

Prostaglandin E2 [363-24-6]

#cat : NB-64-29451-1g	Size : 1g
#cat : NB-64-29451-1mL	Size : 1ml
#cat : NB-64-29451-1mg	Size : 1mg
#cat : NB-64-29451-2mg	Size : 2mg
#cat : NB-64-29451-5mg	Size : 5mg
#cat : NB-64-29451-10mg	Size : 10mg
#cat : NB-64-29451-25mg	Size : 25mg
#cat : NB-64-29451-50mg	Size : 50mg
#cat : NB-64-29451-100mg	Size : 100mg
#cat : NB-64-29451-200mg	Size : 200mg
#cat : NB-64-29451-500mg	Size : 500mg
#cat : NB-64-29451-500mg	Size : 500mg

Chemical Properties:

CAS No: 363-24-6

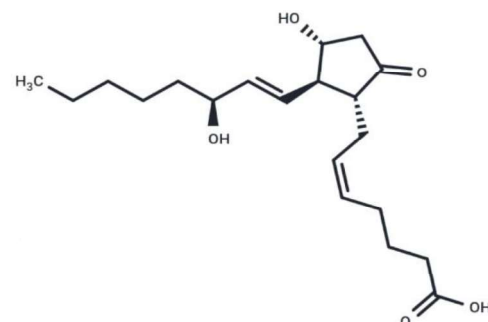
Formula: $C_{20}H_{32}O_5$

Molecular Weight: 352.47

Store at low temperature

Storage: Powder: -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 E2 (PGE2) is a natural hormone-like substance involved in various physiological functions, including the contraction and relaxation of smooth muscles, dilation and constriction of blood vessels, regulation of blood pressure, and modulation of inflammation. It can be used to induce neuropathic pain models.
Targets (IC50)	Endogenous Metabolite
	METHODS: Human colorectal cancer cells LS-174T were treated with Prostaglandin E2 (0.05-10 μM) for 1-60 min, and the expression levels of target proteins were detected by Western Blot. RESULTS: Prostaglandin E2 induced phosphorylation of Akt as early as 1 min after stimulation, and the activation of Akt reached a maximum within 10 min and persisted until 60 min. The addition of Prostaglandin E2 activated Akt in a dose-dependent manner. [1] METHODS: FDC-like cells were treated with Prostaglandin E2 (1 μM) for 15-120 min, and the expression levels of target proteins were detected by Western Blot. RESULTS: Prostaglandin E2 did not increase p-ERK, but decreased p-ERK at 60 and 120 min. on the contrary, p-p38 increased starting at 15 min and continued to 60 min. [2]
	METHODS: To test the role of EP2 receptors in the in vivo absorption response, Prostaglandin E2 (3 mg/kg) was injected subcutaneously four times daily for three days into EP2+/+ and EP2-/- mice on a 129/SvEv background. RESULTS: Prostaglandin E2 increased serum calcium from 9.8+/-0.5 to 10.7+/-0.3 mg/dL in EP2+/+ mice but not in EP2-/- mice. [3] METHODS: To study the effects on bone, Prostaglandin E2 (6 mg/kg) was injected subcutaneously into C57BL/6 mice once daily for 3-12 days. RESULTS: Prostaglandin E2-treated mice showed a decrease in trabecular bone volume (BV/TV) at 14 days, indicating increased bone resorption. However, the Prostaglandin E2-treated 3-day group also stimulated bone formation at 14 days due to increased mineral deposition rate (MAR) and bone formation rate (BFR/BS). [4]

Solubility	DMSO: 250 mg/mL (709.28 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	5% DMSO+95% Saline: 1.5 mg/mL (4.26 mM),Solution. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one.</i> <i>Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately.</i> <i>The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.8371 mL	14.1856 mL	28.3712 mL
5 mM	0.5674 mL	2.8371 mL	5.6742 mL
10 mM	0.2837 mL	1.4186 mL	2.8371 mL
50 mM	0.0567 mL	0.2837 mL	0.5674 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

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Tang C, Sun H, Kadoki M, et al. Blocking Dectin-1 prevents colorectal tumorigenesis by suppressing prostaglandin E2 production in myeloid-derived suppressor cells and enhancing IL-22 binding protein expression. Nature Communications. 2023, 14(1): 1493.

Cho W, et al. Prostaglandin E2 stimulates COX-2 expression via mitogen-activated protein kinase p38 but not ERK in human follicular dendritic cell-like cells. BMC Immunol. 2020 Apr 17;21(1):20.

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Zhao M, Wu J, Jin Y, et al. Schisandrin B from Schisandra chinensis alleviated pain via glycine receptors, Nav1.7 channels and Cav2.2 channels. Journal of Ethnopharmacology. 2024: 117996.

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