

## **CIC bioGUNE**

CIC bioGUNE is a key research center within the national and international scientific landscape and has emerged as a knowledge source in the area of health science.

The cutting-edge scientific activity of CIC bioGUNE researchers explores the interface between Chemistry and Biomedicine, with emphasis on Structural, Molecular and Cell Biology. Two research programmes - "Molecular Recognition and Host-Pathogen Interactions" and "Metabolism and Cell Signaling in Disease" – are made up of more than a hundred scientists and technicians who concentrate on the molecular bases and mechanisms of disease to create new diagnostic methods and promote development of advanced therapies.

Located in the Science and Technology Park of Bizkaia (Derio), the activity of CIC bioGUNE includes generation of both fundamental and oriented knowledge (publications, patents, lectures in institutions and congresses), training of research talent, and collaboration-building with local, national and international institutions. The center always places their technical advances, infrastructure, and scientific personnel at the service of society, health and business networks, and the global scientific community.

CIC bioGUNE has modern scientific infrastructures, led by prestigious scientists, which allow it to compete with the main European research institutes. These include advanced equipment for nuclear magnetic resonance (NMR), electron microscopy and X-ray diffraction, as well as different core technology platforms where genomes, proteomes and metabolomes can be analyzed.

CIC bioGUNE has been awarded with the recognition of Severo Ochoa Center of Excellence by the Spanish Ministry.

## **Martinez-Chantar Maria L. Liver Disease Lab**

I have a high-level track of record productivity with almost 105 publications, very high-percentage of publications of the 1st decile in the category of hepatology and gastroenterology, and more than 3000 citations. Since 2005, when I initiated my laboratory as a Principal Investigator and got “tenure” at CIC bioGUNE, Spain, my laboratory work has been continuously financially supported by government and private funding competitive sources, both national and international. Remarkable, I have been co-PI of four NIH with Dr. Lu (USC, Keck School of Medicine USC, Los Angeles, USA) in the field of liver disease. I was one of the partners in an ambitious European project so called HEPADIP Consortium, which was created in response to the topic of the 3rd call for proposals in the EU FP6 Programme. Actually, I am the coordinator of the Translational Area of the National Institute for the study of Liver and Gastrointestinal Diseases (CIBEREHD) and the Scientific Advisory Board of the Molecular Medicine Center C3M Nice. Finally, I am part of the select multinational group "Women in Hepatology" composed only of women experts in the field of Hepatology, with representatives from Europe and USA.

I have also held several collaborations with Pharmaceutical companies like AGIOS, Mithotherapeutix, Millenium Pharmaceutical, GALMED with 3 resultant patent applications and 2 commercialized products. Finally I have maintained a closed collaboration with the company OWL Metabolomics in the development of OWLiver® Care and OWLiver®, two non-invasive assays for fatty liver screening and for NASH diagnosis.

The most important projects ongoing in my laboratory are focused on the role of mitochondrial dysfunction throughout different stages of liver disease and ranges from effects on whole tissue, mainly liver and fat to primary hepatocytes, stellate or kupffer isolated from preclinical animal models resembling human disease.

I am proud to state that the environment in my laboratory is very collaborative and friendly which overall improves the probability of success, training and transfer skills among lab members. To date, I have mentored 5 post-docs. Two of these post-docs have been incorporated in centers both in the Basque Country, Spain, and one in the UK to develop their independent research line. Other of this post-doc currently holds a permanent contract from the CIBEREHD, Spain, to develop her research at

my laboratory. Since 2005, I have had 8 ph.D. Thesis from students from my laboratory, that have successfully continued to pursue their career as post-docs, in laboratories of some of the main Universities both in the USA, Canada and England. Indeed two of them have got the best PhD thesis in the Medicine school of UPV/EHU.

Finally I was Associate Professor of Department of Biochemistry UPV/EHU and Professor of the Master Biochemistry and Molecular Biology from UPV/EHU since 2011.

The principal aim to join MitoEAGLE is to share and increases knowledge about mitochondrial functionality complex I, II, III and IV measured by seahorse analysis, Oroboros approaches and supercomplexes formation in pure and enrich mitochondria fraction.

Our potential contribution to MitoEAGLE is the physiological area in Liver Disease. Our main goal is our expertise in Liver disease and the underlying mechanism in this case mitochondrial dysfunction. Our lab holds animal models with an activation or diminish of mitochondrial activity. We evaluate the implication of mitochondria during lipid accumulation, inflammation, fibrosis and liver cancer. We found therapies to prevent the development and progression of these diseases base on mitochondria activity.

We would like to collaborate in WP3. **MitoEAGLE data repository on fat, neuronal and liver tissues**



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