

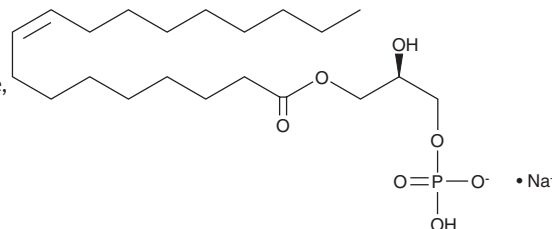
PRODUCT INFORMATION



1-Oleoyl-2-hydroxy-*sn*-glycero-3-PA (sodium salt)

Item No. 62215

CAS Registry No.: 325465-93-8
Formal Name: 9Z-octadecenoic acid, (2R)-2-hydroxy-3-(phosphonoxy)propyl ester, monosodium salt
Synonyms: PA(18:1/0:0), 18:1 LPA, LPA 18:1, 1-Octadecenoyl-2-hydroxy-*sn*-glycero-3-phosphate, 1-Oleoyl LPA, 1-Oleoyl Lysophosphatidic Acid
MF: C₂₁H₄₀O₇P • Na
FW: 458.5
Purity: ≥95%
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-Oleoyl-2-hydroxy-*sn*-glycero-3-PA (sodium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the 1-oleoyl-2-hydroxy-*sn*-glycero-3-PA (sodium salt) in the solvent of choice, which should be purged with an inert gas. 1-Oleoyl-2-hydroxy-*sn*-glycero-3-PA (sodium salt) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 1-oleoyl-2-hydroxy-*sn*-glycero-3-PA (sodium salt) in these solvents is approximately 0.05 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. Organic solvent-free aqueous solutions of 1-oleoyl-2-hydroxy-*sn*-glycero-3-PA (sodium salt) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 1-oleoyl-2-hydroxy-*sn*-glycero-3-PA (sodium salt) in PBS (pH 7.2) is approximately 8.3 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

1-Oleoyl-2-hydroxy-*sn*-glycero-3-PA is a species of lysophosphatidic acid (LPA) containing oleic acid at the *sn*-1 position. Phosphatidic acid is produced either directly through the action of PLD or through a two step process involving liberation of DAG by PLC followed by phosphorylation of DAG by diglycerol kinase.¹ Hydrolysis of the fatty acid at the *sn*-2 position by PLA₂ yields bioactive LPA. LPA binds to four different G-protein linked receptors² to mediate a variety of biological responses including cell proliferation, smooth muscle contraction, platelet aggregation, neurite retraction, and cell motility.¹ 1-Oleoyl-2-hydroxy-*sn*-glycero-3-PA is the most potent of the LPA analogs for calcium mobilization in A431 cells³ and for growth stimulation of a variety of cell lines.⁴

References

1. Moolenaar, W.H. LPA: A novel lipid mediator with diverse biological actions. *Trends Cell Biol.* **4(6)**, 213-219 (1994).
2. Chun, J., Goetzl, E.J., Hla, T., *et al.* International union of pharmacology. XXXIV. Lysophospholipid receptor nomenclature. *Pharmacol. Rev.* **54(2)**, 265-269 (2002).
3. Jalink, K., Hengeveld, T., Mulder, S., *et al.* Lysophosphatidic acid-induced Ca²⁺ mobilization in human A4431 cells: Structure-activity analysis. *Biochem. J.* **307(Pt 2)**, 609-616 (1995).
4. van Corven, E.J., van Rijswijk, A., Jalink, K., *et al.* Mitogenic action of lysophosphatidic acid and phosphatidic acid on fibroblasts. Dependence on acyl-chain length and inhibition by suramin. *Biochem. J.* **281(Pt 1)**, 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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