

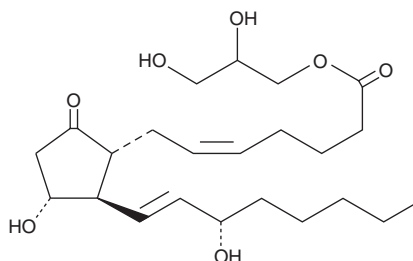
# PRODUCT INFORMATION



## Prostaglandin E<sub>2</sub>-1-glyceryl ester

Item No. 10140

**CAS Registry No.:** 37497-47-5  
**Formal Name:** 9-oxo-11 $\alpha$ ,15S-dihydroxy-prosta-5Z,13E-dien-1-oic acid, 1-glyceryl ester  
**Synonym:** PGE<sub>2</sub>-1-glyceryl ester  
**MF:** C<sub>23</sub>H<sub>38</sub>O<sub>7</sub>  
**FW:** 426.6  
**Purity:**  $\geq$ 98% (as a 85:15 mixture of the 1- and 2- glyceryl esters)  
**Supplied as:** A solution in ethanol  
**Storage:** -80°C  
**Stability:**  $\geq$ 2 years



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

### Laboratory Procedures

PGE<sub>2</sub>-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<sub>2</sub>-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<sub>2</sub>-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<sub>2</sub>-1-glyceryl ester in PBS (pH 7.2) is approximately 100  $\mu$ 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 CB<sub>1</sub> receptor.<sup>1,2</sup> Incubation of 2-AG with cyclooxygenase-2 and specific PGH<sub>2</sub> isomerases in cell cultures and isolated enzyme preparations results in prostaglandin glycerol ester formation.<sup>3</sup> 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.<sup>4</sup>

### 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.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 03/07/2024

#### 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