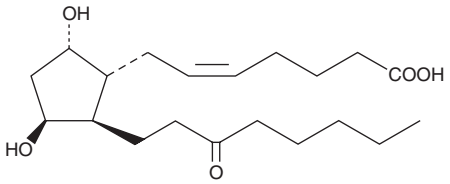
PRODUCT INFORMATION

11β-13,14-dihydro-15-keto Prostaglandin $F_{2\alpha}$

Item No. 16540

CAS Registry No.: 107615-77-0
Formal Name: 9α,11β-dihydroxy-15-oxo-prost-5Z-en-1-oic acid
Synonyms: 11β-13,14-dihydro-15-keto $PGF_{2\alpha}$, 11-*epi* 13,14-dihydro-15-keto $PGF_{2\alpha}$
MF: $C_{20}H_{34}O_5$
FW: 354.5
Purity: ≥95%
Supplied as: A solution in methyl acetate
Storage: -20°C
Stability: ≥1 year



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

11β-13,14-dihydro-15-keto $PGF_{2\alpha}$ 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 11β-13,14-dihydro-15-keto $PGF_{2\alpha}$ 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 11β-13,14-dihydro-15-keto $PGF_{2\alpha}$ is needed, it can be prepared by evaporating the methyl acetate and directly dissolving the neat oil in aqueous buffers. The solubility of 11β-13,14-dihydro-15-keto $PGF_{2\alpha}$ in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

11β-13,14-dihydro-15-keto $PGF_{2\alpha}$ is a metabolite of PGD_2 (Item No. 12010) in the 15-hydroxy PGDH pathway.[1,2] Infusion or inhalation of tritiated PGD_2 in normal males results in the appearance of peak levels of both 11β-$PGF_{2\alpha}$, as the immediate product, and 11β-13,14-dihydro-15-keto $PGF_{2\alpha}$ in the plasma within 10 minutes.[1] Homogenates of human lung metabolize PGD_2 first to 11β-$PGF_{2\alpha}$ and then to 11β-15-keto-$PGF_{2\alpha}$ in the presence of NAD^+, but not 11β-13,14-dihydro-15-keto $PGF_{2\alpha}$.[2] Guinea pig liver and kidney homogenates metabolize PGD_2 to 11β-13,14-dihydro-15-keto $PGF_{2\alpha}$, *via* 11β-$PGF_{2\alpha}$, in the presence of NAD^+ and $NADP^+$.[2]

References

1. Robinson, C., Hardy, C.C., and Holgate, S.T. The metabloism of prostaglandin D_2 after inhalation or intravenous infusion in normal men. *Biochim. Biophys. Acta* **963,** 151-161 (1988).
2. Robinson, C., Herbert, C.A., Bedwell, S., *et al.* The metabolism of prostaglandin D_2. Evidence for the sequential conversion by NADPH and NAD^+ dependent pathways. *Biochem. Pharmacol.* **38(19),** 3267-3271 (1989).

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