

# PRODUCT INFORMATION



## 1-Palmitoyl-2-Oleoyl-*sn*-glycero-3-PE

Item No. 20067

CAS Registry No.: 26662-94-2

Formal Name: 9Z-octadecenoic acid, (1R)-1-[[[(2-aminoethoxy)hydroxyphosphinyl]oxy]methyl]-2-[(1-oxohexadecyl)oxy]ethyl ester

Synonyms: 1-Palmitoyl-2-Oleoyl-*sn*-glycero-3-Phosphatidylethanolamine, 1-Palmitoyl-2-Oleoyl-*sn*-glycero-3-Phosphoethanolamine, 16:0-18:1 PE, PE(16:0/18:1), 1,2-POPE

MF:  $C_{39}H_{76}NO_8P$

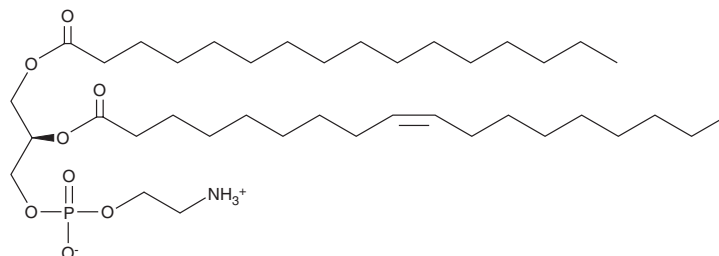
FW: 718.0

Purity:  $\geq 98\%$

Supplied as: A solid

Storage:  $-20^{\circ}\text{C}$

Stability:  $\geq 4$  years



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

### Laboratory Procedures

1-Palmitoyl-2-oleoyl-*sn*-glycero-3-PE (1,2-POPE) is supplied as a solid. A stock solution may be made by dissolving the 1,2-POPE in the solvent of choice, which should be purged with an inert gas. 1,2-POPE is soluble in the organic solvent chloroform at a concentration of approximately 100 mg/ml.

### Description

1,2-POPE is a phospholipid that contains palmitic acid (Item No. 10006627) and oleic acid (Item Nos. 90260 | 24659) at the *sn*-1 and *sn*-2 positions, respectively.<sup>1</sup> It is a major component of *E. coli* lipid bilayers, and vesicles composed of 1,2-POPE can be disrupted by polycationic antimicrobials.<sup>1,2</sup> 1,2-POPE has been used in combination with other lipids in the formation of lipid nanoparticles (LNPs) for spleen- and liver-specific targeting in mice.<sup>3</sup>

### References

- Hristova, K., Selsted, M.E., and White, S.H. Critical role of lipid composition in membrane permeabilization by rabbit neutrophil defensins. *J. Biol. Chem.* **272**(39), 24224-24233 (1997).
- Hallock, K.J., Lee, D.-K., Omnaas, J., et al. Membrane composition determines pardaxin's mechanism of lipid bilayer disruption. *Biophys. J.* **83**(2), 1004-1013 (2002).
- Álvarez-Benedicto, E., Farbiak, L., Ramírez, M.M., et al. Optimization of phospholipid chemistry for improved lipid nanoparticle (LNP) delivery of messenger RNA (mRNA). *Biomater. Sci.* **10**(2), 549-559 (2022).

#### 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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