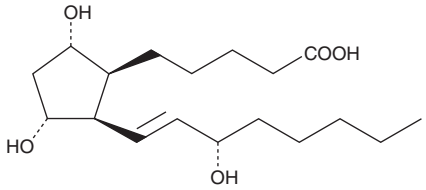
PRODUCT INFORMATION

2,3-dinor-8-*iso* Prostaglandin $F_{1\alpha}$

Item No. 15290

CAS Registry No.: 221664-04-6
Formal Name: 3R,5S-dihydroxy-2R-[(1E,3S)-3-hydroxy-1S-octen-1-yl]-cyclopentanepentanoic acid
Synonyms: 2,3-dinor-5,6-dihydro-15-F_{2t}-IsoP, 2,3-dinor-5,6-dihydro-15-F_{2t}-Isoprostane, 2,3-dinor-iP$F_{1\alpha}$-III, 2,3-dinor-8-*iso* $PGF_{1\alpha}$
MF: $C_{18}H_{32}O_5$
FW: 328.4
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

2,3-dinor-8-*iso* Prostaglandin $F_{1\alpha}$ (2,3-dinor-8-*iso* $PGF_{1\alpha}$) 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 (DMF) purged with an inert gas can be used. The solubility of 2,3-dinor-8-*iso* $PGF_{1\alpha}$ in ethanol is approximately 75 mg/ml and approximately 50 mg/ml in DMSO and DMF.

2,3-dinor-8-*iso* $PGF_{1\alpha}$ is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the methyl acetate solution of 2,3-dinor-8-*iso* $PGF_{1\alpha}$ should be diluted with the aqueous buffer of choice. The solubility of 2,3-dinor-8-*iso* $PGF_{1\alpha}$ in PBS (pH 7.2) is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

2,3-dinor-8-*iso* $PGF_{1\alpha}$ is an isoprostane and active metabolite of arachidonic acid (Item Nos. 90010 | 90010.1 | 10006607) and the platelet aggregation inhibitor 8-*iso* $PGF_{2\alpha}$ (Item No. 16350).[1,2] It is formed by the non-enzymatic, free radical peroxidation of arachidonic acid.[1] 2,3-dinor-8-*iso* $PGF_{1\alpha}$ induces vasoconstriction in isolated porcine retinal and brain microvessels (EC_{50}s = 12.8 and 18.5 nM, respectively) but does not induce contraction of isolated rat aortic rings when used at a concentration of 31 µM.[1,3] It increases thromboxane B_2 (TXB_2; Item No. 19030) levels in isolated porcine brain slices when used at a concentration of 1 µM, an effect that can be reversed by the thromboxane A synthase inhibitor CGS 12970, the voltage-gated calcium channel inhibitor SKF 96365 (Item No. 10009312), or nicotinic acetylcholine receptor (nAChR) antagonist α-conotoxin.[1]

References

1. Hou, X., Roberts, L.J., 2nd., Taber, D.F., *et al.* 2,3-Dinor-5,6-dihydro-15-F_{2t}-isoprostane: A bioactive prostanoid metabolite. *Am. J. Physiol. Regul. Integr. Comp. Physiol.* **281(2)**, R391-R400 (2001).
2. Roberts, L.J., II, Moore, K.P., Zackert, W.E., *et al.* Identification of the major urinary metabolite of the F_2-isoprostane 8-iso-prostaglandin $F_{2\alpha}$ in humans. *J. Biol. Chem.* **271(34)**, 20617-20620 (1996).
3. Cracowski, J.L., Camus, L., Durand, T., *et al.* Response of rat thoracic aorta to F_2-isoprostane metabolites. *J. Cardiovasc. Pharmacol.* **39(3)**, 396-403 (2002).

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