



POST-DOC CONTRACT

Cell Death and Disease & Neurology: Stroke and Dementia



One full-time University funded position with a competitive salary in **Neurobiology** and **Molecular and Cellular Neurosciences**, initially for 6 months, renewable up to 30 months is available for a highly motivated post-doc to join our multidisciplinary team including researchers and clinicians. Selection will begin now until **end of October** to **start in January 2019** but will continue until the right post- doc is found. To apply, send your **CV, a motivation letter and the name of 3 referees**, to helena.vieira@nms.unl.pt and mvianabaptista@nms.unl.pt

CEDOC Institution

CEDOC is a new research center of NOVA Medical School, *Universidade Nova de Lisboa*, with an international reputation on cutting edge research in Biomedical research, with focus in mechanisms of ageing and chronic diseases and is committed to training the next generation of research scientists. The Vieira and Viana-Baptista groups are involved in several national and international projects that cover from basic research to translational and clinical research. <http://cedoc.unl.pt> and <http://cedoc.unl.pt/cell-death-and-disease/>

CEDOC is located in the historical center of **Lisbon**. Lisbon has a large scientific community doing top level science and provides affordable living conditions in a very safe and well-connected European capital.

Requirements

- PhD in Life Sciences (Neurology, Neurobiology, Cell Biology, Physiology or other relevant areas)
- Knowledge in Neurobiology and Neuroscience areas, particularly in stroke (preferential)
- Solid background in Biochemistry and Cell Biology (cell culture, flow cytometry, microscopy...)
- Experience in rodent models (preferential)
- Strong publication record
- Excellent knowledge of English

Project description

Stroke is the first cause of death and disability in Portugal and the second in Europe, being associated with enormous social and economic burden. Intracerebral hemorrhage (ICH) is the most severe form. More than half of ICH patients die within 1 year, and less than 40% remain functionally independent. Despite these severe outcomes, there are no effective medical or surgical therapeutic options. Conditioning (also known as hormesis) is a procedure by which a noxious stimulus below damage threshold is applied to a tissue or system. Without causing any damage, endogenous mechanisms of defense are activated, promoting tolerance and cytoprotection. Remote ischemic conditioning (RIC) is the ischemic conditioning of non-vital organs with low-risk (such as arms) that provide protection to another organ (such as the brain). In experimental models, RIC was shown to trigger self-protective pathways in the brain and several potential mechanisms have been postulated: inhibition of neuroinflammation, activation of anti-apoptotic and anti-oxidant pathways, mitochondrial protection and decrease of blood brain barrier permeability.

This project aims to clinically test RIC as a new therapeutic strategy in intracerebral hemorrhage stroke patients and to disclose the underlying molecular mechanisms of RIC. Potential RIC signaling circulating factors will be analyzed in plasma of healthy volunteers and patients. Then, functional validation of human conditioned plasma, as well as the found circulating factors will be done in experimental models (brain cell and tissue cultures).

This is a broad research project starting by the clinical evaluation of a novel potential therapy up to the fundamental research of cellular and molecular mechanisms. Being a translational research project, it relies on the participation of both neurologists and fundamental researchers, involving clinical settings (CHLO Neurology Service) and a basic research laboratory environment (CEDOC, NOVA Medical School). The key post-doc candidate responsibilities are: (i) building bridges between neurologists and fundamental researchers; (ii) optimization of established protocols and developing new ones; (iii) providing significant contribution to the production of research papers for publication.

Supervision

Miguel Viana-Baptista, MD PhD

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Helena L. A. Vieira, PhD

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