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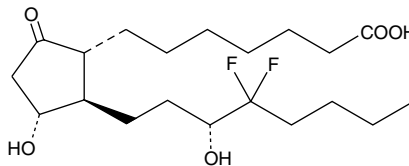
Product Information



13,14-dihydro-16,16-difluoro Prostaglandin E₁

Item No. 9000405

CAS Registry No.: 475992-30-4
Formal Name: 9-oxo-11 α ,15S-dihydroxy-16,16-difluoro-prostan-1-oic acid
Synonym: 15-hydroxy Lubiprostone
MF: C₂₀H₃₄F₂O₅
FW: 392.5
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-16,16-difluoro prostaglandin E₁ (PGE₁) be stored as supplied at -20°C. It should be stable for at least one year.

13,14-dihydro-16,16-difluoro PGE₁ is supplied as a solution in methyl acetate. To change the solvent, simply evaporate the methyl acetate under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as ethanol, DMSO, and dimethyl formamide (DMF) purged with an inert gas can be used. The solubility of 13,14-dihydro-16,16-difluoro PGE₁ in ethanol and DMF is approximately 10 mg/ml and approximately 5 mg/ml in DMSO.

13,14-dihydro-16,16-difluoro PGE₁ is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the ethanolic solution of 13,14-dihydro-16,16-difluoro PGE₁ should be diluted with the aqueous buffer of choice. 13,14-dihydro-16,16-difluoro PGE₁ has a solubility of approximately 0.5 mg/ml in a 1:1 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Prostaglandin E₁ (PGE₁) is produced by the metabolism of dihomo- γ -linolenic acid (DGLA) by the cyclooxygenase pathway. PGE₁ inhibits platelet aggregation (IC₅₀ = 40 nM)^{1,2} and increases vasodilation. 13,14-dihydro-16,16-difluoro PGE₁ is an analog of PGE₁. 13,14-dihydro PGE₁ is a biologically active metabolite of PGE₁, inhibiting platelet aggregation with comparable potency to the parent compound.^{2,3} The addition of two electron-withdrawing fluorine atoms, which should stabilize the molecule against hydrolytic cleavage, may be expected to delay degradation *in vivo*.⁴

References

1. Kobzar, G., Mardla, V., Järving, I., *et al.* Anti-aggregating potency of E-type prostaglandins in human and rabbit platelets. *Proc. Estonian Acad. Sci. Chem.* **40**, 179-180 (1991).
2. Westwick, J. The effect of pulmonary metabolites of prostaglandins E₁, E₂ and F_{2 α} on ADP-induced aggregation of human and rabbit platelets. *Br. J. Pharmacol.* **58**, 297P-298P (1976).
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. Hatano, Y., Kohli, J.D., Goldberg, L.I., *et al.* Vascular relaxing activity and stability studies of 10,10-difluoro-13,14-dehydroprostaglycin. *Proc. Natl. Acad. Sci. USA* **77(11)**, 6846-6850 (1980).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/9000405

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

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 Safety Data Sheet, which has been sent *via* email to your institution.

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