19(R)-hydroxy Prostaglandin F_{2α}

**CAS Registry No:** 64625-53-2  
**Formal Name:** 9α,11α,15S,19R-tetrahydroxy-prosta-5Z,13E-dien-1-oic acid  
**Synonym:** 19(R)-hydroxy PGF_{2α}  
**MF:** C_{20}H_{34}O_{6}  
**FW:** 370.5  
**Purity:** ≥98%  
**Stability:** ≥1 year at -20°C  
**Supplied as:** A solution in ethanol

**Laboratory Procedures**

For long term storage, we suggest that 19(R)-hydroxy prostaglandin F_{2α} (19(R)-hydroxy PGF_{2α}) be stored as supplied at -20°C. It should be stable for at least one year.

19(R)-hydroxy PGF_{2α} is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as DMSO or dimethyl formamide purged with an inert gas can be used. The solubility of 19(R)-hydroxy 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 aqueous solution of 19(R)-hydroxy PGF_{2α} is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of 19(R)-hydroxy PGF_{2α} in PBS (pH 7.2) is approximately 6 mg/ml. To obtain higher aqueous concentrations, we suggest using basic buffers. Store aqueous solutions of 19(R)-hydroxy PGF_{2α} on ice and use within 12 hours of preparation. Although the aqueous solutions of 19(R)-hydroxy PGF_{2α} may be stable for more than 12 hours, we strongly recommend using a fresh preparation each day.

19(R)-hydroxy PGF_{2α} is a metabolite of PGF_{2α} found in human semen. 19(R)-hydroxy PGF_{2α} is present in fresh semen with 19(R)-hydroxy PGF_{1α} for a combined concentration of 20 μg/ml. 19(R)-hydroxy PGF_{2α} exhibits no activity at the FP receptor of the cat iris sphincter muscle at concentrations up to 1 μM.

**References**


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