Dr. Almudena García - Ruiz

Senior researcher and Head of Research Line in “smORFs-metabolismo lipídico” and “miRNA humanos-microbiota”

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Dr. Almudena García-Ruiz holds a Biology degree and a Food Science and Technology degree by University of Seville and University of Cordoba, respectively. She received her PhD in Food Science and Technology and Chemical Engineering from Autonomous University of Madrid.

Her pre-doctoral research was focused on the study of the effect of polyphenols on the growth and metabolism of oenological lactic acid bacteria (LAB) and its potential application as antimicrobial additives in oenology. In addition, during this period she has also worked in the production of biogenic amines by LAB and in the degradation of biogenic amines by vineyard ecosystem fungi and LAB.

During her post-doctoral period, first, she evaluated of probiotic and immunomodulatory activity of enological lactic acid bacteria and new silver nanoparticle with antimicrobial capacity, application in the wine industry. Then, her research was focused on obtaining functional ingredients from quinoa, and fruits native Ecuador as well as on the analysis of phenolic fraction and antioxidant activity of new varieties of Ecuadorian cocoa.

Currently, she is working in IMDEA Food Institute (Epigenetics of Lipid Metabolism Group) evaluating the potential of "small open reading frames (smORF)" as new modulators of disorders of dietary excess, focusing mainly on those that influence lipid metabolism. She works under the funding of a MSCA Fellowship and Plan Nacional (RTI2018-093873-A-I00).

Objectives

Identification and characterization of smORF-encoded peptides (peptidomics, RNA-Seq, Ribo-Seq, CRISPR-Cas9) that regulate lipid metabolism in the axis intestine-liver in response to dietary excess. Modulation of the gut microbiota composition by human miRNAs. Encapsulation of human miRNAs in dietary exo-somes.

Project in focus

“Regulation of gut microbiota through the transfer of host and dietary miRNAs: dietary exosomes and exosome mimetics (miRBiota)” RTI2018-093873-A100.

“Small open reading frames (smORF) as novel modulators of disorders of dietary excess” H2020-MSCA-IF-2016, proposal number 746435.