

# PRODUCT INFORMATION



## PGPC

Item No. 10044

CAS Registry No.: 89947-79-5

Formal Name: 1-palmitoyl-2-glutaryl phosphatidylcholine

Synonyms: 1-Hexadecanoyl-2-glutaryl-*sn*-glycero-3-phosphocholine,  
1-Palmitoyl-2-glutaryl-*sn*-glycero-3-phosphocholine

MF: C<sub>29</sub>H<sub>56</sub>NO<sub>10</sub>P

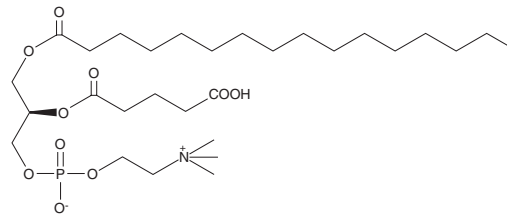
FW: 609.7

Purity: ≥98%

Supplied as: A solution in ethanol

Storage: -20°C

Stability: ≥2 years



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

## Laboratory Procedures

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 ethanol and DMSO purged with an inert gas can be used. The solubility of PGPC in these solvents is approximately 20 and 1 mg/ml, respectively.

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.

## Description

PGPC is an oxidized phospholipid that can be formed under conditions of oxidative stress.<sup>1</sup> It is found as a component in mildly oxidized LDL (MM-LDL) and in products formed from the oxidation of 1-palmitoyl-2-arachidonoyl-*sn*-glycero-3-phosphocholine (Ox-PAPC).<sup>2</sup> PGPC activates peroxisome proliferator-activated receptor (PPARα) in a concentration-dependent manner in a cell-based ligand-binding assay.<sup>3</sup> It increases VCAM1 and E-selectin expression in human aortic endothelial cells (HAECs), as well as HAEC binding by monocytes and polymorphonuclear neutrophils (PMNs), in a concentration-dependent manner.<sup>4</sup> PGPC (37.5 μM) also increases total 5-lipoxygenase metabolites in murine resident peritoneal macrophages (RPMs) and induces apoptosis in A7r5 rat aortic smooth muscle cells *in vitro* when used at a concentration of 50 μM.<sup>5,6</sup> PGPC levels are increased in the serum, LDL, and peripheral blood mononuclear cells (PBMCs) of patients with coronary artery disease.<sup>7</sup> UVA irradiation increases PGPC levels in cultured human skin fibroblasts.<sup>8</sup>

## References

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2. Watson, A.D., Leitinger, N., Navab, M., *et al.* *J. Biol. Chem.* **272**(21), 13597-13607 (1997).
3. Lee, H., Shi, W., Tontonoz, P., *et al.* *Circ. Res.* **87**(6), 516-521 (2000).
4. Leitinger, N., Tyner, T.R., Oslund, L., *et al.* *Proc. Natl. Acad. Sci. USA* **96**(21), 12010-12015 (1999).
5. Zemski Berry, K.A., and Murphy, R.C. *Chem. Res. Toxicol.* **29**(8), 1355-1364 (2016).
6. Fruhwirth, G.O., Mouttzi, A., Loidl, A., *et al.* *Biochim. Biophys. Acta* **1761**(9), 1060-1069 (2006).
7. Mozzini, C., Frata Pasini, A., Garbin, U., *et al.* *Free Radic. Biol. Med.* **68**, 178-185 (2014).
8. Gruber, F., Bicker, W., Oskolkova, O.V., *et al.* *Lipid. Res.* **53**(6), 1232-1242 (2012).

### 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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