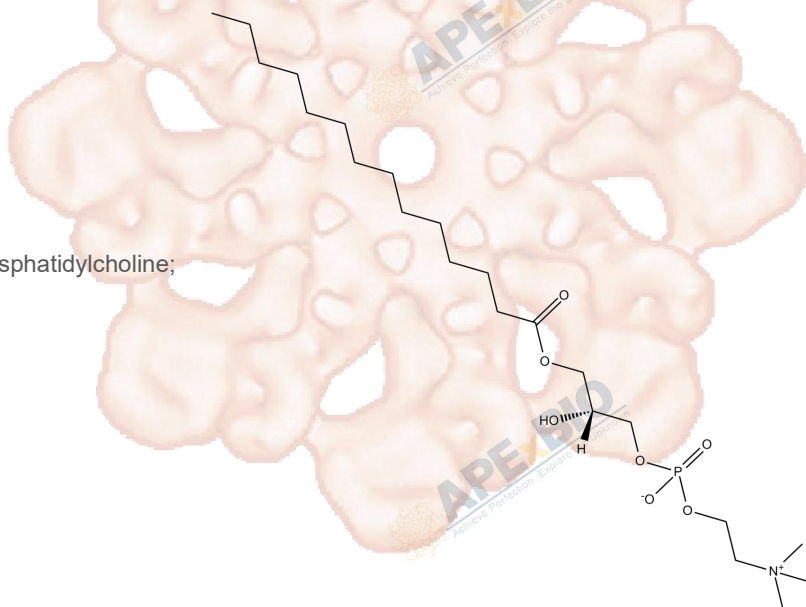


Product Data Sheet

1-myristoylglycerophosphocholine

Cat. No.: M1340
CAS No.: 20559-16-4
Formula: C22H46NO7P
M.Wt: 467.58
Synonyms: 14:0 Lyso-PC;
1-Myristoyl-sn-glycero-3-Phosphatidylcholine;
LysoPC(14:0/0:0)
Target: Nrf2/HO-1
Pathway: Nrf2/HO-1 signaling pathway
Storage: Store at -20C



Solvent & Solubility

insoluble in DMSO; ≥ 13.4 mg/mL in EtOH with ultrasonic; ≥ 24.75 mg/mL in H₂O.

In Vitro

Preparing Stock Solutions	Solvent Concentration	Mass	1mg	5mg	10mg
	1 mM		2.1387	10.6934	21.3867
	5 mM		0.4277	2.1387	4.2773
	10 mM		0.2139	1.0693	2.1387

Please refer to the solubility information to select the appropriate solvent.

Biological Activity

Shortsummary

1-myristoylglycerophosphocholine (CAS No.: 20559-16-4) is a lysophospholipid belonging to the monoglycerophospholipid class, characterized by a phosphorylcholine head group linked to a glycerol backbone and commonly generated in plasma through lecithin:cholesterol acyltransferase-mediated lipid remodeling. As a bioactive lipid mediator, it participates in lipid signaling processes primarily through interaction with lysophospholipid-sensitive receptors and modulation of downstream signaling pathways that

	regulate enzyme activity and cellular responses. This compound has been widely utilized in biomedical research to investigate mechanisms of smooth muscle contraction and relaxation, owing to its observed antispasmodic properties, and is implicated in studies of inflammation, membrane dynamics, and receptor-mediated signal transduction. In vitro studies suggest that lysophospholipids of this class exert biological effects across nanomolar to micromolar concentration ranges, depending on the cellular context and assay system. In experimental settings, 1-myristoylglycerophosphocholine is commonly applied in cell-based assays and physiological models to explore lipid-mediated signaling and pharmacological modulation of muscle function, with concentrations or dosing regimens tailored to specific study designs and research objectives.	
IC ₅₀ & Target	/	
In Vitro	Cell Viability Assay	
	Cell Line:	MLE-12 cells
	Preparation method:	Cell viability / oxidative injury protection assay (t-BHP-induced)
	Reacting conditions:	0, 1, 5, 10, 20, 50 µmol/mL
In Vivo	Applications:	Protected MLE-12 cells against t-BHP-induced oxidative injury and restored viability in a concentration-dependent manner (optimal at 10 µmol/mL).
	Animal experiment	
	Animal models:	Eight-week-old male C57BL/6 mice (20-25 g); intratracheal LPS (10 mg/kg) to induce acute lung injury (ALI).
	Dosage form:	10 mg/kg dissolved in 1% BSA; subcutaneous injection.
	Applications:	Attenuated LPS-induced pulmonary edema (W/D ratio), inflammatory cell infiltration and BALF protein leakage, suppressed pro-inflammatory cytokine release, and up-regulated pulmonary Nrf2/HO-1 and tight-junction proteins ZO-1 and Occludin.
	Preparation method:	Mice randomized into four groups (Control, LPS, LPC14:0, LPS+LPC14:0). LPC14:0 administered subcutaneously 2 h before and 12 h after LPS challenge; lung tissues collected 24 h after LPS challenge.
	Other notes:	The technical data provided above is for reference only.

Product Citations

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See more customer validations on www.apexbt.com.

References

Liu X, et al. 1-myristoylglycerophosphocholine attenuates LPS-induced acute lung injury via activation of the Nrf2/HO-1 pathway. J

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APEx BIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

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