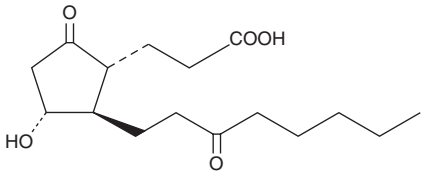
PRODUCT INFORMATION

13,14-dihydro-15-keto-tetranor Prostaglandin E_2

Item No. 13101

CAS Registry No.: 20675-85-8
Formal Name: [1R-(1α,2β,3α)]-3-hydroxy-5-oxo-2-(3-oxooctyl)-cyclopentanepropanoic acid
Synonym: 13,14-dihydro-15-keto-tetranor PGE_2
MF: $C_{16}H_{26}O_5$
FW: 298.4
Purity: ≥95%
Supplied as: A solution in ethanol
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

13,14-dihydro-15-keto-tetranor Prostaglandin E_2 (13,14-dihydro-15-keto-tetranor PGE_2) 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 13,14-dihydro-15-keto-tetranor PGE_2 in these solvents is approximately 50 mg/ml.

13,14-dihydro-15-keto-tetranor PGE_2 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the ethanolic solution of 13,14-dihydro-15-keto-tetranor PGE_2 should be diluted with the aqueous buffer of choice. The solubility of 13,14-dihydro-15-keto-tetranor PGE_2 in PBS (pH 7.2) is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

A common metabolic pathway for several prostaglandins (PG), including PGE_2, involves the reduction of the double bond between C-13 and C-14 and oxidation of the hydroxyl group at C-15, producing 13,14-dihydro-15-keto PGs. The removal of four carbons at the α-terminus and oxidation of the terminal ω-carbon produces the abundant urinary metabolites, including tetranor PGEM.[1] 13,14-dihydro-15-keto-tetranor PGE_2 is a potential metabolite of PGE_2. It would be produced from the known metabolite 13,14-dihydro-15-keto PGE_2 (Item No. 14650), which is known to have a short plasma half-life.[2-4]

References

1. Hamberg, M. Inhibition of prostaglandin synthesis in man. *Biochem. Biophys. Res. Commun.* **49(3)**, 720-726 (1972).
2. Bothwell, W., Verburg, M., Wynalda, M., *et al.* A radioimmunoassay for the unstable pulmonary metabolites of prostaglandin E_1 and E_2: An indirect index of their *in vivo* disposition and pharmacokinetics. *J. Pharmacol. Exp. Ther.* **220(2)**, 229-235 (1982).
3. Fitzpatrick, F.A., Aguirre, R., Pike, J.E., *et al.* The stability of 13,14-dihydro-15 keto-PGE_2. *Prostaglandins* **19(6)**, 917-931 (1980).
4. Granström, E., Hamberg, M., Hansson, G., *et al.* Chemical instability of 15-keto-13,14-dihydro-PGE_2: The reason for low assay reliability. *Prostaglandins* **19(6)**, 933-945 (1980).

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