

Product Data Sheet

Product Name: 1-Palmitoyl-2-hydroxy-sn-glycero-3-PC-d3

Cat. No.: GC45313

Chemical Properties

Cas. No.

SMILES O[C@@H](COP(=O)(OCC[N+](C)(C)C)([O-])=O)COC(CCCCCCCCCCCCCCCC([2H])([2H])[2H])=O

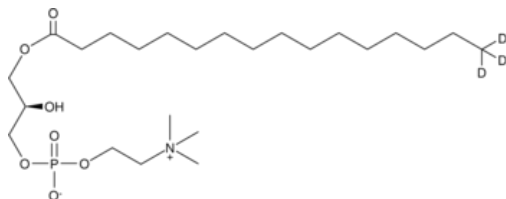
Formula C₂₄H₄₇D₃NO₇P M.Wt 498.7

Solubility Soluble in DMSO Storage Store at -20°C

General For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the tips ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Evaluation sample solution : ship with blue ice All other available size: ship with RT, or Condition blue ice upon request.

Structure



Background

1-Palmitoyl-2-hydroxy-sn-glycero-3-PC-d3 is intended for use as an internal standard for the quantification of 1-palmitoyl-2-hydroxy-sn-glycero-3-PC by GC- or LC-MS. 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 Treg 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

Caution: Product has not been fully validated for medical applications. For research use only.

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administered at a dose of 10 mg/kg.5

References

1. Balsinde, J., Winstead, M.V., and Dennis, E. Phospholipase A2 regulation of arachidonic acid mobilization. *FEBS Lett.* 531(1), 2-6 (2002).
2. Choi, S., Park, S., Liang, G.H., et al. Superoxide generated by lysophosphatidylcholine induces endothelial nitric oxide synthase downregulation in human endothelial cells. *Cell Physiol. Biochem.* 25(2-3), 233-240 (2010).
3. Qin, X., Qiu, C., and Zhao, L. Lysophosphatidylcholine perpetuates macrophage polarization toward classically activated phenotype in inflammation. *Cell. Immunol.* 289(1-2), 185-190 (2014).
4. Hasegawa, H., Lei, J., Matsumoto, T., et al. Lysophosphatidylcholine enhances the suppressive function of human naturally occurring regulatory T cells through TGF- β production. *Biochem. Biophys. Res. Commun.* 415(3), 526-531 (2011).
5. Yan, J.-J., Jung, J.-S., Lee, J.-E., et al. Therapeutic effects of lysophosphatidylcholine in experimental sepsis. *Nat. Med.* 10(2), 161-167 (2004).

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