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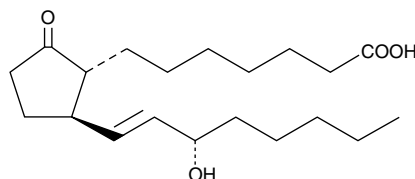
Product Information



11-deoxy Prostaglandin E₁

Item No. 13510

CAS Registry No.: 37786-00-8
Formal Name: 9-oxo-15S-hydroxy-prost-13E-en-1-oic acid
MF: C₂₀H₃₄O₄
FW: 338.5
Purity: ≥96%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

11-deoxy Prostaglandin E₁ (11-deoxy PGE₁) is a synthetic analog of PGE₁. For long term storage, we suggest that 11-deoxy PGE₁ be stored as supplied at -20°C. It will be stable for at least two years.

11-deoxy PGE₁ is supplied as a crystalline solid. A stock solution may be made by dissolving the 11-deoxy PGE₁ in an organic solvent purged with an inert gas. 11-deoxy PGE₁ is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 11-deoxy PGE₁ in ethanol and DMSO is approximately 50 mg/ml and in DMF is 100 mg/ml.

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 PGE₁ can be prepared by directly dissolving the crystalline compound in aqueous buffers. The solubility of 11-deoxy PGE₁ in PBS (pH 7.2) is approximately 1.6 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Early reports show that 11-deoxy PGE₁ is a selective agonist for the EP₂ receptor, but effective at much higher concentrations than PGE₂.^{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 EC₅₀ of 0.25 μM.³ 11-deoxy PGE₁ also exhibits vasodepressor and bronchodilator responses in guinea pigs.⁴ 11-deoxy PGE₁ exhibits selectively for the mouse EP₃ receptor and is essentially equipotent to PGE₁ at this receptor subtype. The K_i values for binding to the mouse EP₁, EP₂, EP₃, and EP₄ receptors are 600, 45, 1.1, and 23 nM, respectively.⁵

References

1. Dong, Y.J., Jones, R.L., and Wilson, N.H. Prostaglandin E receptor subtypes in smooth muscle: Agonist activities of stable prostacyclin analogues. *Br. J. Pharmacol.* **87**, 97-107 (1986).
2. Chen, J. and Woodward, D.F. Prostanoid-induced relaxation of precontracted cat ciliary muscle is mediated by EP₂ and DP receptors. *Invest. Ophthalmol. Vis. Sci.* **33**, 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**, 1231-1234 (1995).
4. Hall, D.W.R. and Jaitly, K.D. Structure-activity relationships in a series of 11-deoxy prostaglandins. *Prostaglandins* **11**, 573-587 (1976).
5. Kiriya, 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**, 217-224 (1997).

Related Products

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WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY. NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

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This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent via email to your institution.

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