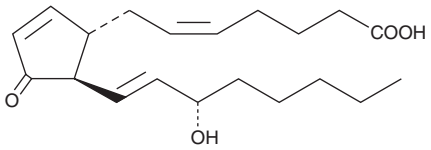
PRODUCT INFORMATION

Prostaglandin J_2

Item No. 18500

CAS Registry No.: 60203-57-8
Formal Name: 11-oxo-15S-hydroxy-prosta-5Z,9,13E-trien-1-oic acid
Synonym: PGJ_2
MF: $C_{20}H_{30}O_4$
FW: 334.5
Purity: ≥95%
Stability: ≥1 year at -80°C
Supplied as: A solution in methyl acetate
UV/Vis.: λ_{max}: 216 nm



Laboratory Procedures

For long term storage, we suggest that prostaglandin J_2 (PGJ_2) be stored as supplied at -80°C. It should be stable for at least one year.

PGJ_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. Solvents such as ethanol, methanol, acetone, acetonitrile, or DMSO purged with an inert gas or nitrogen can be used. The solubility of PGJ_2 in these solvents is approximately 10 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. PGJ_2 is stable for several hours in neutral phosphate buffer. The half-life of PGJ_2 is about 10 minutes in PBS (pH 7.4 with 1% BSA) and is reduced to about 30 seconds in plasma.[1] All aqueous solutions of PGJ_2 should be maintained near pH 7.0, since both acid and base will accelerate decomposition to form Δ^{12}-PGJ_2 and other by-products. Also, ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

PGJ_2 is formed from PGD_2 by the elimination of the C-9 hydroxyl group, a process which is accelerated by the presence of albumin.[1] PGJ_2 inhibits platelet aggregation with an IC_{50} value of about 5-10 nM.[2,3] PGJ_2 has been shown to have antimitotic and antiproliferative effects on a variety of cultured normal cells and tumor cell lines.[4] However, this activity has been attributed to further metabolites of PGJ_2 and not the parent compound itself.

References

1. Fitzpatrick, F.A. and Wynalda, M.A. Albumin-catalyzed metabolism of prostaglandin D_2. Identification of products formed *in vitro*. *J. Biol. Chem.* **258**, 11713-11718 (1983).
2. Bundy, G.L., Morton, D.R., Peterson, D.C., *et al.* Synthesis and platelet aggregation inhibiting activity of prostaglandin D analogues. *J. Med. Chem.* **26**, 790-799 (1983).
3. Mahmud, I., Smith, D.L., Whyte, M.A., *et al.* On the identification and biological properties of prostaglandin J_2. *Prostaglandins Leukot. Med.* **16**, 131-146 (1984).
4. Fukushima, M. Prostaglandin J_2 - antitumor and anti-viral activities and the mechanisms involved. *Eicosanoids* **3**, 189-199 (1990).

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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CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM