

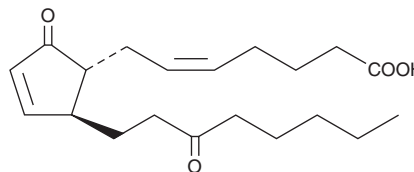
# PRODUCT INFORMATION



## 13,14-dihydro-15-keto Prostaglandin A<sub>2</sub>

Item No. 10260

CAS Registry No.: 74872-89-2  
Formal Name: 9,15-dioxo-prosta-5Z,10-dien-1-oic acid  
Synonym: 13,14-dihydro-15-keto 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-dihydro-15-keto PGA<sub>2</sub>) is a byproduct of PGE<sub>2</sub> metabolism.<sup>1</sup> For long term storage, we suggest that 13,14-dihydro-15-keto PGA<sub>2</sub> be stored as supplied at -20°C. It should be stable for at least two years.

13,14-dihydro-15-keto 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-dihydro-15-keto PGA<sub>2</sub> in these solvents is approximately 50 mg/ml. 13,14-dihydro-15-keto 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-dihydro-15-keto 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-dihydro-15-keto PGA<sub>2</sub> in PBS (pH 7.2) is approximately 2.4 mg/ml. Avoid adding 13,14-dihydro-15-keto PGA<sub>2</sub> to basic solutions (pH > 7.4) as base treatment will convert 13,14-dihydro-15-keto 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.

### Description

PGE<sub>2</sub> is metabolized rapidly to 13,14-dihydro-15-keto PGE<sub>2</sub>, which is present in the plasma of humans and other mammals. 13,14-dihydro-15-keto PGA<sub>2</sub> results from the non-enzymatic dehydration of 13,14-dihydro-15-keto PGE<sub>2</sub>, a process which is accelerated by the presence of albumin.<sup>1,2</sup> Further decomposition of 13,14-dihydro-15-keto 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).

#### 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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