



Research Project Proposal
Academic year 2015-2016

Project Nº 40* ASIGNADO

Title: Characterization of microglia activation in parkinsonian mice

Department/ Laboratory Neuroscience programme, CIMA

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Summary

Nowadays, the main challenge in biomedical research in Parkinson's disease is the development of new therapeutic strategies to slow down or stop the neurodegenerative process. The main goal of our laboratory is to identify new neuroprotective mechanisms for the treatment of PD. Currently, we are focused in the therapeutic potential of modulation of the different elements that constitute the cannabinoid system in the brain. We have recently reported (Fernández-Suárez et al. 2014) the neuroprotective activity of JZL184, an inhibitor of the monoacylglycerol lipase (MAGL, the main enzyme involved in the regulation of the endocannabinoid 2-AG concentration) in a mouse model of PD. Our working hypothesis is that modulation of the cannabinoid system induces different kinds of glia activation being some of them neuroprotective. Therefore, we propose to identify the neuroprotective glia phenotype induced by JZL184 administration in parkinsonian mice. The first step in this project would be part of the first objective of the Master's thesis project proposed here, which is to set up the purification of microglia and astroglia by flow cytometry. Once the two cell types are isolated, the type of glia activation will be studied in control mice versus acute, subacute and chronic parkinsonian mice. The analysis will be carried out by real time PCR and flow cytometry.

POSSIBILITY OF PhD

YES*

* (PhD grant required)