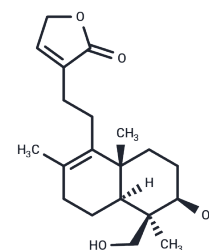


## Deoxyandrographolide

## Chemical Properties

CAS No. :	79233-15-1
Formula:	C <sub>20</sub> H <sub>30</sub> O <sub>4</sub>
Molecular Weight:	334.45
Storage:	Powder: -20°C for 3 years   In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.



## Biological Description

Description	Deoxyandrographolide (14-deoxyandrographolide) potentiates NGF-induced neurite outgrowth. Deoxyandrographolide suppresses the production of proinflammatory mediators TNF- $\alpha$ and IL-6.
Targets(IC50)	IL Receptor, Interleukin, TNF
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-alpha-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 $\mu$ M, reduced the extracellular acidification rate and the intracellular alkalinization 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: 10 mg/mL (29.9 mM), Sonication is recommended. ( $< 1$ mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 1 mg/mL (2.99 mM), Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

### Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.990 mL	14.9499 mL	29.8998 mL
5 mM	0.598 mL	2.990 mL	5.980 mL
10 mM	0.299 mL	1.495 mL	2.990 mL
50 mM	0.0598 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. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

Arha D, et al. Deoxyandrographolide promotes glucose uptake through glucose transporter-4 translocation to plasma membrane in L6 myotubes and exerts antihyperglycemic effect in vivo. *Eur J Pharmacol.* 2015 Dec 5;768:207-16.

Xin XL, et al. Microbial transformation of deoxyandrographolide by *Fusarium graminearum* AS 3.4598. *J Asian Nat Prod Res.* 2011 Apr;13(4):350-5.

Deng S, et al. Microbial transformation of deoxyandrographolide and their inhibitory activity on LPS-induced NO production in RAW 264.7 macrophages. *Bioorg Med Chem Lett.* 2012 Feb 15;22(4):1615-8.

Xu Y, et al. Synthesis of andrographolide analogues and their neuroprotection and neurite outgrowth-promoting activities. *Bioorg Med Chem.* 2019;27(11):2209-2219.

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