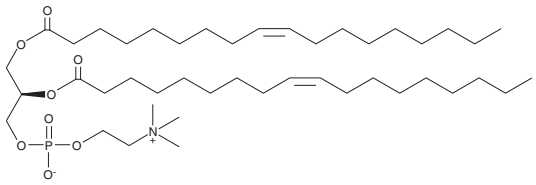
PRODUCT INFORMATION

1,2-Dioleoyl-*sn*-glycero-3-PC (solution)

Item No. 43870

CAS Registry No.: 4235-95-4
Formal Name: 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[[(9Z)-1-oxo-9-octadecen-1-yl]oxy]-3,5,9-trioxa-4-phosphaheptacos-18Z-en-1-aminium, inner salt, 4-oxide
Synonyms: *sn*-3-Dioleoyllecithin, 1,2-Dioleoyl-*sn*-glycero-3-Phosphocholine, DOPC, PDD 111
MF: $C_{44}H_{84}NO_8P$
FW: 786.1
Purity: ≥98%
Supplied as: A 25 mM solution in ethanol
Storage: -20°C
Stability: ≥2 years
Special Conditions: Product may crash out of solution when cold. To restore the solution, gently warm and agitate the vial.



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

Description

1,2-Dioleoyl-*sn*-glycero-3-PC (DOPC) is a phospholipid that contains oleic acid (Item Nos. 90260 | 24659) at the *sn*-1 and *sn*-2 positions. It has commonly been used alone, or with other components, in the generation of micelles, liposomes, and other types of artificial membranes.[1-3] It has also been used in combination with other lipids in the generation of lipid nanoparticles (LNPs) for the delivery of mRNA and microRNA *in vivo*.[4,5] Intravenous administration of LNPs containing DOPC and encapsulating luciferase mRNA induce a 4-fold higher expression of luciferase in mouse liver compared to LNPs containing 1,2-dioleoyl-*sn*-glycero-3-PE (DOPE; Item No. 15091) or 1,2-distearoyl-*sn*-glycero-3-PC (DSPC; Item No. 15100).[4] DOPC has also been used in the formation of artificial lipid droplets in combination with 1,2,3-trioleoyl glycerol (Item No. 26871) for the study of lipid peroxidation in lipid droplets.[6]

References

1. Konyakhina, T.M., Goh, S.L., Amazon, J., *et al*. Control of a nanoscopic-to-macroscopic transition: Modulated phases in four-component DSPC/DOPC/POPC/Chol giant unilamellar vesicles. *Biophys. J.* **101(2)**, L8-L10 (2011).
2. Rasch, M.R., Yu, Y., Bosoy, C., *et al*. Chloroform-enhanced incorporation of hydrophobic gold nanocrystals into dioleoylphosphatidylcholine (DOPC) vesicle membranes. *Langmuir* **28(36)**, 12971-12981 (2012).
3. Aguilar, L.F., Pino, J.A., Soto-Arriaza, M.A., *et al*. Differential dynamic and structural behavior of lipid-cholesterol domains in model membranes. *PLoS One* **7(6)**, e40254 (2012).
4. Qiu, M., Glass, Z., Chen, J., *et al*. Lipid nanoparticle-mediated codelivery of Cas9 mRNA and single-guide RNA achieves liver-specific in vivo genome editing of *Angptl3*. *Proc. Natl. Acad. Sci. USA* **118(10)**, e2020401118 (2021).
5. Scheideler, M., Vidakovic, I., and Prassl, R. Lipid nanocarriers for microRNA delivery. *Chem. Phys. Lipids* **226**, 104837 (2020).
6. Lange, M., Wagner, P.V., and Fedorova, M. Lipid composition dictates the rate of lipid peroxidation in artificial lipid droplets. *Free Radic. Res.* **55(4)**, 469-480 (2021).

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.

WARRANTY AND LIMITATION OF REMEDY
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