



# SZABO SCANDIC

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## Produktinformation



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- Expressversand

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# PRODUCT INFORMATION



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

Item No. 9000185

CAS Registry No.: 31753-19-2

Formal Name: 15S-hydroxy-9-oxo-prosta-5Z,10,13E-trien-1-oic acid, methyl ester

Synonyms: Medullin methyl ester, PGA<sub>2</sub> methyl ester

MF: C<sub>21</sub>H<sub>32</sub>O<sub>4</sub>

FW: 348.5

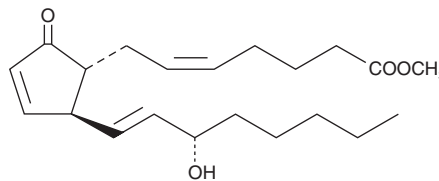
Purity: ≥98%

UV/Vis.: λ<sub>max</sub>: 215 nm

Supplied as: A solution in ethanol

Storage: -20°C

Stability: As supplied, 1 year from the QC date provided on the Certificate of Analysis, when stored properly



### Laboratory Procedures

Prostaglandin A<sub>2</sub> methyl ester (PGA<sub>2</sub> methyl ester) is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as DMSO and dimethyl formamide purged with an inert gas can be used. The solubility of PGA<sub>2</sub> methyl ester in these solvents is approximately 50 mg/ml.

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> methyl ester is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of PGA<sub>2</sub> methyl ester in PBS, pH 7.2, is approximately 2 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 PG in gorgonian corals where it may function in self defense. At a 25 μM concentration, PGA<sub>2</sub> blocks the cell cycle progression of NIH 3T3 cells at G<sub>1</sub> and G<sub>2</sub>/M by preventing activation of cyclin-dependent kinases.<sup>1</sup> At similar concentrations, it stabilizes transcripts for the tumor suppressor SMAR1, downregulating cyclin D1 expression.<sup>2</sup> PGA<sub>2</sub> also induces apoptosis in HL-60 cells.<sup>3</sup> PGA<sub>2</sub> methyl ester is a lipophilic analog of PGA<sub>2</sub> which may be more amenable for certain formulations or applications. Its biological properties have not been evaluated.

### References

1. Hitomi, M., Shu, J., Strom, D., *et al.* Prostaglandin A<sub>2</sub> blocks the activation of G<sub>1</sub> phase cyclin-dependent kinase without altering mitogen-activated protein kinase stimulation. *J. Biol. Chem.* **271**, 9376-9383 (1996).
2. Pavithra, L., Rampalli, S., Sinha, S., *et al.* Stabilization of SMAR1 mRNA by PGA<sub>2</sub> involves a stem-loop structure in the 5' UTR. *Nucleic Acids Res.* **35(18)**, 6004-6016 (2007).
3. Lee, S.-Y., Ahn, J.-H., Ko, K.W., *et al.* Prostaglandin A<sub>2</sub> activates intrinsic apoptotic pathway by direct interaction with mitochondria in HL-60 cells. *Prostaglandins Other Lipid Mediat.* **91**, 30-37 (2010).

#### 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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