FACULTY OF MEDICINE
Masaryk University

CEITEC

Faculty of Medicine - PhD programme Neuroscience opens

DOCTORAL POSITION: MicroRNA, epilepsy and brain development

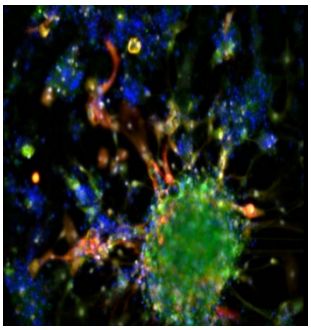
Field of study: Neurosciences, 4-years doctoral degree programme, full-time study mode

Department: 1st Department of Neurology, Faculty of Medicine, Masaryk University
Behavioural and Social Neurosciences group, CEITEC, Masaryk University

Supervisor: prof. MUDr. Milan Brazdil, Ph.D.

Description: Epilepsy is a neurological disorder characterized by recurrent seizures that affects 1% of the population worldwide. Despite the active research, current anti-epileptic drugs are unable to treat the cause of epilepsy, only supress its symptoms. Therefore, microRNA regulation has lately become the leading topic in epilepsy research aspiring to novel diagnostic and therapeutic approaches. Micro RNA (miRNA) is a short non-coding RNA that regulates gene expression on the post-transcriptional level and doing so, governs processes essential for brain function and development. This project will be focused on the analysis of miRNA involvement in epilepsy with onset in the developing brain, which is associated with aggravated progress of the disease. Crosstalk between miRNA and epilepsy in brain development will addressing three major aims employing combination of contemporary analytical approaches:

1. Identification and quantification of miRNA expression in models of early life seizures
2. Analysis of miRNA function and its effect on excitability in primary neuronal cultures
3. Testing of miRNA effect on seizures and epilepsy development in animal models



IHC - primary neuron culture

Requirements:

- Complete MA / Mgr. / MSc. Degree in the field relevant to biology, genetics, or biochemistry
- Good communication and interpersonal skills
- Fluency in spoken and written English is required at level B2
- Previous publication activity is beneficial
- Practical experience and theoretical knowledge of basic molecular biology methods (protein isolation, isolation and quantification of nucleic acids, PCR, gel electrophoresis) are required
- Practical experience in advanced molecular biology methods (e.g. sequencing, qPCR, Western Blot, cellular and tissue cultivation, IHC, IF) is beneficial, but not required

We offer:

- Interesting job in a dynamically expanding area of research
- Independent and responsible work
- Professional team and pleasant working environment

To apply please contact the supervisor and submit your CV to e-mail: **mbrazd@med.muni.cz**