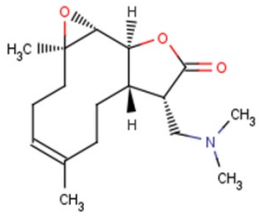
Data Sheet (Cat.No.T11060)

TargetMol
A DRUG SCREENING EXPERT

DMAPT

Chemical Properties



CAS No.:	870677-05-7
Formula:	C17H27NO3
Molecular Weight:	293.4
Appearance:	N/A
Storage:	0-4℃ for short term (days to weeks), or -20℃ for long term (months).

Biological Description

Description	DMAPT (Dimethylamino Parthenol) is a water-soluble analogue of Parthenolide (PTL). It is an orally active NF-κB inhibitor. For cell populations in AML cells, the LD50 is 1.7 μM. It has potential anti-cancer and anti-metastatic effects.
Targets(IC_{50})	NF-κB: None
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).

Solubility Information

Solubility	DMSO: 125 mg/mL (426.04 mM) (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.408 mL	17.042 mL	34.083 mL
5 mM	0.682 mL	3.408 mL	6.817 mL
10 mM	0.341 mL	1.704 mL	3.408 mL
50 mM	0.068 mL	0.341 mL	0.682 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 ℃ for 6 months; - 20 ℃ for 1 month. Please use it as soon as possible.

Reference

1. 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.

2. 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.

3. 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.

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