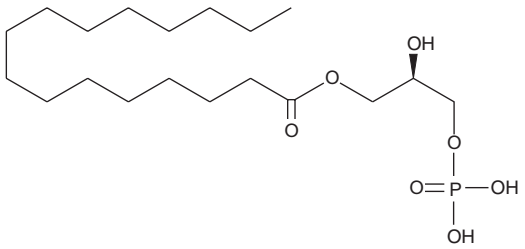
PRODUCT INFORMATION

1-Palmitoyl Lysophosphatidic Acid

Item No. 10010094

CAS Registry No.:	22002-85-3
Formal Name:	hexadecanoic acid, 2-hydroxy-3-(phosphonooxy)propyl ester
Synonym:	1-Palmitoyl LPA
MF:	$C_{19}H_{39}O_7P$
FW:	410.5
Purity:	≥98%
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥2 years



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

Laboratory Procedures

1-Palmitoyl lysophosphatidic acid (1-Palmitoyl LPA) is supplied as a crystalline solid. A stock solution may be made by dissolving the 1-palmitoyl LPA in the solvent of choice, which should be purged with an inert gas. 1-Palmitoyl LPA is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 1-palmitoyl LPA in these solvents is approximately 25, 2.5, and 2 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of 1-palmitoyl LPA can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 1-palmitoyl LPA in PBS (pH 7.2) is approximately 3 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

1-Palmitoyl LPA is a LPA analog containing palmitic acid at the *sn*-1 position. LPA binds to one of at least five different G protein-coupled receptors to mediate a variety of biological responses including cell proliferation, smooth muscle contraction, platelet aggregation, neurite retraction, and cell motility.[1,2] Additionally, 1-palmitoyl LPA enhances the action of β-lactam antibiotics (ampicillin, piperacillin, and ceftazidime) on various strains of *P. aeruginosa*, a pathogen associated with pulmonary disease and pneumonia, *via* binding both Ca^{2+} and Mg^{2+}.[3]

References

1. Noguchi, K., Ishii, S., and Shimizu, T. Identification of $p2y_9$/GPR23 as a novel G protein-coupled receptor for lysophosphatidic acid, structurally distant from the Edg family. *J. Biol. Chem.* **278(28)**, 25600-25606 (2003).
2. Moolenaar, W.H. LPA: A novel lipid mediator with diverse biological actions. *Trends Cell Biol.* **4(6)**, 213-219 (1994).
3. Krogfelt, K.A., Utley, M., Krivan, H.C., *et al.* Specific phospholipids enhance the activity of β-lactam antibiotics against *Pseudomonas aeruginosa*. *J. Antimicrob. Chemother.* **46(3)**, 377-384 (2000).

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