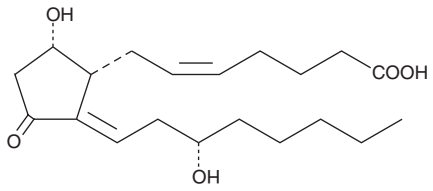
PRODUCT INFORMATION

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 solution in methyl acetate
Storage:	-80°C
Stability:	≥2 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).

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