

PRODUCT INFORMATION



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

Item No. 41090

CAS Registry No.: 904304-57-0
Formal Name: (13Z,13'Z)-13-docosenoic acid, (1,1'-[(1R)-1-[[[(2-aminoethoxy)hydroxyphosphinyl]oxy]methyl]-1,2-ethanediyl] ester

Synonyms: 1,2-Didocosenoyl-*sn*-glycero-3-Phosphoethanolamine, PE(22:1/22:1), di22:1-PE, 22:1/22:1-PE

MF: C₄₉H₉₄NO₈P

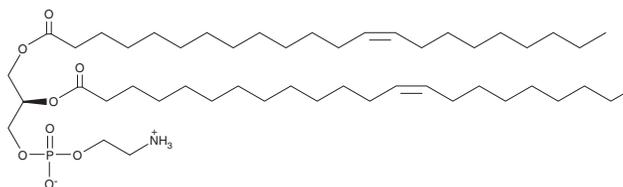
FW: 856.3

Purity: ≥90%

Supplied as: A 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

1,2-Dierucoyl-*sn*-glycero-3-PE is supplied as a solid. A stock solution may be made by dissolving the 1,2-dierucoyl-*sn*-glycero-3-PE in the solvent of choice, which should be purged with an inert gas. 1,2-Dierucoyl-*sn*-glycero-3-PE is slightly soluble (0.1-1 mg/ml) in methanol.

Description

1,2-Dierucoyl-*sn*-glycero-3-PE is a phospholipid containing erucic acid (13(Z)-docosenoic acid; Item No. 90175) at the *sn*-1 and *sn*-2 positions. It has been used in the generation of lipid nanoparticles (LNPs) for the delivery of mRNA *in vivo*.¹ 1,2-Dierucoyl-*sn*-glycero-3-PE has also been used in the synthesis of various PEG-conjugates for incorporation into liposomes.²⁻⁴ LNPs containing 1,2-dierucoyl-*sn*-glycero-3-PE and encapsulating mRNA encoding human erythropoietin (hEPO) increase serum hEPO levels in mice.¹

References

1. Vaidya, A., Parande, D., Khadse, N., *et al.* Analytical characterization of heterogeneities in mRNA-lipid nanoparticles using sucrose density gradient ultracentrifugation. *Anal. Chem.* **96**(14), 5570-5579 (2024).
2. Longmuir, K.J., Robertson, R.T., Haynes, S.M., *et al.* Effective targeting of liposomes to liver and hepatocytes *in vivo* by incorporation of a *Plasmodium* amino acid sequence. *Pharm. Res.* **23**(4), 759-769 (2006).
3. Haynes, S.M., Longmuir, K.J., Robertson, R.T., *et al.* Liposomal polyethyleneglycol and polyethyleneglycol-peptide combinations for active targeting to liver *in vivo*. *Drug Deliv.* **15**(4), 207-217 (2008).
4. Tsai, M.S., Baratta, J.L., Longmuir, K.J., *et al.* Binding patterns of peptide-containing liposomes in liver and spleen of developing mice: Comparison with heparan sulfate immunoreactivity. *J. Drug Target.* **19**(7), 506-515 (2010).

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.

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