

PRODUCT INFORMATION



13,14-dihydro-15-keto Prostaglandin D₂-d₄

Item No. 10007978

Formal Name: 9 α -hydroxy-11,15-dioxo-prost-5Z-en-1-oic-3,3,4,4-d₄ acid

Synonym: 13,14-dihydro-15-keto PGD₂-d₄

MF: C₂₀H₂₈D₄O₅

FW: 356.5

Chemical Purity: \geq 95% 13,14-dihydro-15-keto PGD₂-d₄

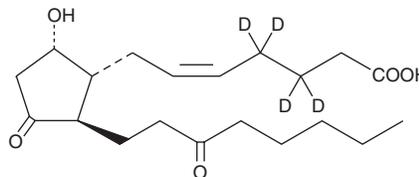
Deuterium

Incorporation: \geq 99% deuterated forms (d₁-d₄); \leq 1% d₀

Supplied as: A solution in methyl acetate

Storage: -20°C

Stability: As supplied, 1 year from the QC date provided on the Certificate of Analysis, when stored properly



Laboratory Procedures

13,14-dihydro-15-keto Prostaglandin D₂-d₄ (13,14-dihydro-15-keto PGD₂-d₄) contains four deuterium atoms at the 3, 3', 4, and 4' positions. It is intended for use as an internal standard for the quantification of 13,14-dihydro-15-keto PGD₂ 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 PGD₂-d₄ 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 PGD₂-d₄ in these solvents is at least 50 mg/ml.

Description

13,14-dihydro-15-keto PGD₂ is a metabolite of PGD₂ which is formed through the 15-hydroxy PGDH pathway. 13,14-dihydro-15-keto PGD₂ was recently identified as a selective agonist for the CRTH2/DP₂ receptor.¹ It also inhibits ion flux in a canine colonic mucosa preparation.² In humans, 13,14-dihydro-15-keto PGD₂ is further metabolized to give 11 β -hydroxy compounds which have also undergone β -oxidation of one or both side chains. Virtually no 13,14-dihydro-15-keto PGD₂ survives intact in the urine.^{3,4}

References

1. Rangachari, P.K. and Betti, P.-A. Biological activity of metabolites of PGD₂ on canine proximal colon. *Am. J. Physiol.* **264**, G886-G894 (1993).
2. Hirai, H., Tanaka, K., Yoshie, O., *et al.* Prostaglandin D₂ selectivity induces chemotaxis in T helper type 2 cells, eosinophils, and basophils via seven-transmembrane receptor CRTH2. *J. Exp. Med.* **193**(2), 255-261 (2001).
3. Liston, T.E. and Roberts, L.J., II Metabolic fate of radiolabeled prostaglandin D₂ in a normal human male volunteer. *J. Biol. Chem.* **260**, 13172-13180 (1985).
4. Morrow, J.D., Prakash, C., Awad, J.A., *et al.* Quantification of the major urinary metabolite of prostaglandin D₂ by a stable isotope dilution mass spectrometric assay. *Anal. Biochem.* **193**, 142-148 (1991).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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