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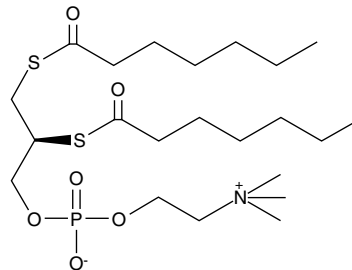
Product Information



1,2-bis(heptanoylthio) Glycerophosphocholine

Item No. 62235

CAS Registry No.: 89019-63-6
Formal Name: (S)-4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxoheptyl)thio]-3,5-dioxa-9-thia-4-phosphaheptadecan-1-aminium
Synonyms: Diheptanoyl Thio-PC, 1,2-bis(Heptanoylthio)-1,2-dideoxy-*sn*-glycero-3-phosphorylcholine
MF: C₂₂H₄₄NO₆PS₂
FW: 513.7
Purity: ≥95%
Stability: ≥1 year at -20°C
Supplied as: A solution in ethanol



Laboratory Procedures

For long term storage, we suggest that 1,2-bis(heptanoylthio) glycerophosphocholine (diheptanoyl thio-PC) be stored as supplied at -20°C. It should be stable for at least one year.

Diheptanoyl thio-PC is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as DMSO or dimethyl formamide purged with an inert gas can be used. The solubility of diheptanoyl thio-PC in these solvents is approximately 50 mg/ml. Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Avoid dissolving diheptanoyl thio-PC in basic solutions, since base treatment promotes hydrolysis of the thioester. If an organic solvent-free solution of diheptanoyl thio-PC is needed it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of diheptanoyl thio-PC in PBS (pH 7.2) is approximately 62 µg/ml. Addition of Triton X-100 will enhance the solubility of diheptanoyl thio-PC significantly.¹ The critical micellar concentration of diheptanoyl thio-PC is 0.17 mM in 0.2 M Tris-maleate (pH 7.4) buffer. We do not recommend storing the aqueous solution for more than one day.

Diheptanoyl thio-PC is a substrate for all phospholipase A₂s (PLA₂s) with the exception of cPLA₂ and PAF-acetyl hydrolase.¹ Interaction of this compound with a PLA₂ results in cleavage of the *sn*-2 fatty acid generating a free thiol on the lysophospholipid. This free thiol can be detected using chromogenic substrates such as DTNB (Ellman's reagent) and DTP.^{2,3}

References

1. Roberts, M.F. Phospholipases: Structural and functional motifs for working at an interface. *FASEB J.* **10**, 1159-1172 (1996).
2. Hendrickson, H.S., Hendrickson, E.K., and Dybvig, R.H. Chiral synthesis of a dithiolester analog of phosphatidylcholine as a substrate for the assay of phospholipase A₂. *J. Lipid Res.* **24**, 1532-1537 (1983).
3. Reynolds, L.J., Hughes, L.L., and Dennis, E.A. Analysis of human synovial fluid phospholipase A₂ on short chain phosphatidylcholine-mixed micelles: Development of a spectrophotometric assay suitable for a microtiter plate reader. *Anal. Biochem.* **204**, 190-197 (1992).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/62235

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY. NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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