

Product Data Sheet

Product Name: DMAPT
Cat. No.: GC34901

Chemical Properties

Cas. No. 870677-05-7

SMILES C/C1=C/CC[C@]2(C)[C@H](O2)[C@]3([H])[C@](CC1)([H])[C@@H](CN(C)C)C(O3)=O

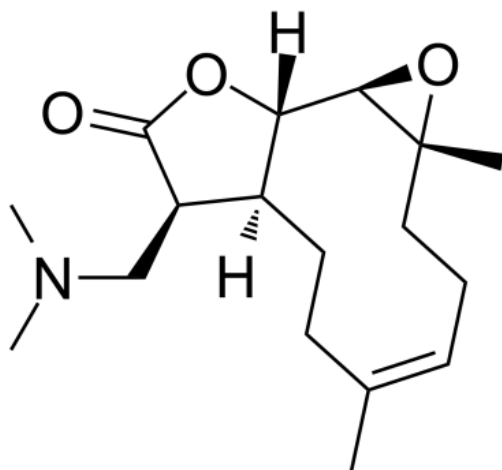
Formula $C_{17}H_{27}NO_3$ M.Wt 293.4

Solubility DMSO: 125 mg/mL (426.04 mM) Storage Store at -20°C

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



Background

DMAPT (Dimethylamino Parthenolide), a water soluble analogue of Parthenolide (PTL), is an oral active NF-κB inhibitor, with a LD50 of 1.7 μM for cell population in AML cells. Has potential anti-cancer and anti-metastatic effect[1]. NF-κB[1].

DMAPT treatment decreased constitutive NF-κB binding activity, inhibits cell proliferation and viability of PC-3 and DU145 cells[2]. Treatment of PC-3 and DU145 cells with 5 and 4 μM DMAPT, respectively, increases the population doubling times of PC-3 prostate cancer cells from 23.0 ± 5.0 h

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

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to 42.0 ± 3.0 h and of the DU145 cells from 20.4 ± 2.2 h to 72.5 ± 24.8 h[2]. Cell Proliferation Assay[2] Cell Line: PC-3 and DU145 cells.

Treatment with DMAPT (100 mg/kg, Oral gavage daily for 7 days) increases sensitivity of PC-3 tumor xenografts to X-rays[2]. DMAPT (100 mg/kg, Oral gavage thrice weekly from 42 to 300 days since birth) treatment slows normal tumor development in TRAMP mice, extending the time-to-palpable prostate tumor by 20%[3]. DMAPT further reduces the metastatic area below that of the water vehicle treatment group in lung tissues ($0.10\% \pm 0.15$ SD, 92% reduction, $p = 0.0028$) in TRAMP mice[3]. Animal Model: PC-3 tumor xenograft in athymic nude mice[2].

[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-kB 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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