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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

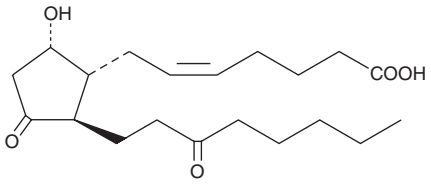
linkedin.com/company/szaboscandic

PRODUCT INFORMATION

13,14-dihydro-15-keto Prostaglandin D_2

Item No. 12610

CAS Registry No.: 59894-07-4
Formal Name: 9α-hydroxy-11,15-dioxo-prost-5Z-en-1-oic acid
Synonym: 13,14-dihydro-15-keto PGD_2
MF: $C_{20}H_{32}O_5$
FW: 352.5
Purity: ≥95%
Stability: ≥1 year at -80°C
Supplied as: A solution in methyl acetate



Laboratory Procedures

For long term storage, we suggest that 13,14-dihydro-15-keto prostaglandin D_2 (13,14-dihydro-15-keto PGD_2) be stored as supplied at -80°C. It should be stable for at least one year.

13,14-dihydro-15-keto 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. Solvents such as ethanol, DMSO, or dimethyl formamide purged with an inert gas can be used. The solubility of 13,14-dihydro-15-keto PGD_2 in these solvents is approximately 30 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 13,14-dihydro-15-keto 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 13,14-dihydro-15-keto PGD_2 in PBS (pH 7.2) is approximately 2.5 mg/ml. Store aqueous solutions of 13,14-dihydro-15-keto PGD_2 on ice and use within 12 hours of preparation.

Description

13,14-dihydro-15-keto PGD_2 is a metabolite of PGD_2 (Item No. 12010) which is formed through the 15-hydroxy PGDH pathway. 13,14-dihydro-15-keto PGD_2 was recently identified as a selective agonist for the CRTH2/DP_2 receptor.[1] It also inhibits ion flux in a canine colonic mucosa preparation.[2] In humans, 13,14-dihydro-15-keto PGD_2 is further metabolized to give 11β-hydroxy compounds which have also undergone β-oxidation of one or both side chains. Virtually no 13,14-dihydro-15-keto PGD_2 survives intact in the urine.[3,4]

References

1. Hirai, H., Tanaka, K., Yoshie, O., *et al.* Prostaglandin D_2 selectivity induces chemotaxis in T helper type 2 cells, eosinophils, and basophils via seven-transmembrane receptor CRTH2. *J. Exp. Med.* **193(2)**, 255-261 (2001).
2. Rangachari, P.K. and Betti, P.-A. Biological activity of metabolites of PGD_2 on canine proximal colon. *Am. J. Physiol.* **264**, G886-G894 (1993).
3. Liston, T.E. and Roberts, L.J., II Metabolic fate of radiolabeled prostaglandin D_2 in a normal human male volunteer. *J. Biol. Chem.* **260**, 13172-13180 (1985).
4. Morrow, J.D., Prakash, C., Awad, J.A., *et al.* Quantification of the major urinary metabolite of prostaglandin D_2 by a stable isotope dilution mass spectrometric assay. *Anal. Biochem.* **193**, 142-148 (1991).

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