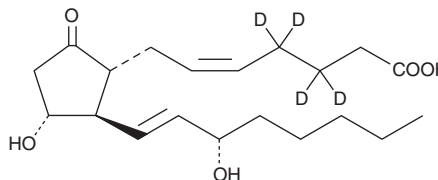


PRODUCT INFORMATION



Prostaglandin E₂-d₄ Item No. 314010

CAS Registry No.: 34210-10-1
Formal Name: 9-oxo-11 α ,15S-dihydroxy-prosta-5Z,13E-dien-1-oic-3,3,4,4-d₄ acid
Synonyms: Dinoprostone-d₄, PGE-d₄
MF: C₂₀H₂₈D₄O₅
FW: 356.5
Chemical Purity: $\geq 97\%$ (Prostaglandin E₂)
Deuterium Incorporation: $\geq 99\%$ deuterated forms (d₁-d₄); $\leq 1\%$ d₀
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

PGE₂-d₄ is intended for use as an internal standard for the quantification of PGE₂ (Item No. 14010) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

PGE₂-d₄ 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-d₄ in these solvents is approximately 100 mg/ml.

Description

PGE₂ is one of the primary cyclooxygenase products of arachidonic acid 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 The affinity constants (K_d) of PGE₂ for these receptors range from 1-10 nM depending on the receptor subtype and tissue.

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**, 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**, 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**, 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**, 5604-5609 (1995).
5. Coleman, R.A., Smith, W.L., and Narumiya, S. Classification of prostanoid receptors: Properties, distribution, and structure of the receptors and their subtypes. *Pharmacol. Rev.* **46**, 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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