

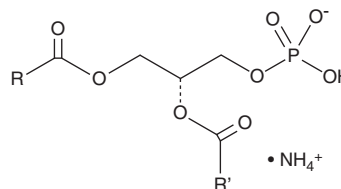
# PRODUCT INFORMATION



## Phosphatidic Acids (ammonium salt)

Item No. 24344

**MF:**  $C_{39}H_{72}O_8P \cdot NH_4$  (for oleoyl)  
**FW:** 718.0  
**Purity:**  $\geq 98\%$   
**Supplied as:** A solution in chloroform  
**Storage:**  $-20^\circ C$   
**Stability:**  $\geq 2$  years



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

### Laboratory Procedures

Phosphatidic Acids (ammonium salt) is supplied as a solution in chloroform. To change the solvent, simply evaporate the chloroform under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as ether purged with an inert gas can be used.

### Description

Phosphatidic acid is a phospholipid and an intermediate in glycerolipid biosynthesis.<sup>1</sup> It is a transient intermediate in the synthesis of various phospholipid species that is synthesized *de novo* in cells via multiple routes, including the glycerol-3 phosphate and dihydroxyacetone phosphate pathways, enzymatic conversion of phosphatidylcholine by phospholipase D, and acetylation of lysophosphatidic acid by lysoPA-acyltransferase, among others.<sup>2,3</sup> It has roles in shaping cellular membranes, cellular signaling, vesicle fission and fusion, as well as mitochondrial division and fusion. It stimulates respiratory burst in neutrophils independent of diacylglycerol and activates monoacylglycerol acyltransferase, phospholipase C (PLC), Ras, and phosphatidylinositol 4-phosphate (PIP4) kinase in several cell lines. This product contains phosphatidic acid molecular species with primarily C16:0 and C18:1 fatty acyl chain lengths.

### References

1. Athenstaedt, K. and Daum, G. Phosphatidic acid, a key intermediate in lipid metabolism. *Eur. J. Biochem.* **266(1)**, 1-16 (1999).
2. J arai, Z., Wagner, J.A., Goparaju, S.K., *et al.* Cardiovascular effects of 2-arachidonoyl glycerol in anesthetized mice. *Hypertension* **35(2)**, 679-684 (2000).
3. Kameoka, S., Adachi, Y., Okamoto, K., *et al.* Phosphatidic acid and cardiolipin coordinate mitochondrial dynamics. *Trends Cell Biol.* **28(1)**, 67-76 (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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#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM