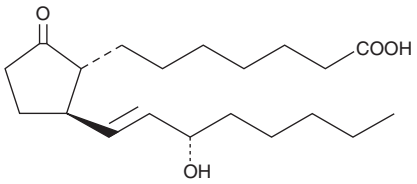
PRODUCT INFORMATION

11-deoxy Prostaglandin E_1

Item No. 13510

CAS Registry No.:	37786-00-8
Formal Name:	9-oxo-15S-hydroxy-prost-13E-en-1-oic acid
Synonym:	11-deoxy PGE_1
MF:	$C_{20}H_{34}O_4$
FW:	338.5
Purity:	≥96%
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



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

Laboratory Procedures

11-deoxy Prostaglandin E_1 (11-deoxy PGE_1) is supplied as a crystalline solid. A stock solution may be made by dissolving the 11-deoxy PGE_1 in the solvent of choice, which should be purged with an inert gas. 11-deoxy PGE_1 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of 11-deoxy PGE_1 in ethanol and DMSO is approximately 50 mg/ml and approximately 100 mg/ml in DMF.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of 11-deoxy PGE_1 can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 11-deoxy PGE_1 in PBS (pH 7.2) is approximately 1.6 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

11-deoxy PGE_1 is a synthetic analog of PGE_1. Early reports show that it is a selective agonist for the EP_2 receptor but effective at much higher concentrations than PGE_2.[1,2] However, later studies show that it is a non-selective agonist of EP receptors and stimulates cAMP release in Jurkat cells with an EC_{50} of 0.25 µM.[3] 11-deoxy PGE_1 also exhibits vasodepressor and bronchodilator responses in guinea pigs.[4] 11-deoxy PGE_1 exhibits selectively for the mouse EP_3 receptor and is essentially equipotent to PGE_1 at this receptor subtype. The K_i values for binding to the mouse EP_1, EP_2, EP_3, and EP_4 receptors are 600, 45, 1.1, and 23 nM, respectively.[5]

References

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2. Chen, J. and Woodward, D.F. Prostanoid-induced relaxation of precontracted cat ciliary muscle is mediated by EP_2 and DP receptors. *Invest. Ophthalmol. Vis. Sci.* **33(11)**, 3195-3201 (1992).
3. De Vries, G.W., Guarino, P., McLaughlin, A., *et al.* An EP receptor with a novel pharmacological profile in the T-cell line Jurkat. *Br. J. Pharmacol.* **115(7)**, 1231-1234 (1995).
4. Hall, D.W.R. and Jaitly, K.D. Structure-activity relationships in a series of 11-deoxy prostaglandins. *Prostaglandins* **11(3)**, 573-587 (1976)
5. Kiriyama, M., Ushikubi, F., Kobayashi, T., *et al.* Ligand binding specificities of the eight types and subtypes of the mouse prostanoid receptors expressed in Chinese hamster ovary cells. *Br. J. Pharmacol.* **122(2)**, 217-224 (1997).

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