

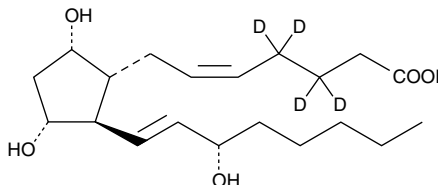
Product Information



Prostaglandin F_{2α}-d₄ Lipid Maps MS Standard

Item No. 10007275

CAS Registry No.: 34210-11-2
Formal Name: 9α,11α,15S-trihydroxy-prosta-5Z,13E-dien-1-oic-3,3,4,4-d₄ acid
Synonyms: Dinoprost-d₄, PGF_{2α}-d₄
MF: C₂₀H₃₀D₄O₅
FW: 358.5
Chemical Purity: ≥99% Prostaglandin F_{2α}
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₄); ≤1% d₀
Stability: ≥1 year at -20°C
Supplied as: A solution in methyl acetate



Laboratory Procedures

Prostaglandin F_{2α}-d₄ (PGF_{2α}-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 PGF_{2α} by GC- or LC-mass spectrometry (MS). For long term storage, we suggest that PGF_{2α}-d₄ be stored as supplied at -20°C. It should be stable for at least one year.

PGF_{2α}-d₄ 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 PGF_{2α}-d₄ in these solvents is approximately 100 mg/ml.

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

PGF_{2α} is a widely distributed PG occurring in many species.¹⁻³ It causes contraction of vascular, bronchial, intestinal, and myometrial smooth muscle, and also exhibits potent luteolytic activity.¹ PGF_{2α} exerts its receptor mediated physiological activity at 50-100 nM.¹ Maximal ovine myometrial contraction can be achieved at 125 nM PGF_{2α} *in vitro*.⁴

References

1. Samuelsson, B., Goldyne, M., Granström, E., *et al.* Prostaglandins and thromboxanes. *Annu. Rev. Biochem.* **47**, 997-1029 (1978).
2. Speroff, L. and Ramwell, P.W. Prostaglandins in reproductive physiology. *Am. J. Obstet. Gynecol.* **107**, 1111-1130 (1970).
3. Watanabe, K., Iguchi, Y., Iguchi, S., *et al.* Stereospecific conversion of prostaglandin D₂ to (5Z,13E)-(15S)-9α,11β,15-trihydroxyprosta-5,13-dien-1-oic acid (9α,11β-prostaglandin F₂) and of prostaglandin H₂ to prostaglandin F_{2α} by bovine lung prostaglandin F synthase. *Proc. Natl. Acad. Sci. USA* **83**, 1583-1587 (1986).
4. Crankshaw, D.J. and Gaspar, V. Pharmacological characterization *in vitro* of prostanoid receptors in the myometrium of nonpregnant ewes. *J. Reprod. Fertil.* **103**, 55-61 (1995).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/10007275

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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