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PRODUCT INFORMATION



(±)5-iPF_{2α}-VI-d₁₁
Item No. 10006654

CAS Registry No.: 936565-17-2

Formal Name: (±)5,9α,11α-trihydroxy-(8β)-prosta-6E,14Z-dien-1-oic-16,16,17,17,18,18,19,19,20,20,20-d₁₁ acid

MF: C₂₀H₂₃D₁₁O₅

FW: 365.6

Chemical Purity: ≥90% ((±)5-iPF_{2α}-VI)

Deuterium

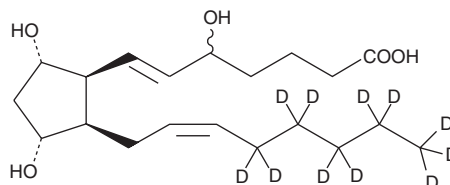
Incorporation: ≥99% deuterated forms (d₁-d₁₁); ≤1% d₀

Supplied as: A solution in ethanol

Storage: -20°C

Stability: ≥1 year

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



Laboratory Procedures

(±)5-iPF_{2α}-VI-d₁₁ contains 11 deuterium atoms at the 16, 16', 17, 17', 18, 18', 19, 19', 20, 20, and 20 positions. (±)5-iPF_{2α}-VI-d₁₁ is intended for use as an internal standard for quantification of (±)5-iPF_{2α}-VI (Item No. 16300) by GC- or LC-mass spectrometry (MS).

(±)5-iPF_{2α}-VI-d₁₁ 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 (±)5-iPF_{2α}-VI-d₁₁ in these solvents is approximately 50 mg/ml.

(±)5-iPF_{2α}-VI-d₁₁ is used as an internal standard for the quantification of (±)5-iPF_{2α}-VI by stable isotope dilution MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the weight indicated on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard (±)5-iPF_{2α}-VI by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Description

Isoprostanes are prostaglandin (PG)-like products of free-radical induced lipid peroxidation.¹ Although the isoprostanes derived from arachidonic acid are the best characterized, many other polyunsaturated fatty acids can form isoprostanes.² iPF_{2α}-VI is one of dozens of possible stereo- and regioisomeric isoprostanes which can be formed from arachidonic acid. To date, the most extensively studied of these is 8-isoprostane (8-*epi*-PGF_{2α}; iPF_{2α}-III).^{3,4} However, 8-isoprostane is a minor isoprostane constituent when compared to some of the other isomers which form in natural conditions of oxidative stress,⁵ including iPF_{2α}-VI of the type-VI isoprostanes. This class has been shown to be one of the major isoprostane products, in contrast to 8-isoprostane. In addition to being produced in greater abundance than 8-isoprostane, type VI isoprostanes form internal lactones which facilitate their extraction and purification from biological samples.⁵⁻⁸

References

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5. Reilly, M.P., Pratico, D., Delanty, N., et al. *Circulation* **98**, 2822-2828 (1998).
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8. Praticò, D., Barry, O.P., Lawson, J.A., et al. *Proc. Natl. Acad. Sci. USA* **95**, 3449-3454 (1998).

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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