

Téma DSP – akademický rok 2019/2020, zahájení studia jaro 2020

Program: Biomedicínské vědy / Biomedical Sciences

Specializace: Molekulární medicína / Molecular Medicine

Forma studia: prezenční

Pracoviště: Středoevropský technologický institut, Centrum strukturní biologie,
Výzkumná skupina Kontrola kvality RNA

Školitel: doc. Štěpánka Vaňáčová

Téma: Úloha posttranskripčních úprav RNA v buněčné diferenciaci
The role of posttranscriptional RNA modifications in cell differentiation

Počet stipendijních míst: 1

Annotation: The internal and external RNA modifications play crucial roles in a number of essential processes of eukaryotic organisms. They regulate the production of germ cells, cellular differentiation, response to stress, and defects in this pathway have been linked to a number of human diseases. The aim of this project is to study in details how specific terminal RNA modifications regulate cellular differentiation. As the model system, we use human cell lines derived from somatic cells as well as induced pluripotent cells. The student will master number of diverse methodical approaches, such as human cell culture manipulations (cultivation, RNAi, CRISPR/Cas9, etc.), recombinant DNA preparation, protein expression and purification, high-throughput analyses and enzymatic assays.

She/he will have the opportunity to present the results at prestigious international conferences. Moreover, this project will involve collaboration with other leading researches in European institutes. Students from our group after accomplishing their thesis typically continue in their carrier at highly prestigious institutes, such as FMI in Basel, ETH Zurich, Columbia University in New York, Stanford, etc.

Požadavky na uchazeče: Ukončené magisterské studium se zaměřením nejlépe na molekulární biologii / biochemii a mít laboratorní zkušenosti v oblasti purifikace a analýzy nukleových kyselin a / nebo proteinů. Nejdůležitější je však zapálení pro vědu a silná motivace při řešení vědeckých témat.

Prospective student should ideally have done masters in molecular biology/biochemistry and have a laboratory experience in nucleic acids and/or protein purification and analysis. The most highly valued feature will however be excitement for science and strong drive in tackling important biological questions.

Informace o školiteli: aktuální informace o školiteli jsou zveřejněny na
<https://www.ceitec.cz/doc-mgr-stepanka-vanacova-ph-d/u27262>