

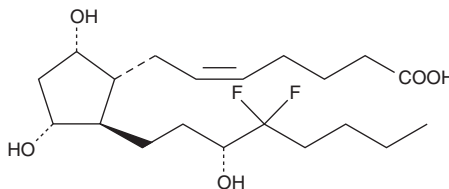
Product Information



13,14-dihydro-16,16-difluoro Prostaglandin F_{2α}

Catalog No. 13609

Formal Name:	9α,11α,15S-trihydroxy-16,16-difluoro-prosta-5Z-en-1-oic acid
Synonym:	13,14-dihydro-16,16-difluoro PGF _{2α}
MF:	C ₂₀ H ₃₄ F ₂ O ₅
FW:	392.5
Purity:	≥95%
Stability:	≥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 F_{2α} (13,14-dihydro-16,16-difluoro PGF_{2α}) be stored as supplied at -20°C. It should be stable for at least one year.

13,14-dihydro-16,16-difluoro PGF_{2α} 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 purged with an inert gas can be used. The solubility of 13,14-dihydro-16,16-difluoro PGF_{2α} in these solvents is approximately 10 mg/ml.

13,14-dihydro-16,16-difluoro PGF_{2α} is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the methyl acetate solution of 13,14-dihydro-16,16-difluoro PGF_{2α} should be diluted with the aqueous buffer of choice. 13,14-dihydro-16,16-difluoro PGF_{2α} has a solubility of approximately 0.1 mg/ml in a 1:10 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

PGF_{2α} causes contraction of vascular, bronchial, intestinal, and myometrial smooth muscle, and also exhibits potent luteolytic activity.^{1,2} 13,14-dihydro-16,16-difluoro PGF_{2α} is an analog of PGF_{2α}. While its biological activities have not been evaluated, it should be noted that the addition of two electron-withdrawing fluorine atoms has been used to stabilize prostanoids and significantly delay degradation *in vivo*.³ Importantly, 13,14-dihydro PGE₁ has activity that is comparable to that of PGE₁, suggesting that this analog of PGF_{2α} could be biologically active.^{4,5}

References

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2. Basu, S. Novel cyclooxygenase-catalyzed bioactive prostaglandin F_{2α} from physiology to new principles in inflammation. *Medicinal Research Reviews* **27**(4), 435-468 (2007).
3. Hatano, Y., Kohli, J.D., Goldberg, L.L., *et al.* Vascular relaxing activity and stability studies of 10,10-difluoro-13,14-dehydroprostacyclin. *Proc. Natl. Acad. Sci. USA* **77**(11), 6846-6850 (1980).
4. Änggård, E. The biological activities of three metabolites of prostaglandin E₁. *Acta Physiol. Scand.* **66**, 509-510 (1966).
5. Hamberg, M. and Samuelsson, B. On the metabolism of prostaglandins E₁ and E₂ in man. *J. Biol. Chem.* **246**, 6713-6721 (1971).

Related Products

13,14-dihydro-16,16-difluoro Prostaglandin D₂ - Cat. No. 13612 • 13,14-dihydro-16,16-difluoro Prostaglandin J₂ - Cat. No. 13635 • Prostaglandin F_{2α} - Cat. No. 16010 • 13,14-dihydro Prostaglandin F_{2α} - Cat. No. 16660

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