

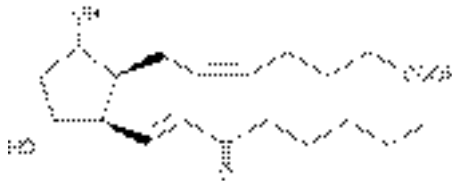
Product Information



8-iso-15-keto Prostaglandin F_{2α}

Item No. 16390

Formal Name:	9α,11α-dihydroxy-15-oxo-(8β)-prosta-5Z,13E-dien-1-oic acid
MF:	C ₂₀ H ₃₂ O ₅
FW:	352.5
Purity:	≥95%
Stability:	≥1 year at -20°C
Supplied as:	A solution in methyl acetate
UV/Vis.:	λ _{max} : 230 nm ε: 17,000



Laboratory Procedures

For long term storage, we suggest that 8-iso-15-keto Prostaglandin F_{2α} (8-iso-15-keto PGF_{2α}) be stored as supplied at -20°C. It will be stable for at least one year.

8-iso-15-keto PGF_{2α} 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, or dimethyl formamide purged with an inert gas can be used. The solubility of 8-iso-15-keto 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 aqueous solution of 8-iso-15-keto PGF_{2α} is needed, it can be prepared by evaporating the methyl acetate and directly dissolving the neat oil in aqueous buffers. The solubility of 8-iso-15-keto PGF_{2α} in PBS (pH 7.2) is approximately 10 mg/ml. For greater aqueous solubility, 8-iso-15-keto PGF_{2α} can be directly dissolved in 10 mM Na₂CO₃ (6.5 mg/ml) and then diluted with PBS (pH 7.2) to achieve the desired concentration or pH. We do not recommend storing the aqueous solution for more than one day.

8-iso-15-keto PGF_{2α} is a metabolite of the isoprostane 8-iso PGF_{2α} in rabbits, monkeys, and humans. 8-isoprostane (8-iso PGF_{2α}) is a prostaglandin-like product of non-specific lipid peroxidation.¹ In both humans and monkeys, exogenously infused 8-iso PGF_{2α} is converted primarily to metabolites having 2 or 4 carbon atoms removed from the top side chain by β-oxidation.² A similar pattern is observed when tritiated 8-iso PGF_{2α} is infused into rabbits.³ Early in the infusion (within 1-2 minutes) 8-iso-15-keto PGF_{2α} was a major component of the metabolite profile, which was comprised mostly of unmetabolized 8-iso PGF_{2α}. 8-iso-15-keto PGF_{2α} is a vasoconstrictor when tested on the rat isolated thoracic aorta, acting *via* the TP (thromboxane) receptor.⁴

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. Chiabrando, C., Valagussa, A., Rivalta, C., *et al.* Identification and measurement of endogenous β-oxidation metabolites of 8-*epi*-prostaglandin F_{2α}. *J. Biol. Chem.* **274**, 1313-1319 (1999).
3. Basu, S. Metabolism of 8-*iso*-prostaglandin F_{2α}. *FEBS Lett.* **428**, 32-36 (1998).
4. Cracowski, J.-L., Camus, L., Durand, T., *et al.* Response of rat thoracic aorta to F₂-isoprostane metabolites. *J. Cardiovasc. Pharmacol.* **39**, 396-403 (2002).

Related Product

8-iso-15-keto Prostaglandin E₂ - Item No. 14390

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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