

## Alphitolic acid

## Chemical Properties

CAS No. : 19533-92-7

Formula: C<sub>30</sub>H<sub>48</sub>O<sub>4</sub>

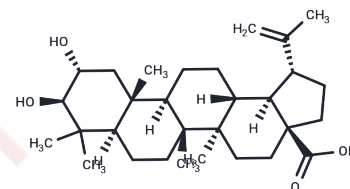
Molecular Weight: 472.7

Keep away from direct sunlight, Store at low temperature

Storage:

Store at -20°C

Actual storage temperature shall be subject to the COA.



## Biological Description

Description	Alphitolic acid, a terpenoid from <i>Potentilla freyniana</i> Bornm, is a selective 3-hydroxy-3-methylglutamic acid coenzyme-A synthase 2 (HMGCS2) inhibitor with anti-inflammatory and anticancer activity that inhibits T cell proliferation in a concentration-dependent manner. Alphitolic acid induces apoptosis and autophagy.
Targets(IC50)	Apoptosis, NF-κB, Akt, Autophagy, TNF
In vitro	<p><b>METHODS:</b> Alphitolic acid (10, 15, 20, 25, 30 μM, 72 hours) was used to treat three human OSCC cell lines (HSC-3, SCC2095 and SCC4 cells). The antiproliferative effects of the three cell lines were evaluated using the MTT method, cell apoptosis was detected by flow cytometry, and the expression of related proteins was detected by Western Blot.</p> <p><b>RESULTS:</b> Alphitolic acid had a dose-dependent inhibitory effect on SCC4 and SCC2095, with IC<sub>50</sub> values of 12 μM and 15 μM, respectively; it could inhibit the Akt/mTOR-NF-κB signaling axis and p53 activation in OSCC cells, induce cell apoptosis, and exert an antiproliferative effect. [1]</p> <p><b>METHODS:</b> The bioactivity of Alphitolic acid on NO and TNF-α production induced by LPS + IFN-γ in RAW 264.7 cells was examined using Griess assay (NO, n = 8) and TNF-α (ELISA, n = 3).</p> <p><b>RESULTS:</b> Alphitolic acid downregulated NO and TNF-α production in RAW 264.7 cells with IC<sub>50</sub> values of 17.6 and 22.7 μM, respectively. [2]</p>

## Solubility Information

Solubility	DMSO: 40 mg/mL (84.62 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Corn Oil: 4 mg/mL (8.46 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

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	1mg	5mg	10mg
1 mM	2.1155 mL	10.5775 mL	21.1551 mL
5 mM	0.4231 mL	2.1155 mL	4.231 mL
10 mM	0.2116 mL	1.0578 mL	2.1155 mL
50 mM	0.0423 mL	0.2116 mL	0.4231 mL

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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

Bai LY, et, al. Alphitolic acid, an anti-inflammatory triterpene, induces apoptosis and autophagy in oral squamous cell carcinoma cells, in part, through a p53-dependent pathway. 2015 Jan 22; 18(2015):368-378.

Raju R, et al. Anti-Inflammatory Chemical Profiling of the Australian Rainforest Tree *Alphitonia petriei* (Rhamnaceae). *Molecules*. 2016 Nov 11;21(11):1521.

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