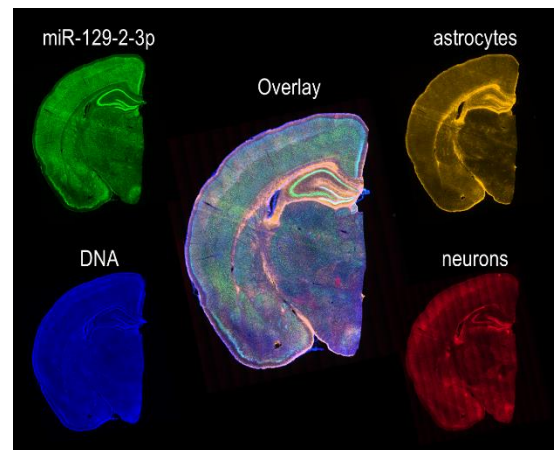


Doctoral position: **microRNA Function In Brain And Epilepsy**

Field of study: Neuroscience, 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

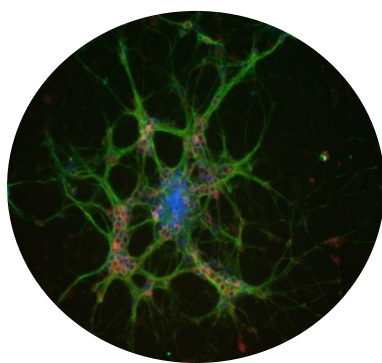
Annotation: Epilepsy is a frequent neurological disorder that has a severe impact on patients' health and quality of life. The process of epileptogenesis is yet poorly understood and there is no medical approach capable of curing this disorder completely. Lack of biomarkers allowing early diagnosing of this disease complicates the therapy and hinders the prevention. In the past decade microRNA (miRNA/miR) became one of the leading topics of molecular epilepsy research opening new possibilities for diagnostics and therapy. miRNAs are short non-coding RNAs that serve as master regulators of gene expression. Balanced miRNA expression is essential for physiological brain function, while deviant levels of miRNAs accompany neurological pathologies including epilepsy. Studies conducted on animal models confirmed miRNA involvement in epilepsy and its potential as a therapeutic target. Building on our previous research (Bencurova et al. 2017; Baloun et al. 2020), we have selected a group of candidate miRNAs with potential involvement in epilepsy for further analysis of function and treatment potential. We are offering a PhD position for a highly motivated student who will join our research group and help us uncover the regulatory mechanisms of candidate miRNAs and their impact on brain and nerve cells.



miRNA cellular localization in rat brain

Number of positions: 1

Grant projects: This doctoral thesis will be a part of the project “The role of miRNA in development of glutamatergic and GABAergic signalling after early-life seizures” (GAČR19-11931S) and its follow-ups.



Neurons in primary hippocampal 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) 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

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

- Publication activity: Web of Science: h-index 26, 2349 citation, 311 publications
- International cooperation: Institut de Neurosciences des Systems Marseille, University of Exeter, Mayo Clinic Rochester, Aston University, Montreal Neurological Institute
- Number of graduated PhD students: 8

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