



# SZABO SCANDIC

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## Produktinformation



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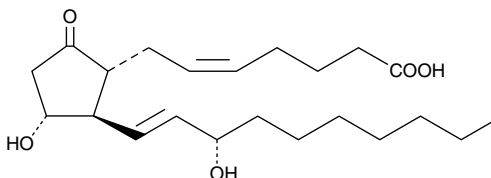
# Product Information



## 20-ethyl Prostaglandin E<sub>2</sub>

Item No. 14940

**CAS Registry No.:** 37492-24-3  
**Formal Name:** 9-oxo-11 $\alpha$ ,15S-dihydroxy-20a,20b-dihomoprostanoic acid  
**MF:** C<sub>22</sub>H<sub>36</sub>O<sub>5</sub>  
**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 E<sub>2</sub> (20-ethyl PGE<sub>2</sub>) be stored as supplied at -20°C. It will be stable for at least one year.

20-ethyl PGE<sub>2</sub> 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 PGE<sub>2</sub> 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 PGE<sub>2</sub> 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 PGE<sub>2</sub> in PBS (pH 7.2) is approximately 125  $\mu$ g/ml. We do not recommend storing the aqueous solution for more than one day.

20-ethyl PGE<sub>2</sub> is an analog of PGE<sub>2</sub> in which the  $\omega$ -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.<sup>1</sup> 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 PGE<sub>2</sub> 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,<sup>2</sup> cytoprotective,<sup>3</sup> and a variety of other effects.<sup>4</sup>

### 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 E<sub>2</sub> synthase with cyclooxygenase-2 leads to preferred production of prostaglandin E<sub>2</sub> over thromboxane and prostaglandin D<sub>2</sub> 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 E<sub>2</sub> 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 E<sub>2</sub> gel versus low-dose oxytocin. *Am. J. Obstet. Gynecol.* 171, 1092-1096 (1994).

### Related Products

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

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