

# The Eicosanoid Research Division

Instituto de Biología y Genética Molecular, Consejo Superior de Investigaciones Científicas, Valladolid  
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**Postdoctoral fellows** Clara Meana, Julio Rubio, Alma Astudillo, Juan Pablo Rodríguez **PhD students** Luis Gil de Gómez, Lucía Peña, Carlos Guijas, Gema Lordén **Lab manager** Montserrat Duque

Publications: 4      Research grants: 2      PhD theses: 1

## Programmes

Programme 4. Use of biomedical approach systems to develop personalized therapies for diabetes.

## Keywords

Cytokines. Lipid metabolism. Lipid signalling. Phospholipases.

## Main lines of research

- Regulatory roles of eicosanoids in diabetes and obesity.
- Lipid profiling by mass spectrometry; lipidomic and metabolipidomic approaches.
- Biosynthesis and degradation of lipid droplets during cell activation.
- Regulation of  $\omega$ -6 and  $\omega$ -3 fatty acid availability; roles of phospholipases A2 and lipins.

## Publications

Phospholipid sources for adrenergic acid mobilization in RAW 264.7 macrophages. Comparison with arachidonic acid  
Guijas C, Astudillo AM, Gil-de-Gómez L, Rubio JM, Balboa MA, Balsinde J

Biochim Biophys Acta, 1821, 1386-1393 (2012)

[PMID 22824377](#). Q1. IF 5.269. Programme 4

Simultaneous activation of p38 and JNK by arachidonic acid stimulates the cytosolic phospholipase A2-dependent synthesis of lipid droplets in human monocytes

Guijas C, Pérez-Chacón G, Astudillo AM, Rubio JM, Gil-de-Gómez L, Balboa MA, Balsinde J

J Lipid Res, 53, 2343-2354 (2012)

[PMID 22949356](#). Q1. IF 5.559. Programme 4

Lipin-2 reduces proinflammatory signaling induced by saturated fatty acids in macrophages

Valdearcos M, Esquinas E, Meana C, Peña L, Gil-de-Gómez L, Balsinde J, Balboa MA

J Biol Chem, 287, 10894-10904 (2012)

PMID 22334674. Q1. IF 4.773. Programme 4

Dynamics of arachidonic acid mobilization by inflammatory cells

Astudillo AM, Balgoma D, Balboa MA, Balsinde J

Biochim Biophys Acta, 1821, 249-256 (2012)

PMID 22155285. Q1. IF 5.269. Programme 4

### Research grants

Estudio por espectrometría de masas del perfil lipídico de macrófagos humanos polarizados

Ministerio de Educación y Ciencia, BFU2010-18826/BMC: 2011-2013

Principal Investigator: Jesús Balsinde

National project. Programme 4

Regulación de los procesos inflamatorios por lipina: papel en la transducción de señal en macrófagos humanos

Ministerio de Ciencia e Innovación, SAF2010-18831:

2011-2012

Principal Investigator: María Ángeles Balboa

National project. Programme 4

### Scientific collaborations within Ciberdem

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

Coordinator: Joan J Vendrell

Ciberdem groups: Balsinde J, Vendrell J, Zorzano A, Gómez-Foix AM, Montanya E, Simó R, Vázquez-Carrera M

### PhD theses

Localización y función de la lipina-1 en macrófagos

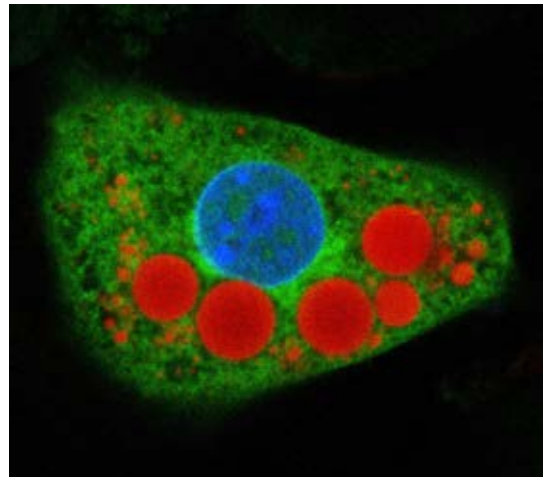
Author: Esperanza Esquinas

Thesis advisor: Jesús Balsinde

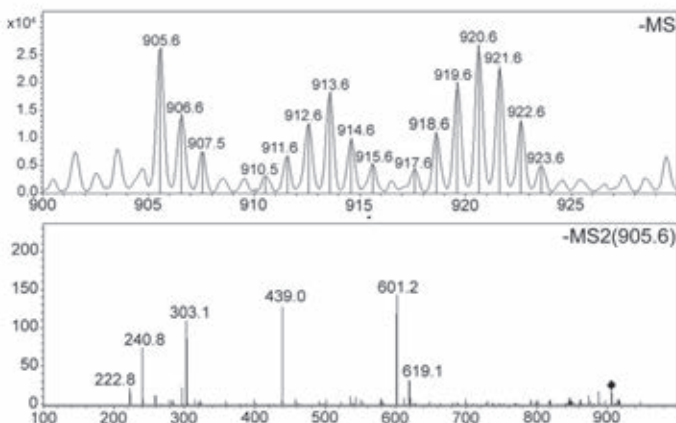
University: Universidad de Valladolid

Thesis defense date: July 6, 2012

Programme 4



A GFP-c PLA2 construct (green) expressed in 3T3-L1 adipocytes localizes primarily in the cytoplasm. Lipid droplets are stained in red and the nucleus in blue.



Phospholipid analysis by mass spectrometry.