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Product Information



15-deoxy- $\Delta^{12,14}$ -Prostaglandin J₂-d₄

Item No. 318570

CAS Registry No.: 1542166-82-4

11-oxo-prosta-5Z,9,12E,14E-tetraen-1-Formal Name:

oic-3,3,4,4-d₄ acid

MF: $C_{20}H_{24}D_4O_3$ FW: 320.5 **Chemical Purity:** ≥98%

Deuterium

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

Stability: ≥1 year at -20°C

Supplied as: A solution in methyl acetate UV/Vis.: $λ_{max}$: 306 nm ε: 18,000

COOH

Laboratory Procedures

15-deoxy- $\Delta^{12,14}$ -Prostaglandin J_2 -d₄ (15-deoxy- $\Delta^{12,14}$ -PG J_2 -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 15-deoxy- $\Delta^{12,14}$ -PGJ, by GC- or LC-mass spectrometry (MS). For long term storage, we suggest that 15-deoxy-Δ^{12,14}-PGJ₂-d₄ be stored as supplied at -20°C. It should be stable for at least one year.

15-deoxy- $\Delta^{12,14}$ -PGJ $_2$ -d $_4$ 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, or dimethyl formamide purged with an inert gas can be used. The solubility of 15-deoxy- $\Delta^{12,14}$ -PGJ $_2$ -d $_4$ in these solvents is approximately 20 mg/ml.

15-deoxy- $\Delta^{12,14}$ -PGJ₂-d₄ is used as an internal standard for the quantification of 15-deoxy- $\Delta^{12,14}$ -PGJ₂ 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 quantified against a more precisely weighed unlabeled standard of 15-deoxy- $\Delta^{12,14}$ -PGJ₂ by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

15-deoxy- $\Delta^{12,14}$ -Prostaglandin J_2 (15-deoxy- $\Delta^{12,14}$ -PG J_2) is a metabolite of PG J_2 . 15-deoxy- $\Delta^{12,14}$ -PG J_2 is formed from PGD₂ by the elimination of two molecules of water. It binds selectively to PPAR γ with an EC₅₀ of 2 μ M in a murine chimera system. 1,2 15-deoxy- $\Delta^{12,14}$ -PGJ $_2$ is more potent than PGD $_2$, Δ^{12} -PGJ $_2$, and PGJ $_2$ in stimulating lipogenesis in C3H10T1/2 cells. The EC₅₀ for induction of adipocyte differentiation in cultured fibroblasts is 7 µM. ¹

References

- 1. Kliewer, S.A., Lenhard, J.M., Willson, T.M., et al. A prostaglandin J, metabolite binds peroxisome proliferatoractivated receptor γ promotes adipocyte differentiation. *Cell* **83**, 813-819 (1995).
- 2. Forman, B.M., Tontonoz, P., Chen, J., et al. 15-Deoxy- $\Delta^{12,14}$ -prostaglandin J_2 is a ligand for the adipocyte determination factor PPARy. Cell 83, 803-812 (1995).

Related Products

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WARNING: This product is for laboratory research only: not for administration to humans. Not for human or veterinary DIAGNOSTIC OR THERAPEUTIC USE.

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