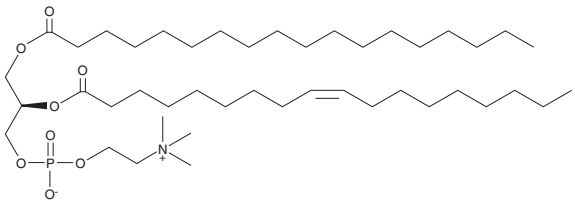
PRODUCT INFORMATION

1-Stearoyl-2-Oleoyl-*sn*-glycero-3-PC

Item No. 38152

CAS Registry No.: 56421-10-4
Formal Name: (7R)-4-hydroxy-N,N,N-trimethyl-10-oxo-7-[[(9Z)-1-oxo-9-octadecen-1-yl]oxy]-3,5,9-trioxa-4-phosphaheptacosan-1-aminium, 4-oxide, inner salt
Synonyms: 1-Octadecanoyl-2-(9Z)-Octadecenoyl-*sn*-glycero-3-Phosphatidylcholine, 1-Octadecanoyl-2-(9Z)-Octadecenoyl-*sn*-glycero-3-Phosphocholine, 18:0/18:1-PC, PC(18:0/18:1), 1,2-SOPC, L-α-1-Stearoyl-2-Oleoylphosphatidylcholine
MF: $C_{44}H_{86}NO_8P$
FW: 788.1
Purity: ≥95%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

1-Stearoyl-2-oleoyl-*sn*-glycero-3-PC is supplied as a crystalline solid. A stock solution may be made by dissolving the 1-stearoyl-2-oleoyl-*sn*-glycero-3-PC in the solvent of choice, which should be purged with an inert gas. 1-Stearoyl-2-oleoyl-*sn*-glycero-3-PC is soluble in the organic solvent ethanol at a concentration of approximately 30 mg/ml.

Description

1-Stearoyl-2-oleoyl-*sn*-glycero-3-PC is a phospholipid containing stearic acid (Item No. 10011298) and palmitic acid (Item No. 10006627) at the *sn*-1 and *sn*-2 positions, respectively.[1] It has been used in the generation of lipid nanoparticles (LNPs) for the delivery of plasmid DNA *in vitro*.[2] Liposomes containing 1-stearoyl-2-oleoyl-*sn*-glycero-3-PC and encapsulating the acetylcholinesterase (AChE) reactivator HI-6 (asoxime; Item No. 18607) increase the cerebral AChE reactivation rate by 10% compared with HI-6 alone in a mouse model of brain poisoning induced by the organophosphate nerve agent soman.[3] It has also been found in whey protein phospholipid concentrate (WPPC).[4]

References

1. Tada, K., Goto, M., Tamai, N., *et al.* Pressure effect on the bilayer phase transition of asymmetric lipids with an unsaturated acyl chain. *Ann. N. Y. Acad. Sci.* **1189(1)**, 77-85 (2010).
2. Li, Z., Carter, J., Santos, L., *et al.* Acidification-induced structure evolution of lipid nanoparticles correlates with their *in vitro* gene transfections. *ACS Nano* **17(2)**, 979-990 (2023).
3. Li, Y., Zhang, Z., Huang, J., *et al.* A fast-acting brain-targeted nano-delivery system with ultra-simple structure for brain emergency poisoning rescue. *Nanoscale* **15(10)**, 4852-4862 (2023).
4. Ferraris, Q., Alcazar, A., and Qian, M.C. Profiling polar lipids in whey protein phospholipid concentrate by LC-HRMS/MS. *Food Chem.* **374**, 131495 (2022).

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