

# Supplementary Materials

## Analysis of oxidized 1-palmitoyl-2-arachidonoyl-sn-glycero-3 phosphocholine products in uremic patients by LC-ESI/MS

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Table S2: Proposed structures of the long-chain ox-PAPC products

## Proposed structures of the short-chain ox-PAPC products

<b>m/z</b>	<b>Name</b>	<b>ion</b>	<b>m/z</b>	<b>Name</b>	<b>ion</b>
478	1-palmitoyl-3-phosphatidylcholine	$[M+H]^+$	622	1-palmitoyl-2-(4-hexenedioic acid)-GPC	$[M+H]^+$
496	1-palmitoyl-2-hydroxy-sn-glycero-3-phosphocholine	$[M+H]^+$	632	1-palmitoyl-2-(pentanedioic acid)-GPC	$[M+Na]^+$
594	1-palmitoyl-2-(5-oxo-pentanoic acid)-GPC	$[M+H]^+$	636	1-palmitoyl-2-(4-hydroxy-7-oxo-5-heptenoic acid)-GPC	$[M+H]^+$
610	1-palmitoyl-2-(pentanedioic acid)-GPC	$[M+H]^+$	650	1-palmitoyl-2-(5-hydroxy-8-oxo-6-octenoic acid)-GPC	$[M+H]^+$
616	1-palmitoyl-2-(5-oxo-pentanoic acid)-GPC	$[M+Na]^+$	666	1-palmitoyl-2-(5-hydroxy-6-octendioic acid)-GPC	$[M+H]^+$
620	1-palmitoyl-2-(7-oxo-5-heptenoic acid)-GPC	$[M+H]^+$	690	1-palmitoyl-2-(5-hydroxy-6,8-undecadienoic acid)-GPC	$[M+H]^+$

## Proposed structures of the long-chain ox-PAPC products

<b>m/z</b>	<b>Name</b>	<b>ion</b>	<b>m/z</b>	<b>Name</b>	<b>ion</b>
820.5	1-palmitoyl-2-(hydroxy-eicosatetraenoic acid)-GPC	$[M+Na]^+$	850.5	1-palmitoyl-2-(hydroxy-hydroperoxide-eicosatetraenoic acid)-GPC	$[M+Na]^+$
828.5	1-palmitoyl-2-(D2/E2-isoprostanes)-GPC	$[M+H]^+$	852.5	1-palmitoyl-2-(hydroxy-hydroperoxide-eicosatetraenoic acid)-GPC	$[M+Na]^+$
836.5	1-palmitoyl-2-(hydroperoxide-eicosatetraenoic acid)-GPC	$[M+Na]^+$	868.5	1-palmitoyl-2-(di-hydroperoxide-eicosatetraenoic acid)-GPC	$[M+Na]^+$
846.5	PAPC_5-epoxy_8-E/D-IsoP_14-epoxy 1-palmitoyl-2-(di-hydroperoxide-eicosatetraenoic acid)-GPC	$[M+H]^+$	884.5	1-palmitoyl-2-(hydroxy-di-hydroperoxide-eicosatetraenoic acid)-GPC	$[M+Na]^+$
			900.5	1-palmitoyl-2-(tri-hydroperoxide-eicosatetraenoic acid)-GPC	$[M+H]^+$

## References

1. Reis, A.; Domingues, P.; Domingues, M.R. Structural Motifs in Primary Oxidation Products of Palmitoyl-Arachidonoyl-Phosphatidylcholines by LC-MS/MS. *J. Mass Spectrom.* 2013, 48, 1207–1216.
2. Reis, A.; Domingues, P.; Ferrer-Correia, A.J. Fragmentation Study of Short-Chain Products Derived from Oxidation of Di-acylphosphatidylcholines by Electrospray Tandem Mass Spectrometry: Identification of Novel Short-Chain Products. *Rapid Commun. Mass Spectrom.* 2004, 18, 2849–2858.
3. Reis, A.; Domingues, P.; Ferrer-Correia, A.J. Tandem Mass Spectrometry of Intact Oxidation Products of Diacylphosphatidyl-cholines: Evidence for The Occurrence of The Oxidation of the Phosphocholine Head and Differentiation of Isomers. *J. Mass Spectrom.* 2004, 39, 1513–1522.
4. Reis, A.; Domingues, M.; Amado, F.M.; Ferrer-Correia, A.; Domingues, P. Separation of Peroxidation Products of Diacyl-Phosphatidylcholines by Reversed-Phase Liquid Chromatography–Mass Spectrometry. *Biomed Chromatogr.* 2005, 19, 129–137.
5. Reis, A.; Domingues, P.; Ferrer-Correia, A.; Domingues, M. Identification of Free Radicals of Glycerophosphatidylcholines Containing  $\omega$ -6 Fatty Acids Using Spin Trapping Coupled with Tandem Mass Spectrometry. *Free Radic. Res.* 2007, 41, 432–443.
6. Reis, A.; Domingues, M.; Amado, F.; Ferrer-Correia, A.; Domingues, P. Radical Peroxidation of Palmitoyl-Linoleoyl-Glycerophosphocholine Liposomes: Identification of Long-Chain Oxidised Products by Liquid Chromatography–Tandem Mass Spectrometry. *J. Chromatogr. B.* 2007, 855, 186–199.