



Research Project Proposal

Academic year 2020-2021

Máster en Investigación Biomédica

Project Nº 06	
Title: <i>Exploring the link between obesity and the risk of dementia</i>	
Department/ Laboratory <i>Laboratory of Alzheimer's disease at CIMA, Neuroscience division</i>	
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Summary <p>The risk of Alzheimer's disease (AD) in elderly individuals is increased by other aging-associated comorbidities including obesity. Several studies have described the role of different components of the cell cycle machinery in both diseases, AD and in obesity. For instance, p27, which is member of the family of cyclin-dependent kinase (Cdk) inhibitors (inhibits Cdk2 and Cdk5), is regulated on both AD and obesity. This evidence suggests that the p27-Cdk2 axis must be an important link between AD and obesity. However, to date, none study has analysed the possible link between the p27-Cdk2 axis and these diseases. Previous studies in our group revealed that one of the pathways affected in the brain of p27 KO mice is the peEF2alpha pathway, which is an elongation factor and is also important in the regulation of synaptic plasticity and memory. The main objective of this project is to explore the modulation of peEF2alpha pathway and the effect in synaptic proteins in the brain of p27 KO mice and how this effect change with a high fat diet. This projects aims to analyze if this pathway constitutes the link between obesity and the risk of dementia.</p> <p>The methodology will include behavioural and biochemical analysis including western blot, immunohistochemistry and PCR among other techniques.</p>	
yes	X
no	
Does the project include the possibility of supervised animal manipulation to complete the training for animal manipulator?	