



Research Project Proposal
Academic year 2019-2020

Project Nº 37

Title: Functional changes of the synapse in the beginning and progression of the dopaminergic death.

Department/ Laboratory Laboratory where the project will be carried out indicating Department, Area, Faculty, CUN, CIMA etc.

CIMA-Universidad de Navarra. Neuroscience Department. Laboratory 2.04: Clinical & translational research in Parkinson's Disease

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Summary Short summary of the project with a maximum extension of 250 words, including the goals and the methodology that will be used.

Our laboratory is focused on the study of the origin and pathophysiology of Parkinson's disease using a model of progressive parkinsonism induced by the overexpression of mutated alpha-synuclein in the substantia nigra pars compacta (SNc). We are focused on the study of the functional and structural changes of the synapse that take place during the beginning and progression of dopaminergic cell death. We are studying the earliest functional modifications of the synapsis prior to the structural changes and the degeneration of the dopaminergic cells using different techniques (immunohistochemistry and immunofluorescence), optic and confocal microscopy, image analysis (quantification by stereology and optical density). In addition, through the isolation of synaptosomes, we are also characterizing the alterations in synaptic plasticity processes (LTP) by means of flow cytometry. The candidate will work in this line with the objective to foster the current research and enhance the development of therapeutic strategies.

Table with 2 columns: yes/no and X/empty cell

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



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