Laboratory of Molecular Basis of Neurodegeneration

is looking for a Ph. D student

for the project aimed at understanding the mechanisms responsible for differences between individual regions of the hippocampus in the sensitivity to pathological insults.

Project: Region CA1 is probably the best studied structure within the hippocampus, when neighbouring CA2, the smallest and anatomically hardy distinguished, is very poorly understood. Seemingly similar, these two regions differ significantly at the functional levels – neurons of CA1 easily undergo synaptic plasticity, when neurons of CA2 are exceptionally synaptically stable. Additionally, region CA1 is very sensitive to different pathological insults, when CA2 – easily survives. Such a pattern of damage is observed in a variety of neurological disorders including epilepsy, stroke and traumatic brain injury. When the mechanisms responsible for attenuation of synaptic plasticity in CA2 are revealed bit by bit in the recent years, the molecular bases of exceptional resistance of these cells to damage are still not understood. We have recently defined some CA2-specific signalling and metabolic pathways that may potentially be involved in the neuroprotection in this region. In this project you will examine how either genetic or pharmacological modifications of these pathways will influence the survival of CA2 neurons and affect the cellular mechanisms that likely mediate the neuroprotective signal within the cell. You will also attempt to elucidate potential interaction between studied pathways and its significance for specific phenotype of CA2 region neurons.

Duties: You will be involved in planning and performing the experiments, critical analysis of obtained results, collaborating with other members of the Laboratory and external collaborators, presenting the data in laboratory meetings and national and international scientific conferences, writing reports, scientific articles and Ph.D. thesis.

Requirements:

- M.Sc. in biology, biotechnology, chemistry, veterinary or related field (needs to be obtained no later than 30.09.2023)
- Good command of English in speech and writing
- Ability to work stationary in Warsaw
- Willingness to work with animal models
- Knowledge of basic laboratory techniques (for example western blotting, immunostaining, microscopy analyses, microplate-based assays, PCR)
- Prior experience with animal work and/or tissue cultures and/or live imaging would be an advantage
- Ability to work independently and in a team

We offer:

- Full-time PhD scholarship for 4 years as a member of PhD School of Translational Medicine
- Fully research position, no teaching duties
- Participation in domestic and international scientific meetings
- Authorship in scientific publications

Mentoring: You will be supervised by prof. Barbara Zabłocka from Laboratory of Molecular Biology, and co-supervised by dr Michał Węgrzynowicz from Laboratory of Molecular Basis of Neurodegeneration.

How to apply: please visit https://www.cmkp.edu.pl/ksztalcenie/wspolna-szkola-doktorska/rekrutacja

More info: contact dr Michał Węgrzynowicz mwegrzynowicz@imdik.pan.pl