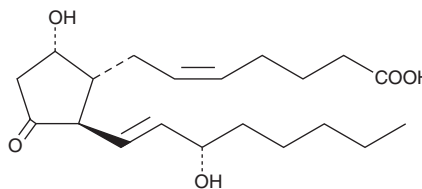


Product Information



Prostaglandin D₂ Catalog No. 12010

CAS Registry No.: 41598-07-6
Formal Name: 9 α ,15S-dihydroxy-11-oxo-prosta-5Z,13E-dien-1-oic acid
MF: C₂₀H₃₂O₅
FW: 352.5
Purity: \geq 99%
Stability: \geq 1 year at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

Prostaglandin D₂ (PGD₂) is a biologically active primary prostaglandin and a common product of arachidonic metabolism in mammals. For long term storage, we suggest that PGD₂ be stored as supplied at -20°C. It 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. PGD₂ is soluble in organic solvents such as ethanol, DMSO, or dimethyl formamide. The solubility of PGD₂ in these solvents is approximately 50 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 PGD₂ can be prepared by directly dissolving the crystalline compound in aqueous buffers. The solubility of PGD₂ in PBS (pH 7.2) is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

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

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2. Hayaishi, O. Sleep-wake regulation by prostaglandins D₂ and E₂. *J. Biol. Chem.* **263**, 14593-14596 (1988).
3. Onoe, H., Ueno, R., Fujita, I., *et al.* Prostaglandin D₂, a cerebral sleep-inducing substance in monkeys. *Proc. Natl. Acad. Sci. USA* **85**, 4082-4086 (1988).
4. Giles, H. and Leff, P. The biology and pharmacology of PGD₂. *Prostaglandins* **35**, 277-300 (1988).
5. Kikuchi, Y., Kita, T., Hirata, J., *et al.* Preclinical studies of antitumor prostaglandins by using human ovarian cancer cells. *Cancer. Metast. Rev.* **13**, 309-315 (1994).

Related Products

AL 6598 - Item No. 13620 • 15-deoxy- $\Delta^{12,14}$ Prostaglandin J₂ - Item No. 18570 • Arachidonic Acid - Item No. 90010 • 9-Octadecenamide - Item No. 90375 • 13-Docosenamide - Item No. 90377

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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.

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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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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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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