

Prostaglandin E3

Chemical Properties

CAS No. :	802-31-3
Formula:	C ₂₀ H ₃₀ O ₅
Molecular Weight:	350.45
Storage:	Pure form: -20°C for 3 years In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



Biological Description

Description	Prostaglandin E3 (PGE3) is an eicosapentaenoic acid (EPA) derivative with anti-inflammatory and anti-tumor activity, inhibits polarization to M1 macrophages, and shows anti-proliferative effects in human lung cancer cells.
Targets(IC50)	Others,COX,PKA,Prostaglandin Receptor
In vitro	METHODS: To investigate the role of Prostaglandin E3 in modulating macrophage polarization, THP-1 cells (a human monocytic cell line) were used to induce macrophage polarization, and the effects of different concentrations of Prostaglandin E3 on the markers of M1 and M2 macrophages were observed. RESULTS: Prostaglandin E3 (1-10000 nM) was found to inhibit the expression of M1 macrophage markers while promoting the polarization towards M2 macrophages[1].
In vivo	METHODS: To investigate the effect of Prostaglandin E3 on the proliferation of prostate tumor cells, prostate tumor cells were injected into mice, and Prostaglandin E3 was continuously administered during the experiment to observe the growth of the tumors and the infiltration of macrophages. RESULTS: Continuous injection of Prostaglandin E3 (1 μmol/L; every 3 days for 4 weeks) significantly reduced the weight of the transplanted tumors and decreased the expression of CD68 and CD206 (markers of M2 macrophages) within the tumors[1].

Solubility Information

Solubility	DMSO: 30 mg/mL (85.6 mM),Sonication is recommended. DMF: 30 mg/mL (85.6 mM),Sonication is recommended. Ethanol: 30 mg/mL (85.6 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.8535 mL	14.2674 mL	28.5347 mL
5 mM	0.5707 mL	2.8535 mL	5.7069 mL
10 mM	0.2853 mL	1.4267 mL	2.8535 mL
50 mM	0.0571 mL	0.2853 mL	0.5707 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.

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

Cui J, et al. Prostaglandin E3 attenuates macrophage-associated inflammation and prostate tumour growth by modulating polarization. *J Cell Mol Med.* 2021 Jun;25(12):5586-5601.

Yang P, et al. Prostaglandin E3 metabolism and cancer. *Cancer Lett.* 2014 Jun 28;348(1-2):1-11.

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