

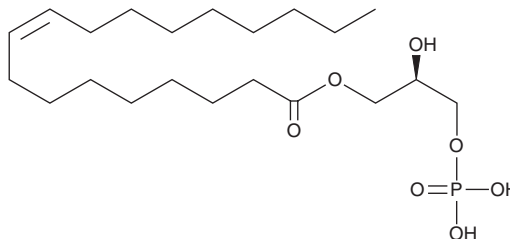
# PRODUCT INFORMATION



## 1-Oleoyl Lysophosphatidic Acid

Item No. 10010093

**CAS Registry No.:** 65528-98-5  
**Formal Name:** 1-O-9Z-octadecenoyl-*sn*-glyceryl-3-phosphoric acid  
**Synonyms:** 1-Oleoyl LPA, Oleoyl-*sn*-3-Glycerophosphate  
**MF:** C<sub>21</sub>H<sub>41</sub>O<sub>7</sub>P  
**FW:** 436.5  
**Purity:** ≥95%  
**Supplied as:** A solution in ethanol  
**Storage:** -20°C  
**Stability:** ≥1 year



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

### Laboratory Procedures

1-Oleoyl lysophosphatidic acid (1-oleoyl LPA) is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as DMSO and dimethyl formamide purged with an inert gas can be used. The solubility of 1-oleoyl LPA in these solvents is approximately 2 mg/ml.

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. If an organic solvent-free solution of 1-oleoyl LPA is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of 1-oleoyl 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-Oleoyl LPA is a species of LPA containing oleic acid at the *sn*-1 position. Phosphatidic acid is produced either directly through the action of phospholipase D (PLD) or through a two step process involving liberation of diacylglycerol (DAG) by phospholipase C (PLC) followed by phosphorylation of DAG by diglycerol kinase.<sup>1</sup> Hydrolysis of the fatty acid at the *sn*-2 position by phospholipase A<sub>2</sub> (PLA<sub>2</sub>) yields bioactive LPA. 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> 1-Oleoyl LPA is the most potent of the LPA analogs for calcium mobilization in A431 cells and for growth stimulation of a variety of cell lines.<sup>3,4</sup>

### References

1. Moolenaar, W.H. *Trends Cell Biol.* **4**, 213-219 (1994).
2. Noguchi, K., Ishii, S., and Shimizu, T. *J. Biol. Chem.* **278**(28), 25600-25606 (2003).
3. Jalink, K., Hengeveld, T., Mulder, S., *et al.* *Biochem. J.* **307**, 609-616 (1995).
4. van Corven, E.J., van Rijswijk, A., Jalink, K., *et al.* *Biochem. J.* **281**, 163-169 (1992).

#### 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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