

POST-DOCTORAL POSITION
Institute of Biochemistry and Biophysics
Polish Academy of Sciences

National Science Center SONATA GRANT

"Novel mechanism of gene expression control in Eukaryota through regulation of protein-coding transcript polyadenosine tail length"

Keywords: molecular biology, polyadenosine tail, mRNA, RNA degradation, deadenylation, nanopore direct RNA sequencing

Type of post: post-doc / assistant

Type of contract: fixed-term full time employment

Remuneration: ~ PLN 7,000

Employment period: 24 months with possibility of extension

Date of commencement of work: no later than 1st October 2024

Principal Investigator: Dr Agnieszka Tudek (atudek@ibb.waw.pl)

Project description:

The mRNA 3' end polyadenosine tail is crucial for RNA stability, export and translation. Deadenylation is a cytoplasmic process of shortening the poly(A)-tail that is a license to subsequent transcript decapping by Dcp1/2 and degradation by Xrn1. There are two deadenylation complexes in the cytoplasm, CCR4-NOT and PAN2/3, which harbor three enzymes, individually quite well studied *in vitro*. However, the *in vivo* role of those enzymes has not been yet deciphered. We will study the *in vivo* mechanism of deadenylation in the budding yeast model using the Direct RNA Sequencing technique from Oxford Nanopore Technologies, which enables to determine both RNA levels and polyA-tail lengths. We will inquire whether and to what extent the function of the deadenylation and decay machinery is altered by translation, during stress response or changing growth conditions. A good experience in work with budding yeast is crucial. A knowledge of human cell line culture and bioinformatics will be most welcomed. Depending on the workload the candidate will be free to propose alternative projects.

Expectations towards candidates:

1. Doctorate in the field of biology, biotechnology, molecular biology, biophysics, biochemistry.
2. Practical and theoretical knowledge of molecular biology and biochemistry.
3. Knowledge in the field of transcriptomic data analysis will be an asset

List of documents (preferably merged into one file):

1. Documentation of the doctoral degree (doctorate cannot be older than 7 years)
2. CV
3. cover letter
4. contact or letter of recommendation from the previous employer or doctorate supervisor

Evaluation of candidates will consist of:

1. In the first stage the Selection Committee, composed of Project Manager and two independent researchers from IBB PAN) will select eligible candidates. We reserve the right to contact selected candidates.
2. In the second stage the candidates will be interviewed by the Selection Committee. The candidate will be asked to briefly present his or hers CV and outline one main scientific project, which will be then discussed in more detail with the Selection Committee. During the meeting the candidate will be free to inquire about details concerning the project.

Contact for formal and informal inquiries: atudek@ibb.waw.pl

Deadline for submitting applications: 15th September 2024

Please include the following consent to process personal data (applications not including this statement will not be processed for legal reasons):

„Wyrażam zgodę na przetwarzanie moich danych osobowych dla potrzeb niezbędnych do realizacji procesu rekrutacji zgodnie z Ustawą z dnia 29 sierpnia 1997 r. o ochronie danych osobowych (Dz. U. z 2016 r. poz. 922 z późn. zm.)”