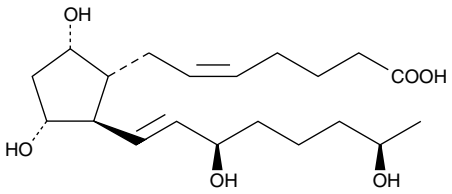
Product Information

15(R),19(R)-hydroxy Prostaglandin $F_{2\alpha}$

Item No. 16920

CAS Registry No.: 1224444-23-8
Formal Name: 9α,11α,15R,19R-tetrahydroxy-prosta-5Z,13E-dien-1-oic acid
Synonym: 15(R),19(R)-hydroxy $PGF_{2\alpha}$
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 15(R),19(R)-hydroxy prostaglandin $F_{2\alpha}$ (15(R),19(R)-hydroxy $PGF_{2\alpha}$) be stored as supplied at -20°C. It should be stable for at least one year.

15(R),19(R)-hydroxy $PGF_{2\alpha}$ 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 and dimethyl formamide purged with an inert gas can be used. The solubility of 15(R),19(R)-hydroxy $PGF_{2\alpha}$ 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 solution of 15(R),19(R)-hydroxy $PGF_{2\alpha}$ is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of 15(R),19(R)-hydroxy $PGF_{2\alpha}$ in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

19(R)-Hydroxylated PGs occur in µg/ml concentrations in the semen of certain mammalian species, especially primates. In the case of humans, the compounds are primarily of the PGE series, and the hydroxyl stereochemistry is 15(S),19(R).[1] 19(R)-Hydroxylated PGs are also found in the seminal plasma of marsupials, where F-type compounds of the 1 and 2-series predominate.[2] The 15(R)-hydroxy epimer of these 19-hydroxylated PGs is the inverse or 'unnatural' isomer at C-15. The biological role of 19(R)-hydroxylated PGs is not well established. In the F-series, 19(R)-hydroxylation is associated with a significant loss of receptor-mediated biological activity in some assays.[3]

References

1. Cooper, I. and Kelly, R.W. The measurement of E and 19-hydroxy E prostaglandins in human seminal plasma. *Prostaglandins* **10**, 507-514 (1975).
2. Marley, P.B., Rodger, J.C., White, I.G., *et al.* 19-Hydroxylated prostaglandins in the semen of the marsupial *Trichosurus vulpecula* (brush-tailed possum). *Comp. Biochem. Physiol.* **70B**, 619-621 (1981).
3. Woodward, D.F., Protzman, C.E., Krauss, A.H.P., *et al.* Identification of 19(R)-OH prostaglandin E_2 as a selective prostanoid EP2-receptor agonist. *Prostaglandins* **46**, 371-383 (1993).

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