

Master's student - Laboratory of Molecular Therapy

The Laboratory of Molecular Therapy is seeking enthusiastic Master's student to contribute to projects focused on cancer cell metabolism and the development of novel antitumor strategies. We are also open to those seeking summer positions in a biologically focused laboratory.

About us:

Located in the Institute of Biotechnology of the Czech Academy of Sciences within the BIOCEV research center near Prague, our laboratory conducts high-quality research bridging basic and applied studies in cancer biology and mitochondrial physiology. We were among the pioneers in discovering that cancer cells can “hijack” mitochondria from surrounding stromal cells to enhance their fitness and promote tumorigenesis. Additionally, we have developed a novel anti-cancer drug targeting mitochondria, with successful phase I clinical testing in the Czech Republic. Furthermore, we investigate the molecular intricacies of mitochondrial complex II assembly and its role in cancer. We publish in top-tier journals and collaborate with leading laboratories worldwide.

The Project:

Many family cancer syndromes are caused by inherited mutations in tumor suppressor genes. We have recently identified new germline variants in the *SUCLG2* gene which are associated with a rare type of neuroendocrine tumors, pheochromocytoma and paraganglioma (PPGL). *SUCLG2* is a subunit of a citric acid cycle enzyme, succinyl-CoA ligase (SUCL), which has not been previously linked to cancer development. The objective of this project is to describe the effect of *SUCLG2* variants found in PPGL patients on the function of SUCL and to delineate the mechanisms by which these mutations promote tumorigenesis. Since we found that malfunction of *SUCLG2* leads to suppressed activity of a well-known PPGL tumor suppressor, mitochondrial complex II, the functional link between *SUCLG2* and complex II will be investigated. The project will lead to validation of *SUCLG2* as a novel tumor suppressor with important consequences for genetic counselling.

Candidate profile:

We seek highly motivated master's student with a keen interest in clinically relevant research projects. We expect the candidate to be proactive, reliable, organized, and able to work independently as well as part of a team.

We offer:

- A friendly team environment and top-quality research opportunities
- Involvement in interesting projects funded by the Czech Science Foundation or Czech Health Research Council
- Part-time position with salary
- The chance to learn state-of-the-art techniques.
- Quality support for diploma thesis completion

Location:

The laboratory is located in the new state-of-the-art BIOCEV research centre (www.biocev.eu)

Deadline for applications: 30.5.2024

For more information contact:

prof. Jiří Neužil

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Please send copy of your inquiry to Štěpána Boukalová (e-mail: stepana.boukalova@ibt.cas.cz)

For further reading:

<https://www.biocev.eu/cs/o-nas/aktuality/patogenni-variace-genu-suc1g2-zvysuje-riziko-vzniku-vzacnych-neuroendokrinnich-tumoru.292>

<https://cesky.radio.cz/cesti-vedci-pripravuji-druhou-fazi-testovani-leku-proti-rakovine-mitotam-8716165>

<https://www.biocev.eu/cs/o-nas/aktuality/nove-vysledky-o-klicovem-komplexu-regulujicim-krebsuv-cyklus-a-oxidativni-fosforylaci.399>

<https://pubmed.ncbi.nlm.nih.gov/30449682/>

<https://pubmed.ncbi.nlm.nih.gov/34415331/>

<https://pubmed.ncbi.nlm.nih.gov/38212624/>

<https://pubmed.ncbi.nlm.nih.gov/37064512/>

More details on the processing of personal data are available on the website:

<https://www.ibt.cas.cz/cs/o-ustavu/uredni-deska/gdpr/>