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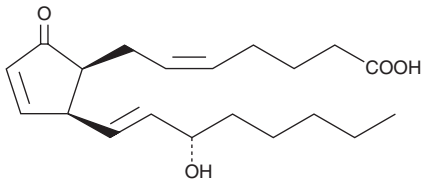
PRODUCT INFORMATION

8-*iso* Prostaglandin A_2

Item No. 10235

CAS Registry No.: 474391-66-7
Formal Name: 9-oxo-15S-hydroxy-(8β)-prosta-5Z,10,13E-trien-1-oic acid
Synonym: 8-*epi* PGA_2
MF: $C_{20}H_{30}O_4$
FW: 334.5
Purity: ≥98%
Stability: ≥1 year at -20°C
Supplied as: A solution in methyl acetate
UV/Vis.: λ_{max}: 217 nm



Laboratory Procedures

For long term storage, we suggest that 8-*iso* prostaglandin A_2 (8-*iso* PGA_2) be stored as supplied at -20°C. It should be stable for at least one year.

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.

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 solution of 8-*iso* PGA_2 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* PGA_2 in PBS, pH 7.2, is approximately 2.4 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Isoprostanes are PG-like compounds produced *in vivo* by free radical-catalyzed peroxidation of arachidonoyl-containing lipids. 8-*iso* PGA_2 is one of several isoprostanes produced from peroxidation of arachidonic acid esterified in phospholipids.[1] 8-*iso* PGA_2 is the dehydration product of 8-*iso* PGE_2, a potent renal vasoconstrictor.[2] Evidence for the *in vivo* production of 8-*iso* PGA_2 has been shown in rat liver under conditions of oxidative stress.[3] There are no published studies of the pharmacological properties of 8-*iso* PGA_2.

References

1. Morrow, J.D., Minton, T.A., Mukundan, C.R., *et al.* Free radical-induced generation of isoprostanes *in vivo*. Evidence for the formation of D-ring and E-ring isoprostanes. *J. Biol. Chem.* **269**, 4317-4326 (1994).
2. Longmire, A.W., Roberts, L.J., and Morrow, J.D. Actions of the E_2-isoprostane, 8-*iso*-PGE_2, on the platelet thromboxane/endoperoxide receptor in humans and rats: Additional evidence for the existence of a unique isoprostane receptor. *Prostaglandins* **48**, 247-256 (1994).
3. Chen, Y., Zackert, W.E., Robers, L.J.II., *et al.* Evidence for the formation of a novel cyclopentenone isoprostane, 15-A_{2t}-isoprostane (8-*iso*-prostaglandin A_2) *in vivo*. *Biochem. Biophys. Acta* **1436**, 550-556 (1999).

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