

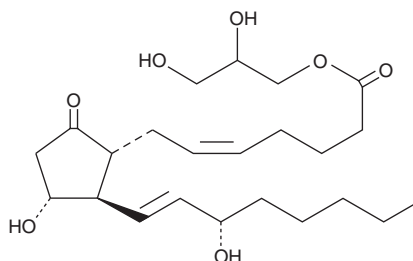
PRODUCT INFORMATION



Prostaglandin E₂-1-glycerol ester

Item No. 10140

CAS Registry No.: 37497-47-5
Formal Name: 9-oxo-11 α ,15S-dihydroxy-prosta-5Z,13E-dien-1-oic acid, 1-glycerol ester
Synonym: PGE₂-1-glycerol ester
MF: C₂₃H₃₈O₇
FW: 426.6
Purity: \geq 98% (as a 85:15 mixture of the 1- and 2- glycerol esters)
Stability: \geq 1 year at -80°C
Supplied as: A solution in ethanol



Laboratory Procedures

For long term storage, we suggest that prostaglandin E₂-1-glycerol ester (PGE₂-1-glycerol ester) be stored as supplied at -80°C. It should be stable for at least one year.

PGE₂-1-glycerol 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 PGE₂-1-glycerol 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 PGE₂-1-glycerol ester is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of PGE₂-1-glycerol ester in PBS (pH 7.2) is approximately 100 μ g/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 CB₁ receptor.^{1,2} Incubation of 2-AG with cyclooxygenase-2 and specific PGH₂ 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-glycerol ester compounds have all been documented. The 2-glycerol ester moiety equilibrates rapidly (within minutes) with the more stable 1-glycerol ester, producing a 10:90 2:1-glycerol 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).

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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