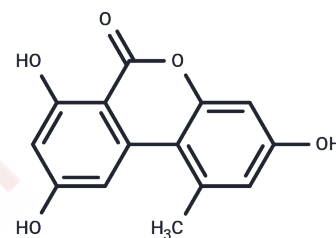


Alternariol

Chemical Properties

CAS No. :	641-38-3
Formula:	C ₁₄ H ₁₀ O ₅
Molecular Weight:	258.23
Storage:	Keep away from direct sunlight Powder: -20°C for 3 years In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>



Biological Description

Description	Alternariol is a natural product extracted from Etoac that demonstrates anti-inflammatory activity in vitro and in vivo in murine hepatoma cells and in human serum, with additional effects on toll-like receptor signaling and regulation of pro-apoptotic protein expression. Alternariol has been shown to be inactive against methyl transferase enzymes, a feature relevant to its metabolic inactivation profile.
Targets(IC50)	TLR
In vitro	Treatment of human lung epithelial cells (BEAS-2B) and mouse macrophages (RAW264.7) with Alternariol (10 μM, 24 h) can inhibit the innate immune response of both cell types [2]. Alternariol (5-10 μM, 24 h) reduces LPS-induced inflammatory response in BEAS-2B cells in a dose-dependent manner [2]. Alternariol (1-100 μM, 24 h) exerts an inhibitory effect on the proliferation of BEAS-2B cells and induces cell cycle arrest [2]. In V79 cells and mouse lymphoma L5178Y tk+/- cells (MLC), Alternariol (10 μM, 24 h) can induce mutations in the HPRT and TK genes [3].
In vivo	Alternariol was administered via intravenous injection (1-5 mg/kg, once daily for 4 consecutive days), demonstrating embryotoxicity and immunotoxicity in mice during embryonic and infant developmental stages, while also triggering apoptosis [4]. In a DMBA-induced breast cancer mouse model, Alternariol (50-200 mg/kg, orally administered once daily for 24 weeks) significantly suppressed breast cancer progression by inducing apoptosis and inhibiting cell proliferation [5].

Solubility Information

Solubility	DMSO: 20 mg/mL (77.45 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.8725 mL	19.3626 mL	38.7252 mL
5 mM	0.7745 mL	3.8725 mL	7.745 mL
10 mM	0.3873 mL	1.9363 mL	3.8725 mL
50 mM	0.0775 mL	0.3873 mL	0.7745 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

- Fliszár-Nyúl E, et al. Interaction of Mycotoxin Alternariol with Serum Albumin. *Int J Mol Sci.* 2019 May 12;20(9). pii: E2352.
- Grover S, et al. The *Alternaria alternate* Mycotoxin Alternariol Suppresses Lipopolysaccharide-Induced Inflammation. *Int J Mol Sci.* 2017 Jul 20;18(7). pii: E1577.
- Eva-Maria Brugger, et al. Mutagenicity of the mycotoxin alternariol in cultured mammalian cells. *Toxicol Lett.* 2006 Jul 14;164(3):221-30.
- Chien-Hsun Huang, et al. Alternariol exerts embryotoxic and immunotoxic effects on mouse blastocysts through ROS-mediated apoptotic processes. *Toxicol Res (Camb).* 2021 Jun 16;10(4):719-732.
- Jian Xin, et al. Alternariol alleviates breast carcinoma by inhibiting cellular proliferation correlated with increased apoptotic events in rats. *European Journal of Inflammation.* Volume 20: 1-13

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