PRODUCT DATA SHEET

1,2-Dimyristoyl-sn-glycero-3-phosphorylglycerol (Na⁺ salt)

Catalog number: 1431  
Common Name: DMPG  
Source: synthetic  
Solubility: chlorform/methanol (5:1)  
CAS number: 200880-40-6  
Molecular Formula: C₃₄H₆₆O₁₀P·Na⁺  
Molecular Weight: 689  
Storage: -20°C  
Purity: TLC >98%  
TLC System: chloroform/methanol/DI water (65:25:4 by vol.)  
Appearance: solid

Application Notes:
Phosphatidylglycerols are found in pulmonary surfactant, the lipoprotein complex that is formed by type II alveolar cells in the lung. They are important in spreading secreted surfactant over the type I alveolar cells. 1,2-dimyristoyl-sn-glycero-3-phosphorylglycerol causes conformational structural changes to a human growth hormone-releasing factor fragment.¹ The enzyme cardiolipin synthase attaches two phosphatidylglycerols together to form cardiolipid which is a major component of the mitochondrial inner membrane.² Phosphatidylglycerol is the main component of some bacterial membranes where it contains diacyl, alkylacyl, or alkenylacyl groups. Phosphatidylglycerols generally have saturated and monoenoic fatty acids on position sn-2 and polyunsaturated fatty acids in position sn-1. This is the opposite of the other animal phospholipids and is due to its being synthesized by a different mechanism. Phosphatidylglycerol has been found to be essential for the development of thylakoid membranes in some plants.³ Besides being critical in membranes Phosphatidylglycerol is essential for the oligomerization of photosystems I and II in cyanobacteria, for the sensitivity to chilling in plants, and for cellular fission and division in bacteria.

Selected References:

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