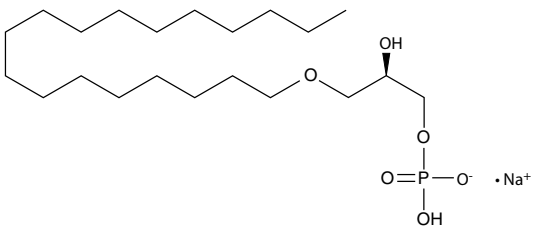
Product Information

1-Octadecyl Lysophosphatidic Acid (sodium salt)

Item No. 10010291

Formal Name: 1-O-octadecyl-2-hydroxy-*sn*-glycero-3-phosphate, monosodium salt
Synonym: 1-Octadecyl LPA
MF: $C_{21}H_{44}O_6P \bullet Na$
FW: 446.5
Purity: ≥95%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

For long term storage, we suggest that 1-octadecyl lysophosphatidic acid (sodium salt) (1-octadecyl LPA (sodium salt)) be stored as supplied at -20°C. It should be stable for at least two years.

1-Octadecyl LPA (sodium salt) is supplied as a crystalline solid. 1-Octadecyl LPA (sodium salt) is sparingly soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. If aqueous stock solutions are required for biological experiments, they can best be prepared by diluting the organic solvent into aqueous buffers or isotonic saline. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

1-Octadecyl LPA (sodium salt) is a LPA analog containing stearyl alcohol 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.[1,2] 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 platelet aggregating activity with an EC_{50} value of 9 nM *versus* an EC_{50} value of 177 nM for 1-octadecanoyl LPA.[3]

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).

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