

The German Diabetes Center (DDZ) the Leibniz Institute for Diabetes Research at Heinrich Heine University (HHU) in Düsseldorf was funded by the Federal Ministry of Health and Ministry of Innovation Science and Research of the State of North Rhine Westphalia. The DDZ as an interdisciplinary Institute links molecular and cell biological basic research with clinical investigation.

The Institute for Vascular and Islet Cell Biology (director: Prof. Dr. Eckhard Lammert) investigates the molecular mechanisms of type 2 diabetes using molecular biology and biochemical *in vitro*, *ex vivo* and *in vivo* approaches.

Currently the Work Group “Beta Cell Defects” (Principal Investigator: Dr. Bengt-F. Belgardt, bengt.belgardt@ddz.de) is looking for a highly motivated candidate for the allocation of a

MASTER THESIS

with the topic

“Functional analysis of a novel protein family in insulin secretion regulation”

Background

- We have recently used a Multi-Omics approach to identify a protein family that binds to specific lipid species and is able to regulate insulin secretion in pancreatic beta cells, although the specific roles of several family members remain unknown.

Role and Responsibilities

- Use of qPCR, immunoblots and confocal imaging to characterize candidate proteins
- Use of CrispR/Cas9, RNAi and/or overexpression to manipulate relevant genes/proteins
- Functional analyses of KO cell lines and pancreatic islets using e.g. insulin secretion assays and live-cell imaging

Requirements:

- Bachelor degree in biology, biochemistry, biomedicine or a similar field.
- Willingness to work with *in vitro* / *ex vivo* / *in vivo* models for beta cell dysfunction (FELASA B is of advantage)
- Reliable performance, flexibility and teamwork skills.
- Self-motivated and driven to continuous improvement, good knowledge of the English language.
- Project start in January, February or at the latest, March 2023

We offer:

- Hands-on work with modern genetic manipulation methods, biochemical and computational analyses
- Participation in manuscript preparation
- Detailed training and daily interactions with group members and PI

Further informations:

- The DDZ is committed to family-friendly working conditions and equal gender policy. Since May 2011, the DDZ is a “Career and Family” audit-acknowledged Center.
- Females are encouraged to apply, and in the case of equal qualification will be given preference.
- Persons with disabilities will be given preference.

Data collection and further processing of your application at the DDZ will take place mainly by means of electronic data processing. The regulations pertaining to data protection laws will be adhered to. By sending us your application you consent to this procedure.

