

# Product Information



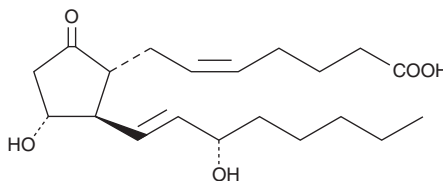
## Prostaglandin E<sub>2</sub> Lipid Maps MS Standard

Catalog No. 10007211

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**CAS Registry No.:** 363-24-6  
**Formal Name:** 9-oxo-11 $\alpha$ ,15S-dihydroxy-prosta-5Z,13E-dien-1-oic acid  
**Synonyms:** Dinoprostone, PGE<sub>2</sub>  
**MF:** C<sub>20</sub>H<sub>32</sub>O<sub>5</sub>  
**FW:** 352.5  
**Purity:**  $\geq$ 99%  
**Stability:**  $\geq$ 2 years at -20°C  
**Supplied as:** A crystalline solid



### Laboratory Procedures

For long term storage, we suggest that prostaglandin E<sub>2</sub> (PGE<sub>2</sub>) be stored as supplied at -20°C. It will be stable for at least two years.

PGE<sub>2</sub> is supplied as a crystalline solid. A stock solution of PGE<sub>2</sub> can be prepared by dissolving the crystalline compound in an organic solvent. Solvents such as ethanol, DMSO, or dimethyl formamide may be used. The solubility of PGE<sub>2</sub> in these solvents is approximately 100 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Avoid adding PGE<sub>2</sub> to basic solutions (pH >7.4), since base treatment will degrade the PGE<sub>2</sub> to PGA and PGB compounds. Also, 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 PGE<sub>2</sub> is needed, it can be prepared by dissolving the crystalline compound in a neutral aqueous solution. PGE<sub>2</sub> is directly soluble in PBS (pH 7.2) at a concentration of approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

PGE<sub>2</sub> 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.<sup>1-4</sup> The effects of PGE<sub>2</sub> are transduced by at least four distinct receptors designated EP<sub>1</sub>, EP<sub>2</sub>, EP<sub>3</sub>, and EP<sub>4</sub>.<sup>5</sup> Affinity constants (K<sub>d</sub>) of PGE<sub>2</sub> 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 E<sub>2</sub> 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 E<sub>2</sub> 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 PGE<sub>2</sub>, 15-methyl PGE<sub>2</sub>, and 16,16-dimethyl PGE<sub>2</sub>. Intravenous, oral and intrajejunal administration. *Gastroenterology* **70**, 359-370 (1976).
4. Arvind, P., Papavassiliou, E.D., Tsioulis, G.J., et al. Prostaglandin E<sub>2</sub> 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).

### Related Products

Prostaglandin E<sub>2</sub> serinol amide - Cat. No. 10193 • tetranor-PGDM - Cat. No. 12850 • Prostaglandin E<sub>2</sub> - Cat. No. 14010 • Prostaglandin E<sub>2</sub> methyl ester - Cat. No. 14011 • 5-*trans* Prostaglandin E<sub>2</sub> - Cat. No. 14210 • 8-*iso* Prostaglandin E<sub>2</sub> isopropyl ester - Cat. No. 14352 • 9-deoxy-9-methylene-16,16-dimethyl Prostaglandin E<sub>2</sub> - Cat. No. 14420 • 11 $\beta$ -Prostaglandin E<sub>2</sub> - Cat. No. 14510 • 11-deoxy-16,16-dimethyl Prostaglandin E<sub>2</sub> - Cat. No. 14570 • 15(S)-15-methyl Prostaglandin E<sub>2</sub> - Cat. No. 14730 • 11-deoxy Prostaglandin E<sub>2</sub> - Cat. No. 14520 • 15(R)-Prostaglandin E<sub>2</sub> - Cat. No. 14710 • 15(R)-15-methyl Prostaglandin E<sub>2</sub> - Cat. No. 14725 • 16-phenoxy tetranor Prostaglandin E<sub>2</sub> - Cat. No. 14760 • Sulprostone - Cat. No. 14765 • 16-phenyl tetranor Prostaglandin E<sub>2</sub> - Cat. No. 14770 • 20-ethyl Prostaglandin E<sub>2</sub> - Cat. No. 14940 • Prostaglandin E<sub>2</sub>-d<sub>4</sub> - Cat. No. 314010 • 13,14-dihydro Prostaglandin E<sub>1</sub>-d<sub>4</sub> - Cat. No. 9000281 • 13,14-dihydro-15- *keto* Prostaglandin E<sub>1</sub>-d<sub>4</sub> - Cat. No. 9000288 • Prostaglandin E<sub>2</sub> Quant-PAK - Cat. No. 10006846 • Prostaglandin E<sub>2</sub>-biotinamide - Cat. No. 10006987 • *ent*-Prostaglandin E<sub>2</sub> - Cat. No. 10008294

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

### MATERIAL 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 Material Safety Data Sheet, which has been sent under separate cover to the MSDS supervisor at your institution.

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