

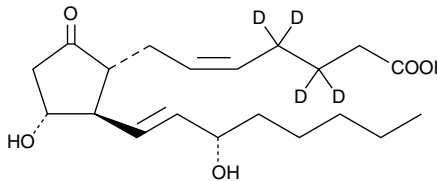
Product Information



Prostaglandin E₂-d₄

Item No. 314010

CAS Registry No.: 34210-10-1
Formal Name: 9-oxo-11 α ,15S-dihydroxy-prosta-5Z,13E-dien-1-oic-3,3,4,4-d₄ acid
Synonyms: Dinoprostone-d₄, PGE-d₄
MF: C₂₀H₂₈D₄O₅
FW: 356.5
Chemical Purity: ≥97% Prostaglandin E₂
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 E₂-d₄ (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 PGE₂ by GC- or LC-mass spectrometry (MS). For long term storage, we suggest that PGE₂-d₄ be stored as supplied at -20°C. It should be stable for at least one year.

PGE₂-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 PGE₂-d₄ in these solvents is approximately 100 mg/ml.

PGE₂-d₄ is used as an internal standard for the quantification of PGE₂ 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 PGE₂ by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

PGE₂ is one of the primary cyclooxygenase products of arachidonic acid and one of the most widely investigated PGs. Its activity influences inflammation, fertility and parturition, gastric mucosal integrity, and immune modulation.¹⁻⁴ The effects of PGE₂ are transduced by at least four distinct receptors designated EP₁, EP₂, EP₃, and EP₄.⁵ The affinity constants (K_d) of PGE₂ for these receptors range from 1-10 nM depending on the receptor subtype and tissue.

References

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- Coleman, R.A., Smith, W.L., and Narumiya, S. Classification of prostanoid receptors: Properties, distribution, and structure of the receptors and their subtypes. *Pharmacol. Rev.* **46**, 205-229 (1994).

Related Products

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

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 Safety Data Sheet, which has been sent *via* email to your institution.

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Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

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