

# Product Information



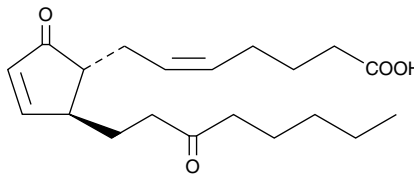
## 13,14-dihydro-15-keto Prostaglandin A<sub>2</sub> Lipid Maps MS Standard

Item No. 10007200

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**CAS Registry No.:** 74872-89-2  
**Formal Name:** 9,15-dioxo-prosta-5Z,10-dien-1-oic acid  
**Synonym:** 13,14-dh-15-k PGA<sub>2</sub>  
**MF:** C<sub>20</sub>H<sub>30</sub>O<sub>4</sub>  
**FW:** 334.5  
**Purity:** ≥98%  
**Stability:** ≥2 years at -20°C  
**Supplied as:** A solution in methyl acetate  
**UV/Vis.:** λ<sub>max</sub>: 216 nm ε: 11,300



### Laboratory Procedures

13,14-dihydro-15-keto Prostaglandin A<sub>2</sub> (13,14-dh-15-k PGA<sub>2</sub>) is a by-product of PGE<sub>2</sub> metabolism.<sup>1</sup> For long term storage, we suggest that 13,14-dh-15-k PGA<sub>2</sub> be stored as supplied at -20°C. It should be stable for at least two years.

13,14-dh-15-k 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, dimethyl formamide, or ethanol purged with an inert gas can be used. The solubility of 13,14-dh-15-k PGA<sub>2</sub> in these solvents is approximately 50 mg/ml. 13,14-dh-15-k PGA<sub>2</sub> 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. Organic solvent-free solutions of 13,14-dh-15-k PGA<sub>2</sub> can be prepared by evaporating the methyl acetate and directly dissolving the neat oil in aqueous buffers. The solubility of 13,14-dh-15-k PGA<sub>2</sub> in PBS (pH 7.2) is approximately 2.4 mg/ml. Avoid adding 13,14-dh-15-k PGA<sub>2</sub> to basic solutions (pH > 7.4) as base treatment will convert 13,14-dh-15-k PGA<sub>2</sub> into 13,14-dihydro-15-keto PGB<sub>2</sub> and bicyclo PGE<sub>2</sub>. The presence of albumin increases the rate of decomposition and binds a portion of the metabolites.<sup>1</sup> We do not recommend storing the aqueous solution for more than one day.

PGE<sub>2</sub> is metabolized rapidly to 13,14-dh-15-k PGE<sub>2</sub>, which is present in the plasma of humans and other mammals. 13,14-dh-15-k PGA<sub>2</sub> results from the non-enzymatic dehydration of 13,14-dh-15-k PGE<sub>2</sub>, a process which is accelerated by the presence of albumin.<sup>1,2</sup> Further decomposition of 13,14-dh-15-k PGA<sub>2</sub> by the intentional addition of base produces bicyclo PGE<sub>2</sub>, a stable marker of PGE<sub>2</sub> biosynthesis.<sup>2</sup>

### References

1. Granström, E., Hamberg, M., Hansson, G., *et al.* Chemical instability of 15-keto-13,14-dihydro-PGE<sub>2</sub>; The reason for low assay reliability. *Prostaglandins* **19**, 933-945 (1980).
2. Fitzpatrick, F.A., Aguirre, R., Pike, J.E., *et al.* The stability of 13,14-dihydro-15 keto-PGE<sub>2</sub>. *Prostaglandins* **19**, 917-931 (1980).

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### Cayman Chemical

**Mailing address**  
1180 E. Ellsworth Road  
Ann Arbor, MI  
48108 USA

**Phone**  
(800) 364-9897  
(734) 971-3335

**Fax**  
(734) 971-3640

**E-Mail**  
custserv@caymanchem.com

**Web**  
[www.caymanchem.com](http://www.caymanchem.com)