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PRODUCT INFORMATION



1-Palmitoyl-2-hydroxy-*sn*-glycero-3-PC

Item No. 10172

CAS Registry No.: 17364-16-8
Formal Name: (7R)-4,7-dihydroxy-N,N,N-trimethyl-10-oxo-3,5,9-trioxa-4-phosphapentacosan-1-aminium, inner salt, 4-oxide
Synonyms: 1-Hexadecanoyl-*sn*-glycero-3-Phosphatidylcholine, 1-Hexadecanoyl-*sn*-glycero-3-Phosphocholine, 1-Hexadecanoyl-*sn*-glycerol-3-Phosphorylcholine, 1-Palmitoyl-*sn*-glycero-3-Phosphocholine, PC(16:0/0:0), 16:0/0:0-PC

MF: C₂₄H₅₀NO₇P

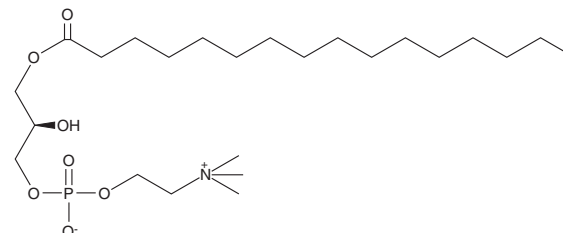
FW: 495.6

Purity: ≥98%

Supplied as: A crystalline solid

Storage: -20°C

Stability: ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

1-Palmitoyl-2-hydroxy-*sn*-glycero-3-PC is supplied as a crystalline solid. Aqueous solutions of 1-palmitoyl-2-hydroxy-*sn*-glycero-3-PC can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 1-palmitoyl-2-hydroxy-*sn*-glycero-3-PC in PBS (pH 7.2) is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

1-Palmitoyl-2-hydroxy-*sn*-glycero-3-PC is the ubiquitous lipid species generated following phospholipase A₂ (PLA₂) hydrolysis of phosphatidylcholine.¹ It increases the production of reactive oxygen species (ROS) and decreases superoxide dismutase (SOD) and endothelial nitric oxide synthase (eNOS) protein levels and phosphorylation of ERK1/2 in human umbilical vein endothelial cells (HUVECs) when used at a concentration of 125 μM.² 1-Palmitoyl-2-hydroxy-*sn*-glycero-3-PC potentiates the secretion of IL-6, IL-1β, IL-12, and TNF-α in LPS-stimulated M1 macrophages, but has no effect on CD163, CD206, CD36, or IL-10 in LPS-stimulated M2 macrophages when used at concentrations of 0.3 and 1.0 μM.³ It increases TGF-β1 production and enhances Foxp3 protein levels in T_{reg} cells in isolated human peripheral blood when used at a concentration of 10 μM.⁴ 1-Palmitoyl-2-hydroxy-*sn*-glycero-3-PC enhances neutrophil function, bacterial clearance, and survival in mouse models of sepsis when administered at a dose of 10 mg/kg.⁵

References

1. Balsinde, J., Winstead, M.V., and Dennis, E.D. *FEBS Lett.* **531(1)**, 2-6 (2002).
2. Choi, S., Park, S., Liang, G.H., et al. *Cell Physiol. Biochem.* **25(2-3)**, 233-240 (2010).
3. Qin, X., Qiu, C., and Zhao, L. *Cell. Immunol.* **289(1-2)**, 185-190 (2014).
4. Hasegawa, H., Lei, J., Matsumoto, T., et al. *Biochem. Biophys. Res. Commun.* **415(3)**, 526-531 (2011).
5. Yan, J.-J., Jung, J.-S., Lee, J.-Y., et al. *Nature Med.* **10(2)**, 161-167 (2004).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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