

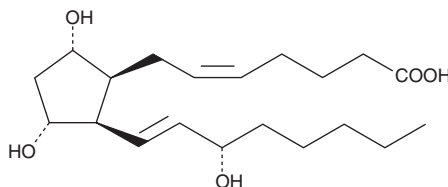
Product Information



8-iso Prostaglandin F_{2α}

Item No. 16350

CAS Registry No.: 27415-26-5
Formal Name: 9α,11α,15S-trihydroxy-(8β)-prosta-5Z,13E-dien-1-oic acid
Synonyms: iPF_{2α}-III, 8-*epi* Prostaglandin F_{2α}, 8-Isoprostane, 15-F2t-isoprostane
MF: C₂₀H₃₄O₅
FW: 354.5
Purity: ≥ 99%
Stability: ≥ 2 years at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

For long term storage, we suggest that 8-*iso* Prostaglandin F_{2α} (8-*iso* PGF_{2α}) be stored as supplied at -20°C. It will be stable for at least two years.

8-*iso* PGF_{2α} is supplied as a crystalline solid. Stock solutions of 8-*iso* PGF_{2α} can be prepared by dissolving the crystalline solid in the solvent of choice. Solvents such as ethanol, DMSO, or dimethyl formamide purged with an inert gas can be used. The solubility of 8-*iso* PGF_{2α} in these solvents is approximately 100 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant since organic solvents may have physiological effects at low concentrations. If an organic solvent-free solution of 8-*iso* PGF_{2α} is needed, it can be prepared by directly dissolving the crystalline compound in aqueous buffers. The solubility of 8-*iso* PGF_{2α} in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

8-*iso* PGF_{2α} is an isoprostane produced by the non-enzymatic peroxidation of arachidonic acid in membrane phospholipids.¹⁻³ 8-*iso* PGF_{2α} 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.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.* A series of prostaglandin F₂-like compounds are produced *in vivo* in humans by a non-cyclooxygenase, free radical-catalyzed mechanism. *Proc. Natl. Acad. Sci. USA* **87**, 9383-9387 (1990).
2. Morrow, J.D., Harris, T.M., Roberts, L.J., II. Noncyclooxygenase oxidative formation of a series of novel prostaglandins: Analytical ramifications for measurement of eicosanoids. *Anal. Biochem.* **184**, 1-10 (1990).
3. Morrow, J.D., Minton, T.A., Roberts, L.J., II. The F₂-isoprostane, 8-*epi*-prostaglandin F_{2α}, a potent agonist of the vascular thromboxane/endoperoxide receptor, is a platelet thromboxane/endoperoxide receptor antagonist. *Prostaglandins* **44**, 155-163 (1992).
4. Morrow, J.D., Frei, B., Longmire, A.W., *et al.* Increase in circulating products of lipid peroxidation (F₂-isoprostanes) in smokers. *N. Engl. J. Med.* **332**, 1198-1203 (1995).
5. Kiriya, M., Ushikubi, F., Kobayashi, T., *et al.* Ligand binding specificities of the eight types and subtypes of the mouse prostanoid receptors expressed in Chinese hamster ovary cells. *Br. J. Pharmacol.* **122**, 217-224 (1997).

Related Products

Prostaglandin F_{2α} - Item No. 16010 • 8-*iso* Prostaglandin F_{2β} - Item No. 16370 • U-46619 - Item No. 16450 • Prostaglandin H₂ - Item No. 17020 • Carbocyclic Thromboxane A₂ - Item No. 19010 • I-BOP - Item No. 19600 • Arachidonic Acid - Item No. 90010 • [³H]-8-*iso* Prostaglandin F_{2α} - Item No. 216350 • 8-*iso* Prostaglandin F_{2α}-d₄ - Item No. 316350 • 8-Isoprostane Affinity Column - Item No. 416358 • 8-Isoprostane Affinity Sorbent - Item No. 416359 • 8-Isoprostane EIA Kit - Item No. 516351 • 8-Isoprostane EIA Kit (Solid Plate) - Item No. 516351.1 • 8-Isoprostane Affinity Purification Kit - Item No. 516358 • 17-phenoxyl trimer Prostaglandin F_{2α} ethyl amide - Item No. 10010742

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY; NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

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 *via* email to your institution.

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