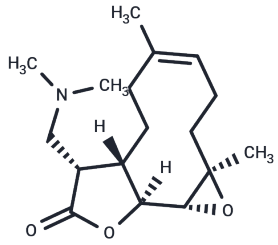
Data Sheet (Cat.No.T11060)

DMAPT

Chemical Properties



CAS No. : 870677-05-7

Formula: C17H27NO3

Molecular Weight: 293.4

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	DMAPT (Dimethylamino Parthenolide) is an orally active NF-κB inhibitor and a Parthenolide (PTL) analogue with an LD50 value of 1.7 μM for primary acute myeloid leukemia cells. It has potential anti-tumor and anti-metastatic effects.
Targets(IC50)	NF-κB
In vitro	DMAPT treatment reduced the constitutive NF-κB binding activity and inhibited the proliferation and viability of PC-3 and DU145 cells. Treatment of PC-3 and DU145 cells with 5 and 4 μM DMAPT, respectively, increased the population doubling time of PC-3 prostate cancer cells from 23.0±5.0 h to 42.0±3.0 h, while the population doubling time of DU145 cells increased from 20.4±2.2 h By 72.5±24.8 hours.
In vivo	DMAPT (100 mg/kg, oral gavage daily for 7 days) treatment can increase the sensitivity of PC-3 tumor xenografts to X-rays. DMAPT (100 mg/kg, 42 to 300 days from birth, oral gavage three times a week) treatment can slow the normal tumor development of TRAMP mice and prolong the reachable prostate tumor time by 20%. DMAPT further reduced the lung tissue transfer area of TRAMP mice to below the water vehicle treatment group (0.10%±0.15 SD, 92% reduction, p = 0.0028)[3].

Solubility Information

Solubility	H2O: insoluble DMSO: 100 mg/mL (340.83 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.4083 mL	17.0416 mL	34.0832 mL
5 mM	0.6817 mL	3.4083 mL	6.8166 mL
10 mM	0.3408 mL	1.7042 mL	3.4083 mL
50 mM	0.0682 mL	0.3408 mL	0.6817 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.

Reference

Neelakantan S, et al. Aminoparthenolides as novel anti-leukemic agents: Discovery of the NF-kappaB inhibitor, DMAPT (LC-1). Bioorg Med Chem Lett. 2009 Aug 1;19(15):4346-9.
Mendonca MS, et al. DMAPT inhibits NF-κB activity and increases sensitivity of prostate cancer cells to X-rays in vitro and in tumor xenografts in vivo. Free Radic Biol Med. 2017 Nov;112:318-326.
Morel KL, et al. Chronic low dose ethanol induces an aggressive metastatic phenotype in TRAMP mice, which is counteracted by parthenolide. Clin Exp Metastasis. 2018 Oct;35(7):649-661.