

Product Information

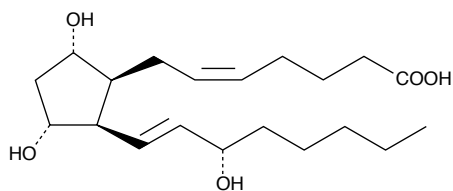


8-*iso*-Prostaglandin F_{2α} Quant-PAK

Catalog No. 10007652

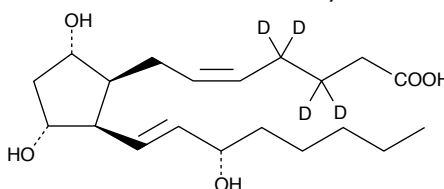
8-*iso*-Prostaglandin F_{2α}

CAS Registry No.: 27415-26-5
Formal Name: 9α,11α,15S-trihydroxy-(8β)-prosta-5Z,13E-dien-1-oic acid
Synonyms: 8-*epi* Prostaglandin F_{2α};
8-Isoprostane
MF: C₂₀H₃₄O₅
FW: 354.5
Purity: ≥99%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid



8-*iso*-Prostaglandin F_{2α}-d₄

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: 8-*epi* Prostaglandin F_{2α}-d₄;
8-Isoprostane-d₄
MF: C₂₀H₃₀D₄O₅
FW: 358.5
Chemical Purity: ≥98%
Deuterium Incorporation: ≤1% d₀
Stability: ≥1 year at -20°C
Supplied as: A solution in methyl acetate



This 8-*iso*-prostaglandin F_{2α} (8-*iso*-PGF_{2α}) Quant-PAK contains 50 μg of 8-*iso*-PGF_{2α}-d₄ and 2-4 mg of 8-*iso*-PGF_{2α} (please see the vial for exact amount and concentration). For long term storage, we suggest that 8-*iso*-PGF_{2α} and 8-*iso*-PGF_{2α}-d₄ be stored as supplied at -20°C. They will be stable for at least one year.

8-*iso*-PGF_{2α} is supplied as a crystalline solid. A stock solution may be made by dissolving the 8-*iso*-PGF_{2α} in an organic solvent purged with an inert gas. 8-*iso*-PGF_{2α} is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 8-*iso*-PGF_{2α} in these solvents is 100 mg/ml.

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 8-*iso*-PGF_{2α}-d₄ in these solvents is at least 100 mg/ml.

8-*iso*-PGF_{2α}-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 8-*iso*-PGF_{2α} by GC- or LC-mass spectrometry. The accuracy of the sample weight in the 8-*iso*-PGF_{2α}-d₄ vial is between 5% over and 2% under the weight indicated on the vial. For better precision we have provided a precisely weighed unlabeled 8-*iso*-PGF_{2α}, with the precise weight indicated on the vial. Using this vial the deuterated standard can be quantified by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

8-*iso* PGF_{2α} circulates in human plasma in two distinct forms - esterified in 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.⁴ 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.⁵ 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**, 9383-9387 (1990).
2. Morrow, J.D., Harris, T.M., Roberts, L.J., II. *Anal. Biochem.* **184**, 1-10 (1990).
3. Morrow, J.D., Minton, T.A., Roberts, L.J., II. *Prostaglandins* **44**, 155-163 (1992).
4. Morrow, J.D., Frei, B., Longmire, A.W., *et al.* *N. Engl. J. Med.* **332**, 1198-1203 (1995).
5. Kiriyama, M., Ushikubi, F., Kobayashi, T., *et al.* *Br. J. Pharmacol.* **122**, 217-224 (1997).

Related Products

8-*iso* Prostaglandin F_{2α} - Cat. No. 16350 • 8-*iso* Prostaglandin F_{2α}-d₄ - Cat. No. 316350 • 6-keto Prostaglandin F_{1α} Quant-PAK - Cat. No. 10006830 • Prostaglandin A₂ Quant-PAK - Cat. No. 10006840 • Prostaglandin B₂ Quant-PAK - Cat. No. 10006841 • Prostaglandin D₁ Quant-PAK - Cat. No. 10006842 • Prostaglandin D₂ Quant-PAK - Cat. No. 10006843 • Prostaglandin E₁ Quant-PAK - Cat. No. 10006844 • 13,14-dihydro Prostaglandin E₁ Quant-PAK - Cat. No. 10006845 • Prostaglandin E₂ Quant-PAK - Cat. No. 10006846 • Prostaglandin F_{2α} Quant-PAK - Cat. No. 10006848 • 15-deoxy-Δ^{12,14}-Prostaglandin J₂ Quant-PAK - Cat. No. 10006850

WARNING: THIS PRODUCT IS NOT INTENDED OR APPROVED FOR HUMAN OR VETERINARY USE. USE OF THIS PRODUCT FOR HUMAN OR ANIMAL TESTING IS EXTREMELY HAZARDOUS AND MAY RESULT IN DISEASE, SEVERE INJURY, OR DEATH.

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent under separate cover to the MSDS supervisor at your institution.

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Cayman Chemical Company makes no warranty or guarantee of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman warrants only to the original customer that the material will meet our specifications at the time of delivery.

Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have any obligation or liability, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

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Buyer's exclusive remedy and Cayman's sole liability hereunder shall be limited to a refund of the purchase price, or at Cayman's option, the replacement, at no cost to Buyer, of all material that does not meet our specifications.

Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

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