

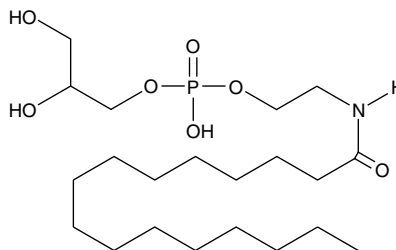
Product Information



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: C₂₁H₄₄NO₇P
FW: 453.6
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

For long term storage, we suggest that glycerophospho-N-palmitoyl ethanolamine (GP-NPEA) be stored as supplied at -20°C. It should be stable for at least two years.

GP-NPEA is supplied as a crystalline solid. GP-NPEA is sparingly soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. For biological experiments, we suggest that organic solvent-free aqueous solutions of GP-NPE be prepared by directly dissolving the GP-NPEA compound 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.

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 (CB₁) and peripheral cannabinoid (CB₂) receptors. The different types of NAE are derived from glycerophospho-linked precursors by the activity of glycerophosphodiesterase 1 (GDE₁).¹ GP-NPEA is the metabolic precursor of palmitoyl ethanolamide (PEA). PEA is an endogenous cannabinoid found in brain, liver, and other mammalian tissues,² that has potent anti-inflammatory activity *in vivo*.³ PEA has low affinity for CB₂ and no appreciable affinity for CB₁,⁴ 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).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/10011356

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY. NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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