

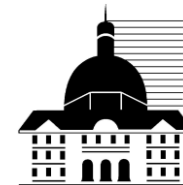
Enhancement of anti-inflammatory activities of reconstituted HDL by phosphatidylserine *in vivo* and *in vitro*

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Disclosure potential conflicts of interest

Research contracts:	CSL, Australia
Consulting:	-
Employment in industry:	-
Stockholder of a healthcare company:	-
Owner of a healthcare company:	-
Other:	Patents, UPMC, Paris, France

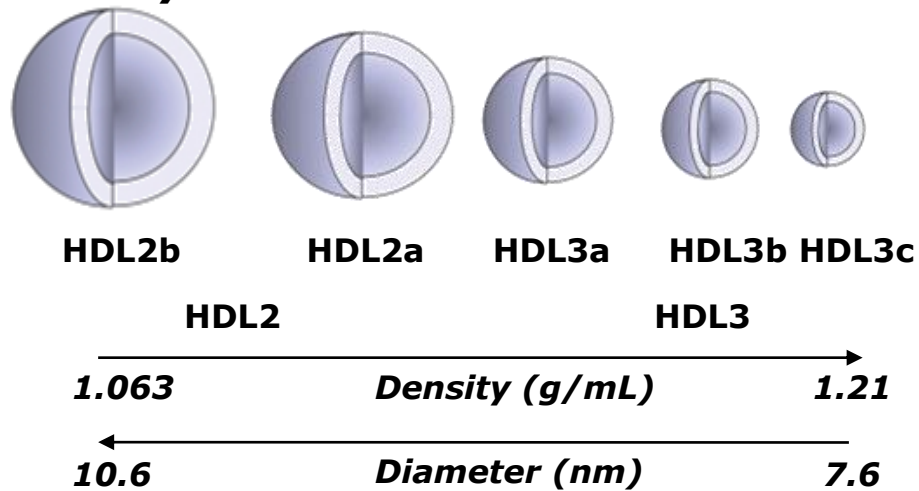


Physicochemical heterogeneity of HDL

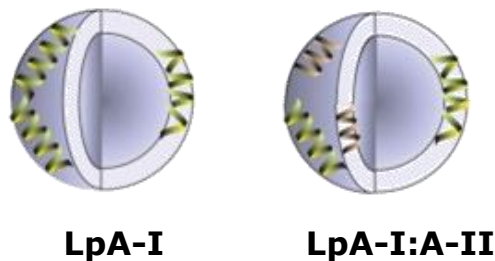
Shape



Density and size

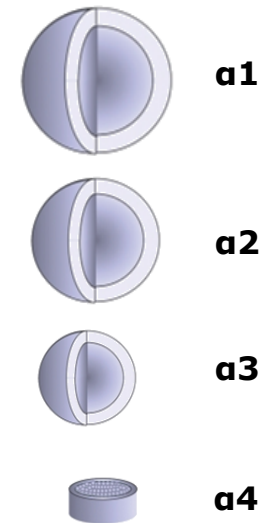


Apolipoprotein composition



Electrophoretic mobility

Pre- β -2 ●
Pre- β -3 ●

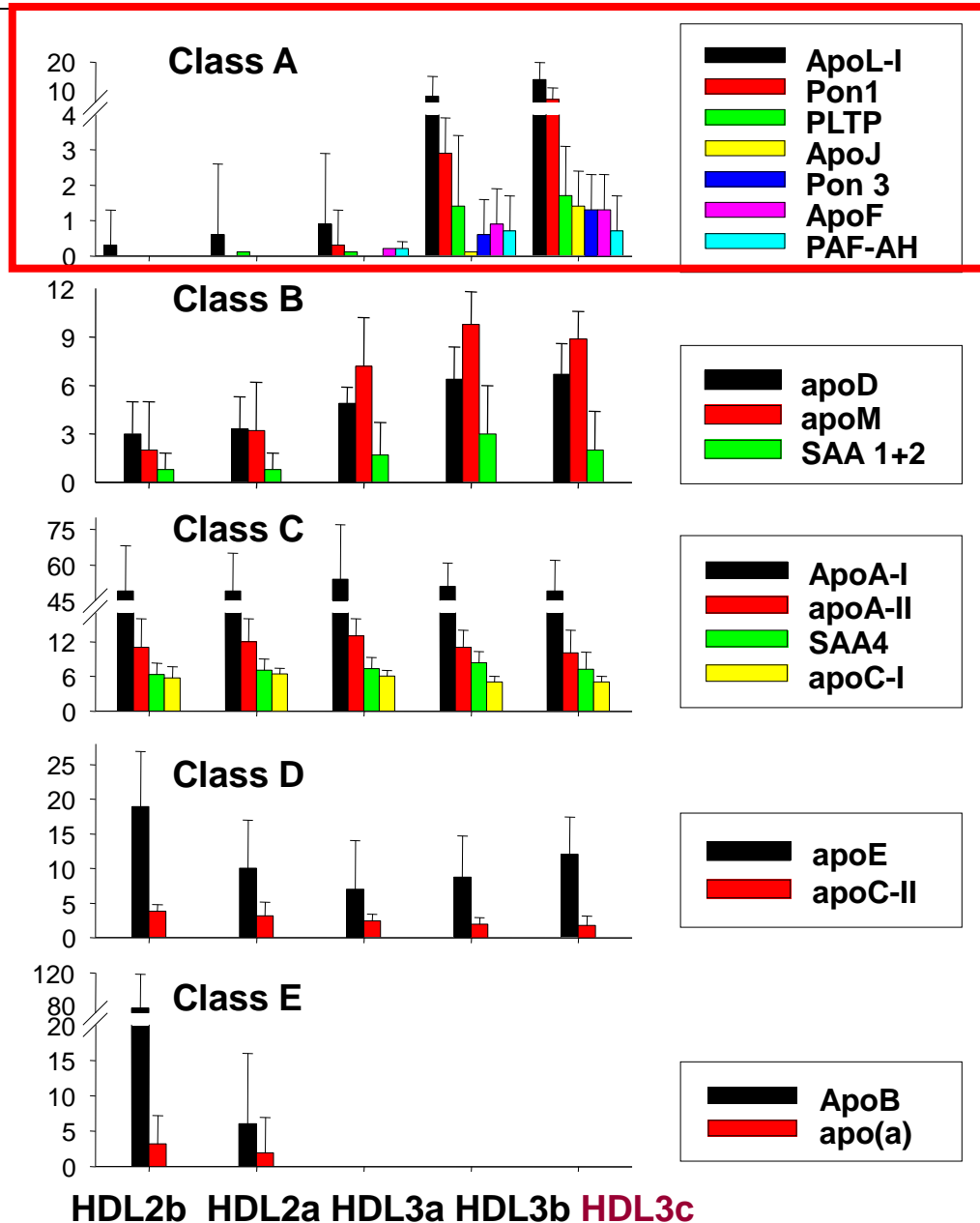


Pre- β -1

Origin Pre- β migration α migration

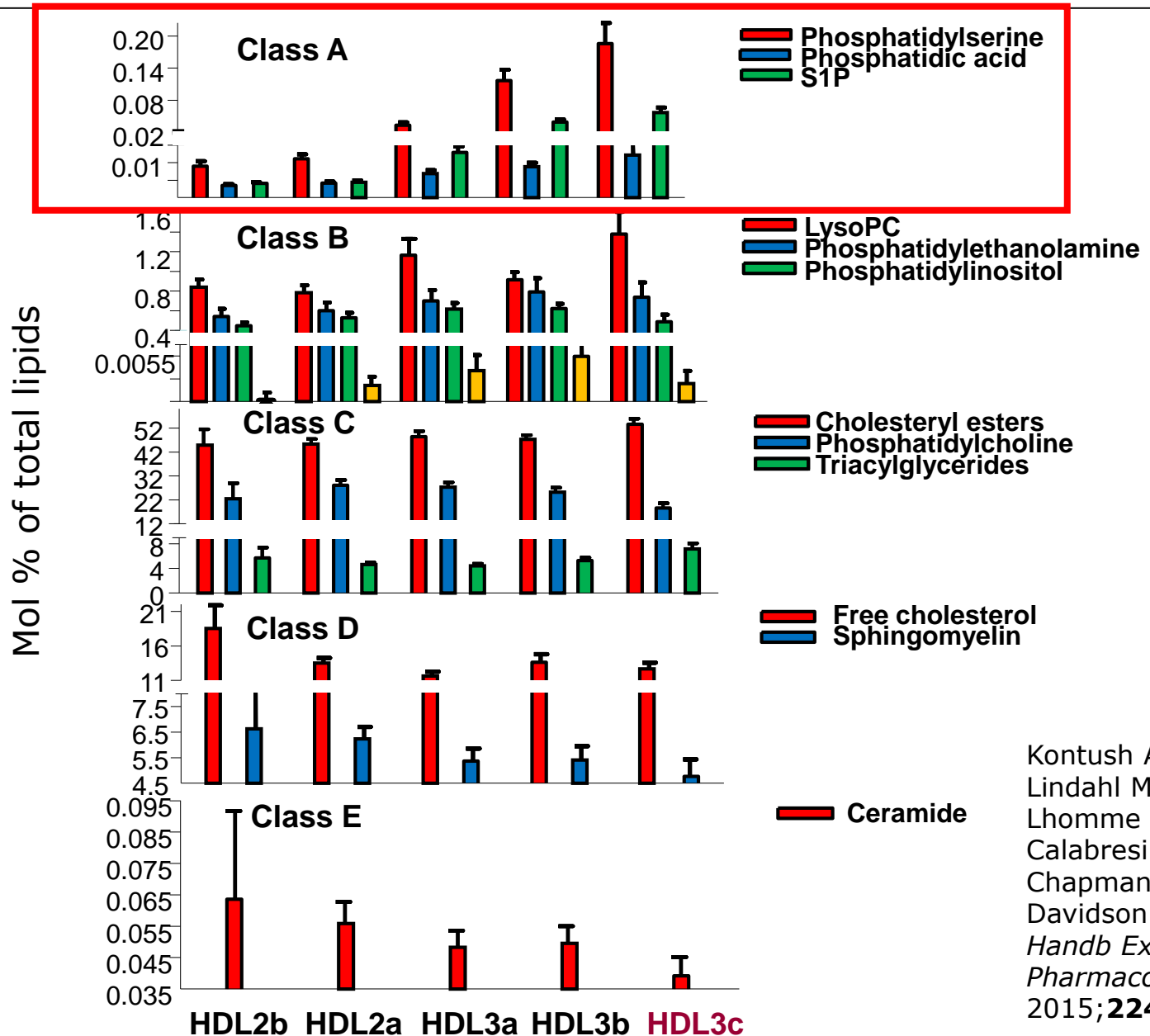
HDL proteome is highly heterogeneous across five major HDL subpopulations

Average Number of Peptides Identified



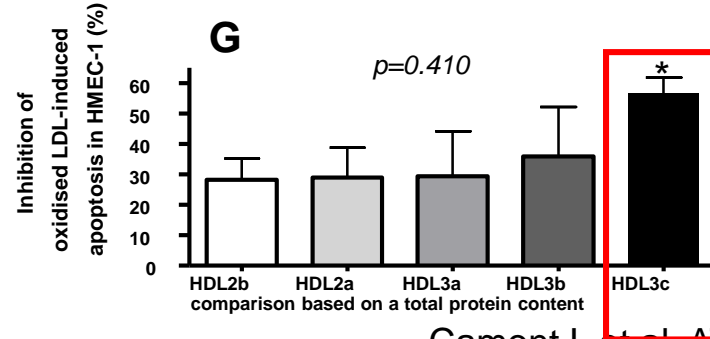
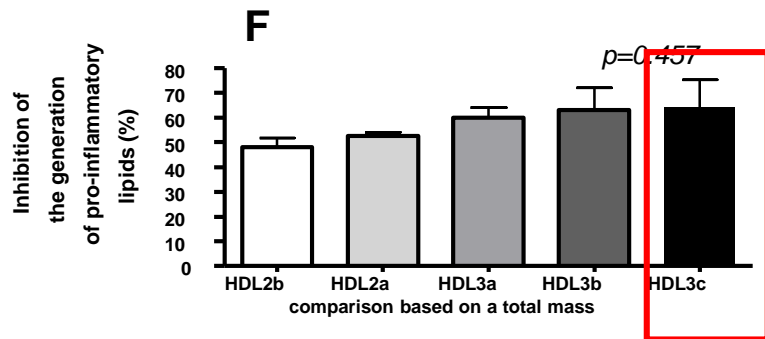
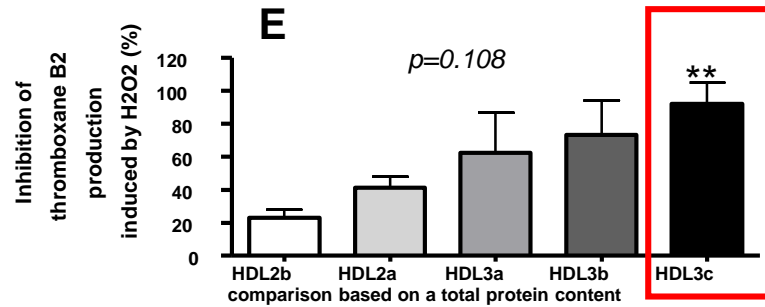
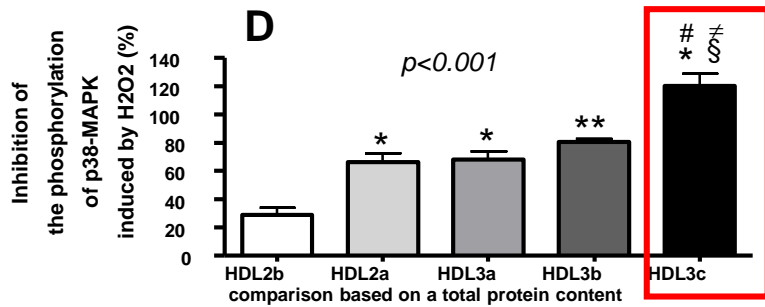
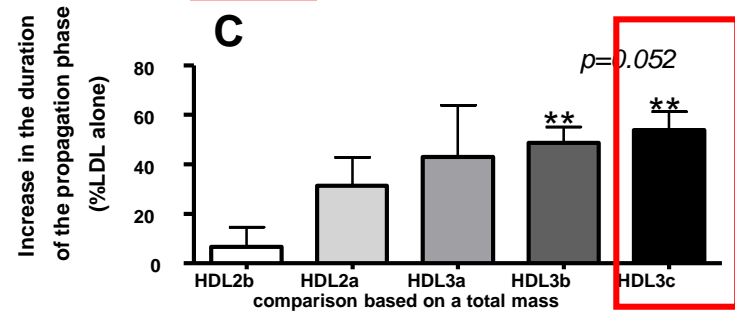
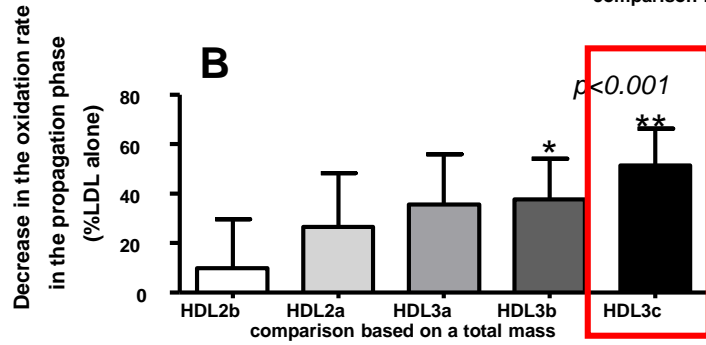
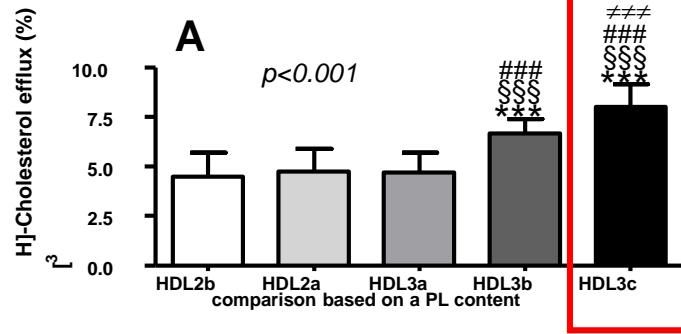
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HDL lipidome is highly heterogeneous across five major HDL subpopulations

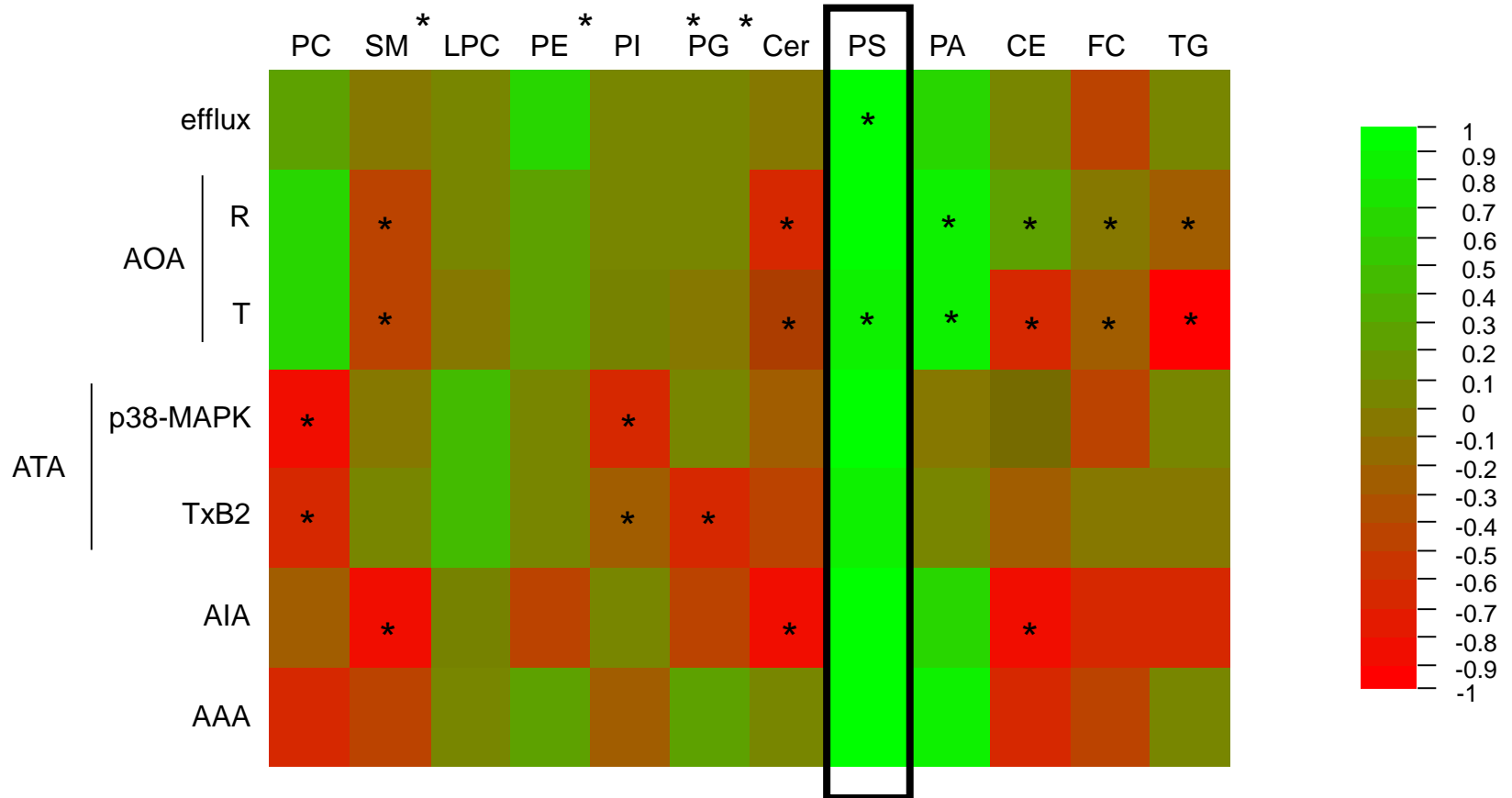


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Biological activities of HDL are concentrated in small, dense particles



Biological activities of HDL particles are positively correlated with the content of **phosphatidylserine (PS)**



Working Hypothesis

- **Phosphatidylserine** may represent an important determinant of anti-atherogenic activities of HDL
- **Enrichment in phosphatidylserine** may enhance anti-atherogenic activities of HDL

Conclusions and perspectives

- **Phosphatidylserine** is enriched in small, dense HDL displaying elevated anti-atherogenic activities
- **Phosphatidylserine** enhances anti-inflammatory activities of rHDL both in vivo and in vitro
- **Phosphatidylserine-containing rHDL** may hold promise to reduce inflammation in rupture-prone, lipid-rich atherosclerotic plaques