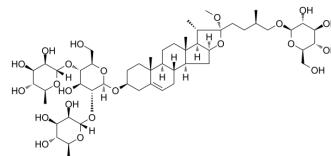


Methyl protodioscin

Cat. No.:	HY-N0863
CAS No.:	54522-52-0
Molecular Formula:	C ₅₂ H ₈₆ O ₂₂
Molecular Weight:	1063.23
Target:	Apoptosis
Pathway:	Apoptosis
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (94.05 mM; Need ultrasonic)
H₂O : 25 mg/mL (23.51 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	0.9405 mL	4.7027 mL	9.4053 mL
	5 mM	0.1881 mL	0.9405 mL	1.8811 mL
	10 mM	0.0941 mL	0.4703 mL	0.9405 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: ≥ 3.5 mg/mL (3.29 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: 3.5 mg/mL (3.29 mM); Suspended solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 3.5 mg/mL (3.29 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Methyl protodioscin (NSC-698790) is a furostanol bisglycoside with antitumor properties; shows to reduce proliferation, cause cell cycle arrest. IC₅₀ value: Target: in vitro: MPD showed growth inhibitory effects in A549 cells in a dose- and time-dependent manner. The significant G₂/M cell cycle arrest and apoptotic effect were also seen in A549 cells treated with MPD. MPD-induced apoptosis was accompanied by a significant reduction of mitochondrial membrane potential, release of mitochondrial cytochrome c to cytosol, activation of caspase-3, downregulation of Bcl-2, p-Bad, and upregulation of Bax [1]. In THP-1 macrophages, MPD increases levels of ABCA1 mRNA and protein in dose- and time-dependent manners, and apoA-1-mediated cholesterol efflux. MPD also decreases the gene expressions of HMGCR, FAS and ACC for cholesterol and fatty acid synthesis [2].

REFERENCES

- [1]. Bai Y, et al. Methyl protodioscin induces G2/M cell cycle arrest and apoptosis in A549 human lung cancer cells. *Pharmacogn Mag.* 2014 Jul;10(39):318-24.
- [2]. Ma W, et al. Methyl protodioscin increases ABCA1 expression and cholesterol efflux while inhibiting gene expressions for synthesis of cholesterol and triglycerides by suppressing SREBP transcription and microRNA 33a/b levels. *Atherosclerosis.* 2015 Apr;239
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Caution: Product has not been fully validated for medical applications. For research use only.

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