

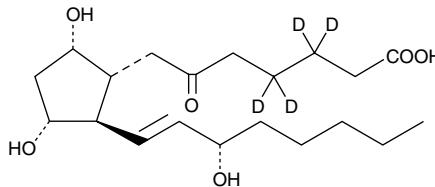
Product Information



6-keto Prostaglandin F_{1α}-d₄

Item No. 315210

Formal Name: 6-oxo-9α,11α,15S-trihydroxy-prost-13E-en-1-oic-3,3,4,4-d₄ acid
Synonym: 6-keto PGF_{1α}-d₄
MF: C₂₀H₃₀D₄O₆
FW: 374.5
Chemical Purity: ≥98%
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₄); ≤1% d₀
Stability: ≥1 year at -20°C
Supplied as: A solution in methyl acetate



Laboratory Procedures

6-keto Prostaglandin F_{1α}-d₄ (6-keto PGF_{1α}-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 PGF_{1α} by GC- or LC-mass spectrometry (MS). For long term storage, we suggest that 6-keto PGF_{1α}-d₄ be stored as supplied at -20°C. It should be stable for at least one year.

6-keto PGF_{1α}-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 6-keto PGF_{1α}-d₄ in these solvents is approximately 16 mg/ml.

6-keto PGF_{1α}-d₄ is used as an internal standard for the quantification of 6-keto PGF_{1α} by stable isotope dilution MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the weight indicated on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard 6-keto PGF_{1α} by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

6-keto PGF_{1α} is the inactive, non-enzymatic hydrolysis product of PGI₂.^{1,2} 6-keto PGF_{1α} serves as a useful marker of PGI₂ biosynthesis *in vivo*.³ When [³H]-PGI₂ is injected into healthy human males, 6.6% of the radioactivity is recovered from urine as [³H]-6-keto PGF_{1α}.³

References

1. Pace-Asciak, C.R. Isolation, structure, and biosynthesis of 6-ketoprostaglandin F_{1α} in the rat stomach. *J. Am. Chem. Soc.* 98, 2348-2349 (1976).
2. Johnson, R.A., Morton, D.R., Kinner, J.H., *et al.* The chemical structure of prostaglandin X (prostacyclin). *Prostaglandins* 12, 915-928 (1976).
3. Brash, A.R., Jackson, E.K., Saggese, C.A., *et al.* Metabolic disposition of prostacyclin in humans. *J. Pharmacol. Exp. Ther.* 226, 78-87 (1983).

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