

Product Information



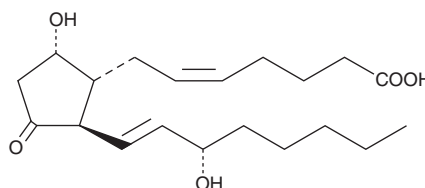
Prostaglandin D₂ Lipid Maps MS Standard

Catalog No. 10007202

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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: ≥99%
Stability: ≥1 year at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

For long term storage, we suggest that prostaglandin D₂ (PGD₂) be stored as supplied at -20°C. It should 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 value of 6.8 μ M.⁵

References

1. Roberts, L.J., II and Sweetman, B.J. Metabolic fate of endogenously synthesized prostaglandin D₂ in a human female with mastocytosis. *Prostaglandins* **30**, 383-400 (1985).
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

15(R)-Prostaglandin D₂ - Cat. No. 10118 • Prostaglandin D₂ - Cat. No. 12010 • BW A868C - Cat. No. 12060 • Δ^{12} -Prostaglandin D₂ - Cat. No. 12650 • 15-deoxy- $\Delta^{12,14}$ -Prostaglandin D₂ - Cat. No. 12700 • 16,16-dimethyl Prostaglandin D₂ - Cat. No. 12750 • 15-deoxy- $\Delta^{12,14}$ Prostaglandin J₂ - Cat. No. 18570 • Arachidonic Acid - Cat. No. 90010 • 9-Octadecenamide - Cat. No. 90375 • 13-Docosenamide - Cat. No. 90377 • Prostaglandin D₂-d₄ - Cat. No. 312010 • Prostaglandin D₂-MOX Express EIA Kit - Cat. No. 500151 • Prostaglandin D₂-biotinamide • Prostaglandin D₂ Quant-PAK - Cat. No. 10006843

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 under separate cover to the MSDS supervisor at your institution.

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