

Doctoral study program: Biomedical Sciences

Form: *doctoral (present)*

Department: Department of Clinical Immunology and Allergology, Faculty of Medicine, MU, Brno

Supervisor: prof. MUDr. Tomáš Freiburger, Ph.D.

Ph.D. position: **The role of non-productive RNA splicing in gene expression**

Annotation

RNA splicing is an important step in pre-mRNA processing, where introns are removed from the transcribed pre-mRNA and the remaining exons form mature mRNA. In recent years, it has been shown that in addition to authentic sites, other splice sites may be present in pre-mRNA and that these splice sites are not standard spliced but could influence RNA splicing indirectly. Although these sites are probably not efficiently used for splicing, may still be recognized and/or influence RNA splicing and thus contribute to the overall modulation of gene expression. PhD thesis will aim to characterize such sites directly from the complete transcriptome or indirectly using artificial gene constructs whose sequence can be manipulated to study the splicing mechanism in more detail.

Funding for the research

The project will be funded by an international grant in collaboration with the prestigious laboratory of Prof. Jernej Ule in Ljubljana, Slovenia.

Information on funding PGS positions

The student will receive a part-time position (0.5), which will be funded by grant funds and/or by institutional funds (CKTCH/MU Brno).

Requirements for the student according to the Board for the PhD studies in Healthcare

Simulation at MU

The student's minimum publication activity within the course of study is one first-author publication with an IF value above the median in the field or 2 first-author publications in journals with an IF value in the 3rd quartile in the field (Q3). A condition for successful completion of the studies is also a foreign internship of at least 1 month, which is an inseparable part of the studies. As part of their studies, students will also participate in the teaching. An excellent knowledge of the English language is assumed.

Supervisor

T. Freiburger is the author or co-author of 125 papers in impacted journals, with citations >5000 according to WoS, his h-index is 30. He is the co-author of scripts and textbooks. He has been the principal investigator of 7 grants and co-investigator of 16 other grants. He is a member of international and national professional societies and is involved in several international projects. He has led 8 Ph.D. students to a successful defence and other students are heading for defence shortly.

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