

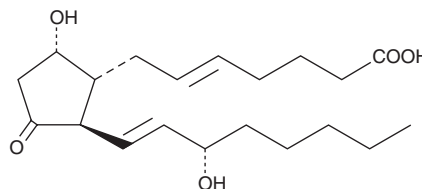
Product Information



5-trans Prostaglandin D₂

Item No. 12210

Formal Name: 9 α ,15S-dihydroxy-11-oxo-prosta-5E,13E-dien-1-oic acid
Synonym: 5,6-*trans* PGD₂
MF: C₂₀H₃₂O₅
FW: 352.5
Purity: \geq 98%
Stability: \geq 1 year at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

For long term storage, we suggest that 5-trans prostaglandin D₂ (5-trans PGD₂) be stored as supplied at -20°C. It should be stable for at least one year.

5-trans PGD₂ is supplied as a crystalline solid. A stock solution may be made by dissolving the 5-trans PGD₂ in an organic solvent purged with an inert gas. 5-trans PGD₂ is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 5-trans PGD₂ in these solvents is approximately 75, 50, 100 mg/ml, respectively.

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 5-trans PGD₂ can be prepared by directly dissolving the crystalline compound in aqueous buffers. The solubility of 5-trans 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 one of the five primary enzymatic prostaglandins derived directly from PGH₂. PGD₂ is produced abundantly in the CSF by the lipocalin-type PGD synthase, and in the periphery by myeloid cells, including mast cells and basophils, by leukocyte-type PGD synthase.^{1,2} 5-trans PGD₂ is an isomer of PGD₂ wherein the double bond between carbons 5 and 6 has been changed from cis (Z) to trans (E).

The trans isomer of PGD₂ occurs as an impurity between 2-5% in most commercial preparations of the bulk drug product. The present compound was prepared primarily as an analytical standard for detection and quantitation of this impurity. From what can be inferred from the study of other trans isomers of F-type prostaglandins, the biological activity of 5-trans PGD₂ is likely to be similar to that of the cis isomer. However, there are no specific published reports on the biological activity of 5-trans PGD₂.

References

1. Mahmud, I., Ueda, N., Yamaguchi, H., *et al.* Prostaglandin D synthase in human megakaryoblastic cells. *J. Biol. Chem.* **272**, 28263-28266 (1997).
2. Ujihara, M., Urade, Y., Eguchi, N., *et al.* Prostaglandin D₂ formation and characterization of its synthetases in various tissues of adult rats. *Arch. Biochem. Biophys.* **260**, 521-531 (1988).

Related Products

Prostaglandin D₂ - Item No. 12010 • 11-deoxy-11-methylene Prostaglandin D₂ - Item No. 12410 • Prostaglandin H₂ - Item No. 17020 • Prostaglandin D Synthase (Lipocalin type) Polyclonal Antibody - Item No. 160003 • Prostaglandin D Synthase (hematopoietic) Polyclonal Antibody - Item No. 160013

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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