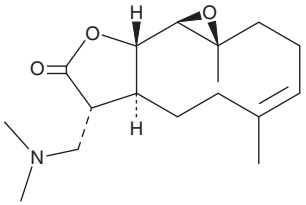
PRODUCT INFORMATION

Dimethylamino Parthenolide

Item No. 20436

CAS Registry No.: 791595-09-0
Formal Name: (1aR,4E,7aS,8R,10aS,10bR)-8-[(dimethylamino)methyl]-2,3,6,7,7a,8,10a,10b-octahydro-1a,5-dimethyl-oxireno[9,10]cyclodeca[1,2-b]furan-9(1aH)-one
Synonyms: DMAPT, LC-1
MF: $C_{17}H_{27}NO_3$
FW: 293.4
Purity: ≥99%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years
Special Conditions: Avoid moisture



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Dimethylamino parthenolide (DMAPT) is supplied as a crystalline solid. A stock solution may be made by dissolving the DMAPT in the solvent of choice, which should be purged with an inert gas. DMAPT is soluble in the organic solvent ethanol at a concentration of approximately 30 mg/ml. DMAPT is also miscible in DMSO and dimethyl formamide (DMF).

DMAPT is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, DMAPT should first be dissolved in DMF and then diluted with the aqueous buffer of choice. DMAPT has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

DMAPT is an inhibitor of NF-κB and a derivative of parthenolide (Item No. 70080).[1] It inhibits the binding of the p65 subunit of NF-κB to DNA by 75% when used at a concentration of 50 µM. DMAPT (25 µM) decreases intracellular glutathione (GSH) levels in, and inhibits the migration of, MDA-MB-231 breast cancer cells. It induces necrosis in MDA-MB-231 cells, an effect that can be reversed by the antioxidant N-acetyl cysteine (Item No. 20261), NADPH oxidase inhibitor apocynin (Item No. 11976), or RIP1 kinase inhibitor necrostatin-1 (Item No. 11658). DMAPT (50 mg/kg) decreases tumor volume in an MDA-MB-231 mouse xenograft model.

Reference

1. D'Anneo, A., Carlisi, D., Lauricella, M., *et al.* Parthenolide generates reactive oxygen species and autophagy in MDA-MB231 cells. A soluble parthenolide analogue inhibits tumour growth and metastasis in a xenograft model of breast cancer. *Cell Death Dis.* **4(e891)**, (2013).

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