

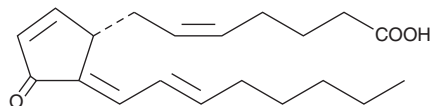
Product Information



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

Item No. 18570.1

CAS Registry No.: 87893-55-8
Formal Name: 11-oxo-prosta-5Z,9,12E,14E-tetraen-1-oic acid
MF: C₂₀H₂₈O₃
FW: 316.4
Purity: ≥98% (A mixture of isomers; the major component is the *trans,trans*- $\Delta^{12,14}$ isomer)
Stability: ≥1 year at -20°C
Supplied as: A solution in methyl acetate
UV/Vis.: λ_{max}: 306 nm ε: 12,000



Laboratory Procedures

For long term storage, we suggest that 15-deoxy- $\Delta^{12,14}$ -PGJ₂ be stored as supplied at -20°C. It will be stable for at least one year. 15-deoxy- $\Delta^{12,14}$ -PGJ₂ is also available as a solution in methyl acetate containing ≥97% of the *trans,trans*- $\Delta^{12,14}$ isomer (Catalog No. 18570).

15-deoxy- $\Delta^{12,14}$ -PGJ₂ 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- $\Delta^{12,14}$ -PGJ₂ in these solvents is approximately 20 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. If an organic solvent-free aqueous solution of 15-deoxy- $\Delta^{12,14}$ -PGJ₂ is needed, it can be prepared by evaporating the methyl acetate and directly dissolving the neat oil in aqueous buffers. The solubility of 15-deoxy- $\Delta^{12,14}$ -PGJ₂ in PBS (pH 7.2) is approximately 2.7 mg/ml. Avoid adding 15-deoxy- $\Delta^{12,14}$ -PGJ₂ to basic solutions (pH > 7.4), since base treatment may polymerize the 15-deoxy- $\Delta^{12,14}$ -PGJ₂. Store aqueous solutions of 15-deoxy- $\Delta^{12,14}$ -PGJ₂ on ice and use within 12 hours of preparation. Although the aqueous solutions of 15-deoxy- $\Delta^{12,14}$ -PGJ₂ may be stable for more than 12 hours, we strongly recommend using a fresh preparation each day.

This formulation of 15-deoxy- $\Delta^{12,14}$ -prostaglandin J₂ (15-deoxy- $\Delta^{12,14}$ -PGJ₂) contains the *trans,trans*- $\Delta^{12,14}$ isomer as the major component as well as other double bond isomers which have similar PPAR γ ligand activity.¹ 15-deoxy- $\Delta^{12,14}$ -PGJ₂ 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.^{2,3} 15-deoxy- $\Delta^{12,14}$ -PGJ₂ is more potent than PGD₂, Δ^{12} -PGJ₂, and PGJ₂ in stimulating lipogenesis in C3H10T1/2 cells. The EC₅₀ for induction of adipocyte differentiation in cultured fibroblasts is 7 μ M.²

References

1. Maxey, K.M., Hessler, E., MacDonald, J., *et al.* The nature and composition of 15-deoxy- $\Delta^{12,14}$ -PGJ₂. *Prostaglandins and Other Lipid Mediators* **62**, 15-21 (2000).
2. Kliewer, S.A., Lenhard, J.M., Willson, T.M., *et al.* A prostaglandin J₂ metabolite binds peroxisome proliferator-activated receptor γ promotes adipocyte differentiation. *Cell* **83**, 813-819 (1995).
3. Forman, B.M., Tontonoz, P., Chen, J., *et al.* 15-Deoxy- $\Delta^{12,14}$ -prostaglandin J₂ is a ligand for the adipocyte determination factor PPAR γ . *Cell* **83**, 803-812 (1995).

Related Products

Prostaglandin D₂ - Item No. 12010 • 15-deoxy- $\Delta^{12,14}$ -Prostaglandin J₂ - Item No. 18570 • PPAR γ -PAK - Item No. 71000 • 15-deoxy- $\Delta^{12,14}$ -Prostaglandin J₂-d₄ - Item No. 318570

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent via email to your institution.

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Cayman Chemical

Mailing address

1180 E. Ellsworth Road
Ann Arbor, MI
48108 USA

Phone

(800) 364-9897
(734) 971-3335

Fax

(734) 971-3640

E-Mail

custserv@caymanchem.com

Web

www.caymanchem.com