

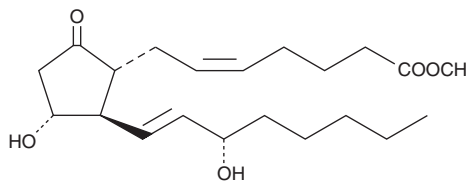
PRODUCT INFORMATION



Prostaglandin E₂ methyl ester

Item No. 14011

CAS Registry No.: 31753-17-0
Formal Name: 9-oxo-11 α ,15S-dihydroxy-prosta-5Z,13E-dien-1-oic acid, methyl ester
Synonyms: PGE₂ methyl ester, Dinoprostone methyl ester
MF: C₂₁H₃₄O₅
FW: 366.5
Purity: \geq 98%
Supplied as: A solution in methyl acetate
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

Prostaglandin E₂ methyl ester (PGE₂ methyl ester) 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 PGE₂ methyl ester in these solvents is approximately 50, 30, and 25 mg/ml, respectively.

PGE₂ methyl ester is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the methyl acetate solution of PGE₂ methyl ester should be diluted with the aqueous buffer of choice. The solubility of PGE₂ methyl ester in PBS (pH 7.2) is approximately 0.15 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

PGE₂ methyl ester is an analog of PGE₂ (Item No. 14010) with enhanced lipid solubility. PGE₂ is one of the primary cyclooxygenase products of arachidonic acid (Item No. 90010) and one of the most widely investigated PGs. Its activity influences inflammation, fertility and parturition, gastric mucosal integrity, and immune modulation.¹⁻⁴ The effects of PGE₂ are transduced by at least four distinct receptors designated EP₁, EP₂, EP₃, and EP₄.⁵ Affinity constants (K_d) values of PGE₂ for these receptors range from 1-10 nM depending on the receptor subtype and tissue.⁵

References

1. Willis, A.L. and Cornelsen, M. Repeated injection of prostaglandin E₂ in rat paws induces chronic swelling and a marked decrease in pain threshold. *Prostaglandins* **3(3)**, 353-357 (1973).
2. Jackson, G.M., Sharp, H.T., and Varner, M.W. Cervical ripening before induction of labor: A randomized trial of prostaglandin E₂ gel versus low-dose oxytocin. *Am. J. Obstet. Gynecol.* **171(4)**, 1092-1096 (1994).
3. Robert, A., Schultz, J.R., Nezamis, J.E., et al. Gastric antisecretory and antiulcer properties of PGE₂, 15-methyl PGE₂, and 16,16-dimethyl PGE₂. Intravenous, oral and intrajejunal administration. *Gastroenterology* **70(3)**, 359-370 (1976).
4. Arvind, P., Papavassiliou, E.D., Tsioulis, G.J., et al. Prostaglandin E₂ down-regulates the expression of HLA-DR antigen in human colon adenocarcinoma cell lines. *Biochemistry* **34(16)**, 5604-5609 (1995).
5. Coleman, R.A., Smith, W.L., and Narumiya, S. International Union of Pharmacology classification of prostanoid receptors: Properties, distribution, and structure of the receptors and their subtypes. *Pharmacol. Rev.* **46(2)**, 205-229 (1994).

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.

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