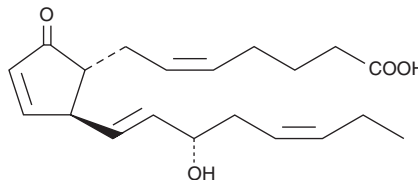


# PRODUCT INFORMATION



## 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  
**Synonym:** PGA<sub>3</sub>  
**MF:** C<sub>20</sub>H<sub>28</sub>O<sub>4</sub>  
**FW:** 332.4  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 216 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

Prostaglandin A<sub>3</sub> (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, and 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.

PGA<sub>3</sub> is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the methyl acetate solution of PGA<sub>3</sub> should be diluted with the aqueous buffer of choice. 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.

### Description

Cyclooxygenase metabolism of EPA to produce Prostaglandin E<sub>3</sub> (PGE<sub>3</sub>) has been reported in biosynthetic preparations of ovine seminal vesicles<sup>1</sup> and in the ocular tissues of primates.<sup>2</sup> PGA<sub>3</sub> is an expected non-enzymatic dehydration product of this PGE<sub>3</sub>. 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(3)**, 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(4)**, 349-356 (1987).
3. Hibbs, T.A., Lu, B., Smock, S.L., *et al.* Molecular cloning and characterization of the canine prostaglandin E receptor EP2 subtype. *Prostaglandins and Other Lipid Mediators* **57(2-3)**, 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 EP4 subtype. *Prostaglandins and Other Lipid Mediators* **65(4)**, 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(1-2)**, 77-89 (2001).

#### 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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