

**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. 30/2022/ICHB/PSD**

INSTITUTION: Institute of Bioorganic Chemistry, PAS
CITY: Poznan
POSITION: PhD student
POSITIONS AVAILABLE: 1
SCIENTIFIC DISCIPLINE: biological sciences
PUBLICATION DATE: **14 July 2022**
APPLICATION DEADLINE: **15 August 2022**
IBCH PAS WEBSITE: <https://portal.ibch.poznan.pl/homepage/>
PDS IPAS WEBSITE: http://www.psd-ipan.ibch.poznan.pl/?page_id=355&lang=en

KEY WORDS: drug design, anticancer drugs, enzyme inhibitors, macromolecular structure

Principal Investigator: dr hab. Miłosz Ruzkowski

Research topic: drug discovery

I. Project description

Cancer cells reprogram their proline metabolism to enable survival, proliferation and metastatic spread. In the final reaction of proline biosynthesis, δ 1-pyrroline-5-carboxylate (P5C) reductase converts P5C into proline utilizing NAD(P)H as a cofactor. The aim of this project is to develop inhibitors of PYCR1, a human P5C reductase, which has emerged as a novel intervention point to deregulate the metabolism of malignant cells. To this end, we will combine high-throughput screening with rationalized drug design and use both wet-lab experiments and computer-aided methods. First, we will identify the so-called hit compounds, able to slow down PYCR1 activity to some extent. Then, we will optimize these molecules to produce more potent inhibitors. The optimization steps will be guided by 3D structures of these molecules binding to PYCR1, which will suggest changes to be made for improved efficacy. New compounds will be synthesized and their potency against PYCR1 activity will be tested *in vitro* and *in cellulo*. IBCH PAS is one of leading research institutes in Poland and conducts research in the field of chemistry, molecular biology and biomedicine. The Institute provides access to cutting-edge research equipment.

Additional information:

1. Research and doctoral theses shall be carried out within the OPUS 22 project, entitled “Search for Inhibitors of Human δ 1-Pyrroline-5-Carboxylate Reductase 1 (PYCR1) as Lead Molecules for the Development of Novel Anticancer Drugs”, funded by the National Science Centre, Poland
2. PhD students shall receive a stipend in the gross amount of ca. 4300 PLN (ca. 3800 PLN net), for the period of 48 months.
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 degree in chemistry, biology, or a related field.
2. Experience with laboratory work in the field of the master degree.
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. Experience in measuring enzyme inhibition, organic synthesis, working with human cell lines, or computational chemistry will be considered as assets but are not a prerequisite.

III. Duties in project:

1. Protein production.
2. Assistance during high-throughput screening.
3. Setting up crystallizations and solving complex structures.
4. Input during the design of new compounds.
5. Measurements of inhibition *in vitro*.
6. Testing efficacy *in cellulo*.

(Training relevant to the above duties will be provided)

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 http://www.psd-ipan.ibch.poznan.pl/wp-content/uploads/2021/10/ICHBAApplication_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=ffaafa1a26a240f38febf417262a7063>

VI. Submission deadline is **August 15, 2022**

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 **September 9, 2022**

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 hab. Miłosz Ruszkowski

e-mail: mruszkowski@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.