

Post-doctoral position (full-time position for at least 3 years, starting spring-summer 2020)

Department of Membrane Transport

Institute of Physiology

Czech Academy of Sciences

Prague

Czech Republic

<https://www.fgu.cas.cz/en/departments/membrane-transport>

Structural and functional determinants of eukaryotic Na⁺/H⁺ antiporters and their role in the maintenance of cell cation and pH homeostases

All cells are critically dependent on homeostatic mechanisms that regulate the level of cations. K⁺, H⁺ and Na⁺ are among the most prevalent ions which are essential in cell bioenergetics and their appropriate concentrations are required for the maintenance of cell volume, cell cycle, internal pH and membrane potential. **Na⁺/H⁺ antiporters** participate in ensuring the optimal intracellular level of alkali-metal cations and protons in the cells of most organisms. Understanding the tight regulation of transporter activities and the interplay of regulatory mechanisms is of substantial interest, as disruptions of ion homeostasis are related to various pathologies.

The postdoctoral project will focus on characterization of **new structural and functional elements in human Na⁺/H⁺ antiporters related to their substrate specificity, transport activity and biogenesis**. Human native and mutated transporters will be studied upon heterologous expression in yeast cells.

Requirements

- PhD (or equivalent) degree in Life Sciences (biology, biochemistry)
- Fluency in both spoken and written English
- Good experience with laboratory methods in microbiology, molecular biology and biochemistry, basic knowledge of bioinformatics
- Flexibility, initiative and independent working attitude
- Independent scientific and research work including publication and presentation of results
- Experience in protein structure modelling is an advantage

How to apply

To apply, please send a pdf including i) Detailed scientific CV with a list of publications and other research outputs, ii) Motivation letter stating your interests and iii) Contact details for 2 referees to Dr. Olga Zimmermannova (olga.zimmermannova@fgu.cas.cz)