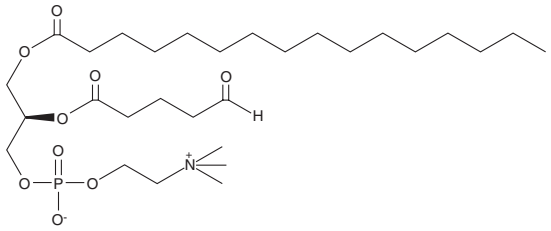
PRODUCT INFORMATION

POV-PC

Item No. 10031

CAS Registry No.:	121324-31-0
Formal Name:	1-palmitoyl-2-(5-oxovaleroyl)-*sn*-glycero-3-phosphatidylcholine
Synonym:	2-(5-oxovaleryl) Phosphatidylcholine
MF:	$C_{29}H_{56}NO_9P$
FW:	593.7
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

POV-PC is supplied as a solution in ethanol. To change the solvent, simply evaporate the POV-PC under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as ethanol, DMSO, and dimethyl formamide (DMF) purged with an inert gas can be used. The solubility of POV-PC in ethanol is approximately 30 mg/ml and approximately 10 mg/ml in DMSO and DMF.

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 POV-PC is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of POV-PC in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Oxidized low-density lipoprotien (oxLDL) particles contain low molecular weight species which are cytotoxic and pro-atherogenic.[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] 1-(Palmitoyl)-2-(5-oxovaleroyl)-phosphatidylcholine, or POV-PC, is one of the oxLDL species derived from 2-arachidonoyl or eicosapentanoyl phospholipids.[3] POV-PC confers CD36 scavenger receptor binding affinity more potently than any hydroperoxy PC species, and may be one of the more important structural determinants of oxLDL. Treatment of cultured endothelial cells with POV-PC stimulates monocyte binding, stimulates intracellular cAMP production, and strongly inhibits the LPS-induced binding of neutrophils.[4]

References

1. Podrez, E.A., Febbraio, M., Sheibani, N., *et al. J. Clin. Invest.* **105(8)**, 1095-1108 (2000).
2. Podrez, E.A., Batyreva, E., Shen, Z., *et al. J. Biol. Chem.* **277(41)**, 38517-38523 (2002).
3. Podrez, E.A., Batyreva, B., Shen, Z., *et al. J. Biol. Chem.* **277(41)**, 38503-38516 (2002).
4. Leitinger, N., Tyner, T.R., Oslund, L., *et al. Proc. Natl. Acad. Sci. USA* **96(21)**, 12010-12015 (1999).

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