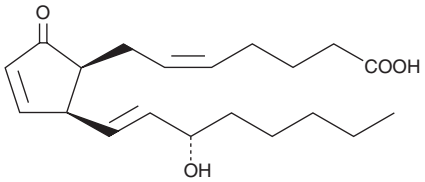
PRODUCT INFORMATION

8-*iso* Prostaglandin A_2

Item No. 10235

CAS Registry No.:	474391-66-7
Formal Name:	(8β)-15S-hydroxy-9-oxo-prosta-5Z,10,13E-trien-1-oic acid
Synonyms:	A_2 Isoprostane, 15-A_{2t}-IsoP, 15-A_{2t}-Isoprostane, 8-*epi* PGA_2, 8-*iso* PGA_2
MF:	$C_{20}H_{30}O_4$
FW:	334.5
Purity:	≥98%
UV/Vis.:	λ_{max}: 217 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* Prostaglandin A_2 (8-*iso* PGA_2) 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* PGA_2 in these solvents is approximately 100, 50, and 75 mg/ml, respectively.

8-*iso* PGA_2 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the 8-*iso* PGA_2 solution of methyl acetate should be diluted with the aqueous buffer of choice. The solubility of 8-*iso* PGA_2 in PBS (pH 7.2) is approximately 2.5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

8-*iso* PGA_2 is an isoprostane. It is produced by the non-enzymatic oxidation of arachidonic acid (Item Nos. 90010 | 90010.1 | 10006607).[1,2] 8-*iso* PGA_2 (100 µM) induces calcium influx in HEK293 cells expressing human transient receptor potential ankyrin 1 (TRPA1) and isolated mouse trigeminal neurons.[3] It potentiates glutamate-induced cytotoxicity and decreases glutathione (GSH) levels in HT22 hippocampal cells when used at concentrations of 1 and 30 µM, respectively.[4] 8-*iso* PGA_2 (10 µM) inhibits VEGF-induced migration and tube formation of human coronary artery endothelial cells, an effect that can be reversed by the TP receptor antagonist SQ 29,548 (Item No. 19025).[5]

References

1. Chen, Y., Morrow, J.D., and Roberts, L.J., II *J. Biol. Chem.* **274(16)**, 10863-10868 (1999).
2. Chen, Y., Zackert, W.E., Robers, L.J., II, *et al. Biochim. Biophys. Acta* **1436(3)**, 550-556 (1999).
3. Taylor-Clark, T.E., Undem, B.J., MacGlashan, D.W., Jr., *et al. Mol. Pharmacol.* **73(2)**, 274-281 (2008).
4. Musiek, E.S., Breeding, R.S., Milne, G.L., *et al. J. Neurochem.* **97**, 1301-1313 (2006).
5. Benndorf, R.A., Schwedhelm, E., Gnann, A., *et al. Circ. Res.* **103(9)**, 1037-1046 (2008).

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