INSTITUTE OF BIOORGANIC CHEMISTRY
Polish Academy of Sciences

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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. 17/2024/ICHB/PSD

INSTITUTION:	Institute of Bioorganic Chemistry, PAS
CITY:	Poznan
POSITION:	PhD student
POSITIONS AVAILABLE:	1
SCIENTIFIC DISCIPLINE:	biological/chemical sciences
PUBLICATION DATE:	26 July 2024
APPLICATION DEADLINE:	9 September 2024
IBCH PAS WEBSITE:	https://portal.ichb.pl/homepage/
PDS IPAS WEBSITE:	https://psd-ipan.ichb.pl/index.php/en/home/

KEYWORDS: antisense oligonucleotides, RNA G-quadruplex, influenza virus, RNA structure, viral replication cycle

Research topic: Antisense oligonucleotides as tools specifically binding viral G-quadruplexes and their experimental verification

Principal Investigator: Dr Marta Szabat

I. Project description

Among the RNA secondary structures, there are noncanonical G-quadruplexes (G4s) that form within the G-rich sequences and are stabilized by Hoogsteen hydrogen bonds. Importantly, there is a growing interest in these unique structures within the viral genomes. Recently, we identified G4s within the influenza A virus genome. The main goal of this project is to develop an ASO-based approach targeting viral G-quadruplexes. In general, suggested investigations will be divided into two main parts: A/ biophysical studies including preparation of ASO tools toward the IAV G4s, determination of their structural properties, and binding specificity, and B/ biological studies of the influence of selected ASOs targeting G4s on the influenza virus replication. Our project proposes innovative biophysical (part A) and biological studies (part B) of ASO-based targeting at G4s from the IAV genome. The innovation is related to the combination of chemical synthesis, thermodynamic, molecular, and structural biology, as well as virological methods to prepare unmodified and modified ASOs and examine the influence of these tools on influenza virus replication.

Additional information:

1. Research and doctoral theses shall be carried out within the OPUS-25 project 2023/49/B/ST4/03763 entitled "Antisense oligonucleotides as tools specifically binding viral G-quadruplexes and their experimental verification", funded by the National Science Centre, Poland.
2. PhD students shall receive a stipend in the gross amount of ca 4 300 PLN (3800 PLN net), for the period of 48 months with possible raise following the interim assessment period.
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. Master's degree in biology, biotechnology or related fields, or meeting the conditions indicated in Art. 186 sec. 2 of the Act of July 20, 2018. Law on Higher Education and Science (Journal of Laws of 2018, item 1668, as amended).
2. Experience in laboratory work in the field of molecular biology or biochemistry of nucleic acids.
3. Good command of English, enabling efficient communication and preparation of research papers.
4. Ability to make responsible decisions without supervision and adaptability to teamwork.
5. Knowledge of basic issues related to the research topic of the project (structural RNA biology, cell culture, virology).

III. Duties in the project:

1. Biophysical studies of the interaction between ASOs and targeted G-rich sequences.
2. Studies of the influence of ASO tools on virus replication using the IAV-infected cell lines (cell culture, cell transfection.
3. Analysis of results/data and preparation of publication based on obtained data.

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://psd-ipan.ichb.pl/wp-content/uploads/2023/05/ICHBApplication_for_admission_10_05_23.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 where 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/applyll+ling-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=3aa67b9062494e9a9a775102bee524a4

VI. Submission deadline is **9 September 2024.**

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 of the following discipline: molecular biology and related sciences.
4. Knowledge of the subject matter described in the recruitment advertisement.

VIII. The recruitment procedure shall be concluded no later than **24 October 2024.**

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.
Incomplete applications will not be considered.

For additional information please contact the Principal Investigator: Dr Marta Szabat e-mail: szabat@man.poznan.pl

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.