



HR EXCELLENCE IN RESEARCH

Laboratory of Pancreatic Islet Research, Institute of Physiology, Czech Academy of Sciences, Prague, Czech Republic is looking for a new team member:

Postdoctoral position in the Laboratory of Pancreatic Islet Research

Head (email): Lydie Plecítá (lydie.plecita@fgu.cas.cz)

Laboratory website: <https://www.fgu.cas.cz/en/departments/laboratory-of-pancreatic-islet-research>

Postdoctoral project:

Our newly established laboratory investigates the physiology and pathophysiology of pancreatic beta cells. Beta cells are the guardians of glucose homeostasis in the body, and their deficiency and impaired function trigger the development of diabetes. We focus on the role of redox signalling during glucose stimulation in beta cells because of the vulnerability of redox homeostasis. Altered redox status can impair insulin secretion, while in the long term it can trigger cellular stress. In addition, altered redox signalling has significant effects on other endocrine cells in the pancreatic islets (mainly alpha/glucagon secreting and delta/somatostatin secreting cells). The aim of this project is to investigate the effects of altered redox signalling on paracrine signalling between beta and alpha cells. The project focuses mainly on the role of paracrine GLP1 and glucagon signalling. A unique mouse model with altered redox status in beta cells and pancreatic slices/isolated islets of Langerhans/cells will be used for the study. Novel experimental strategies in combination with confocal microscopy will be used.

Candidate's profile (requirements):

We are looking for talented and motivated biological problem-solving graduates with a background in biological and biomedical sciences. Experience with cell culture, mouse/rat models, molecular biology, biochemistry and fluorescence microscopy is an advantage.

We offer:

- Highly interdisciplinary work in a creative academic environment. Everyone can contribute ideas to move the project forward.
- Fixed-term employment with the possibility of extension, starting upon agreement.
- Full-time position (1.0 FTE), home office depending on the nature of the work.
- Competitive salary based on internal rules of the Institute, skills and experience of the candidate.
- Language courses, on-site parking, bike room, campus hostel, support for international colleagues, etc.
- 5 weeks holiday + 1 week additional holiday + 3 sick days
- Meal allowance of CZK 100 per day

How to apply:

Send your **CV** (including a list of publications), contact details for 2-3 **referees** and a **motivation letter** to personalni@fgu.cas.cz by 31 March 2024.



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References:

Holendová B, Benáková Š, Křivonosková M, Pavluch V, Tauber J, Gabrielová E, Ježek P, Plecítá-Hlavatá L. NADPH oxidase 4 in mouse β cells participates in inflammation on chronic nutrient overload. *Obesity* (Silver Spring). 2023 Dec 12.

Holendova B, Plecita-Hlavata L. Cysteine residues in signal transduction and its relevance in pancreatic beta cells. *Front Endocrinol (Lausanne)*. 2023 Jun 29;14:1221520. doi: 10.3389/fendo.2023.1221520.

Benakova S, Holendova B, Plecita-Hlavata L. Redox Homeostasis in Pancreatic beta-Cells: From Development to Failure. *Antioxidants (Basel)*. 2021;10(4).

Plecita-Hlavata L, Jaburek M, Holendova B, Tauber J, Pavluch V, Berkova Z, et al. Glucose-Stimulated Insulin Secretion Fundamentally Requires H₂O₂ Signaling by NADPH Oxidase 4. *Diabetes*. 2020.

Plecita-Hlavata L, Engstova H, Holendova B, Tauber J, Spacek T, Petraskova L, et al. Mitochondrial Superoxide Production Decreases on Glucose-Stimulated Insulin Secretion in Pancreatic beta Cells Due to Decreasing Mitochondrial Matrix NADH/NAD(+) Ratio. *Antioxid Redox Signal*. 2020;33(12):789-815.