

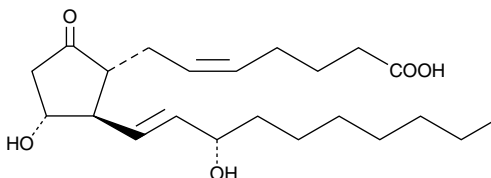
Product Information



20-ethyl Prostaglandin E₂

Item No. 14940

CAS Registry No.: 37492-24-3
Formal Name: 9-oxo-11 α ,15S-dihydroxy-20a,20b-dihomoprostanoic acid
MF: C₂₂H₃₆O₅
FW: 380.5
Purity: \geq 97%
Stability: \geq 1 year at -20°C
Supplied as: A solution in methyl acetate



Laboratory Procedures

For long term storage, we suggest that 20-ethyl Prostaglandin E₂ (20-ethyl PGE₂) be stored as supplied at -20°C. It will be stable for at least one year.

20-ethyl PGE₂ 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 20-ethyl PGE₂ in these solvents is approximately 20 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. If an organic solvent-free solution of 20-ethyl PGE₂ is needed, it can be prepared by evaporating the methyl acetate and directly dissolving the neat oil in aqueous buffers. The solubility of 20-ethyl PGE₂ in PBS (pH 7.2) is approximately 125 μ g/ml. We do not recommend storing the aqueous solution for more than one day.

20-ethyl PGE₂ is an analog of PGE₂ in which the ω -chain has been extended by the addition of two methylene carbon atoms. The only well studied prostaglandin analog with this structural feature is unoprostone, an F-series prostaglandin that is clinically approved as a glaucoma medication.¹ Unoprostone also contains lower side chain modifications (13,14-dihydro-15-keto) which severely limit its affinity for FP receptors, contributing to its lack of potency as a medication. 20-ethyl PGE₂ retains the natural 15(S) allylic hydroxyl in the lower side chain, which may improve its potency relative to unoprostone. However, ligand binding assays of this analog with respect to EP or other prostanoid receptors have not been published. E-type prostaglandins have been widely reported to have inflammatory,² cytoprotective,³ and a variety of other effects.⁴

References

1. Hara, M. and Spencer, C.M. Unoprostone (isopropyl unoprostone). *Drugs & Aging* 9, 213-218 (1996).
2. Matsumoto, H., Naraba, H., Murakami, M., et al. Concordant induction of prostaglandin E₂ synthase with cyclooxygenase-2 leads to preferred production of prostaglandin E₂ over thromboxane and prostaglandin D₂ in lipopolysaccharide-stimulated rat peritoneal macrophages. *Biochem. Biophys. Res. Commun.* 230, 110-114 (1997).
3. Karim, S.M.M., Carter, D.C., Bhana, D., et al. Effect of orally administered prostaglandin E₂ and its 15-methyl analogues on gastric secretion. *Br. Med. J.* 1, 143-146 (1973).
4. 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).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/14940

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY. NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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