



POSITION

Project Title/ Job position title

New roles of the innate immune system in the human cardiovascular disease/ Predoctoral position in cardiovascular research program

Area of Knowledge

Life Science Panel

Medicine, Public Health, Sports Science, Nutrition, Clinical Psychology,
Healthcare Management

Research Project/Research Group Description

Ischemic cardiovascular diseases are the leading cause of death worldwide. In spite of modern treatment, acute myocardial infarction (AMI) still carries significant morbidity and mortality worldwide. Even though standard of care therapy improves symptoms and also long-term prognosis of patients with AMI, it does not improve the mortality rates. So, new research related to AMI pathophysiology is needed. Our project aims to determine the role of a key receptor of the innate immune system; NOD1 (nucleotide binding oligomerization domain containing 1) in the AMI progression. Using myocardium and peripheral blood monocytes from healthy and AMI individuals we will determine the activation of NOD1 pathway and its relationship with dysfunction and the detrimental cardiac remodeling linked to AMI. At cellular level, we will determine the activation of NOD1 in human ventricular cardiomyocytes under ischaemic/reperfusion conditions. New unconventional therapeutic strategies aiming to regenerate the AMI heart have been rise during the last years. One of the latest breakthroughs in this regard is the stem cell therapy. Here, using human mesenchymal stem cells we will determine the role of NOD1 in cardiac regeneration. Employing an AMI mice model, we will determine whether the genetic deletion of NOD1 impairs the cardiac dysfunction and remodeling. The present translational study purposes to determine whether NOD1 can be a new clinical biomarker of cardiac damage, uncovering a novel potential target in the AMI treatment. The project is funded by Fondo de Investigación Sanitario of ISCIII (PI17/01344).

Job position description

The IdiPAZ is an interdisciplinary research center equipped with pioneering facilities and supports the chance to work with leading scientists in an international and team-oriented setting. IdiPAZ is part of a big Hospital in Madrid (Hospital Universitario la PAZ), thus providing a real interaction between clinicians and basic researchers that results in translational studies with an impact in the clinical therapy. Our group is young and dynamic and has established a great collaboration with several cardiologists of different Spanish Hospitals, resulting in relevant publications in the cardiovascular field. Currently we are expanding our collaborations with other international groups (USA, France, Argentina and Mexico).

Candidates should have MSc degree. Strong interest in medical science, cardiovascular diseases, molecular and cellular biology, animal models and biochemistry are preferred. The candidate is expected to be highly motivated, creative, and able to work independently and as a team member.

GROUP LEADER

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Research project/Research group website:



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