

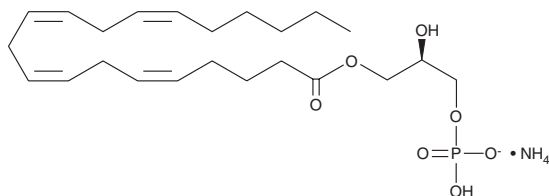
# PRODUCT INFORMATION



## 1-Arachidonoyl Lyso phosphatidic Acid (ammonium salt)

Item No. 10019

**CAS Registry No.:** 799268-65-8  
**Formal Name:** (5Z,8Z,11Z,14Z)-eicosatetraenoic acid, (2R)-hydroxy-3-(phosphonoxy)propyl ester, monoammonium salt  
**Synonyms:** 1-Arachidonoyl LPA, 1-Arachidonoyl-*sn*-glycero-3-phosphate, 1-Eicosatetraenoyl-*sn*-glycero-3-PA, 20:4 Lyso PA, LPA(20:4), PA(20:4/0:0)  
**MF:** C<sub>23</sub>H<sub>38</sub>O<sub>7</sub>P • NH<sub>4</sub>  
**FW:** 475.6  
**Purity:** ≥95%  
**Supplied as:** A crystalline solid  
**Storage:** -80°C  
**Stability:** ≥6 months



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

### Laboratory Procedures

1-Arachidonoyl lyso phosphatidic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the 1-arachidonoyl lyso phosphatidic acid in the solvent of choice, which should be purged with an inert gas. 1-Arachidonoyl lyso phosphatidic acid is sparingly soluble in methanol.

### Description

1-Arachidonoyl lyso phosphatidic acid is a phospholipid containing arachidonic acid at the *sn*-1 position. It has been found in rat brain as 37% of the arachidonic acid-containing lyso phosphatidic acid (LPA) species and is a precursor to 1-arachidonoyl glycerol (1-AG; Item No. 62150).<sup>1</sup> 1-Arachidonoyl lyso phosphatidic acid binds to the LPA<sub>2</sub>/EDG4 receptor with an EC<sub>50</sub> value of approximately 10 nM.<sup>2</sup> It prevents TNF-α and IL-6 secretion in wild-type but not *Lpa2*<sup>-/-</sup> dendritic cells stimulated by LPS.<sup>3</sup> It also decreases differentiation of HT-29 human colon carcinoma cells to goblet cells in the presence of sodium butyrate.<sup>4</sup>

### References

1. Nakane, S., Oka, S., Arai, S., *et al.* 2-Arachidonoyl-*sn*-glycero-3-phosphate, an arachidonic acid-containing lyso phosphatidic acid: Occurrence and rapid enzymatic conversion to 2-arachidonoyl-*sn*-glycerol, a cannabinoid receptor ligand, in rat brain. *Arch. Biochem. Biophys.* **402(1)**, 51-58 (2002).
2. Bandoh, K., Aoki, J., Taira, A., *et al.* Lyso phosphatidic acid (LPA) receptors of the EDG family are differentially activated by LPA species. Structure-activity relationship of cloned LPA receptors. *FEBS Lett.* **478(1-2)**, 159-165 (2000).
3. Emo, J., Meednu, N., Chapman, T.J., *et al.* Lpa2 is a negative regulator of both dendritic cell activation and murine models of allergic lung inflammation. *J. Immunol.* **188(8)**, 3784-3790 (2012).
4. Hidaka, M., Nishihara, M., and Tokumura, A. Three lyso phosphatidic acids with a distinct long chain moiety differently affect cell differentiation of human colon epithelial cells to goblet cells. *Life Sci.* **197**, 73-79 (2018).

#### 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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