



The Vall d'Hebron Research Institute (VHIR) is a public sector institution that promotes and develops the research, innovation and biosanitary teaching of the Vall d'Hebron University Hospital. Through the excellence of our research, we identify and apply new solutions to the health problems of society and we contribute to spread them around the world.



In April 2015, the **Vall d'Hebron Research Institute (VHIR)** obtained the recognition of the European Commission **HR Excellence**. This recognition proves that VHIR endorses the general principles of **the European Charter for Researchers and a Code of Conduct for the Recruitment of Researchers (Charter & Code)**.

Thus, there are no restrictions of gender, national origin, race, religion, sexual orientation or age and **candidates with disabilities are strongly encouraged to apply.**



Position: PhD student to submit a fellowship application.

Group: Cardiovascular Diseases

Vall d'Hebron Research Institute (VHIR) is a public sector institution, located in Barcelona (Spain) that promotes and develops innovative biomedical research at the University Hospital Vall d'Hebron. VHIR is oriented towards finding solutions to the health problems of the citizens and has the will to contribute to the scientific, educational, social and economic development within its area of competence around the world.

VHIR offers vacancy/vacant position for a **PhD student to submit a fellowship application (PFIS, AES 2018)** within the **Unit/Group ...Cardiovascular Diseases**. More information about our group can be found **here** → <http://www.vhir.org/portal1/grup-equip.asp?t=malalties-cardiovasculars&s=recerca&contentid=186805>

JOB DESCRIPTION

Education and qualifications:

Required:

- University degree in the field of Life Sciences (Biochemistry, Biology, Biomedicine, Biotechnology or similar)
- Good academic qualifications (over 2.5 (scale up to 4)).
- High motivation, independent and team work abilities.
- Good communication skills and fluency in spoken and written english

Preferred:

- Background in Cardiovascular research
- Possess a master's degree in biosciences/medicine

Experience and knowledge:

- Technical knowledge of common laboratory procedures, including biochemical (PCR; Western Blot, etc.) and microscopy (immunofluorescence, confocal, etc) techniques
- Informatics at user level

Main responsibilities and duties:

- To conduct experiments on different animal models of cardiovascular disease
- Biochemical studies as needed in the project
- Interpretation of the data and statistical analysis
- Presentation of results in national and/or international scientific meetings

The candidate will be incorporated to the project entitled "Preventing reperfusion injury during myocardial infarction by inhibition of succinate dehydrogenase", recently funded by Instituto de Salud Carlos III (Ministerio de Economía, Industria y Competitividad, España) (PI17/01397). A summary with the aims of the project is shown below:

During myocardial reperfusion, the rapid metabolism of succinate accumulated during ischemia generates an intense oxidative stress. In our previous project we demonstrated that inhibition of succinate dehydrogenase (SDH), a component of the mitochondrial respiratory chain, during the first minutes of reperfusion, is protective in isolated mice hearts. However, systemic SDH inhibition has toxic effects, and there are doubts whether the increase in succinate levels during ischemia also occurs in humans. This project aims to obtain the necessary information to transfer malonate cardioprotection, a new approach that goes beyond the strategies now considered most promising, to patients with myocardial infarction. **Main objective:** To determine the utility of selective SDH inhibition at the reperfused myocardium by intracoronary administration of malonate to prevent reperfusion injury after transient coronary occlusion. **Intermediate objectives:** (1) To establish the effectiveness of intracoronary malonate administration at the onset of reperfusion to reduce infarct size in a porcine model of transient coronary occlusion; (2) To determine whether the malonate is protective in human atrial tissue subjected to ischemia-reperfusion in vitro. **Secondary objectives:** (1) To establish, using the porcine model, whether protection exerted by malonate is additive to that of remote ischemic conditioning; (2) To determine the value of the succinate plasma concentrations to predict the magnitude of reperfusion injury in patients with acute myocardial infarction undergoing primary angioplasty. Preliminary results suggest that intracoronary malonate is effective in pigs, and our previous studies demonstrated increased plasma succinate during reperfusion. We expect that the results of this project will help to reduce myocardial injury and improve prognosis in patients with myocardial infarction treated with primary angioplasty.

Labour conditions:

- Position: Full time position (40h/week)
- Gross annual salary: 20.600 €/year (according to the present AES 2018 announcement, grant name: PFIS).
- Contract length: up to 4 years

HOW TO APPLY

Applicants should submit a full Curriculum Vitae and a cover letter with the reference PRE-PhD-CARDIOVASCULAR to the following email addresses: mteresa.fernandez@vhir.org and antonio.rodriquez.sinovas@vhir.org before February 28th

