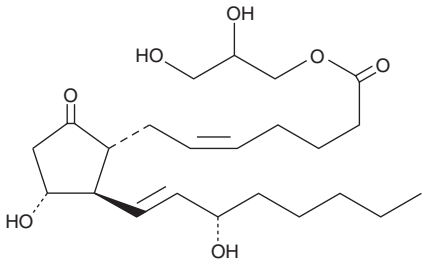
PRODUCT INFORMATION

Prostaglandin E_2-1-glyceryl ester

Item No. 10140

CAS Registry No.:	37497-47-5
Formal Name:	9-oxo-11α,15S-dihydroxy-prosta-5Z,13E-dien-1-oic acid, 1-glyceryl ester
Synonym:	PGE_2-1-glyceryl ester
MF:	$C_{23}H_{38}O_7$
FW:	426.6
Purity:	≥98% (as a 85:15 mixture of the 1- and 2- glyceryl esters)
Supplied as:	A solution in ethanol
Storage:	-80°C
Stability:	≥2 years



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

Laboratory Procedures

PGE_2-1-glyceryl ester 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 PGE_2-1-glyceryl ester 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. 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 PGE_2-1-glyceryl ester is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of PGE_2-1-glyceryl ester in PBS (pH 7.2) is approximately 100 µg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

2-Arachidonoyl glycerol (2-AG; Item No. 62160) has been isolated from porcine brain, and has been characterized as the natural endocannabinoid ligand for the CB_1 receptor.[1,2] Incubation of 2-AG with cyclooxygenase-2 and specific PGH_2 isomerases in cell cultures and isolated enzyme preparations results in prostaglandin glycerol ester formation.[3] The biosynthesis of PGH, PGD, PGE, PGF, and thromboxane-2-glyceryl ester compounds have all been documented. The 2-glyceryl ester moiety equilibrates rapidly (within minutes) with the more stable 1-glyceryl ester, producing a 10:90 2:1-glyceryl ester mixture in typical aqueous media. While the stability and metabolism of these prostaglandin products has been investigated, little is known about their intrinsic biological activity.[4]

References

1. Sugiura, T., Kodaka, T., Kondo, S., *et al. Biochem. Biophys. Res. Commun.* **229**, 58-64 (1996).
2. Sugiura, T., Kodaka, T., Kondo, S., *et al. J. Biochem.* **122**, 890-895 (1997).
3. Kozak, K.R., Crews, B.C., Morrow, J.D., *et al. J. Biol. Chem.* **277(47)**, 44877-44885 (2002).
4. Kozak, K.R., Crews, B.C., Ray, J.L., *et al. J. Biol. Chem.* **276(40)**, 36993-36998 (2001).

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