Echelon Biosciences Inc.

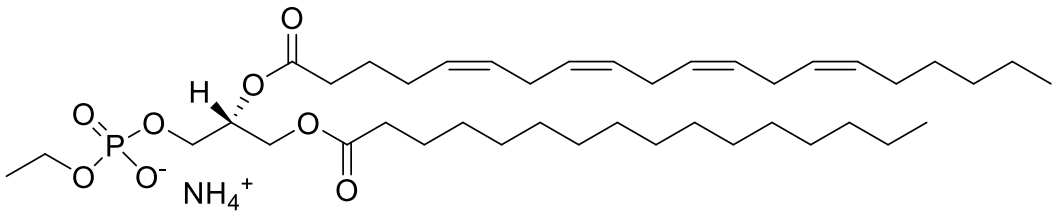
1-Pamitoyl-2-arachidonoyl-sn-glycero-3-phosphoethanol (PAPEth)

Catalog number: L-6024

Molecular Formula: $C_{41}H_{76}NO_8P$

MW: 742.02

CAS: 1220714-02-2



Alternate Name: 16:0/20:4 PEth, Phosphatidylethanol

Solubility: chloroform, methanol >1 mg/mL

Storage and Handling: Phosphatidylethanol (PEth) is stable for at least one year when stored as a solid, protected from moisture, and light at -20°C. Reconstitute with methanol and dilute with water or neutral pH, buffered salt solutions, i.e. PBS, TBS, etc. Storage in basic (pH > 9) or acidic (pH < 4) buffers will result in slow decomposition of the product. After reconstitution, solutions of PEth should be stored at -20°C between uses. PEth is stable for at least three months when handled in this way. Repeated freeze/thaw cycles do not affect PEth. Do not store reconstituted PEth at 4°C for more than 2-3 days.

Background: Phosphatidylethanol (PEth) is formed primarily in the liver by transphosphatidylation of phosphatidylcholine (PC) by phospholipase D. PEth is associated with lipoprotein particles VLDL and HDL, transferred between lipoproteins, and PEth-lipoprotein complexes may have a protective effect against atherogenesis by promoting VEGF secretion by SMC and endothelium. Most PEth (about 75%) is incorporated into erythrocyte membranes and is the longest-lived circulating EtOH metabolite yet identified.

References: 1) Liisanantti MK, Savolainen MJ (2005) Phosphatidylethanol in high density lipoproteins increases the vascular endothelial growth factor in smooth muscle cells. Atherosclerosis 180: 263-269
2) Varga A, Hansson P, Johnson G, Alling C (2000) Normalization rate and cellular localization of phosphatidylethanol in whole blood from chronic alcoholics. Clin Chim Acta 299: 141-150.
3) Freeman, W. M., and Vrana, K. E., (2010) Future prospects for biomarkers of alcohol consumption and alcohol-induced disorders, Alcohol Clin Exp Res, 34, 946.
4) Wurst, F. M., et. al., (2010) Phosphatidylethanol: normalization during detoxification, gender aspects and correlation with other biomarkers and self-reports, Addict Biol, 15, 88 .
5) Foster, D. A., (2010) Reduced mortality and moderate alcohol consumption: the phospholipase D-mTOR connection, Cell Cycle, 9, 1291.

Hazardous Properties and Cautions: The toxicological and pharmacological properties of this compound are not fully known. For further information see the MSDS on request. This product is manufactured and shipped only in small quantities, intended for research and development in a laboratory utilizing prudent procedures for handling chemicals of unknown toxicity, under the supervision of persons technically qualified to evaluate potential risks and authorized to enforce appropriate health and safety measures. As with all research chemicals, precautions should be taken to avoid unnecessary exposures or risks.

Warranty and Disclaimer: Echelon warrants the product conforms to the specifications stated herein. In the event of nonconformity, Echelon will replace products or refund purchase price, at its sole option, and Echelon shall not be responsible for any other loss or damage, whether known or foreseeable to Echelon. No other warranties apply, express or implied, including but not limited to warranty of fitness for any purpose or implied warranty of merchantability. Purchaser is solely responsible for all consequences of its use of the product and Echelon assumes no responsibility therefore, including success of purchaser's research and development, or health or safety of any uses of the product.

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