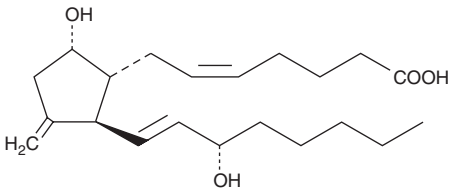
PRODUCT INFORMATION

11-deoxy-11-methylene Prostaglandin D_2

Item No. 12410

CAS Registry No.: 100648-29-1
Formal Name: 9α,15S-dihydroxy-11-methylene-prosta-5Z,13E-dien-1-oic acid
Synonym: 11-deoxy-11-methylene PGD_2
MF: $C_{21}H_{34}O_4$
FW: 350.5
Purity: ≥98%
Supplied as: A solution in methyl acetate
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

11-deoxy-11-methylene Prostaglandin D_2 (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 11-deoxy-11-methylene PGD_2 in these solvents is approximately 100 mg/ml.

11-deoxy-11-methylene PGD_2 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the methyl acetate solution of 11-deoxy-11-methylene PGD_2 should be diluted with the aqueous buffer of choice. The solubility of 11-deoxy-11-methylene PGD_2 in PBS (pH 7.2) is approximately 3.75 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Prostaglandin D_2 (PGD_2; Item No. 12010) is one of the five primary enzymatic prostaglandins derived directly from PGH_2 (Item No. 17020). 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, leukocyte-type PGD synthase.[1] PGD_2 is chemically unstable, and its use and analysis is complicated by its short *in vivo* half-life. 11-deoxy-11-methylene PGD_2 is a novel, chemically stable, isosteric analog of PGD_2 wherein the 11-keto group is replaced by an exocyclic methylene. In the PGE series, the analogous modification leads to a stable, somewhat less potent agonist which embodies the same uterine stimulant and cervical ripening activities as the parent prostaglandin.[2] However, 11-deoxy-11-methylene PGD_2 has been reported by one group to be essentially without agonist activity on human platelets, a DP_1 receptor assay.[3] The CRTH2-receptor actions of 11-deoxy-11-methylene PGD_2 are not yet reported.

References

1. Urade, Y. and Hayaishi, O. Prostaglandin D synthase: Structure and function. *Vitam. Horm.* **58**, 89-120 (2000).
2. Borten, M., DiLeo, L.A., and Friedman, E.A. Low-dose prostaglandin E_2 analogue for cervical dilations prior to pregnancy termination. *Am. J. Obstet. Gynecol.* **150(5 Pt 1)**, 561-565 (1984).
3. Torisawa, Y., Yamaguchi, T., Sakata, S., *et al.* Synthesis of 11-deoxo-11-methylene-prostaglandin D_2 and its derivatives. *Chem. Pharm. Bull. (Tokyo)* **33(10)**, 4625-4628 (1985).

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