17,20-dimethyl Prostaglandin F$_1$$\alpha$

**Item No. 15790**

**Formal Name:** 9α,11α,15S-trihydroxy-17S,20-dimethyl-prost-13E-en-1-oic acid

**Synonym:** 17,20-dimethyl PGF$_{1\alpha}$

**MF:** C$_{22}$H$_{40}$O$_5$

**FW:** 386.5

**Purity:** ≥95%

**Stability:** ≥1 year at -20°C

**Supplied as:** A crystalline solid

**Laboratory Procedures**

17,20-dimethyl Prostaglandin F$_{1\alpha}$ (17,20-dimethyl PGF$_{1\alpha}$) is an analog of the limaprost family with structural modifications intended to give it a prolonged half life and greater potency. For long term storage, we suggest that 17,20-dimethyl PGF$_{1\alpha}$ be stored as supplied at -20°C. It will be stable for approximately one year.

17,20-dimethyl PGF$_{1\alpha}$ is supplied as a crystalline solid. A stock solution may be made by dissolving the 17,20-dimethyl PGF$_{1\alpha}$ in an organic solvent. 17,20-dimethyl PGF$_{1\alpha}$ is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 17,20-dimethyl PGF$_{1\alpha}$ in these solvents is approximately 30 mg/ml. 17,20-dimethyl PGF$_{1\alpha}$ will be 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 aqueous solutions of 17,20-dimethyl PGF$_{1\alpha}$ can be prepared by directly dissolving the crystalline compound in aqueous buffers. The solubility of 17,20-dimethyl PGF$_{1\alpha}$ in PBS (pH 7.2) is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Limaprost is an analog of PGE$_1$, which is orally active in both rats and guinea pigs. The additional methyl groups in the lower side chain confer a 10-1000 fold increase in potency over the parent compound. 17,20-dimethyl PGF$_{1\alpha}$ has lower side chain modifications identical to limaprost. There are no published reports describing the pharmacology of 17,20-dimethyl PGF$_{1\alpha}$.

**Reference**


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