

Position for Postdoctoral researcher

The Institute of Biochemistry and Biophysics PAS, the *Laboratory of Molecular Basis of Aging and Rejuvenation* (www.topf-lab.org) headed by Dr. Ulrike Topf seeks a postdoctoral researcher to join the project entitled **“Molecular function of zinc storage in ribosomal proteins of eukaryotic cells”**. The project is funded by the Polish National Science Centre under OPUS 23 grant 2022/45/B/NZ1/03714. Our laboratory conducts fundamental research in cell and molecular biology using yeast and *C. elegans* as model organism. We are interested in the identification and characterization of mechanisms that help to maintain cellular protein homeostasis. In particular, we are interested how the cell regulates the balance between protein production, protein folding and degradation. We focus on changes in the ribosome on the level of ribosomal proteins and their post-translational modifications ([Jonak et al, 2023](#)) as well as ribosome-associated factors and chaperones responsible for co-translational protein folding ([Goscinska et al, 2020](#); [Tahmaz et al., 2023](#)).

This project is based on our previous expertise but will expand our research interests by exploring the involvement of ribosomal proteins in cellular zinc homeostasis during aging. Zinc ions are essential micronutrients but exist in the cell only bound to proteins. Some proteins require zinc for structural stability or zinc is part of the catalytic site of a protein. Ribosomal proteins are abundant and some bind zinc. Cysteine residues coordinate the zinc binding in ribosomal proteins. During cellular stress and ageing the production of reactive oxygen species (ROS) increases leading to the reversible oxidation of thiol groups in ribosomal proteins ([Topf et al., 2018](#)). Using protein biochemistry, mass spectrometry and genetic approaches, we will be studying the importance of the ribosomal proteins that bind zinc ions during conditions of zinc-depletion and during aging.

Job description

The successful applicant will be responsible for executing laboratory-based research within the project. They will be responsible for generation and characterization of yeast deletion strains, isolating ribosomes from yeast, conducting *in vitro* and *in vivo* translation assays, and performing a proteomics analysis to understand proteome-wide changes in protein levels upon loss of zinc-binding ribosomal proteins. Besides conducting and analyzing experiments the successful applicant is expected to take part in supervising undergraduate students in the lab, actively participate in writing scientific papers, and present the project at internal and external meetings.

Requirements for the candidate:

- Holds a Doctoral degree/ PhD in biology, or related life science field for not more than 7 years before the position announcement.
- Is proficient in spoken and written English.
- Has solid knowledge of molecular biology and/ or biochemistry.
- Demonstrated skills in proteomics approaches including sample preparation, analysis of raw data and downstream analysis are essential.
- Previous experience with yeast is essential.
- Previous experience in ribosome isolation is an advantage.
- Can present research achievements including at least one publication in an international journal.

We offer:

- Full-time employment contract for 3 years (including 6 months' probation).

- Gross salary of about 8,500 PLN/month. Net salary depends on individual circumstances influencing tax.
- The position with 100% focus on research (no teaching obligations).
- Work in a young, active and international team in a collaborative work environment.
- Supportive English-speaking administration and help with visa application if needed.
- Free language courses including Polish for foreigners.
- Good culture of work-life balance.

The deadline for applications is **February 29th 2024**. The job starting date is April 1st 2024.

How to apply:

- **Apply now** to jobs@topf-lab.org
- In the subject include "**PostDoc**" and your first and last name.
- Your application must be submitted in English and should contain:
 - Motivation letter
 - CV including scientific achievements and a short description of used methodology
 - Copy of PhD diploma
 - Contact details to potential referees, including one of your PhD supervisor
 - **Please include the following statement in your application:** "In accordance with the personal data protection act from 29th August 1997, I hereby agree to process and to store my personal data by the Institution for recruitment purposes."

Selected candidates will be invited for an interview (possible online). Applications will be reviewed on a rolling-basis.