

The Eicosanoid Research Division

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Total IF: 20.106

Publications: 4, 3 of them in the first quartile and 1 in the second quartile

Research grants: 5

National projects: 2

Autonomous Community projects: 3

Scientific collaborations within CIBERDEM: 1

Keywords

Cytokines. Lipid metabolism. Lipid signaling. Metabolic syndrome. Phospholipases.

Main lines of research

- Lipid metabolic pathways in obesity and inflammation.
- The molecular and cell biology of lipid droplets.
- Lipidomics and metabolipidomics: characterization of cellular lipidomes and lipid pathways by mass spectrometry.

-Cellular utilization of free fatty acids: acylation and transacylation mechanisms.

Publications

Original articles

Markers of monocyte activation revealed by lipidomic profiling of arachidonic acid-containing phospholipids
Balgoma D, Astudillo AM, Pérez-Chacón G, Montero O, Balboa MA, Balsinde J

J Immunol, 184, 3857-3865 (2010)

IF: 5.646 first quartile

Signaling role for lysophosphatidylcholine acyltransferase 3 in receptor-regulated arachidonic acid reacylation reactions in human monocytes

Pérez-Chacón G, Astudillo AM, Ruipérez V, Balboa MA, Balsinde J
J Immunol, 184, 1071-1078 (2010)

IF: 5.646 first quartile

The cationic cluster of group IVA phospholipase A2 (Lys488/Lys541/Lys543/Lys544) is involved in translocation of the enzyme to phagosomes in human macrophages Casas J, Valdearcos M, Pindado J, Balsinde J, Balboa MA *J Lipid Res*, 51, 388-399 (2010)
IF: 4.917 first quartile

Review

Lipidomic approaches to the study of phospholipase A2-regulated phospholipid fatty acid incorporation and remodelling Balgoma D, Montero O, Balboa MA, Balsinde J *Biochimie*, 92, 645-650 (2010)
IF: 3.897 second quartile

Research grants

National projects

A lipidomics approach to the study of the innate immune response: mechanisms governing arachidonic acid availability and metabolism in macrophages Ministerio de Ciencia e Innovación, BFU2007-67154: 2008-2010
 Principal Investigator: J Balsinde
 Associate investigator: O Montero

Inflammation and obesity, two processes regulated by the same enzyme: the magnesium-dependent phosphatidic acid phosphatase Ministerio de Ciencia e Innovación, SAF2007-60055: 2008-2010
 Principal Investigator: MA Balboa

Autonomous Community projects

The role of calcium-independent phospholipase A2 in oxidative stress Junta de Castilla y León, CSI09A08: 2008-2010
 Principal Investigator: J Balsinde
 Associate investigator: MA Balboa

The regulation of inflammation by lipin, an enzyme involved in obesity Junta de Castilla y León, BIO39/VA04/10: 2010-2011
 Principal Investigator: MA Balboa

Biochemical signalling mechanisms associated with innate immunity receptors in myeloid cells Junta de Castilla y León, GR230: 2009-2010
 Principal Investigator: J Balsinde
 Coordinator: M Sánchez
 Associate investigator: MA Balboa

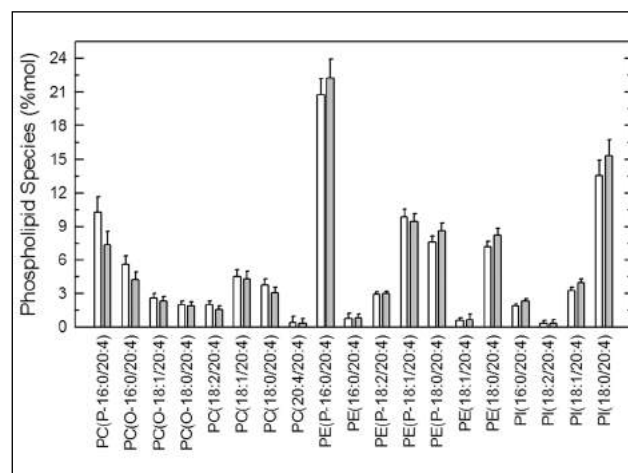
Scientific collaborations within CIBERDEM

Adult adipose tissue-derived progenitor cells: the influence of the clinical phenotype and adipose depot origin on their biological properties

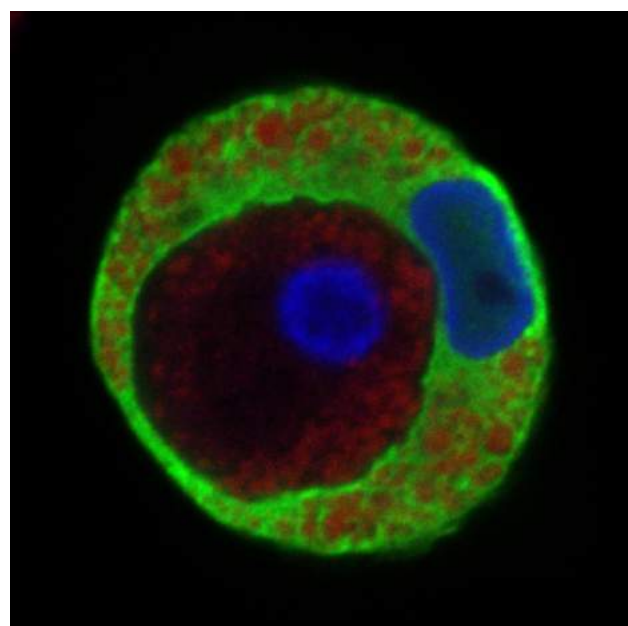
STEMOB: 2009-2010

Coordinator: Joan J Vendrell

CIBERDEM groups: Balsinde, Vendrell, Zorzano, Fernández Veledo, Gómez Foix, Montanya, Simó, Vázquez Carrera ■



Mass spectrometry analysis of arachidonic acid-containing glycerophospholipids in human macrophages. The cells were transfected with siRNA negative control (open bars) or siRNA against lipin-1 (grey bars) for 48 h. Afterwards the analysis of arachidonic acid-containing phospholipids was carried out by liquid chromatography/mass spectrometry.



Lipin1 β localization in human macrophages. The cells were transfected with lipin1 β -EGFP (green), and stained with DAPI (nuclei, blue) and Nile Red (cytoplasmic lipid bodies, red). The picture shows a lipin1 β -transfected macrophage that has phagocytosed a non-transfected cell.