

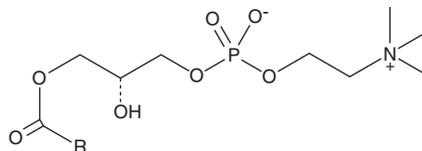
# PRODUCT INFORMATION



## Lysophosphatidylcholine

Item No. 24331

CAS Registry No.: 9008-30-4  
Synonym: Lyso-Lecithins  
MF:  $C_{24}H_{50}NO_7P$  (for palmitoyl)  
FW: 495.6  
Purity:  $\geq 98\%$   
Supplied as: A solid  
Storage:  $-20^\circ C$   
Stability:  $\geq 4$  years



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

### Laboratory Procedures

Lysophosphatidylcholine is supplied as a solid. A stock solution may be made by dissolving the lysophosphatidylcholine in the solvent of choice. Lysophosphatidylcholine is soluble in a 2:1 solution of chloroform:methanol.

### Description

Lysophosphatidylcholines are produced by hydrolysis of the fatty acid of phosphatidylcholine (PC; Item Nos. 24343 | 24370) at either the *sn*-1 or *sn*-2 position by phospholipase  $A_2$  (PLA<sub>2</sub>) or by lecithin-cholesterolacyltransferase (LCAT), which transfers the fatty acid to cholesterol.<sup>1</sup> Lysophosphatidylcholine has effects on a variety of cell types, including smooth muscle cells, endothelial cells, T lymphocytes, monocytes, and macrophages among others. It is a major phospholipid component of oxidized low-density lipoprotein (ox-LDL), and it accumulates in animal models of atherosclerosis. Lysophosphatidylcholine also has pro-inflammatory properties through its activation and modulation of various signaling pathways, including the ERK pathway as well as through protein tyrosine kinase and G protein-coupled receptor (GPCR) signal transduction. It is released from apoptotic cells following caspase-3 activation of the calcium-independent PLA<sub>2</sub> and acts as a chemoattractant for monocytes.<sup>2</sup> Lysophosphatidylcholine (2  $\mu$ l, 1%) injected into the caudal cerebellar peduncle of rats induces demyelination of axons *in vivo*, which are extensively remyelinated by oligodendrocytes six weeks following injection.<sup>3</sup> *This product contains lysophosphatidylcholine molecular species with primarily C16:0 fatty acyl chain lengths acylated to the sn-1 position.*

### References

1. Matsumoto, T., Kobayashi, T., and Kamata, K. Role of lysophosphatidylcholine (LPC) in atherosclerosis. *Curr. Med. Chem.* **14**(30), 3209-3220 (2007).
2. Lauber, K., Bohn, E., Kröber, S.M., *et al.* Apoptotic cells induce migration of phagocytes via caspase-3-mediated release of a lipid attraction signal. *Cell* **113**(6), 717-730 (2003).
3. Woodruff, R.H. and Franklin, R.J. Demyelination and remyelination of the caudal cerebellar peduncle of adult rats following stereotaxic injections of lysolecithin, ethidium bromide, and complement/anti-galactocerebroside: A comparative study. *Glia* **25**(3), 216-228 (1999).

#### 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