

**Recruitment for the Poznań Doctoral School of the Institutes of the Polish Academy of Sciences
at the Institute of Bioorganic Chemistry, PAS in Poznan
Procedure no. 14/2020/ICHB/PSD**

INSTITUTION: Institute of Bioorganic Chemistry, PAS
CITY: Poznan
POSITION: PhD student
POSITIONS AVAILABLE: 1
SCIENTIFIC DISCIPLINE: Biological sciences
PUBLICATION DATE: 15/07/2020
APPLICATION DEADLINE: 14/08/2020
IBCH PAS WEBSITE: <http://www.ibch.poznan.pl>
PDS IPAS WEBSITE: <http://www.psd-ipan.ibch.poznan.pl/>

KEY WORDS: RNA interference, Huntington's disease, shRNA, off-target, gene therapy

Principal Investigator: Dr Marta Olejniczak.

I. Project description:

Polyglutamine (polyQ) diseases are a group of inherited neurological disorders caused by the expansion of unstable CAG repeats in the respective genes. Currently no therapy is offered to patients and gene therapy approaches, including RNA interference (RNAi) technology, are very promising. In our laboratory we developed and patented therapeutic strategy for polyQ disorders which uses RNAi tools and expanded CAG tract as a target. We use vector-based RNAi tools which allow for stable and long-lasting action of a therapeutic molecule after single administration. One of the most important features of the proposed strategy, distinguishing it from the currently developed approaches, is the preferential silencing of the mutant proteins. There are, however, many questions regarding this approach: (i) what is the potency and selectivity of reagents depending on the CAG tract length? (ii) is it possible to achieve the allele-selectivity of silencing in all patients? (iii) is this strategy universal for all nine polyQ disorders? and (iv) is it safe?

Therefore the goal of this project is to better characterize CAG repeat-targeting strategy, its possibilities and limitations. With the use of new reporter constructs with different length of the CAG repeat tract we will characterize the potency and allele-selectivity of CAG-targeting genetic vectors. By using different cellular models of polyQ diseases (e.g., SCA1, SCA7, DRPLA) we will verify the hypothesis about universal therapeutic strategy targeting expanded CAG tracts in polyQ disorders. An important challenge for therapeutic molecules that target CAG repeats is the existence of other genes that contain similar repetitive regions. With the use of bioinformatics tools we will search for the most specific molecules and we will verify their safety experimentally in human neurons.

Additional information:

1. Research and doctoral dissertation will be implemented under the project Preludium Bis no. 2019/35/O/NZ1/03535 titled "Allele-selective therapy for polyglutamine diseases with the use of RNA interference technology", funded by the National Science Center.
2. Scholarship for PhD student:
 - Net amount of 3,600 PLN per month (gross amount of 4,200 PLN) - up to the month of mid-term evaluation of a PhD students at the doctoral school.
 - Net amount of 4,300 PLN per month (gross amount of 5,000 PLN) - after the month of mid-term evaluation of a PhD students at the doctoral school).

3. PhD students shall be subject to social insurance, pursuant to article. 6 section 1 passage 7b of the act of October 13th, 1998 on the social insurance system (Journal of Laws of 2019, item 300, 303 and 730).

II. Requirements for the candidates:

1. MSc degree in (bioorganic) chemistry, biology, biophysics, molecular biology or related field.
2. Experience in working with human cell cultures (including iPSCs), transfections, lentivirus transduction and preparation, western blotting, qRT-PCR, cloning, luciferase tests, flow cytometry. Experience in the field of bioinformatics will be welcomed.
3. Very good command of spoken and written English.

III. Responsibilities:

1. Realization of project tasks.
2. Analysis of shRNA potency, selectivity and safety in cellular models of polyQ diseases.
3. Data analysis.
4. Manuscript preparation.
5. PhD thesis preparation.
6. Submission of an application for a 3-month foreign fellowship at the Institute of Genetics and Molecular and Cellular Biology (Strasbourg) to the Polish National Agency for Academic Exchange (NAWA), and accomplishment of the fellowship within the duration of the Preludium Bis project.

IV. Required documents:

1. Application for admission to PDS IPAS along with the consent for processing personal data upon the recruitment procedure and a statement on having acknowledged the regulations of recruitment for PDS IPAS, using form downloaded from [https://www.ibch.poznan.pl/uploads/studium%20doktoranckie/2019/ICHB%20-%20Application%20for%20admission%20\(2019-09\).docx](https://www.ibch.poznan.pl/uploads/studium%20doktoranckie/2019/ICHB%20-%20Application%20for%20admission%20(2019-09).docx)
2. Certified copy of the diploma confirming graduation or a certificate confirming graduation (in the case of diplomas issued by foreign higher education schools, diploma stipulated in article 326, section 2, passage 2 or article 327, passage 2 of the act of July 20th, 2018 – Law on Higher Education and Science (Journal of Laws of 2018, item 1668, as amended), entitling to apply for conferment of a doctoral degree in the state in which such a certificate was issued by the relevant higher education school. In the event when the candidate is not in possession of the aforementioned documents, he/she is obliged to submit them prior to admission to PDS IPAS. Additional information on foreign school diplomas are available at: <https://nawa.gov.pl/en/recognition/recognition-for-academic-purposes/applying-for-admission-to-doctoral-studies>
3. Scientific CV encompassing track record of previous education and employment, information on involvement in scientific activities (participation in student research groups, attendance at scientific conferences, accomplished internships and training, awarded prizes and distinction) and list of publications.
4. Cover letter featuring a short description of research interests, achievements and justification for the intention to commence education at the doctoral school.
5. Certificates or other documents confirming the degree of proficiency in English, if the candidate is in possession of such materials.
6. Contact details of at least one, previous scientific supervisor or another researcher who is entitled to issue an opinion on the candidate.

- V. Applications should be submitted via the eRecruiter portal at;

<https://system.erecruiter.pl/FormTemplates/RecruitmentForm.aspx?WebID=d2886a5153bb486c804dc9570239d820>

VI. Submission deadline is **14/08/2020**.

VII. Criteria for evaluation of candidates:

1. Candidate's research achievements, pursuant to the grades obtained in the course of studies, scientific publications, awarded scholarships and distinctions resulting from conducting scientific research or student activities or other achievements.
2. Candidate's scientific and professional experience, pursuant to participation in conferences, workshops, training sessions and internships, implementation of research and commercial projects, involvement in scientific trusts and societies, international and professional mobility, experience in other sectors, including industry.
3. Candidate's knowledge on the following discipline: Biological sciences.
4. Knowledge of the subject matter described in the recruitment advertisement.

VIII. The recruitment procedure shall be concluded no later than **15/09/2020**.

IX. The description of the recruitment process is stipulated in the Regulations of Recruitment for PDS IPAS. Following the recruitment procedure, the unadmitted candidates shall be informed on the number of points obtained at both stages.

For additional information please contact the Principal Investigator:

Dr Marta Olejniczak

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Information clause:

Pursuant to the stipulations of the regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation), further referred to as GDPR, we hereby inform that:

- *The Institute of Bioorganic Chemistry, Polish Academy of Sciences, seated in Noskowskiego St. 12/14, 61-704 Poznan; REGON 000849327, NIP 777-00-02-062 is the administrator of the collected personal data (further referred to as the Institute).*
- *The Administrator appointed a Data Protection Officer, who can be contacted in writing, via traditional mail, by sending a letter to the following address: Z. Noskowskiego St. 12/14, 61-704 Poznan, or by sending an e-mail to: dpo@ibch.poznan.pl.*
- *The personal data of the candidates is processed for the purposes of fulfilling the tasks of the administrator, associated with conducting the recruitment procedure for a vacant position.*
- *The legal basis for processing personal data is the Act of 26 June 1974 – The Labor Code, Act of 30 April 2010 on the Polish Academy of Sciences or the consent of the person whose data shall be subjected to processing.*
- *Your personal data shall be subjected to processing for period of 3 months upon the date of decision of the recruitment committee. Following this period, the data will be irretrievably and effectively destroyed.*
- *The personal data of the candidates shall not be transferred to any third country.*
- *The person whose data shall be subjected to processing has the right to:*
 - *request access to his/her personal data, and to amend it or delete it, pursuant to articles 15-17 of GDPR;*

- *limit data processing, in the events stipulated in article 18 of GDPR;*
- *data transferring, pursuant to article 20 of GDPR;*
- *withdraw consent at any moment, without influencing compliance with the law of the processing that was executed prior to consent withdrawal;*
- *file a complaint to the Inspector General for Personal Data Protection.*

Providing personal data in the scope stipulated in article 22 (1) of the Act of 26 June 1974 – The Labor Code is mandatory, whereas providing data in a broader scope is voluntary and requires consent for its processing.