

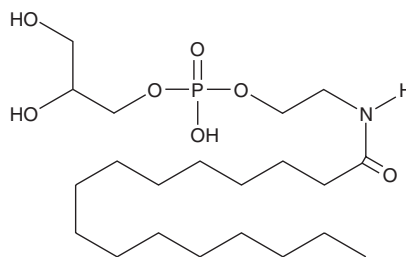
# PRODUCT INFORMATION



## Glycerophospho-N-Palmitoyl Ethanolamine

Item No. 10011356

**CAS Registry No.:** 100575-09-5  
**Formal Name:** mono(2,3-dihydroxypropyl)-mono[2-[(1-oxohexadecyl)amino]ethyl]ester phosphoric acid  
**Synonyms:** GP-NAE, GP-NPEA  
**MF:** C<sub>21</sub>H<sub>44</sub>NO<sub>7</sub>P  
**FW:** 453.6  
**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

Glycerophospho-N-palmitoyl ethanolamine (GP-NPEA) is supplied as a crystalline solid. Aqueous solutions of GP-NPEA can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of GP-NPEA in PBS (pH 7.2) is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

N-Acylated ethanolamines (NAE) are naturally-occurring lipids that have diverse bioactivities. For example, arachidonoyl ethanolamide (AEA) is an endogenous neurotransmitter that evokes cellular responses by activating the central cannabinoid (CB<sub>1</sub>) and peripheral cannabinoid (CB<sub>2</sub>) receptors. The different types of NAE are derived from glycerophospho-linked precursors by the activity of glycerophosphodiesterase 1 (GDE<sub>1</sub>).<sup>1</sup> GP-NPEA is the metabolic precursor of palmitoyl ethanolamide (PEA). PEA is an endogenous cannabinoid found in brain, liver, and other mammalian tissues,<sup>2</sup> that has potent anti-inflammatory activity *in vivo*.<sup>3</sup> PEA has low affinity for CB<sub>2</sub> and no appreciable affinity for CB<sub>1</sub>,<sup>4</sup> suggesting that its efficacy is through a different receptor.

### References

1. Simon, G.M. and Cravatt, B.F. Anandamide biosynthesis catalyzed by the phosphodiesterase GDE1 and detection of glycerophospho-N-acyl ethanolamine precursors in mouse brain. *J. Biol. Chem.* **283**, 9341-9349 (2008).
2. Bachur, N.R., Masek, K., Melmon, K.L., *et al.* Fatty acid amides of ethanolamine in mammalian tissues. *J. Biol. Chem.* **240**, 1019-1024 (1965).
3. Wise, L.E., Cannavacciuolo, R., Cravatt, B.F., *et al.* Evaluation of fatty acid amides in the carrageenan-induced paw edema model. *Neuropharmacology* **54(1)**, 181-188 (2008).
4. Devane, W.A., Hanus, L., Breuer, A., *et al.* Isolation and structure of a brain constituent that binds to the cannabinoid receptor. *Science* **258**, 1946-1949 (1992).

#### 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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