PRODUCT DATA SHEET

1,2-Diheptadecanoyl-sn-glycero-3-phosphorylcholine

Catalog number: 1400
Common Name: DHDPC
Source: synthetic
Solubility: methylene chloride, methanol
CAS number: 70897-27-7
Molecular Formula: \(C_{42}H_{84}NO_{8}P\)

Molecular Weight: 762
Storage: -20°C
Purity: TLC >98%; identity confirmed by MS
TLC System: chloroform/methanol/DI water (65:25:4 by vol.)
Appearance: solid

Application Notes:
This product is a well-defined, high purity, phosphatidylcholine (PC) acylated with two heptadecanoic acids. Due to the unnatural fatty acids this product is ideal as a standard and for biological studies. PC is a major component of biological membranes, especially in the outer leaflet, often composing almost 50% of the total phospholipids.\(^1\) It is a vital component in membrane bilayers and is the main phospholipid circulating in plasma. PC plays an important role in membrane-mediated cell signaling by generating diacylglycerols and phospholipids.\(^2\) Phospholipase D is an enzyme that cleaves off the choline head group, converting PC to phosphatidic acid, while phospholipase C cleaves off the phosphate group leaving diacylglycerol. PC is the biosynthetic precursor of sphingomyelin, phosphatidylethanolamine, lyso-phosphatidylcholine, and platelet-activating factor. The choline headgroup is an essential nutrient in animals although it can be synthesized by methylating phosphatidylethanolamine to phosphatidylcholine and then cleaving the headgroup with phospholipase D.\(^3\) Tumor cells appear to have increased synthesis of PC and this may be a potential target for cancer therapy. Another function of PC is the activation of enzymes such as the enzyme 3-hydroxybutyrate dehydrogenase which must be bound to phosphatidylcholine before it can function optimally.

Selected References:

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.