

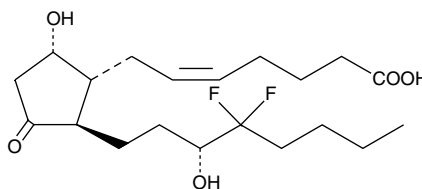
Product Information



13,14-dihydro-16,16-difluoro Prostaglandin D₂

Item No. 13612

Formal Name: 9 α ,15S-dihydroxy-11-oxo-16,16-difluoro-prosta-5Z-en-1-oic acid
Synonym: 13,14-dihydro-16,16-difluoro PGD₂
MF: C₂₀H₃₂F₂O₅
FW: 390.5
Purity: \geq 95%
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 D₂ (13,14-dihydro-16,16-difluoro PGD₂) be stored as supplied at -20°C. It should be stable for at least one year.

13,14-dihydro-16,16-difluoro PGD₂ 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 PGD₂ in these solvents is approximately 10 mg/ml.

13,14-dihydro-16,16-difluoro PGD₂ is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the methyl acetate solution of 13,14-dihydro-16,16-difluoro PGD₂ should be diluted with the aqueous buffer of choice. 13,14-dihydro-16,16-difluoro PGD₂ 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.

PGD₂ plays important roles in vascular smooth muscle relaxation, the inhibition of platelet aggregation, and anaphylaxis. 13,14-dihydro-16,16-difluoro PGD₂ is an analog of PGD₂. 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*.¹ Importantly, 13,14-dihydro PGE₁ has activity that is comparable to that of PGE₁, suggesting that this analog of PGD₂ could be biologically active.^{2,3}

References

1. Hatano, Y., Kohli, J.D., Goldberg, L.I., *et al.* Vascular relaxing activity and stability studies of 10,10-difluoro-13,14-dehydroprostaglyclin. *Proc. Natl. Acad. Sci. USA* **77**(11), 6846-6850 (1980).
2. Ånggård, E. The biological activities of three metabolites of prostaglandin E₁. *Acta Physiol. Scand.* **66**, 509-510 (1966).
3. Hamberg, M. and Samuelsson, B. On the metabolism of prostaglandins E₁ and E₂ in man. *J. Biol. Chem.* **246**, 6713-6721 (1971).

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