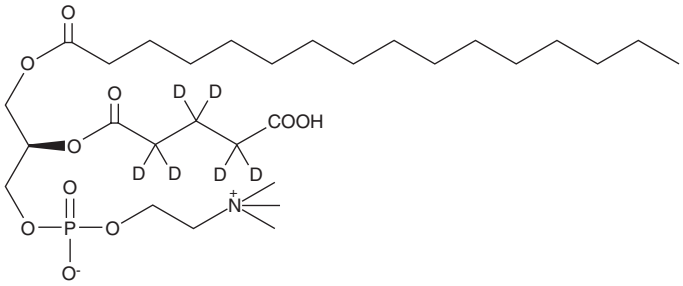
PRODUCT INFORMATION

PGPC-d_6

Item No. 25746

Formal Name:	(R)-2-((4-carboxybutanoyl-2,2,3,3,4,4-d_6)oxy)-3-(palmitoyloxy)propyl (2-(trimethylammonio) ethyl) phosphate
Synonym:	1-Palmitoyl-2-glutaryl Phosphatidylcholine-d_6
MF:	$C_{29}H_{50}D_6NO_{10}P$
FW:	615.8
Chemical Purity:	≥98% (PGPC)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_6); ≤1% d_0
UV/Vis.:	λ_{max}: 292 nm
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-d_6 is intended for use as an internal standard for the quantification of PGPC (Item No. 10044), as well as related fragmented short-chain fatty acid remnants of phospholipid oxidation, by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

PGPC-d_6 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. The solvent DMSO purged with an inert gas can be used. The solubility of PGPC-d_6 in DMSO is approximately 1 mg/ml.

Description

PGPC is an oxidized phospholipid that can be formed under conditions of oxidative stress.[1] 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).[2] PGPC activates peroxisome proliferator-activated receptor α (PPARα) in a concentration-dependent manner in a cell-based ligand-binding assay.[3] 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.[4] 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.[5,6] PGPC levels are increased in serum, LDL, and peripheral blood mononuclear cells (PBMCs) of patients with coronary artery disease.[7] UVA irradiation increases PGPC levels in cultured human skin fibroblasts.[8]

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References

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