



# SZABO SCANDIC

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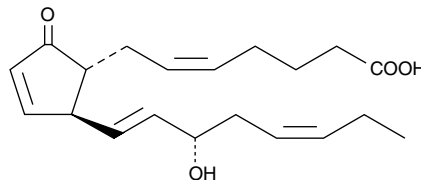
# Product Information



## Prostaglandin A<sub>3</sub>

Item No. 10310

**CAS Registry No.:** 36614-31-0  
**Formal Name:** 9-oxo-15S-hydroxy-prosta-5Z,10,13E,17Z-tetraen-1-oic acid  
**MF:** C<sub>20</sub>H<sub>28</sub>O<sub>4</sub>  
**FW:** 332.4  
**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>3</sub> (PGA<sub>3</sub>) be stored as supplied at -20°C. It should be stable for at least one year.

PGA<sub>3</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 ethanol, DMSO, or dimethyl formamide purged with an inert gas can be used. The solubility of PGA<sub>3</sub> in these solvents is approximately 100, 50, and 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>3</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>3</sub> in PBS, pH 7.2, is approximately 2.4 mg/ml. We do not recommend storing the aqueous solution for more than one day.

COX metabolism of EPA to produce PGE<sub>3</sub> has been reported in biosynthetic preparations of ovine seminal vesicles and in the ocular tissues of primates.<sup>1-2</sup> PGA<sub>3</sub> is an expected non-enzymatic dehydration product of this PGE. PGA<sub>3</sub> exhibits good affinity for the canine EP<sub>2</sub> and EP<sub>4</sub> receptors with IC<sub>50</sub> values of 120 nM and 20 nM, respectively, in a radioligand binding assay.<sup>3,4</sup> PGA<sub>3</sub> has weak affinity for human PPARγ, with a K<sub>i</sub> value of 188 μM.<sup>5</sup>

### References

1. Lohmus, M., Vahemets, A., Järving, I., *et al.* Preparative separation of natural prostaglandins E. *Preparative Chromatography* **1**, 279-300 (1991).
2. Kulkarni, P.S., Kaufman, P.L., and Srinivasan, B.D. Eicosapentaenoic acid metabolism in cynomolgus and rhesus conjunctiva and eyelid. *J. Ocul. Pharmacol.* **3**, 349-356 (1987).
3. Hibbs, T.A., Lu, B., Smock, S.L., *et al.* Molecular cloning and characterization of the canine prostaglandin E receptor EP<sub>2</sub> subtype. *Prostaglandins and Other Lipid Mediators* **57**, 133-147 (1999).
4. Castleberry, T.A., Lu, B., Smock, S.L., *et al.* Molecular cloning and functional characterization of the canine prostaglandin E<sub>2</sub> receptor EP<sub>4</sub> subtype. *Prostaglandins and Other Lipid Mediators* **65**, 167-187 (2001).
5. Ferry, G., Bruneau, V., Beauverger, P., *et al.* Binding of prostaglandins to human PPARγ: tool assessment and new natural ligands. *Eur. J. Pharmacol.* **417**, 77-89 (2001).

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