

PRODUCT DATA SHEET

1-Palmitoyl-sn-glycero-3-phosphorylcholine

Catalog number: 1445

Common names: *lyso*-PPC

Source: synthetic

Solubility: methylene chloride, methanol

CAS number: 17364-16-8

Molecular Formula: C₂₄H₅₀NO₇P

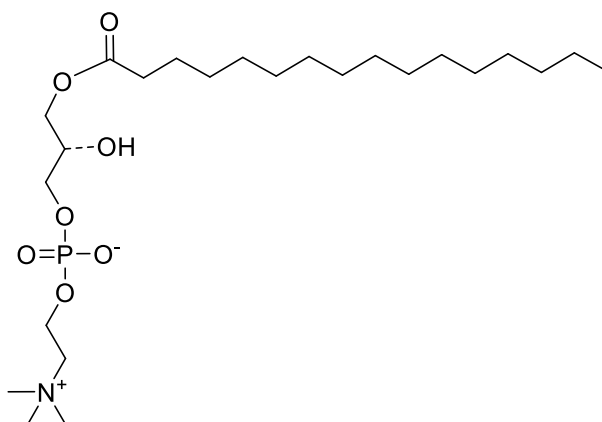
Molecular Weight: 496

Storage: -20°C

Purity: TLC: >98%

TLC System: chloroform/methanol/DI water
(65:25:4)

Appearance: solid



Application Notes:

This product is a well-defined high purity *lyso*-phosphatidylcholine (PC) containing palmitic acid acylated to the sn-1 position and a hydroxyl group on the sn-2 position. *lyso*-PC is formed by the action of phospholipase A₂ on phosphatidylcholine by hydrolyzing the fatty acid on the sn-2 position. *lyso*-PC has many cellular functions but it is quickly acylated or further degraded in living systems. It has been found to stimulate phagocytosis, change the surface properties of erythrocytes, and have pro-inflammatory and cell signaling properties. *lyso*-Lecithin induces demyelination of nerves in biological systems and can therefore be used to mimic some of the effects of demyelinating diseases.¹ *lyso*-PC activates the enzyme phospholipase C, which releases diacylglycerols and inositol triphosphate, thus mediating a number of different functions. *lyso*-phosphatidylcholine has also been shown to be protective against lethal sepsis in some studies. In endothelial membranes it produces a selective unresponsiveness to receptor-regulated endothelium-dependent vasodilators, causing atherosclerosis.² *lyso*-PC has been demonstrated to induce a fibrillation-like arrhythmia in isolated cardiomyocytes.³ This high purity product has natural stereochemistry and is ideal as a standard and for biological systems.⁴

Selected References:

1. R. Woodruff and R. Franklin "Demyelination and remyelination of the caudal cerebellar peduncle of adult rats following stereotaxic injections of lysolecithin, ethidium bromide, and complement/anti-galactocerebroside: A comparative study" *Glia*, vol. 25 pp. 216-228, 1999
2. P. Henry et al. "Impairment of endothelium-dependent arterial relaxation by lysolecithin in modified low-density lipoproteins" *Nature*, vol. 344 pp. 160-162, 1990
3. E. Omerovic et al. "Pro-Arrhythmic Effects of Lysolecithin on Isolated Cardiomyocytes" *Circulation*, 2008;118:S_922
4. A. Simonsen "Activation of Phospholipase A₂ by Ternary Model Membranes" *Biophysical Journal*, vol. 94 pp. 3966-3975, 2008

This product is to be used for research only. It is not intended for drug or diagnostic use, human consumption or to be used in food or food additives. Matreya assumes no liability for any use of this product by the end user. We believe the information, offered in good faith, is accurate.