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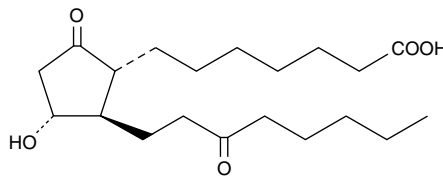
Product Information



13,14-dihydro-15-keto Prostaglandin E₁

Item No. 13650

CAS Registry No.: 5094-14-4
Formal Name: 9,15-dioxo-11 α -hydroxy-prostan-1-oic acid
Synonym: 13,14-dihydro-15-keto PGE₁
MF: C₂₀H₃₄O₅
FW: 354.5
Purity: \geq 98%
Stability: \geq 1 year at -20°C
Supplied as: A solution in methyl acetate



Laboratory Procedures

For long term storage, we suggest that 13,14-dihydro-15-keto prostaglandin E₁ (13,14-dihydro-15-keto PGE₁) be stored as supplied at -20°C. It should be stable for at least one year.

13,14-dihydro-15-keto PGE₁ is supplied as a solution in methyl acetate. If methyl acetate is undesirable, evaporate the methyl acetate with an inert gas and add the solvent of choice. 13,14-dihydro-15-keto PGE₁ is soluble in organic solvents such as ethanol, DMSO, and DMF. The solubility of 13,14-dihydro-15-keto PGE₁ in these solvents is approximately 50 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. If an organic solvent-free solution of 13,14-dihydro-15-keto PGE₁ is needed, the methyl acetate can be evaporated under a gentle stream of nitrogen and the neat oil dissolved in the buffer of choice. The solubility of 13,14-dihydro-15-keto PGE₁ is approximately 1.67 mg/ml in PBS (pH 7.2). Avoid adding 13,14-dihydro-15-keto PGE₁ to basic solutions (pH > 7.4), since base treatment will degrade 13,14-dihydro-15-keto PGE₁ to PGA and PGB compounds and/or Bicyclo-PGE₁. Also, ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

13,14-dihydro-15-keto PGE₁ is a metabolite of PGE₁ with much reduced biological activity.¹⁻³ Steady state plasma concentrations are about 10 pg/ml.¹ 13,14-dihydro-15-keto PGE₁ is a weak inhibitor of ADP-induced platelet aggregation in human PRP and washed platelets with IC₅₀ values of 54 and 200 μ M, respectively, compared to PGE₁ which has an IC₅₀ value of 40 nM.⁴

References

1. Leonhardt, A., Krauss, M., Gieler, U., *et al.* *In vivo* formation of prostaglandin E₁ and prostaglandin E₂ in atopic dermatitis. *Br. J. Dermatol.* **136**, 337-340 (1997).
2. Hamberg, M. and Samuelsson, B. On the metabolism of prostaglandins E₁ and E₂ in man. *J. Biol. Chem.* **246**, 6713-6721 (1971).
3. Peskar, B.A., Cawello, W., Rogatti, W., *et al.* On the metabolism of prostaglandin E₁ administered intravenously to human volunteers. *J. Physiol. Pharmacol.* **42**, 327-331 (1991).
4. Kobzar, G., Mardla, V., Järving, I., *et al.* Antiaggregating potency of E-type prostaglandins in human and rabbit platelets. *Proc. Estonian Acad. Sci. Chem.* **40**, 179-180 (1991).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/13650

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

MATERIAL SAFETY DATA

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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