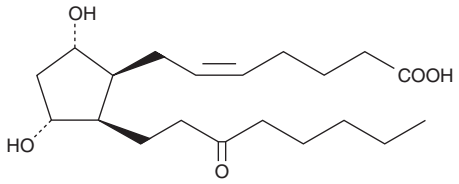
PRODUCT INFORMATION

8-*iso*-13,14-dihydro-15-keto Prostaglandin $F_{2\alpha}$

Item No. 16380

CAS Registry No.: 191919-02-5
Formal Name: (8β)-9α,11α-dihydroxy-15-oxo-prost-5Z-en-1-oic acid
Synonyms: 8-*iso*-13,14-dihydro-15-keto $PGF_{2\alpha}$
MF: $C_{20}H_{34}O_5$
FW: 354.5
Purity: ≥98%
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*-13,14-dihydro-15-keto Prostaglandin $F_{2\alpha}$ (8-*iso*-13,14-dihydro-15-keto $PGF_{2\alpha}$) 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*-13,14-dihydro-15-keto $PGF_{2\alpha}$ in these solvents is approximately 100 mg/ml. The solubility of 8-*iso*-13,14-dihydro-15-keto $PGF_{2\alpha}$ in 10 mM Na_2CO_3 is approximately 6.5 mg/ml.

8-*iso*-13,14-dihydro-15-keto $PGF_{2\alpha}$ is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the methyl acetate solution of 8-*iso*-13,14-dihydro-15-keto $PGF_{2\alpha}$ should be diluted with the aqueous buffer of choice. The solubility of 8-*iso*-13,14-dihydro-15-keto $PGF_{2\alpha}$ in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

8-*iso*-13,14-dihydro-15-keto $PGF_{2\alpha}$ is a metabolite of the isoprostane, 8-isoprostane (8-*iso* $PGF_{2\alpha}$), in rabbits, monkeys and humans.[1] 8-*iso* $PGF_{2\alpha}$ is a PG-like product of non-specific lipid peroxidation.[2] In both humans and monkeys, exogenously infused 8-isoprostane is converted primarily to metabolites having 2 or 4 carbon atoms removed from the top side chain by β-oxidation.[1] A similar pattern is observed when tritiated 8-isoprostane is infused into rabbits.[3] Early in the infusion (within 10 minutes) 8-*iso*-13,14-dihydro-15-keto $PGF_{2\alpha}$ was a significant component of the metabolite profile, which was comprised mostly of dinor 8-isoprostane metabolites. 8-*iso*-13,14-dihydro-15-keto $PGF_{2\alpha}$ weakly inhibits the U-46619 or collagen-induced aggregation of human platelets, although a number of the E-series isoprostanes are much more potent in this assay.[4]

References

1. Chiabrando, C., Valagussa, A., Rivalta, C., *et al.* Identification and measurement of endogenous β-oxidation metabolites of 8-*epi*-prostaglandin F2α. *J. Biol. Chem.* **274(3)**, 1313-1319 (1999).
2. Morrow, J.D., Hill, K.E., Burk, R.F., *et al.* A series of prostaglandin F_2-like compounds are produced *in vivo* in humans by a non-cyclooxygenase, free radical-catalyzed mechanism. *Proc. Natl. Acad. Sci. USA* **87(23)**, 9383-9387 (1990).
3. Basu, S. Metabolism of 8-iso-prostaglandin $F_{2\alpha}$. *FEBS Lett.* **428(112)**, 32-36 (1998).
4. Cranshaw, J.H., Evans, T.W., and Mitchell, J.A. Charcterization of the effects of isoprostanes on platelet aggregation in human whole blood. *Br. J. Pharmacol.* **132(8)**, 1699-1706 (2001).

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