

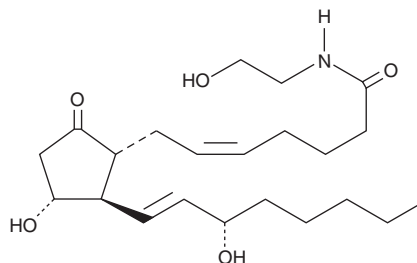
# PRODUCT INFORMATION



## Prostaglandin E<sub>2</sub> Ethanolamide

Item No. 14012

**CAS Registry No.:** 194935-38-1  
**Formal Name:** N-(2-hydroxyethyl)-9-oxo-11 $\alpha$ ,15S-dihydroxy-prosta-5Z,13E-dien-1-amide  
**Synonyms:** Dinoprostone Ethanolamide, PGE<sub>2</sub>-EA, Prostamide E<sub>2</sub>  
**MF:** C<sub>22</sub>H<sub>37</sub>NO<sub>5</sub>  
**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<sub>2</sub> ethanolamide (PGE<sub>2</sub>-EA) is supplied as a crystalline solid. A stock solution may be made by dissolving the PGE<sub>2</sub>-EA in the solvent of choice, which should be purged with an inert gas. PGE<sub>2</sub>-EA is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of PGE<sub>2</sub>-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<sub>2</sub>-EA can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of PGE<sub>2</sub>-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<sub>2</sub>-EA is an analog of PGE<sub>2</sub> (Item No. 14010) with improved water solubility and stability. PGE<sub>2</sub>-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<sub>i</sub>s = 2.45, 0.46, 0.2, and 0.51  $\mu$ M, respectively).<sup>1,2</sup> It also inhibits indoleamine 2,3-dioxygenase-1 (IDO-1) in THP-1 cells and human monocytes (IC<sub>50</sub>s = 5.7 and 4.7  $\mu$ M, respectively).<sup>3</sup> PGE<sub>2</sub>-EA (10  $\mu$ M) prevents morphological changes and F-actin rearrangement as well as reduces L-homocysteine-induced NLRP3 inflammasome formation and activation in podocytes.<sup>4</sup> *Ex vivo*, PGE<sub>2</sub>-EA reduces luminal damage and lymphocyte infiltration in a human mucosal explant colitis model.<sup>5</sup>

### 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).

#### 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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