

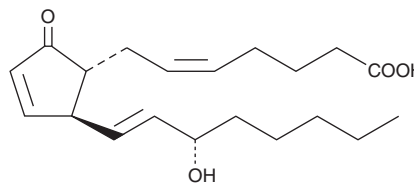
# PRODUCT INFORMATION



## Prostaglandin A<sub>2</sub>

Item No. 10210

CAS Registry No.: 13345-50-1  
Formal Name: 9-oxo-15-hydroxy-prosta-5Z,10,13E-trien-1-oic acid  
Synonyms: Medullin, PGA<sub>2</sub>  
MF: C<sub>20</sub>H<sub>30</sub>O<sub>4</sub>  
FW: 334.5  
Purity: ≥98%  
Stability: ≥1 year at -20°C  
Supplied as: A solution in methyl acetate  
UV/Vis.: λ<sub>max</sub>: 216 nm



### Laboratory Procedures

For long term storage, we suggest that prostaglandin A<sub>2</sub> (PGA<sub>2</sub>) be stored as supplied at -20°C. It should be stable for at least one year.

PGA<sub>2</sub> 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 PGA<sub>2</sub> in these solvents is approximately 50, 100, 75 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. If an organic solvent-free solution of PGA<sub>2</sub> is needed, it can be prepared by evaporating the methyl acetate and directly dissolving the neat oil in aqueous buffers. The solubility of PGA<sub>2</sub> in PBS (pH 7.2) is approximately 2.4 mg/ml. Avoid adding PGA<sub>2</sub> to basic solutions (pH >7.4), since base treatment will degrade the PGA<sub>2</sub> to PGB<sub>2</sub>. We do not recommend storing the aqueous solution for more than one day.

### Description

PGA<sub>2</sub> is a naturally occurring prostaglandin in gorgonian corals where it may function in self defense. It is generally not present in mammals. PGA<sub>2</sub> has low biological potency in most bioassays, but it does show some anti-viral/anti-tumor activity.<sup>1</sup> At a 25 μM concentration, PGA<sub>2</sub> blocks the cell cycle progression of NIH 3T3 cells at the G<sub>1</sub> and G<sub>2</sub>/M phase.<sup>2</sup> It has also been shown to act as a vasodilator with natriuretic properties.<sup>3</sup>

### References

1. Fukushima, M., Kato, T., Narumiya, S., *et al.* Prostaglandin A and J: Antitumor and antiviral prostaglandins. *Adv. Prostaglandin Thromboxane Leukotriene Res.* **19**, 415-418 (1989).
2. Hitomi, M., Shu, J., Strom, D., *et al.* Prostaglandin A<sub>2</sub> blocks the activation of G<sub>1</sub> phase cyclin-dependant kinase without altering mitogen-activated protein kinase stimulation. *J. Biol. Chem.* **271**, 9376-9383 (1996).
3. Frolich, J.C., Sweetman, B.J., Carr, K., *et al.* Assessment of the levels of PGA<sub>2</sub> in human plasma by gas chromatography-mass spectrometry. *Prostaglandins* **10**, 185-195 (1975).

#### 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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