



**MÁSTER EN INVESTIGACIÓN BIOMÉDICA**

**Research Project Proposal**

Academic year 2022-2023

**Project Nº 46**

**Title:** *Deciphering the role of PRDM1 in adipocyte function and obesity susceptibility*

**Department/ Laboratory:** *Dpt. Nutrition, Food Science and Physiology and Nutrition Research Center. School of Pharmacy and Nutrition*

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Obesity constitutes a global health problem responsible of 2.8 million deaths every year. Adipose tissues dysfunction plays a crucial role in the development of obesity, type 2 diabetes, metabolic syndrome, and certain types of cancer. Understanding the factors/processes that underlie adipose tissue development and expandability as well as adipocyte metabolism is critical to fight against the obesity epidemic and the development of obesity-associated disorders.

Immune-adipose interactions play a key role in the susceptibility to develop obesity and related metabolic disorders. PRDM1 is a transcription factor that regulates the terminal differentiation of B lymphocytes into antibody-secreting plasma cells. Our group has recently identified a previously unreported role of PRDM1 in adipose tissue and obesity. These preliminary results come from the integrated analyses of human samples from obese individuals with those from a novel mouse model with specific deletion of *Prdm1* in adipocytes.

With the aim of unravelling the role of *Prdm1* in adipose cell homeostasis and in obesity, in this project we propose to characterize the impact of *Prdm1* deficiency in adipocyte function. The implementation of this project will allow the student to be initiated in the development of transgenic mice (adipocyte-specific knockout mice), genotyping protocols, mice phenotyping, and especially the development primary adipocyte cultures to characterize how *Prdm1* deficiency affects adipocyte metabolism and adipokine secretion by characterizing the expression of genes/proteins involved in these processes by RT-PCR, Western blot and ELISA.

yes	X
no	

Does the project include the possibility of supervised animal manipulation to complete the training for animal manipulator?