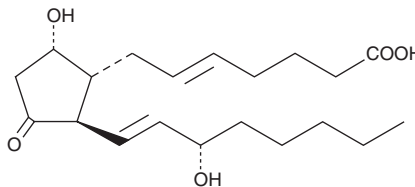


# PRODUCT INFORMATION



## 5-*trans* Prostaglandin D<sub>2</sub> Item No. 12210

**CAS Registry No.:** 2202725-84-4  
**Formal Name:** 9 $\alpha$ ,15S-dihydroxy-11-oxo-prosta-5E,13E-dien-1-oic acid  
**Synonym:** 5,6-*trans* PGD<sub>2</sub>  
**MF:** C<sub>20</sub>H<sub>32</sub>O<sub>5</sub>  
**FW:** 352.5  
**Purity:**  $\geq$ 98%  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:**  $\geq$ 2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

5-*trans* Prostaglandin D<sub>2</sub> is supplied as a crystalline solid. A stock solution may be made by dissolving the 5-*trans* prostaglandin D<sub>2</sub> in the solvent of choice, which should be purged with an inert gas. 5-*trans* Prostaglandin D<sub>2</sub> is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 5-*trans* prostaglandin D<sub>2</sub> in these solvents is approximately 75, 50, and 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* prostaglandin D<sub>2</sub> can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 5-*trans* prostaglandin D<sub>2</sub> in PBS (pH 7.2) is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

PGD<sub>2</sub> is one of the five primary enzymatic prostaglandins derived directly from PGH<sub>2</sub>. PGD<sub>2</sub> 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.<sup>1,2</sup> 5-*trans* PGD<sub>2</sub> is an isomer of PGD<sub>2</sub> wherein the double bond between carbons 5 and 6 has been changed from *cis* (Z) to *trans* (E). The *trans* isomer of prostaglandin D<sub>2</sub> (PGD<sub>2</sub>) occurs as an impurity between 2-5% in most commercial preparations of the bulk drug product. This 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* PGD<sub>2</sub> 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* PGD<sub>2</sub>.

### References

1. Mahmud, I., Ueda, N., Yamaguchi, H., *et al.* Prostaglandin D synthase in human megakaryoblastic cells. *J. Biol. Chem.* **272**(45), 28263-28266 (1997).
2. Ujihara, M., Urade, Y., Eguchi, N., *et al.* Prostaglandin D<sub>2</sub> formation and characterization of its synthetases in various tissues of adult rats. *Arch. Biochem. Biophys.* **260**(2), 521-531 (1988).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 02/13/2025

#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD

ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897

[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM