# Lipids – Ultimate Controllers and Regulators of Our Bodily Processes

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**"Lipids are in many ways the most important of the biomolecules because they are the ultimate controllers and regulators of our bodily processes; they are key to signaling events in cells. Further, imbalances in lipids are implicated in many illnesses, such as heart disease, stroke, arthritis, diabetes and Alzheimer disease. If we are going to solve these diseases, we must know what the lipids are and what they do" (Edward A. Dennis, University of California at San Diego).**

Welcome to the website of the Eicosanoid Research Division at the Institute of Molecular Biology and Genetics (IBGM by its initials in Spanish). Here you can find information about the research in progress and the people who perform it. If you like what you read here and would like to know more, please write to jbalsinde@ibgm.uva.es.

The IBGM is supported by the University of Valladolid and the Spanish National Research Council (CSIC by its initials in Spanish). The University of Valladolid provides physical space. For everything else, our Division depends only on the CSIC.

Valladolid, our home town, is the historical capital of the ancient kingdom of Castile & León, nowadays an Autonomous Region within Spain. Valladolid was founded by the Castilians in the 11th century, but its name is thought to derive from the Celtic-Roman "Valle Tolitum" (Watery Valley), or perhaps the Arabic "Velad Walid" (Lands of the Governor), which suggests that the area had been inhabited much before the Castilians settled in. Natives of Valladolid are called vallisoletanos. Famous vallisoletanos include Kings Philip II and Philip IV of Spain, conquistadors Ponce de León and Pánfilo de Narváez, poets José Zorrilla and Jorge Guillén, novelist Miguel Delibes, and secondary school attendant Sofía Balsinde

The Eicosanoid Research Division consists of two research laboratories, one headed by Dr. Jesús Balsinde and the other by Dr. María Balboa. The Balsinde Lab leans toward basic chemistry, biochemistry and pharmacology strategies, while the Balboa Lab places more emphasis on molecular cell biology approaches. Nonetheless, a great deal of interaction exists between the two labs.

Work in the Eicosanoid Research Division is focused on understanding lipid signaling, particularly in relation to inflammation and obesity. Lipid mediators are produced by a variety of phospholipases, of which there are many types. We are currently interested in two of them; the phospholipase $A_2$s and the lipins (type 1 phosphatidate phosphatases). The phospholipase $A_2$s are responsible for generating free AA for eicosanoid biosynthesis. The eicosanoids are of utmost biomedical importance because they exert very potent proinflammatory actions. On the other hand, lipins are central to the control of triacyglycerol biosynthesis, and thus play a key role in obesity and related disorders such as diabetes and cardiovascular disease. At the Eicosanoid Research Division we combine a wide range of chemical, biochemical, biophysical, and molecular cell biology techniques to study pathophysiologically relevant problems.

The Eicosanoid Research Division is a founding member of the Spanish Research Network on Diabetes and Associated Metabolic Disorders (CIBERDEM).

*(Updated Introduction & Publications sections – The Eicosanoid Research Division – www.balsinde.org)*

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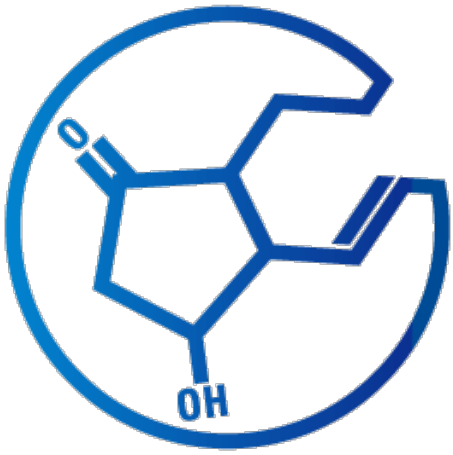


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