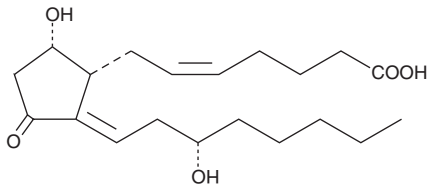
PRODUCT INFORMATION

Δ^{12}-Prostaglandin D_2

Item No. 12650

CAS Registry No.:	64072-89-5
Formal Name:	9α,15S-dihydroxy-11-oxo-prosta-5Z,12E-dien-1-oic acid
Synonym:	Δ^{12}-PGD_2
MF:	$C_{20}H_{32}O_5$
FW:	352.5
Purity:	≥98%
UV/Vis.:	λ_{max}: 245 nm
Supplied as:	A 5 mg/ml solution in methyl acetate
Storage:	-80°C
Stability:	≥4 years



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

Laboratory Procedures

Δ^{12}-Prostaglandin D_2 (Δ^{12}-PGD_2) 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 Δ^{12}-PGD_2 in these solvents is approximately 30 mg/ml.

Δ^{12}-PGD_2 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the methyl acetate solution of Δ^{12}-PGD_2 should be diluted with the aqueous buffer of choice. The solubility of Δ^{12}-PGD_2 in PBS (pH 7.2) is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

PGD_2 is one of the five primary enzymatic prostaglandins derived directly from PGH_2. PGD_2 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 a second, hematopoietic-type PGD synthase. PGD_2 is chemically unstable, and its use and analysis is complicated by its short *in vivo* half-life. Δ^{12}-PGD_2 is one of the initial chemical decomposition products of PGD_2. Δ^{12}-PGD_2 is an intermediate in the pathway leading to Δ^{12}-PGJ_2, which is a cyclopentenone prostaglandin with antimitotic and carcinogenic activities.[1,2] The metabolism of Δ^{12}-PGD_2 involves addition of thiol nucleophiles, as is the case with the majority of cyclopentenone prostaglandins.[3]

References

1. Fukushima, M. Prostaglandin J_2 - anti-tumor and anti-viral activities and the mechanisms involved. *Eicosanoids* **3(4)**, 189-199 (1990).
2. Kato, T., Fukushima, M., Kurozumi, S., *et al.* Antitumor activity of Δ^7-prostaglandin A_1 and Δ^{12}-prostaglandin J_2 *in vitro* and *in vivo*. *Cancer Res.* **46(7)**, 3538-3542 (1986).
3. Atsmon, J., Sweetman, B.J., Baertschi, S.W., *et al.* Formation of thiol conjugates of 9-deoxy-Δ^9,Δ^{12}(E)-prostaglandin D_2 and Δ^{12}(E)-prostaglandin D_2. *Biochemistry* **29(15)**, 3760-3765 (1990).

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
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