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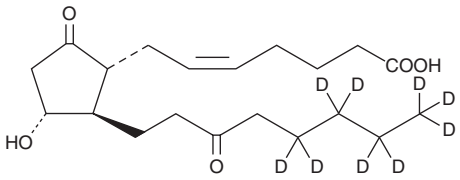
PRODUCT INFORMATION

13,14-dihydro-15-keto Prostaglandin E_2-d_9

Item No. 19348

Formal Name: (Z)-7-((1R,2R,3R)-3-hydroxy-5-oxo-2-(3-oxooctyl-5,5,6,6,7,7,8,8,8-d_9)cyclopentyl)hept-5-enoic acid
Synonyms: 13,14-dihydro-15-keto PGE_2-d_9, 13,14-dihydro-oxo-PGE_2-d_9, PGEM-d_9
MF: $C_{20}H_{23}D_9O_5$
FW: 361.5
Chemical Purity: ≥98% (13,14-dihydro-15-keto PGE_2)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_9); ≤1% d_0
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

13,14-dihydro-15-keto Prostaglandin E_2-d_9 (13,14-dihydro-15-keto PGE_2-d_9) is intended for use as an internal standard for the quantification of 13,14-dihydro-15-keto PGE_2 (Item No. 14650) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

13,14-dihydro-15-keto PGE_2-d_9 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 13,14-dihydro-15-keto PGE_2-d_9 in these solvents is approximately 50 mg/ml.

Description

13,14-dihydro-15-keto-Prostaglandin E_2-d_9 (13,14-dihydro-15-keto PGE_2-d_9) is intended for use as an internal standard for the quantification of 13,14-dihydro-15-keto PGE_2 (Item No. 14650) by GC- or LC-MS. 13,14-dihydro-15-keto PGE_2 is a metabolite of PGE_2 (Item No. 14010) and the primary PGE_2 metabolite in plasma.[1,2] It is formed from PGE_2 *via* a 15-keto PGE_2 intermediate by 15-oxo-PG Δ^{13} reductase.[1] Unlike PGE_2, 13,14-dihydro-15-keto PGE_2 does not bind effectively to the PGE_2 receptors EP_2 and EP_4 expressed in CHO cells (K_is = 12 and 57 µM, respectively) or induce adenylate cyclase activity in the same cells (EC_{50}s = >18 and >38 µM, respectively). Levels of 13,14-dihydro-15-keto PGE_2 are increased in the plasma of women in the third trimester of pregnancy and in women during and immediately after labor and delivery.[3] Levels of 13,14-dihydro-15-keto PGE_2 levels are decreased in tumor tissue compared to adjacent non-cancerous tissue isolated from patients with non-small cell lung cancer (NSCLC).[4]

References

1. Hamberg, M., and Samuelsson, B. *J. Biol. Chem.* **246(22)**, 6713-6721 (1971).
2. Nishigaki, N., Negishi, M., and Ichikawa, A. *Mol. Pharmacol.* **50(4)**, 1031-1037 (1996).
3. Husslein, P. and Sinzinger, H. *Br. J. Obstet. Gynaecol.* **91(3)**, 228-231 (1984).
4. Hughes, D., Otani, T., Yang, P., *et al. Cancer Prev. Res. (Phila)* **1(4)**, 241-249 (2008).

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