

**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. 6/2023/ICHB/PSD**

INSTITUTION: Institute of Bioorganic Chemistry, PAS
CITY: Poznan
POSITION: PhD student
POSITIONS AVAILABLE: 1
SCIENTIFIC DISCIPLINE: biological sciences / chemical sciences and related
PUBLICATION DATE: 16.02.2023
APPLICATION DEADLINE: 20.03.2023
IBCH PAS WEBSITE: <http://www.ibch.poznan.pl>
PDS IPAS WEBSITE: <http://www.psd-ipan.ibch.poznan.pl/>

KEY WORDS: influenza virus, RNA structure, inhibitors of influenza virus replication, small molecules, high throughput screening (HTS), RNA/ligand complexes, RNA function

Research topic: Input of the structure of influenza A virus RNA in regulation of virus proliferation. High throughput screening of small molecules towards inhibition of influenza virus replication.

Principal Investigator: prof. Elzbieta Kierzek

I. Project description

During the current SARS-CoV-2 pandemic, it is obvious to everyone that viral infections are very serious problem. The research object of the project is the influenza A virus, and more precisely its RNA. The research project is focused on viral RNA (vRNA) as molecular target for small molecule (ligand) inhibitors of influenza virus replication. The influenza virus genome is built with eight vRNA segments. Bioinformatic analysis of vRNA of many thousands of influenza virus strains showed nearly 90% structural conservation of vRNA. For many vRNA motifs it is close to 100%, indicating that there are fragments of RNA that can be targeted by therapeutic tools to achieve inhibition of influenza virus replication, independent on strain. The planned research focus on ten conserved structural motifs of vRNA crucial for virus replication. The research project is multi-threaded, innovative and multidisciplinary, and may lead to the selection of ligands serving as universal therapeutics for inhibition of influenza virus replication. The molecular mechanism of action of ligands that inhibit the replication cycle of the virus and new functions of vRNA related to its structure will also be discovered. The research includes: high-throughput screening of ligands binding to RNA, biophysical and molecular characterization of RNA/ligand complexes, determination of ligands inhibitory properties against replication of influenza virus (studies on cell lines and mouse model), modification of the best ligands and molecular studies on the mechanism of inhibition of influenza virus replication by small molecules.

Additional information:

1. Research and doctoral theses shall be carried out within the Opus 20 (2020/39/B/NZ1/03054), entitled "Input of the structure of influenza A virus RNA in regulation of virus proliferation. High throughput screening of small molecules towards inhibition of influenza virus replication", funded by National Science Centre.
2. PhD students shall receive a stipend in the gross amount of ca 4300 PLN (3800 PLN net), for the period of 28 months with possible extension.
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 biological sciences (biology, molecular biology, biotechnology) or chemical sciences or related sciences or fulfilling the conditions stipulated in article 186, section 2 of the act of July 20th, 2018 Law on Higher Education and Science (Journal of Laws of 2018, item 1668, as amended); BSc degree holders can also apply but will need to obtain their MSc title before they start working in the project.
2. Knowledge of molecular biology or bioorganic chemistry or virology techniques. Additional advantage will be experience in work with biomolecules, for example: in research with nucleic acids and their complexes, participation in structural research of biomolecules or using cell lines.
3. Very good command of English.
4. Basic knowledge in the topics related with project.
5. Very high motivation for further development and ability to work in a team.

III. Duties in project:

1. Selection of small molecules using high-throughput screening (HTS) - method optimization, participation in screening.
2. Physicochemical studies of RNA/ligand complexes.
3. Investigation of inhibitory properties of selected ligands against replication of influenza virus in cells.
4. Studies on the mechanism of inhibition of influenza virus replication by selected ligands.

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://portal.ichb.pl/wp-content/uploads/2021/10/ICHBApplication_for_admission_202110.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/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=7c19dc9be17b41da968fc766fdc716ec>

VI. Submission deadline is 20.03.2023 r.

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 or chemical sciences.
4. Knowledge of the subject matter described in the recruitment advertisement.

VIII. The recruitment procedure shall be concluded no later than **20.04.2023**

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:

Prof. Elzbieta Kierzek, Department of RNA Structural Genomics

e-mail: elzbieta.kierzek@ibch.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.