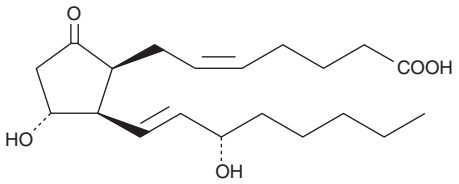
PRODUCT INFORMATION

8-*iso* Prostaglandin E_2

Item No. 14350

CAS Registry No.: 27415-25-4
Formal Name: (8β)-11α,15S-dihydroxy-9-oxo-prosta-5Z,13E-dien-1-oic acid
Synonyms: 8-*iso* PGE_2, 8-*epi* PGE_2
MF: $C_{20}H_{32}O_5$
FW: 352.5
Purity: ≥99%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

8-*iso* Prostaglandin E_2 (8-*iso* PGE_2) is supplied as a crystalline solid. A stock solution may be made by dissolving the 8-*iso* PGE_2 in the solvent of choice, which should be purged with an inert gas. 8-*iso* PGE_2 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 8-*iso* PGE_2 in these solvents is approximately 100 mg/ml.

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. Organic solvent-free aqueous solutions of 8-*iso* PGE_2 can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 8-*iso* PGE_2 in PBS (pH 7.2) is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

8-*iso* PGE_2 is one of several isoprostanes produced from arachidonic acid during lipid peroxidation.[1] It is a potent renal vasoconstrictor in the rat.[1,2] 8-*iso* PGE_2 inhibits U-46619 or I-BOP-induced platelet aggregation with IC_{50} values of 0.5 and 5 µM, respectively.[3] When infused into the renal artery of the rat at a concentration of 4 µg/kg/min, 8-iso PGE_2 decreases the GFR and renal plasma flow by 80% without affecting blood pressure.[1]

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(6)**, 4317-4326 (1994).
2. Hoffman, S.W., Moore, S., and Ellis, E.F. Isoprostanes: Free radical-generated prostaglandins with constrictor effects on cerebral arterioles. *Stroke* **28(4)**, 844-84 (1997).
3. 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(4)**, 247-256 (1994).

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