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Product Information

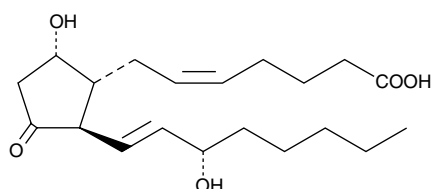


Prostaglandin D₂ Quant-PAK

Item No. 10006843

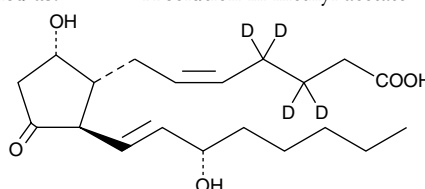
Prostaglandin D₂

CAS Registry No.: 41598-07-6
Formal Name: 9 α ,15S-dihydroxy-11-oxo-prosta-5Z,13E-dien-1-oic acid
Synonym: PGD₂
MF: C₂₀H₃₂O₅
FW: 352.5
Purity: \geq 98%
Stability: \geq 1 year at -20°C
Supplied as: A crystalline solid



Prostaglandin D₂-d₄

CAS Registry No.: 211105-29-2
Formal Name: 9 α ,15S-dihydroxy-11-oxo-prosta-5Z,13E-dien-3,3,4,4-1-oic-d₄ acid
Synonym: PGD₂-d₄
MF: C₂₀H₂₈D₄O₅
FW: 356.5
Chemical Purity: \geq 99% Prostaglandin D₂
Deuterium Incorporation: \geq 99% deuterated forms (d₁-d₄); \leq 1% d₀
Stability: \geq 1 year at -20°C
Supplied as: A solution in methyl acetate



This prostaglandin D₂ (PGD₂) Quant-PAK contains 50 μ g of PGD₂-d₄ and 2-4 mg of PGD₂ (please see the vial for exact amount and concentration). For long term storage, we suggest that PGD₂ and PGD₂-d₄ be stored as supplied at -20°C. They will be stable for at least one year.

PGD₂ is supplied as a crystalline solid. A stock solution may be made by dissolving the PGD₂ in an organic solvent purged with an inert gas. PGD₂ is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of PGD₂ in these solvents is 75, 50, and 100 mg/ml, respectively.

PGD₂-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 PGD₂-d₄ in these solvents is 75, 50, and 100 mg/ml, respectively.

PGD₂-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 PGD₂ by GC- or LC-mass spectrometry. The accuracy of the sample weight in the PGD₂-d₄ vial is between 5% over and 2% under the weight indicated on the vial. For better precision we have provided a precisely weighed unlabeled PGD₂, with the precise weight (2-4 mg) indicated on the vial. Using this vial the deuterated standard can be quantified by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

PGD₂ is the major eicosanoid product of mast cells and is released in large quantities during allergic and asthmatic anaphylaxis.¹ Mastocytosis patients produce excessive amounts of PGD₂, which causes vasodilation, flushing, hypotension, and syncopal episodes.¹ PGD₂ is also produced in the brain *via* an alternative pathway involving a soluble, secreted PGD-synthase also known as β -trace.^{2,3} In the brain, PGD₂ produces normal physiological sleep and lowering of body temperature.^{2,3} Further pharmacological actions include inhibition of platelet aggregation and relaxation of vascular smooth muscle.⁴ PGD₂ inhibits human ovarian tumor cell proliferation with an IC₅₀ of 6.8 μ M.⁵

References

1. Roberts, L.J., II and Sweetman, B.J. *Prostaglandins* **30**, 383-400 (1985).
2. Hayaishi, O. *J. Biol. Chem.* **263**, 14593-14596 (1988).
3. Onoe, H., Ueno, R., Fujita, I., *et al. Proc. Natl. Acad. Sci. USA* **85**, 4082-4086 (1988).
4. Giles, H. and Leff, P. *Prostaglandins* **35**, 277-300 (1988).
5. Kikuchi, Y., Kita, T., Hirata, J., *et al. Cancer. Metast. Rev.* **13**, 309-315 (1994).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/10006843

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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Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have **any obligation or liability**, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

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