# PRODUCT INFORMATION

## 16,16-dimethyl Prostaglandin $A_2$

*Item No. 10280*

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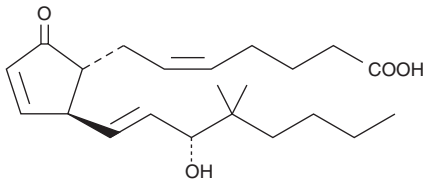
| **CAS Registry No:** | 41691-92-3 |
| **Formal Name:** | 9-oxo-15R-hydroxy-16,16-dimethyl-prosta-5Z,10,13E-trien-1-oic acid |
| **Synonym:** | 16,16-dimethyl $PGA_2$ |
| **MF:** | $C_{22}H_{34}O_4$ |
| **FW:** | 362.5 |
| **Purity:** | ≥98% |
| **UV/Vis:** | $\lambda_{max}$: 215 nm |
| **Supplied as:** | A solution in methyl acetate |
| **Storage:** | -20°C |
| **Stability:** | ≥2 years |




*Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.*

### Laboratory Procedures

16,16-dimethyl $PGA_2$ 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 $PGA_2$ in these solvents is approximately 100, 50, and 75 mg/ml, respectively. 16,16-dimethyl $PGA_2$ 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 $PGA_2$ 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 $PGA_2$ in PBS (pH 7.2) is approximately 2.4 mg/ml. Avoid adding 16,16-dimethyl $PGA_2$ to basic solutions (pH>7.4) as base treatment will convert 16,16-dimethyl $PGA_2$ into 16,16-dimethyl $PGB_2$. Store aqueous solutions of 16,16-dimethyl $PGA_2$ on ice and use within 12 hours. We strongly recommend using a fresh preparation each day.

### Description

16,16-dimethyl $PGA_2$ is a metabolism-resistant analog of $PGA_2$ 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 $PGA_2$ 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).





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