

Deoxyandrographolide

Chemical Properties

CAS No.:	79233-15-1
Formula:	C ₂₀ H ₃₀ O ₄
Molecular Weight:	334.45
Appearance:	N/A
Storage:	0-4°C for short term (days to weeks), or -20°C for long term (months).

Biological Description

Description	Deoxyandrographolide (14-deoxyandrographolide) has an antihyperglycemic effect in vivo. It also potently inhibit the growth of liver (HepG2 and SK-Hep1) and bile duct (HuCCA-1 and RMCCA-1) cancer cells.
In vitro	Treatment with 14-deoxyandrographolide (14-DAG) activated AMPK through induction of cyclic AMP-protein kinase A pathway [1]. 14-DAG down-regulated the formation of a death-inducing signaling complex, resulting in the desensitization of hepatocytes to TNF- α -induced apoptosis. Pretreatment of hepatocytes with 14-DAG accentuated microsomal Ca-ATPase activity through induction of NO/cGMP pathway [2]. 14-DAG, in concentrations between 10-100 μ M, reduced the extracellular acidification rate and the intracellular alkalization in a dose-dependent manner. In addition, 14-DAG reduced PAF-induced calcium flux in the presence of extracellular calcium, and tyrosine phosphorylation of a 44 kDa protein corresponding to the MAPK(ERK1) [3].
In vivo	The protective effect of 14-DAG against ethanol-induced hepatic injury is based on its ability to reduce oxidative stress through cNOS dependent improvement of redox status. 14-DAG mediated activation of adenylate cyclase-cAMP signaling leading to the up-regulation of cNOS may provide a promising approach in the prevention of liver diseases during chronic alcoholism [4].

Solubility Information

Solubility	DMSO: Soluble (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.99 mL	14.95 mL	29.9 mL
5 mM	0.598 mL	2.99 mL	5.98 mL
10 mM	0.299 mL	1.495 mL	2.99 mL
50 mM	0.06 mL	0.299 mL	0.598 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 °C for 6 months; - 20 °C for 1 month. Please use it as soon as possible.

Reference

1. Mandal S, et al. 14-Deoxyandrographolide alleviates ethanol-induced hepatosteatosis through stimulation of AMP-activated protein kinase activity in rats. *Alcohol*. 2014 Mar;48(2):123-32.
2. Roy DN, et al. 14-Deoxyandrographolide desensitizes hepatocytes to tumour necrosis factor- α -induced apoptosis through calcium-dependent tumour necrosis factor receptor superfamily member 1A release via the NO/cGMP pathway. *Br J Pharmacol*. 2010 Aug;160(7):1823-43.
3. Burgos RA, et al. 14-deoxyandrographolide as a platelet activating factor antagonist in bovine neutrophils. *Planta Med*. 2005 Jul;71(7):604-8.
4. Mandal S, et al. 14-Deoxyandrographolide targets adenylate cyclase and prevents ethanol-induced liver injury through constitutive NOS dependent reduced redox signaling in rats. *Food Chem Toxicol*. 2013 Sep;59:236-48.

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