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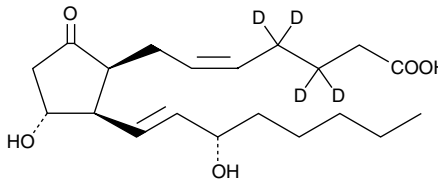
Product Information



8-iso Prostaglandin E₂-d₄

Item No. 10011321

Formal Name: 9-oxo-11 α ,15S-dihydroxy-(8 β)-prosta-5Z,13E-dien-1-oic-3,3,4,4-d₄ acid
Synonyms: 8-*epi* PGE₂-d₄, 8-*iso* PGE₂-d₄
MF: C₂₀H₂₈D₄O₅
FW: 356.5
Chemical Purity: \geq 98% 8-*iso* Prostaglandin E₂
Deuterium Incorporation: \geq 99% deuterated forms (d₁-d₄); \leq 1% d₀
Stability: \geq 1 year at -20°C
Supplied as: A solution in methanol



Laboratory Procedures

8-*iso* Prostaglandin E₂-d₄ (8-*iso* PGE₂-d₄) contains four deuterium atoms at the 3, 3', 4, and 4' positions. It is intended for use as an internal standard for the quantification of 8-*iso* PGE₂ by GC- or LC-mass spectrometry (MS). For long term storage, we suggest that 8-*iso* PGE₂-d₄ be stored as supplied at -80°C. It should be stable for at least one year.

8-*iso* PGE₂-d₄ is supplied as a solution in methanol. To change the solvent, simply evaporate the methanol 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* PGE₂-d₄ in these solvents is approximately 100 mg/ml.

8-*iso* PGE₂-d₄ is used as an internal standard for the quantification of 8-*iso* PGE₂ by stable isotope dilution MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

8-*iso* PGE₂ 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* PGE₂ inhibits U-46619 or I-BOP-induced platelet aggregation with IC₅₀ values of 0.5 and 5 μ M, respectively.³ When infused into the renal artery of the rat at a concentration of 4 mg/kg/min, 8-*iso* PGE₂ decreases the GFR and renal plasma flow by 80% without affecting blood pressure.¹

References

- 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).
- Hoffman, S.W., Moore, S., and Ellis, E.F. Isoprostanes: Free radical-generated prostaglandins with constrictor effects on cerebral arterioles. *Stroke* **28**, 844-84 (1997).
- Longmire, A.W., Roberts, L.J., and Morrow, J.D. Actions of the E₂-isoprostane, 8-*iso*-PGE₂, 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).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/10011321

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY; NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent *via* email to your institution.

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