11β-13,14-dihydro-15-keto Prostaglandin F$_{2α}$

**Product Information**

**CAS Registry No.:** 107615-77-0  
**Formal Name:** 9α,11β-dihydroxy-15-oxo-prost-5Z-en-1-oic acid  
**Synonyms:** 11β,13,14-dihydro-15-keto PGF$_{2α}$, 11-epi 13,14-dihydro-15-keto PGF$_{2α}$  
**MF:** C$_{20}$H$_{34}$O$_5$  
**FW:** 354.5  
**Purity:** ≥95%  
**Supplied as:** A solution in methyl acetate  
**Storage:** -20°C  
**Stability:** As supplied, 1 year from the QC date provided on the Certificate of Analysis, when stored properly.

**Laboratory Procedures**

11β-13,14-dihydro-15-keto PGF$_{2α}$ 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 11β-13,14-dihydro-15-keto PGF$_{2α}$ in these solvents is approximately 100 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 11β-13,14-dihydro-15-keto PGF$_{2α}$ is needed, it can be prepared by evaporating the methyl acetate and directly dissolving the neat oil in aqueous buffers. The solubility of 11β-13,14-dihydro-15-keto PGF$_{2α}$ in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

**Description**

11β-13,14-dihydro-15-keto PGF$_{2α}$ is a metabolite of PGD$_2$ in the 15-hydroxy PGDH pathway.$^{1,2}$ Infusion or inhalation of tritiated PGD$_2$ in normal males results in the appearance of peak levels of both 11β-PGF$_{2α}$ as the immediate product, and 11β-13,14-dihydro-15-keto PGF$_{2α}$ in the plasma within 10 minutes.$^1$ Homogenates of human lung metabolize PGD$_2$ first to 11β-PGF$_{2α}$ and then to 11β-15-keto-PGF$_{2α}$ in the presence of NAD$^+$, but not 11β-13,14-dihydro-15-keto PGF$_{2α}$.$^2$ Guinea pig liver and kidney homogenates metabolize PGD$_2$ to 11β-13,14-dihydro-15-keto PGF$_{2α}$ via 11β-PGF$_{2α}$, in the presence of NAD$^+$ and NADP$^+$. $^2$

**References**