

# PRODUCT INFORMATION

## 1-Octadecyl Lysophosphatidic Acid

Item No. 10010164

CAS Registry No.: 52977-29-4

Formal Name: 3-(octadecyloxy)-1-(dihydrogen phosphate)-1,2-propanediol

Synonym: 1-Octadecyl LPA

MF: C<sub>21</sub>H<sub>45</sub>O<sub>6</sub>P

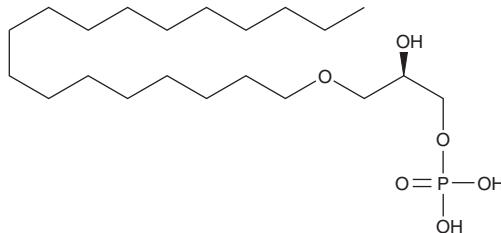
FW: 424.6

Purity: ≥95%

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-Octadecyl LPA is supplied as a crystalline solid. A stock solution may be made by dissolving the 1-octadecyl LPA in an organic solvent purged with an inert gas. 1-Octadecyl LPA is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 1-octadecyl LPA in these solvents is approximately 10 mg/ml.

1-Octadecyl LPA is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 1-octadecyl LPA should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. 1-Octadecyl LPA has a solubility of approximately 0.5 mg/ml in a 1:1 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

1-Octadecyl LPA is a LPA analog containing stearic acid at the *sn*-1 position. LPA binds to one of five different G protein linked receptors to mediate a variety of biological responses including cell proliferation, smooth muscle contraction, platelet aggregation, neurite retraction, and cell motility.<sup>1,2</sup> Alkyl ether-linked LPA derivatives have a higher platelet aggregating activity than the acyl derivatives, most likely stemming from an alkyl-specific LPA receptor. For example, 1-octadecyl LPA has a platelet aggregating EC<sub>50</sub> value of 9 nM versus 1-octadecanoyl LPA which has an EC<sub>50</sub> value of 177 nM.<sup>3</sup>

### References

1. Noguchi, K., Ishii, S., and Shimizu, T. Identification of p2y9/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**, 213-219 (1994).
3. Tokumura, A., Sinomiya, J., Kishimoto, S., et al. Human platelets respond differentially to lysophosphatidic acids having a highly unsaturated fatty acyl group and alkyl ether-linked lysophosphatidic acids. *Biochem J.* **365**, 617-628 (2002).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY USE - 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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