15(R)-15-methyl Prostaglandin F$_{2\alpha}$

**Item No. 16730**

**CAS Registry No.:** 35864-81-4  
**Formal Name:** 9α,11α,15R-trihydroxy-15-methyl-prosta-5Z,13E-dien-1-oic acid  
**Synonym:** 15(R)-15-methyl PGF$_{2\alpha}$  
**MF:** C$_{21}$H$_{36}$O$_5$  
**FW:** 368.5  
**Purity:** ≥95%  
**Supplied as:** A solution in methyl acetate  
**Storage:** -20°C  
**Stability:** ≥1 year

**Laboratory Procedures**

15(R)-15-methyl Prostaglandin F$_{2\alpha}$ (15(R)-15-methyl PGF$_{2\alpha}$) 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 15(R)-15-methyl PGF$_{2\alpha}$ in these solvents is approximately 100 mg/ml. The solubility of 15(R)-15-methyl PGF$_{2\alpha}$ in 10 mM Na$_2$CO$_3$ is approximately 6.5 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 15(R)-15-methyl PGF$_{2\alpha}$ is needed, it can be prepared by evaporating the methyl acetate and directly dissolving the neat oil in aqueous buffers. The solubility of 15(R)-15-methyl PGF$_{2\alpha}$ in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

**Description**

15(R)-15-methyl PGF$_{2\alpha}$ is a metabolically stable analog of PGF$_{2\alpha}$. 15(R)-15-methyl PGF$_{2\alpha}$ is an inactive, prodrug PGF agonist designed for activation by gastric acid after oral administration. Acid-catalyzed epimerization of 15(R)-15-methyl PGF$_{2\alpha}$ converts it into the active 15(S)-isomer.$^{1,2}$ The 15(S)-isomer induces luteolysis when injected in rhesus monkeys at a dose of about 12 mg/animal, while the 15(R)-isomer does not.$^3$

**References**

