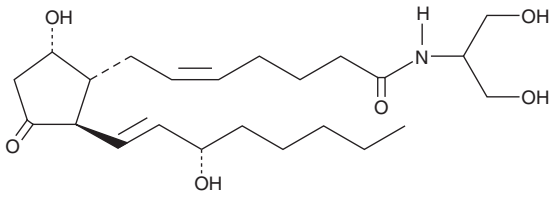
PRODUCT INFORMATION

Prostaglandin D_2 serinol amide

Item No. 10192

CAS Registry No.: 851761-42-7
Formal Name: N-[(2-hydroxy-1-hydroxymethyl) ethyl]-11-oxo-9α,15S-dihydroxy-prosta-5Z,13E-dien-1-amide
Synonym: PGD_2-SA
MF: $C_{23}H_{39}NO_6$
FW: 425.6
Purity: ≥95%
Supplied as: A solution in ethanol
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

PGD_2-SA is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as DMSO and dimethyl formamide purged with an inert gas can be used. The solubility of PGD_2-SA in these solvents is approximately 25 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 solution of PGD_2-SA is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of PGD_2-SA in PBS (pH 7.2) is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

2-Arachidonoyl glycerol (2-AG) exhibits cannabinoid (CB) agonist activity at the CB_1 receptor,[1] is an important endogenous monoglyceride species,[2] and is thus considered to be the natural ligand for the CB_1 receptor. 2-AG can also be sequentially metabolized by COX-2 and specific PG synthases to form PG 2-glyceryl esters.[3] In activated RAW 264.7 cells, PGD_2 2-glyceryl ester is the primary product of 2-AG metabolism in the COX pathway.[3] PGD_2-SA is a stable analog of PGD_2 2-glyceryl ester. Unlike PGD_2 2-glyceryl ester and other fatty acyl 2-glyceryl esters, PGD_2-SA will not isomerize to the less active primary (1-glyceryl) ester. The biological activity of PGD_2-SA has not yet been determined.

References

1. Sugiura, T., Kodaka, T., Kondo, S., *et al.* Is the cannabinoid CB_1 receptor a 2-arachidonoylglycerol receptor? Structural requirements for triggering a Ca^{2+} transient in NG108-15 cells. *J. Biochem.* **122(4)**, 890-895 (1997).
2. Kondo, S., Kondo, H., Nakane, S., *et al.* 2-Arachidonoylglycerol, an endogenous cannabinoid receptor agonist: Identification as one of the major species of monoacylglycerols in various rat tissues, and evidence for its generation through Ca^{2+} -dependent and -independent mechanisms. *FEBS Lett.* **429(2)**, 152-156 (1998).
3. Kozak, K.R., Crews, B.C., Morrow, J.D., *et al.* Metabolism of the endocannabinoids, 2-arachidonylgycerol and anandamide, into prostaglandin, thromboxane, and prostacyclin glycerol esters and ethanolamides. *J. Biol. Chem.* **277(47)**, 44877-44885 (2002).

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