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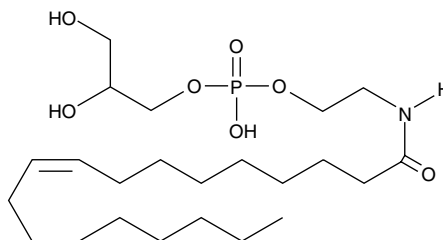
Product Information



Glycerophospho-N-Oleoyl Ethanolamine

Item No. 10011357

CAS Registry No.: 201738-24-1
Formal Name: mono(2,3-dihydroxypropyl)-
mono[2-[(9Z)-1-oxo-9-
octadecenyl]amino]ethyl] ester
phosphoric acid
MF: C₂₃H₄₆NO₇P
FW: 479.6
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

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

Glycerophospho-N-oleoyl ethanolamine is supplied as a crystalline solid. A stock solution may be made by dissolving the glycerophospho-N-oleoyl ethanolamine in an organic solvent purged with an inert gas. Glycerophospho-N-oleoyl ethanolamine is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of glycerophospho-N-oleoyl ethanolamine in these solvents is approximately 20 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 glycerophospho-N-oleoyl ethanolamine can be prepared by directly dissolving the crystalline compound in aqueous buffers. The solubility of glycerophospho-N-oleoyl ethanolamine in PBS, pH 7.2, is approximately 10 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 cannabinoid neurotransmitter that evokes cellular responses by activating the cannabinoid receptors, central cannabinoid (CB₁) and peripheral cannabinoid (CB₂). The different types of NAE are derived from glycerophospho-linked precursors by the activity of glycerophosphodiesterase 1 (GDE1).¹ Glycerophospho-N-oleoyl ethanolamine is the precursor of oleoyl ethanolamide (OEA). OEA is an endogenous, potent agonist for PPAR α , exhibiting an EC₅₀ value of 120 nM in a transactivation assay.² Systemic administration of OEA suppresses food intake and reduces weight gain in rats (10 mg/kg intraperitoneally) and PPAR α wild-type mice, but not in PPAR α knockout mice.^{2,3} Like AEA, OEA is metabolized by fatty acid amide hydrolase (FAAH).

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. Fu, J., Gaetani, S., Oveisi, F., *et al.* Oleyethanolamide regulates feeding and body weight through activation of the nuclear receptor PPAR α . *Nature* **425**, 90-93 (2003).
3. de Fonseca, F.R., Navarro, M., Gómez, R., *et al.* An anorexic lipid mediator regulated by feeding. *Nature* **414**, 209-212 (2001).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/10011357

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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