

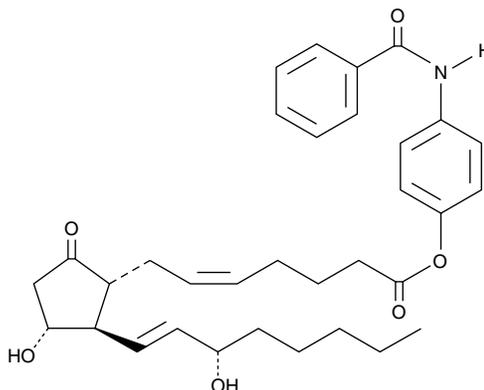
Product Information



Prostaglandin E₂ *p*-benzamidophenyl ester

Item No. 14054

CAS Registry No: 57790-53-1
Formal Name: 9-oxo-11 α ,15S-dihydroxy-prosta-5Z,13E-dien-1-oic acid, (4-benzoylamino)phenyl ester
Synonym: PGE₂ *p*-benzamidophenyl ester
MF: C₃₃H₄₁NO₆
FW: 547.7
Purity: ≥98%
Stability: ≥1 year at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

Prostaglandin E₂ *p*-benzamidophenyl ester (PGE₂ *p*-benzamidophenyl ester) is a crystalline derivative of PGE₂. For long term storage, we suggest that PGE₂ *p*-benzamidophenyl ester be stored as supplied at -20°C. It will be stable for at least one year.

PGE₂ *p*-benzamidophenyl ester is supplied as a crystalline solid. A stock solution may be made by dissolving the PGE₂ *p*-benzamidophenyl ester in the solvent of choice. PGE₂ *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 PGE₂ *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 PGE₂ *p*-benzamidophenyl ester can be prepared by directly dissolving the crystalline compound in aqueous buffers. The solubility of PGE₂ *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.

PGE₂ 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.¹⁻⁴ The effects of PGE₂ are transduced by at least four distinct receptors designated EP₁, EP₂, EP₃, and EP₄.⁵ Affinity constants (K_d) of PGE₂ 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 E₂ in rat paws induces chronic swelling and a marked decrease in pain threshold. *Prostaglandins* **3**, 353-357 (1973).
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3. Robert, A., Schultz, J.R., Nezamis, J.E., *et al.* Gastric antisecretory and antiulcer properties of PGE₂, 15-methyl PGE₂, and 16,16-dimethyl PGE₂. Intravenous, oral and intrajejunal administration. *Gastroenterology* **70**, 359-370 (1976).
4. Arvind, P., Papavassiliou, E.D., Tsioulis, G.J., *et al.* Prostaglandin E₂ 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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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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