



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

P05: PhD-Project

based at the

Institute of Experimental and Clinical Pharmacology and Toxicology

Mineralocorticoid Receptors as Key Regulators of Cardiac Lesions

Background

The mineralocorticoid receptor (MR) is a key player in cardiac remodelling. MR is a ligand-activated transcription factor that is expressed in all major cell types of the heart, but also in other organs, e.g. the kidney. MR antagonists are an established therapy in left heart disease and recent work indicates beneficial effects in right heart or atrial remodelling as well. The goal of this project is to identify novel approaches that specifically target the MR signalling pathway in the heart vs the kidney and thus separating desired from undesired effects.

Project Description

Cell type-specific gene targeting will be used to identify the role of MR in different cell types in right ventricular and atrial remodelling. State-of-the-art technology will be applied to assess MR-dependent gene expression and the interaction of MR with epigenetic modifiers, co-regulatory proteins, and other transcription factors in different cell types that might serve as candidates for future drug targeting.

Qualifications and Requirements

- High motivation to work on a state-of-the-art research topic in a highly dynamic, interdisciplinary and supportive environment
- Solid background in molecular biology and epigenetics
- Prior experience in the handling of biological models, flow cytometry, and/or bioinformatics would be desirable
- Excellent MSc in a field relevant for the proposed study
- English language proficiency at level B2 or higher

Research Areas

Cardiovascular, Epigenetics

Experimental Tasks

- handling of biological models
- flow cytometry
- state-of-the-art transcriptomics & epigenetics
- bioinformatics

Student Background

(Molecular) Medicine, Pharmacy, Biochemistry, Biology (or related)

Starting Date

from 01/07-2020

PhD Advisor

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Applications via

[SGBM portal](#)

Submission window: 08-30/06-2020