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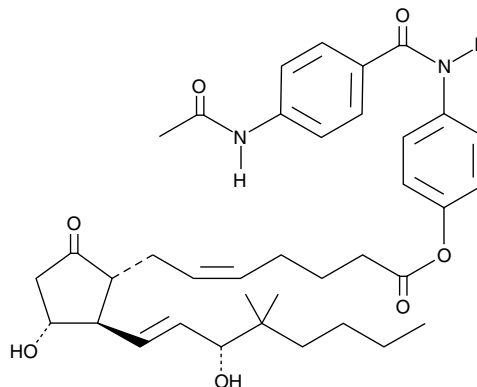
Product Information



16,16-dimethyl Prostaglandin E₂ *p*-(*p*-acetamidobenzamido) phenyl ester

Item No. 14753

CAS Registry No: 62873-55-6
Formal Name: 9-oxo-11.alpha.,15R-dihydroxy-16,16-dimethyl-prosta-5Z,13E-dien-1-oic acid, 4-(4-acetylaminobenzoylamino) phenyl ester
Synonym: 16,16-dimethyl PGE₂ 4-(4-acetamidobenzamido) phenyl ester
MF: C₃₇H₄₈N₂O₇
FW: 632.8
Purity: ≥98%
Stability: ≥1 year at -20°C
Supplied as: A crystalline solid
UV/Vis: λ_{max}: 285 nm



Laboratory Procedures

For long term storage, we suggest that 16,16-dimethyl Prostaglandin E₂ *p*-(*p*-acetamidobenzamido) phenyl ester (16,16-dimethyl PGE₂ PPE) be stored as supplied at -20°C. It should be stable for at least one year.

16,16-dimethyl PGE₂ PPE is supplied as a crystalline solid. A stock solution may be made by dissolving the 16,16-dimethyl PGE₂ PPE in an organic solvent purged with an inert gas. 16,16-dimethyl PGE₂ PPE is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of 16,16-dimethyl PGE₂ PPE in ethanol and DMF is approximately 40 mg/ml, and in DMSO it is approximately 20 mg/ml. 16,16-dimethyl PGE₂ PPE will be stable for at least six months in these solvents if stored at -20°C.

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 16,16-dimethyl PGE₂ PPE can be prepared by directly dissolving the crystalline compound in aqueous buffers. 16,16-dimethyl PGE₂ PPE is soluble in PBS (pH 7.2) up to 100 µg/ml.

The *p*-(*p*-acetamidobenzamido) phenyl ester is a crystalline derivative of 16,16-dimethyl PGE₂ and a potential prodrug. 16,16-dimethyl PGE₂ is a competitive inhibitor of PG 15-dehydrogenase, but it is not a substrate for the enzyme.¹ Because of its resistance to metabolism by PG 15-dehydrogenase, it has a prolonged half-life *in vivo*. 16,16-dimethyl PGE₂ acts as an agonist on most EP receptor subtypes, and has been used experimentally to induce cervical ripening, uterine contraction, and prevent ulceration of the gastric mucosa in rats and dogs.^{2,3} The K_d for activation of isolated EP₂ receptors is about 1 nM.³

References

- Ohno, H., Morikawa, Y., and Hirata, F. Studies on 15-hydroxyprostaglandin dehydrogenase with various prostaglandin analogues. *J. Biochem.* **84**, 1485-1494 (1978).
- 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).
- 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

For a list of related products please visit: www.caymanchem.com/catalog/14753

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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