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Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

[mail@szabo-scandic.com](mailto:mail@szabo-scandic.com)

[www.szabo-scandic.com](http://www.szabo-scandic.com)

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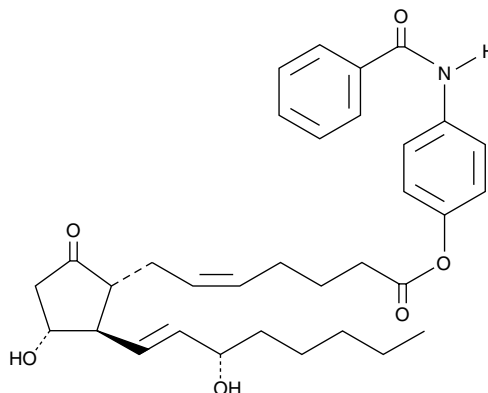
# Product Information



## Prostaglandin E<sub>2</sub> *p*-benzamidophenyl ester

Item No. 14054

**CAS Registry No:** 57790-53-1  
**Formal Name:** 9-oxo-11 $\alpha$ ,15S-dihydroxy-prosta-5Z,13E-dien-1-oic acid, (4-benzoylamino)phenyl ester  
**Synonym:** PGE<sub>2</sub> *p*-benzamidophenyl ester  
**MF:** C<sub>33</sub>H<sub>41</sub>NO<sub>6</sub>  
**FW:** 547.7  
**Purity:** ≥98%  
**Stability:** ≥1 year at -20°C  
**Supplied as:** A crystalline solid



### Laboratory Procedures

Prostaglandin E<sub>2</sub> *p*-benzamidophenyl ester (PGE<sub>2</sub> *p*-benzamidophenyl ester) is a crystalline derivative of PGE<sub>2</sub>. For long term storage, we suggest that PGE<sub>2</sub> *p*-benzamidophenyl ester be stored as supplied at -20°C. It will be stable for at least one year.

PGE<sub>2</sub> *p*-benzamidophenyl ester is supplied as a crystalline solid. A stock solution may be made by dissolving the PGE<sub>2</sub> *p*-benzamidophenyl ester in the solvent of choice. PGE<sub>2</sub> *p*-benzamidophenyl ester is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of PGE<sub>2</sub> *p*-benzamidophenyl ester in these solvents is approximately 6, 28, and 65 mg/ml, respectively.

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. Organic solvent-free aqueous solutions of PGE<sub>2</sub> *p*-benzamidophenyl ester can be prepared by directly dissolving the crystalline compound in aqueous buffers. The solubility of PGE<sub>2</sub> *p*-benzamidophenyl ester in PBS, pH 7.2, is approximately 125 µg/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 prostaglandins. 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).

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### Cayman Chemical

**Mailing address**  
1180 E. Ellsworth Road  
Ann Arbor, MI  
48108 USA

**Phone**  
(800) 364-9897  
(734) 971-3335

**Fax**  
(734) 971-3640

**E-Mail**  
custserv@caymanchem.com

**Web**  
[www.caymanchem.com](http://www.caymanchem.com)