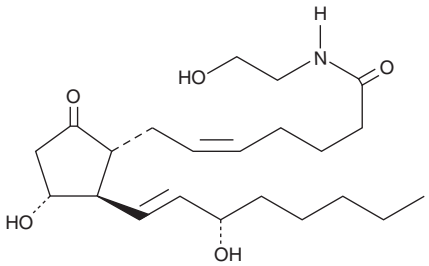
PRODUCT INFORMATION

Prostaglandin E_2 Ethanolamide

Item No. 14012

CAS Registry No.:	194935-38-1
Formal Name:	N-(2-hydroxyethyl)-9-oxo-11α,15S-dihydroxy-prosta-5Z,13E-dien-1-amide
Synonyms:	Dinoprostone Ethanolamide, PGE_2-EA, Prostamide E_2
MF:	$C_{22}H_{37}NO_5$
FW:	395.5
Purity:	≥98%
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



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

Laboratory Procedures

Prostaglandin E_2 ethanolamide (PGE_2-EA) is supplied as a crystalline solid. A stock solution may be made by dissolving the PGE_2-EA in the solvent of choice, which should be purged with an inert gas. PGE_2-EA is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of PGE_2-EA in these solvents is approximately 100 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. Organic solvent-free aqueous solutions of PGE_2-EA can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of PGE_2-EA in PBS (pH 7.2) is approximately 12 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

PGE_2-EA is an analog of PGE_2 (Item No. 14010) with improved water solubility and stability. PGE_2-EA is formed *via* COX-2 metabolism of arachidonoyl ethanolamide (AEA; Item No. 90050) and acts as an agonist at E prostanoid (EP) receptors 1-4 (K_is = 2.45, 0.46, 0.2, and 0.51 µM, respectively).[1,2] It also inhibits indoleamine 2,3-dioxygenase-1 (IDO-1) in THP-1 cells and human monocytes (IC_{50}s = 5.7 and 4.7 µM, respectively).[3] PGE_2-EA (10 µM) prevents morphological changes and F-actin rearrangement as well as reduces L-homocysteine-induced NLRP3 inflammasome formation and activation in podocytes.[4] *Ex vivo*, PGE_2-EA reduces luminal damage and lymphocyte infiltration in a human mucosal explant colitis model.[5]

References

1. Kozak, K.R., Crews, B.C., Morrow, J.D., *et al. J. Biol. Chem.* **277(47)**, 44877-44885 (2002).
2. Liu, T., Li, R., Pan, T., *et al. J. Biol. Chem.* **27(49)**, 47671-47678 (2002).
3. Costabile, M., Bassal, N.K., Gerber, J.P., *et al. Prostaglandins Leukot. Essent. Fatty Acids* **122**, 7-15 (2017).
4. Li, G., Xia, M., Abais, J.M., *et al. J. Pharmacol. Exp. Ther.* **358(1)**, 61-70 (2016).
5. Nicotra, L.L., vu, M.D., Harvey, B.S., *et al. Prostaglandins Other Lipid Mediat.* **100-101**, 22-29 (2013).

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