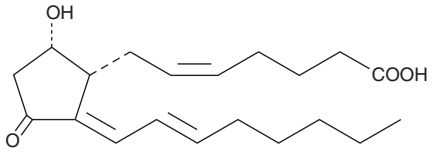
PRODUCT INFORMATION

15-deoxy-$\Delta^{12,14}$-Prostaglandin D_2

Item No. 12700

CAS Registry No.: 85235-11-6
Formal Name: 9α-hydroxy-11-oxo-prosta-5Z,12E,14E-trien-1-oic acid
Synonym: 15-deoxy-$\Delta^{12,14}$-PGD_2
MF: $C_{20}H_{30}O_4$
FW: 334.5
Purity: ≥95%
UV/Vis.: λ_{max}: 296 nm
Supplied as: A solution in methyl acetate
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

15-deoxy-$\Delta^{12,14}$ PGD_2 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, purged with an inert gas. Solvents such as ethanol, DMSO, or dimethyl formamide can be used. The solubility of 15-deoxy-$\Delta^{12,14}$ PGD_2 in these solvents is approximately 75, 50, and 100 mg/ml, respectively.

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 solution of 15-deoxy-$\Delta^{12,14}$ PGD_2 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-$\Delta^{12,14}$ PGD_2 in PBS, pH 7.2, is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

15-deoxy-$\Delta^{12,14}$-PGD_2 is a metabolite of PGD_2 (Item No. 12010).[1] It is an agonist of PGD_2 receptor 2 (DP_2) that binds DP_2 (K_i = 50 nM for the mouse receptor expressed in HEK293 cell membranes) and induces activation of eosinophils (EC_{50} = 8 nM).[2,3] It also stimulates the recruitment of steroid receptor coactivator-1 (SRC-1) to peroxisome proliferator-activated receptor γ (PPARγ) and induces PPARγ-mediated transcription in a reporter assay when used at a concentration of 5 µM.[1] 15-deoxy-$\Delta^{12,14}$-PGD_2 is cytotoxic to L1210 murine leukemia cells (IC_{50} = 0.3 µg/ml).[4] It inhibits ADP-induced platelet aggregation (IC_{50} = 320 ng/ml) less potently than PGD_2.[5]

References

1. Söderström, M., Wigren, J., Surapureddi, S., *et al*. *Biochim. Biophys. Acta* **1631(1)**, 35-41 (2003).
2. Hata, A.N., Zent, R., Breyer, M.D., *et al*. *J. Pharmacol. Exp. Ther*. **306(2)**, 463-470 (2003).
3. Monneret, G., Li, H., Vasilescu, J., *et al*. *J. Immunol*. **168(7)**, 3563-3569 (2002).
4. Forman, B.M., Tontonoz, P., Chen, J., *et al*. **Cell 83(5)**, 803-812 (1995).
5. Bundy, G.L., Morton, D.R., Peterson, D.C., *et al*. *J. Med. Chem*. **26(6)**, 790-799 (1983).

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