



Research Project Proposal
Academic year 2021-2022

Project Nº 15

Title: Potential involvement of exer kines in myocardial remodelling and heart failure.

Department/ Laboratory : Program of Cardiovascular Disease; Laboratort of Heart Failure; CIMA

Director 1: Arantxa González

Contact: amiqueo@unav.es

Codirector: Begoña López

Contact: blopez@unav.es

Summary:

Heart failure (HF) is one of the leading causes of mortality and hospitalization. Even with the optimal treatment the prognosis is appalling, suggesting that current therapies are not effective enough. Therefore, it is essential to unravel the pathophysiological mechanisms involved in the onset and progression of this pathology in order to identify more precise biomarkers and new therapeutic targets.

Physical exercise is recommended in HF patients as it provides several beneficial effects, including molecular endocrine actions. Recent studies suggest that exer kines, a term covering any humoral factors secreted into circulation by tissues in response to exercise, may have a direct impact on cardiac tissue. Therefore, they emerge as potential pathophysiological regulators and therapeutic targets for myocardial remodelling.

In this context the objectives are:

- 1) To analyse selected exer kines in plasma of HF patients in different stages of disease progression (subclinical versus clinical) (by ELISA).
- 2) To evaluate the expression of those exer kines in cardiac tissue from animal models with HF (by RT-PCR and western blotting).
- 3) To study the pathophysiological effects these candidates in cardiac cells (by cell culture, RT-PCR, western blotting).

yes	
no	X

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