231 cells through down-regulation of multi-adhesive factors. *Afr J Tradit Complement Altern Med.* 2014 Jan 28;11(2):415-24.
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Caution: Product has not been fully validated for medical applications. For research use only.

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