Prostaglandin F$_{3\alpha}$

Catalog No. 16990

CAS Registry No.: 745-64-2
Synonym: PGF$_{3\alpha}$
MF: C$_{20}$H$_{32}$O$_5$
FW: 352.5
Purity: $\geq$98%
Stability: $\geq$1 year at -20°C
Supplied as: A solution in methyl acetate

Laboratory Procedures

For long term storage, we suggest that prostaglandin F$_{3\alpha}$ (PGF$_{3\alpha}$) be stored as supplied at -20°C. It should be stable for at least one year.

PGF$_{3\alpha}$ 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, or dimethyl formamide purged with an inert gas can be used. The solubility of PGF$_{3\alpha}$ 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 PGF$_{3\alpha}$ is needed, it can be prepared by evaporating the methyl acetate and directly dissolving the neat oil in aqueous buffers. The solubility of PGF$_{3\alpha}$ in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

PGF$_{3\alpha}$ is a cyclooxygenase product of eicosapentaenoic acid (EPA). PGF$_{3\alpha}$ is a cyclooxygenase product of EPA found in ocular tissues. In human and rabbit anterior uvea, $[^{14}C]$-PGF$_{3\alpha}$ is the major cyclooxygenase product comprising of 8.4% and 15.8%, of the recovered radioactivity, respectively. PGF$_{3\alpha}$ and other 3-series cyclooxygenase products may be involved in the reduced incidence of glaucoma in patients with a marine-rich (EPA-rich) diet.

Reference