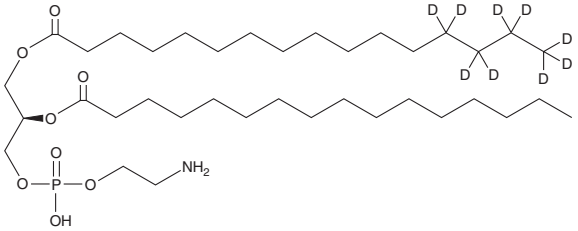
PRODUCT INFORMATION

1-Palmitoyl-d_9-2-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_9
Synonyms: 16:0-d_9/16:0-PE, 1-Hexadecanoyl-d_9-2-Hexadecanoyl-*sn*-glycero-3-Phosphatidylethanolamine, 1-Hexadecanoyl-d_9-2-Hexadecanoyl-*sn*-glycero-3-Phosphoethanolamine, PE(16:0-d_9/16:0)
MF: $C_{37}H_{65}D_9NO_8P$
FW: 701.0
Chemical Purity: ≥95% (1,2-Dipalmitoyl-*sn*-glycero-3-PE)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_9); ≤1% d_0
Supplied as: A crystalline 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-Palmitoyl-d_9-2-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_9-2-palmitoyl-*sn*-glycero-3-PE is supplied as a crystalline solid. A stock solution may be made by dissolving the 1-palmitoyl-d_9-2-palmitoyl-*sn*-glycero-3-PE in the solvent of choice, which should be purged with an inert gas. 1-Palmitoyl-d_9-2-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.[1] 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.[2,3]

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).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM