

Product Data Sheet

Product Name: Dehydroandrographolide

Cat. No.: GN10697

Chemical Properties

Cas. No. 134418-28-3

Chemical Name 3-[2-[6-hydroxy-5-(hydroxymethyl)-5,8a-dimethyl-2-methylidene-3,4,4a,6,7,8-hexahydro-1H-naphthalen-1-yl]ethylidene]furan-2-one

SMILES CC12CCC(C(C1CCC(=C)C2CC=C3C=COC3=O)(C)CO)O

Formula $C_{20}H_{28}O_4$

M.Wt 332.42

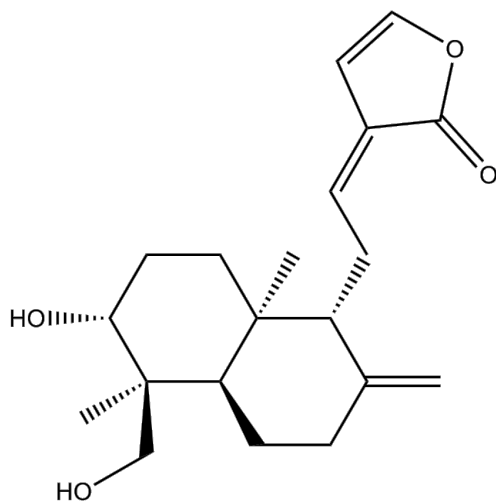
Solubility $\geq 33.2\text{mg/mL}$ in DMSO

Storage 4°C , protect from light

General tips For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



Protocol

Cell experiment [1]:

Cell lines

SAS and OECM-1 cells

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

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Preparation Method	0.5×10 ⁴ cells were cultured in 96-well plates and stimulated with different concentrations of Dehydroandrographolide (25, 50, 100μM). After 24, 48 or 72h incubation. The medium was removed, 0.5mg/ml MTT was added to each well and incubated for further 4h. The viable cell number was directly proportional to the production of formazan, reflected by the color intensity measured at 595nm, following the solubilization with isopropanol.
Reaction Conditions	25, 50, 100μM; 24, 48, 72h
Applications	Dehydroandrographolide inhibited the proliferation of SAS and OECM-1 cells in a dose-dependent manner, with SAS cell viability suppressed after 48h and OECM-1 cells responding within 24h.
Animal experiment [1]:	
Animal models	BALB/c nude mice bearing SAS cell xenografts
Preparation Method	Seven days after tumor cell injection, the mice were orally fed Dehydroandrographolide (40 or 100mg/kg) or vehicle three times per week. The control group received an equal volume of 0.5% carboxymethyl cellulose vehicle. Tumor volumes were determined from caliper measurements obtained every six days. At the end of the experiment, mice were animals were sacrificed and primary tumors were removed for further analysis.
Dosage form	40 or 100mg/kg; p.o.; three times per week for 24 days

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Applications	Dehydroandrographolide suppressed tumor growth. In Dehydroandrographolide-treated mice receiving 100 but not 40mg/kg, the mean tumor volume on day 24 was significantly inhibited compared to vehicle-treated with no significant difference in body weight. Ki67-positive tumor cells were significantly reduced after treatment with Dehydroandrographolide compared to control mice. The expression of LC3 in tumor specimens was increased in the Dehydroandrographolide-treated group compared to the control group.
References:[1] Hsieh MJ, Lin CW, Chiou HL, Yang SF, Chen MK. Dehydroandrographolide, an iNOS inhibitor, extracted from <i>Andrographis paniculata</i> (Burm.f.) Nees, induces autophagy in human oral cancer cells. <i>Oncotarget</i> . 2015;6(31):30831-30849.	

Background

Dehydroandrographolide is a natural diterpenoid lactone compound extracted from *Andrographis paniculata*. Dehydroandrographolide, an iNOS inhibitor with anti-inflammatory and antiviral activities, can inhibit LPS-induced oxidative stress by inactivating iNOS^[1].

In vitro, Dehydroandrographolide (25, 50, 100μM; 24-72h) inhibited the proliferation of SAS and OECM-1 cells in a dose-dependent manner, with SAS cell viability suppressed after 48h and OECM-1 cells responding within 24h^[1]. Dehydroandrographolide (100μM; 48h) increased cell death through autophagy induction, rather than apoptosis, in human oral cancer cell lines^[1].

Dehydroandrographolide (1-100μM; 48h) showed no obvious cytotoxicity for HCT-116 cells^[2]. Dehydroandrographolide (1-100μM; 0-24h) increased hBD-2 mRNA and protein expression in HCT-116 cells in a dose- and time-dependent manner, thereby enhancing intestinal innate immunity^[2].

In vivo, Dehydroandrographolide (100mg/kg; p.o.; three times per week for 24 days) suppressed tumor growth with no significant difference in body weight in BALB/c nude mice bearing SAS cell xenografts^[1].

References :

[1] Hsieh MJ, Lin CW, Chiou HL, Yang SF, Chen MK. Dehydroandrographolide, an iNOS inhibitor,

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extracted from *Andrographis paniculata* (Burm.f.) Nees, induces autophagy in human oral cancer cells. *Oncotarget*. 2015;6(31):30831-30849.

[2] Xiong WB, Shao ZJ, Xiong Y, et al. Dehydroandrographolide enhances innate immunity of intestinal tract through up-regulation the expression of hBD-2. *Daru*. 2015;23(1):37.

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