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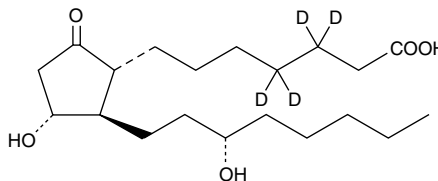
Product Information



13,14-dihydro Prostaglandin E₁-d₄

Item No. 9000281

Formal Name: 9-oxo-11 α ,15S-dihydroxy-prostan-1-oic-3,3,4,4-d₄ acid
Synonyms: 13,14-dh PGE₁-d₄, Prostaglandin E₀-d₄
MF: C₂₀H₃₆D₄O₅
FW: 360.5
Chemical Purity: \geq 98%
Deuterium Incorporation: \geq 99% deuterated forms (d₁-d₄); \leq 1% d₀
Stability: \geq 1 year at -20°C
Supplied as: A solution in methyl acetate



Laboratory Procedures

13,14-dihydro Prostaglandin E₁-d₄ (13,14-dh PGE₁-d₄) contains four deuterium atoms at the 3, 3', 4, and 4' positions. It is intended for use as an internal standard for the quantification of 13,14-dh PGE₁ by GC- or LC-mass spectrometry (MS). For long term storage, we suggest that 13,14-dh PGE₁-d₄ be stored as supplied at -20°C. It will be stable for at least one year.

13,14-dh PGE₁-d₄ 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-dh PGE₁-d₄ in these solvents is approximately 50 mg/ml.

13,14-dh PGE₁-d₄ is used as an internal standard for the quantification 13,14-dh PGE₁-d₄ by stable isotope dilution MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

13,14-dh PGE₁ is an inhibitor of ADP-induced platelet aggregation in human platelet-rich plasma and washed platelets with IC₅₀ values of 31 and 21 nM, respectively.¹ 13,14-dh PGE₁ is a slightly more potent inhibitor of ADP-induced human platelet aggregation than PGE₁ which has an IC₅₀ of 40 nM.² Also, 13,14-dh PGE₁ activates adenylate cyclase in NCB-20 hybrid cells with a K_{act} of 668 nM.³

References

1. Kobzar, G., Mardla, V., Järving, I., *et al.* Comparison of the inhibitory effect of E-prostaglandins in human and rabbit platelet-rich plasma and washed platelets. *Comp. Biochem. Physiol.* **106(2)**, 489-494 (1993).
2. 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).
3. Blair, I.A., Hensby, C.N., and MacDermot, J. Prostacyclin-dependent activation of adenylate cyclase in a neuronal somatic cell hybrid: Prostanoid structure-activity relationships. *Br. J. Pharmacol.* **69**, 519-525 (1980).

Related Products

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