



SFB1425 - Heterocellular Nature of Cardiac Lesions: Identities, Interactions, Implications

## P10: Post-doc Project

based at the

# Institute of Neuropathology

### *Cell Type-Specific Role of the Inflammasome in Myocardial Infarction*

#### Background

We study the fundamental molecular mechanisms of innate immunity and inflammation in health and disease and their integration with metabolism and cell death. Our focus is on a cytoplasmic signalling complex in macrophages known as the inflammasome that is responsible for the proteolytic activation of the proinflammatory cytokine IL-1 $\beta$ . We investigate inflammasome biology at molecular, cellular, and organismal levels, using a broad range of cutting-edge technologies and model systems to understand their signalling mechanisms and to discover novel therapeutic strategies for inflammation-related diseases.

#### Project Description

The inflammasome promotes pathology upon cardiac injury. We are looking for a post-doctoral researcher to investigate the involvement of inflammasomes to homeostasis, pathology and regeneration of the heart and the underlying mechanisms. Specifically, the candidate will perform different models of myocardial infarction on genetically modified mouse strains to elucidate the specific contribution of inflammasomes and identify the cell types sending and receiving the inflammasome-dependent inflammatory signals.

#### Qualifications and Requirements

- Broad experience with murine models of cardiac ischaemia and ischaemia/ reperfusion injury or similar systems
- Strong interest in cardiac function and molecular/ cellular immunology
- Excellent PhD and publication record with a background in cardiovascular research
- High motivation and enthusiasm for science paired with reliability, diligence, independence, and a positive and constructive attitude
- FELASA B certificate (or equivalent)
- English language proficiency at level B2 or higher

#### Research Areas

Molecular and Cellular Immunology, Inflammasome biology, Myocardial infarction

#### Experimental Tasks

- Models of myocardial infarction
- Confocal microscopy
- Histology
- Flow cytometry
- Protein biochemistry
- RNA-Seq

#### Background

Biology, Physiology, Biochemistry

#### Starting Date

from 01/07-2020

#### Advisor

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