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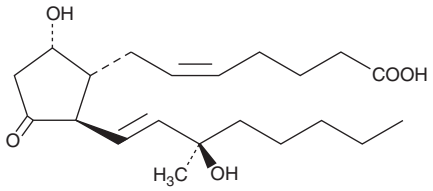
PRODUCT INFORMATION

15(R)-15-methyl Prostaglandin D_2

Item No. 12720

CAS Registry No.: 210978-26-0
Formal Name: 9α,15R-dihydroxy-11-oxo-15-methyl-prosta-5Z,13E-dien-1-oic acid
Synonym: 15(R)-15-methyl PGD_2
MF: $C_{21}H_{34}O_5$
FW: 366.5
Purity: ≥95%
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

15(R)-15-methyl Prostaglandin D_2 (15(R)-15-methyl 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 15(R)-15-methyl PGD_2 in these solvents is approximately 75, 50, and 100 mg/ml, respectively.

15(R)-15-methyl PGD_2 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the methyl acetate solution of 15(R)-15-methyl PGD_2 should be diluted with the aqueous buffer of choice. The solubility of 15(R)-15-methyl PGD_2 in PBS (pH 7.2) is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

15(R)-15-methyl PGD_2 is a metabolically stable synthetic analog of PGD_2 (Item No. 12010). The physiological actions of PGD_2 include regulation of sleep, lowering of body temperature, inhibition of platelet aggregation and relaxation of vascular smooth muscle.[1-3] PGD_2 mediates its effects by 2 distinct G-protein-coupled receptors, DP_1 and CRTH2/DP_2.[4-6] 15(R)-15-methyl PGD_2 is a potent, selective agonist for the CRTH2/DP_2 receptor.[7] The EC_{50} values for eosinophil CD11b expression, actin polymerization, and chemotaxis are 1.4, 3.8, and 1.7 nM, respectively, each of which is approximately 3-5 fold lower than those for PGD_2. In contrast the EC_{50} for the DP_1-mediated increase in platelet cAMP by 15(R)-15-methyl PGD_2 is >10 µM.[7]

References

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5. Monneret, G., Gravel, S., Diamond, M., *et al.* Prostaglandin D_2 is a potent chemoattractant for human eosinophils that acts via a novel DP receptor. *Blood* **98(6)**, 1942-1948 (2001).
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7. Monneret, G., Cossette, C., Gravel, S., *et al.* 15R-methyl-prostaglandin D_2 is a potent and selective CRTH2/DP_2 receptor agonist in human eosinophils. *J. Pharmacol. Exp. Ther.* **304(1)**, 349-355 (2003).

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