

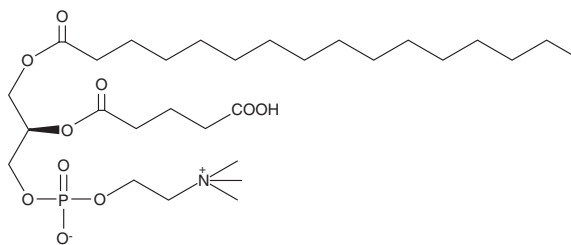
Product Information



PGPC

Item No. 10044

CAS#: 89947-79-5
Formal Name: 1-palmitoyl-2-glutaryl phosphatidylcholine
MF: C₂₉H₅₆NO₁₀P
FW: 609.7
Purity: ≥98%
Stability: ≥1 year at -20°C
Supplied as: A solution in ethanol



Laboratory Procedures

For long term storage, we suggest that PGPC be stored as supplied at -20°C. It should be stable for at least one year.

PGPC is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as DMSO purged with an inert gas can be used. The solubility of PGPC in DMSO is approximately 1 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. If an organic solvent-free solution of PGPC is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of PGPC in PBS (pH 7.2) is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Oxidized low-density lipoprotein (oxLDL) particles contain low molecular weight species which promote the differentiation of monocytes and activate polymorphonuclear leukocytes.¹ Many of these substances were recently isolated and purified from oxLDL, and identified as phosphatidylcholine species containing a fragmented, oxidized short-chain fatty acid remnant at the *sn*-2 position.² One of these substances isolated from oxLDL and identified as azelaoyl PAF is a potent PPAR γ agonist.³ 1-Palmitoyl-2-glutaryl phosphatidylcholine (PGPC) and 1-(palmitoyl)-2-(5-oxovaleroyl) phosphatidylcholine (POV-PC) are closely related compounds with strikingly different activity.⁴ PGPC treatment of vascular endothelial cells induces the expression of both E-selectin and VCAM-1, and increases endothelial cell binding by both neutrophils and monocytes. This contrasts with POV-PC treatment, which stimulates only monocyte binding, and strongly inhibits the LPS-induced binding of neutrophils.⁴

References

1. Tontonoz, P., Nagy, L., Alvarez, J.G.A., *et al.* PPAR γ promotes monocyte/macrophage differentiation and uptake of oxidized LDL. *Cell* **93**, 241-252 (1998).
2. Podrez, E.A., Batyreva, E., Shen, Z., *et al.* A novel family of atherogenic oxidized phospholipids promotes macrophage foam cell formation *via* the scavenger receptor CD36 and is enriched in atherosclerotic lesions. *J. Biol. Chem.* **277**(41), 38517-38523 (2002).
3. Davies, S.S., Pontsler, A.V., Marathe, G.K., *et al.* Oxidized alkyl phospholipids are specific, high affinity peroxisome proliferator-activated receptor γ ligands and agonists. *J. Biol. Chem.* **276**, 16015-16023 (2001).
4. Leitinger, N., Tyner, T.R., Oslund, L., *et al.* Structurally similar oxidized phospholipids differentially regulate endothelial binding of monocytes and neutrophils. *Proc. Natl. Acad. Sci. USA* **96**(21), 12010-12015 (1999).

Related Products

POV-PC - Item No. 10031 • PAF C-16 - Item No. 60900 • Azelaoyl PAF - Item No. 60924 • Butanoyl PAF - Item No. 60928 • Butenoyl PAF - Item No. 60929 • PAz-PC - Item No. 62924 • KOdiA-PC - Item No. 62945 • Athero-PAK - Item No. 10005292

WARNING: THIS PRODUCT IS NOT FOR HUMAN OR ANIMAL DISEASE DIAGNOSIS OR THERAPEUTIC DRUG USE.

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent under separate cover to the MSDS supervisor at your institution.

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Cayman Chemical Company makes **no warranty or guarantee** of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman warrants only to the original customer that the material will meet our specifications at the time of delivery.

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