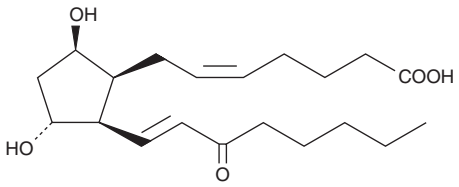
PRODUCT INFORMATION

8-*iso*-15-keto Prostaglandin $F_{2\beta}$

Item No. 10008539

CAS Registry No.: 1621482-36-7
Formal Name: 9β,11α-dihydroxy-15-oxo-(8β)-prosta-5Z,13E-dien-1-oic acid
MF: $C_{20}H_{32}O_5$
FW: 352.5
Purity: ≥95%
UV/Vis.: λ_{max}: 234 nm
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*-15-keto Prostaglandin $F_{2\beta}$ (8-*iso*-15-keto $PGF_{2\beta}$) 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*-15-keto $PGF_{2\beta}$ in these solvents is approximately 50 mg/ml.

8-*iso*-15-keto $PGF_{2\beta}$ is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the methyl actetate solution of 8-*iso*-15-keto $PGF_{2\beta}$ should be diluted with the aqueous buffer of choice. The solubility of 8-*iso*-15-keto $PGF_{2\beta}$ in PBS (pH 7.2) is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

8-*iso* $PGF_{2\beta}$ is an isomer of $PGF_{2\alpha}$ of non-enzymatic origin. It is one of 64 possible isomers of $PGF_{2\alpha}$ which can be produced by free radical peroxidation of arachidonic acid. 8-*iso* $PGF_{2\beta}$ exhibits very weak contraction of human umbilical vein artery and does not promote aggregation of human whole blood.[1,2] However, 8-*iso* $PGF_{2\beta}$ moderately contracts both the canine and porcine pulmonary vein, although the effect is much weaker than that exhibited by other isoprostanes such as 8-*iso* PGE_1, 8-*iso* PGE_2, or 8-*iso* $PGF_{2\alpha}$.[3,4] 8-*iso*-15-keto $PGF_{2\beta}$ is a potential metabolite of 8-*iso* $PGF_{2\beta}$ *via* the 15-hydroxy PG dehydrogenase pathway. There are no published reports on the formation or biological activity of 8-*iso*-15-keto $PGF_{2\beta}$.

References

1. Oliveira, L., Stallwood, N.A., and Crankshaw, D.J. Effects of some isoprostanes on the human umbilical artery *in vitro*. *Br. J. Pharmacol.* **129(3)**, 509-514 (2000).
2. 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).
3. Janssen, L.J., Premji, M., Netherton, S., *et al.* Vasoconstrictor actions of isoprostanes *via* tyrosine kinase and Rho kinase in human and canine pulmonary vascular smooth muscles. *Br. J. Pharmacol.* **132(1)**, 127-134 (2001).
4. Janssen, L.J., and Tazzeo, T. Involvement of TP and EP_3 receptors in vasoconstrictor responses to isoprostanes in pulmonary vasculature. *J. Pharmacol. Exp. Ther.* **301(3)**, 1060-1066 (2002).

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