

PRODUCT INFORMATION



16,16-dimethyl Prostaglandin A₂

Item No. 10280

CAS Registry No: 41691-92-3

Formal Name: 9-oxo-15R-hydroxy-16,16-dimethyl-prosta-5Z,10,13E-trien-1-oic acid

Synonym: 16,16-dimethyl PGA₂

MF: C₂₂H₃₄O₄

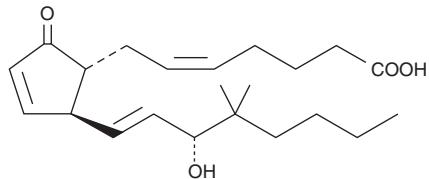
FW: 362.5

Purity: ≥98%

Stability: ≥1 year at -20°C

Supplied as: A solution in methyl acetate

UV/Vis: λ_{max}: 215 nm



Laboratory Procedures

For long term storage, we suggest that 16,16-dimethyl prostaglandin A₂ (16,16-dimethyl PGA₂) be stored as supplied at -20°C. It should be stable for at least one year.

16,16-dimethyl PGA₂ 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 DMSO, ethanol, and dimethyl formamide purged with an inert gas can be used. The solubility of 16,16-dimethyl PGA₂ in these solvents is approximately 100, 50, and 75 mg/ml, respectively. 16,16-dimethyl PGA₂ is 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. If an organic solvent-free solution of 16,16-dimethyl PGA₂ is needed, it can be prepared by evaporating the methyl acetate and directly dissolving the neat oil in aqueous buffers. The solubility of 16,16-dimethyl PGA₂ in PBS (pH 7.2) is approximately 2.4 mg/ml. Avoid adding 16,16-dimethyl PGA₂ to basic solutions (pH > 7.4) as base treatment will convert 16,16-dimethyl PGA₂ into 16,16-dimethyl PGB₂. Store aqueous solutions of 16,16-dimethyl PGA₂ on ice and use within 12 hours. We strongly recommend using a fresh preparation each day.

Description

16,16-dimethyl PGA₂ is a metabolism-resistant analog of PGA₂ with a prolonged *in vivo* half-life. It inhibits the proliferation of Sendai virus in cultured green monkey kidney cells by >90% at a concentration of 4 µg/ml.¹ Daily infusion of 10 µg of 16,16-dimethyl PGA₂ methyl ester into mice infected with influenza A virus increased survival by 40%.² Similar treatment of mice inoculated with erythroleukemia cells delayed tumor growth and increased survival time.³

References

1. Santoro, M.G., Benedetto, A., Carruba, G., et al. Prostaglandin A compounds as antiviral agents. *Science* **209**, 1032-1034 (1980).
2. Santoro, M.G., Favalli, C., Mastino, A., et al. Antiviral activity of a synthetic analog of prostaglandin A in mice infected with influenza A virus. *Arch. Virol.* **99**, 89-100 (1988).
3. Marini, S., Palamara, A.T., Garaci, E., et al. Growth inhibition of friend erythroleukaemia cell tumours *in vivo* by a synthetic analogue of prostaglandin A: An action independent of natural killer-activity. *Br. J. Cancer* **61**, 394-399 (1990).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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