

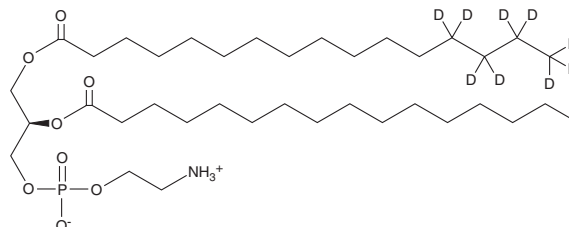
# PRODUCT INFORMATION



## 1-Palmitoyl-d<sub>9</sub>-2-Palmitoyl-*sn*-glycero-3-PE

Item No. 28155

**CAS Registry No.:** 2747990-85-6  
**Formal Name:** (2R)-3-(((2-aminoethoxy)(hydroxy)phosphoryl)oxy)-2-(palmitoyloxy)propyl hexadecanoate-13,13,14,14,15,15,16,16,16-d<sub>9</sub>  
**Synonyms:** 16:0-d<sub>9</sub>/16:0-PE, 1-Hexadecanoyl-d<sub>9</sub>-2-Hexadecanoyl-*sn*-glycero-3-Phosphatidylethanolamine, 1-Hexadecanoyl-d<sub>9</sub>-2-Hexadecanoyl-*sn*-glycero-3-Phosphoethanolamine, PE(16:0-d<sub>9</sub>/16:0)  
**MF:** C<sub>37</sub>H<sub>65</sub>D<sub>9</sub>NO<sub>8</sub>P  
**FW:** 701.0  
**Chemical Purity:** ≥95% (1,2-Dipalmitoyl-*sn*-glycero-3-PE)  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>9</sub>); ≤1% d<sub>0</sub>  
**Supplied as:** A 2:1 solution of chloroform:methanol  
**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-Palmitoyl-d<sub>9</sub>-2-palmitoyl-*sn*-glycero-3-PE is intended for use as an internal standard for the quantification of 1,2-dipalmitoyl-*sn*-glycero-3-PE (Item No. 15092) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

1-Palmitoyl-d<sub>9</sub>-2-palmitoyl-*sn*-glycero-3-PE is supplied as a crystalline solid. A stock solution may be made by dissolving the 1-palmitoyl-d<sub>9</sub>-2-palmitoyl-*sn*-glycero-3-PE in the solvent of choice, which should be purged with an inert gas. 1-Palmitoyl-d<sub>9</sub>-2-palmitoyl-*sn*-glycero-3-PE is soluble in the organic solvent chloroform at a concentration of approximately 1 mg/ml.

### Description

1,2-Dipalmitoyl-*sn*-glycero-3-PE (1,2-DPPE) is a naturally occurring PE containing C16:0 fatty acids at the *sn*-1 and *sn*-2 positions. It belongs to a class of phospholipids that are the most abundant lipids in the inner leaflet of the plasma membrane.<sup>1</sup> 1,2-DPPE interacts with cholesterol to form a condensed lipid monolayer with tight hydrogen bonding of the 1,2-DPPE interheadgroups, resulting in a more fluid membrane that may aid in transport and signaling across the bilayer.<sup>2,3</sup>

### References

1. Vance, J.E. and Tasseva, G. Formation and function of phosphatidylserine and phosphatidylethanolamine in mammalian cells. *Biochim. Biophys. Acta* **1831(3)**, 543-554 (2013).
2. Leekumjorn, S. and Sum, A.K. Molecular simulation study of structural and dynamic properties of mixed DPPC/DPPE bilayers. *Biophys. J.* **90(11)**, 3951-3965 (2006).
3. McQuaw, C.M., Sostarecz, A.G., Zheng, L., *et al.* Lateral heterogeneity of dipalmitoylphosphatidylethanolamine-cholesterol Langmuir-Blodgett films investigated with imaging time-of-flight secondary ion mass spectrometry and atomic force microscopy. *Langmuir* **21(3)**, 807-813 (2005).

#### 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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