

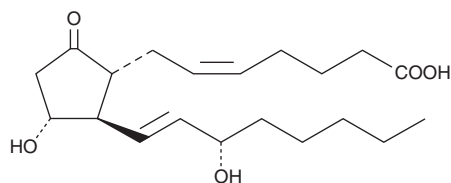
# Product Information



## Prostaglandin E<sub>2</sub>-PAK Catalog No. 10006846

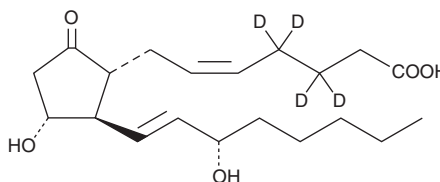
### Prostaglandin E<sub>2</sub>

**CAS Registry No.:** 363-24-6  
**Formal Name:** 9-oxo-11 $\alpha$ ,15S-dihydroxy-prosta-5Z,13E-dien-1-oic acid  
**Synonym:** Dinoprostone  
**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



### Prostaglandin E<sub>2</sub>-d<sub>4</sub>

**Formal Name:** 9-oxo-11 $\alpha$ ,15S-dihydroxy-prosta-5Z,13E-dien-1-oic-3,3,4,4-d<sub>4</sub> acid  
**Synonym:** Dinoprostone-d<sub>4</sub>  
**MF:** C<sub>20</sub>H<sub>28</sub>D<sub>4</sub>O<sub>5</sub>  
**FW:** 356.5  
**Chemical Purity:**  $\geq$ 98%  
**Deuterium Incorporation:**  $\leq$ 1% d<sub>0</sub>  
**Stability:**  $\geq$ 1 year at -20°C  
**Supplied as:** A solution in methyl acetate



This prostaglandin E<sub>2</sub> (PGE<sub>2</sub>) Quant-PAK contains 50  $\mu$ g of PGE<sub>2</sub>-d<sub>4</sub> and 2-4 mg of PGE<sub>2</sub> (please see the vial for exact amount and concentration). For long term storage, we suggest that PGE<sub>2</sub> and PGE<sub>2</sub>-d<sub>4</sub> be stored as supplied at -20°C. They should be stable for at least one year.

PGE<sub>2</sub> is supplied as a crystalline solid. A stock solution may be made by dissolving the PGE<sub>2</sub> in an organic solvent purged with an inert gas. PGE<sub>2</sub> is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of PGE<sub>2</sub> in these solvents is approximately 100 mg/ml.

PGE<sub>2</sub>-d<sub>4</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 PGE<sub>2</sub>-d<sub>4</sub> in these solvents is approximately 100 mg/ml.

PGE<sub>2</sub>-d<sub>4</sub> contains four deuterium atoms at the 3, 3', 4, and 4' positions. It is intended for use as an internal standard for the quantification of PGE<sub>2</sub> by GC- or LC-mass spectrometry. The accuracy of the sample weight in the PGE<sub>2</sub>-d<sub>4</sub> vial is between 5% over and 2% under the weight indicated on the vial. For better precision we have provided a precisely weighed unlabeled PGE<sub>2</sub>, with the precise weight (2-4 mg) indicated on the vial. Using this vial the deuterated standard can be quantified by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

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. *Prostaglandins* **3**, 353-357 (1973).
2. Jackson, G.M., Sharp, H.T., and Varner, M.W. *Am. J. Obstet. Gynecol.* **171**, 1092-1096 (1994).
3. Robert, A., Schultz, J.R., Nezamis, J.E., *et al. Gastroenterology* **70**, 359-370 (1976).
4. Arvind, P., Papavassiliou, E.D., Tsioulis, G.J., *et al. Biochemistry* **34**, 5604-5609 (1995).
5. Coleman, R.A., Smith, W.L., and Narumiya, S. *Pharmacol. Rev.* **46**, 205-229 (1994).

### Related Products

Prostaglandin E<sub>2</sub> - Cat. No. 14010 • Prostaglandin E<sub>2</sub>-d<sub>4</sub> - Cat. No. 314010 • 6-keto Prostaglandin F<sub>1 $\alpha$</sub>  Quant-PAK - Cat. No. 10006830 • Prostaglandin A<sub>2</sub> Quant-PAK - Cat. No. 10006840 • Prostaglandin B<sub>2</sub> Quant-PAK - Cat. No. 10006841 • Prostaglandin D<sub>1</sub> Quant-PAK - Cat. No. 10006842 • Prostaglandin D<sub>2</sub> Quant-PAK - Cat. No. 10006843 • Prostaglandin E<sub>1</sub> Quant-PAK - Cat. No. 10006844 • 13,14-dihydro Prostaglandin E<sub>1</sub> Quant-PAK - Cat. No. 10006845 • Prostaglandin F<sub>2 $\alpha$</sub>  Quant-PAK - Cat. No. 10006848 • 15-deoxy- $\Delta$ <sup>12,14</sup>-Prostaglandin J<sub>2</sub> Quant-PAK - Cat. No. 10006850

**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 *via* email to your institution.

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