

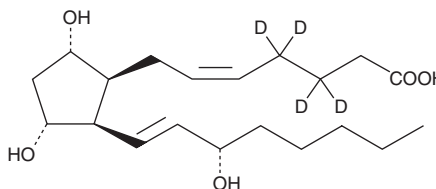
PRODUCT INFORMATION



8-iso Prostaglandin F_{2α}-d₄

Item No. 316350

CAS Registry No.: 211105-40-7
Formal Name: 9α,11α,15S-trihydroxy-(8β)-prosta-5Z,13E-dien-1-oic-3,3,4,4-d₄ acid
Synonyms: iPF_{2α}-III-d₄, 8-Isoprostane-d₄, 15-F_{2t}-Isoprostane-d₄, 8-*epi* PGF_{2α}-d₄
MF: C₂₀H₃₀D₄O₅
FW: 358.5
Chemical Purity: ≥97% (8-iso Prostaglandin F_{2α})
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₄); ≤1% d₀
Supplied as: A solution in methyl acetate
Storage: -20°C
Stability: ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

8-iso Prostaglandin F_{2α}-d₄ (8-iso PGF_{2α}-d₄) is intended for use as an internal standard for the quantification of 8-iso PGF_{2α} by GC- or LC-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).

8-iso PGF_{2α}-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 methyl acetate in these solvents is approximately 100 mg/ml.

Description

8-iso Prostaglandin F_{2α} (8-iso PGF_{2α}) is an isoprostane produced by the non-enzymatic peroxidation of arachidonic acid in membrane phospholipids.¹⁻³ It circulates in human plasma in two distinct forms - esterified in LDL phospholipids and as the free acid. The ratio of these two forms is approximately 2:1, with a total plasma 8-iso PGF_{2α} level of about 150 pg/ml in normal volunteers. In normal human urine, 8-iso PGF_{2α} levels are about 180-200 pg/mg of creatinine.^{1,2} 8-iso PGF_{2α} is a weak TP receptor agonist in vascular smooth muscle.⁴ Conversely, 8-iso PGF_{2α} inhibits platelet aggregation induced by U-46619 (10⁻⁶ M) and I-BOP (3 x 10⁻⁷ M) with IC₅₀ values of 1.6 x 10⁻⁶ M and 1.8 x 10⁻⁶ M, respectively.³

References

1. Morrow, J.D., Hill, K.E., Burk, R.F., *et al.* *Proc. Natl. Acad. Sci. USA* **87**(23), 9383-9387 (1990).
2. Morrow, J.D., Harris, T.M., and Roberts, L.J., II *Anal. Biochem.* **184**(1), 1-10 (1990).
3. Morrow, J.D., Minton, T.A., and Roberts, L.J., II *Prostaglandins* **44**(2), 155-163 (1992).
4. Kiriya, M., Ushikubi, F., Kobayashi, T., *et al.* *Br. J. Pharmacol.* **122**(2), 217-224 (1997).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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