**PhD student position**

RESEARCH FIELD: Medical sciences › Biology

RESEARCHER PROFILE: First Stage Researcher (R1)

APPLICATION DEADLINE: 31/10/2022 23:59 - Europe/Brussels

LOCATION: Poland › Warsaw

HOURS PER WEEK: 40

STARTING DATE: 01/11/2022

OFFER DESCRIPTION

Department of Neurotoxicology, Mossakowski Medical Research Institute Polish Academy of Sciences is recruiting PhD student to the NCN OPUS 20 project entitled „Role of SAT1 glutamine transporter in the neurotransmission balance: implications for anxiety-related disorders.”

Leader: prof. dr hab. Magdalena Zielińska

Project description:

Anxiety disorders are sixth leading cause of disability worldwide in terms of years of life lived with disability and are characterized by intense and prolonged negative emotions such as feelings of fear and distress. Two factors are involved in the pathogenesis: genes and stressor events. The genome-wide association study proposed the SLC38A1 gene, coding for SAT1 glutamine transporter, as a candidate gene associated with stress vulnerability and anxiety. Recent data has proven that SAT1 regulates vesicular GABA content and induces high-frequency membrane oscillations, indicating that its dysfunction likely to predispose to anxiety behavior.

The project objective is to unravel the relationship between SAT1 depletion and stress vulnerability in correlation with changes in the GABAergic and glutamatergic system and BDNF-induced neuronal complexity.

A state-of-the-art methodology and SAT1ko mouse will be used to explore the impact of SAT1 transporter depletion on GABAergic/glutamatergic balance in the prefrontal cortex of mice brain in the context of anxiety-like phenotype. The experiments will be performed (1) in vivo on SAT1ko mice subjected to stress procedure to model rodent anxiety-like behavior; (2) ex vivo on isolated prefrontal cortex slices for electrophysiological recordings and morphological analysis; (3) ex vivo on cells isolated from SAT1ko/wt animals to uncover molecular aspects; (4) human postmortem brain tissue.

Location and duration:

Department of Neurotoxicology, Mossakowski Medical Research Institute Polish Academy of Sciences in Warsaw, 02-106 Poland, Pawinskiego Street 5 (http://www.imdik.pan.pl).

PhD student will be recruited for 36 months with the stipend according to NCN recommendations, starting November 2022.

Requirements:

1. MSc or equivalent in biology or biotechnology.
2. Knowledge of biochemical, cell and molecular biology methods.
3. Strong scientific interests, very good organization of laboratory work, openness to new challenges, teamwork skills, creative and analytical thinking.
4. Fluency in English, allowing independent presentation of results at conferences, manuscript preparation.
5. Experience in animal handling and small animal surgery protocol execution, as well as in behavioral studies, will be highly appreciated.

Selection process:

Please send your CV, including a publication list, a motivation letter, and (if applicable) later employers in science, by e-mail to prof. Magdalena Zielińska: mzielinska@imdik.pan.pl. The application deadline is 31th of October 2022. Selected candidates will be invited for an interview in middle of October 2022 – the online interview will be in English.