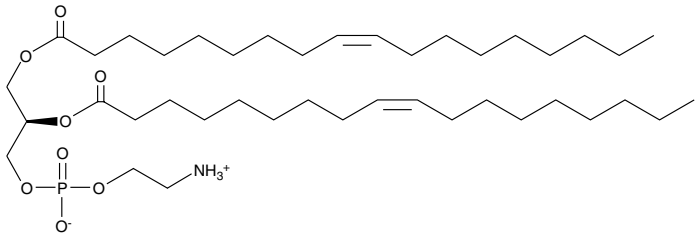
Product Information

1,2-Dioleoyl-*sn*-glycero-3-PE

Item No. 15091

CAS Registry No.: 4004-05-1
Formal Name: 1,2-dioleoyl-*sn*-glycero-3-phosphatidylethanolamine
Synonyms: 1,2-Dioleoyl-*sn*-glycero-3-Phosphoethanolamine, 1,2-DOPE
MF: $C_{41}H_{78}NO_8P$
FW: 744.1
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

For long term storage, we suggest that 1,2-dioleoyl-*sn*-glycero-3-PE (1,2-DOPE) be stored as supplied at -20°C. It should be stable for at least two years.

1,2-DOPE is supplied as a crystalline solid. A stock solution may be made by dissolving the 1,2-DOPE in the solvent of choice. 1,2-DOPE is soluble in chloroform at a concentration of approximately 3.3 mg/ml.

1,2-DOPE is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

1,2-DOPE is a synthetic analog of naturally-occurring PE containing 18:1 fatty acids at the *sn*-1 and *sn*-2 positions. The compound features the same diacylglycerol stereochemistry as that of the natural compound. 1,2-DOPE can be used as an emulsifier to facilitate DNA-liposome complex transport across membranes. It is used in combination with cationic phospholipids to increase efficiency during DNA transfection studies as a non-viral method of gene delivery.[1-3]

References

1. MacDonald, R.C., Rakhmanova, V.A., Choi, K.L., *et al.* O-ethylphosphatidylcholine: A metabolizable cationic phospholipid which is a serum-compatible DNA transfection agent. *J. Pharm. Sci.* **88(9)**, 896-904 (1999).
2. Misra, S.K., Biswas, J., Kondaiah, P., *et al.* Gene transfection in high serum levels: Case studies with new cholesterol based cationic gemini lipids. *PLoS One* **8(7)**, e68305 (2013).
3. Chen, Y., Sun, J., Lu, Y., *et al.* Complexes containing cationic and anionic pH-sensitive liposomes: Comparative study of factors influencing plasmid DNA gene delivery to tumors. *Int. J. Nanomedicine* **8**, 1573-1593 (2013).

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