

Affiliation: Masaryk University, Faculty of Medicine
Study program: Biomedical Sciences
Specialization: Cell and Tissue Morphology
Workplace: Department of Histology and Embryology, F01B1-1S29

Supervisor: Ing. Zuzana Kadlecová, Ph.D.

Lab's website: -

Title: Disentangling different functional roles of AAK1

Brief annotation:

This project will examine the role of the biomedically important, yet poorly characterized, kinase family NAK. A member of the NAK kinase family AAK1 is a new target in the treatment of neuropathic pain and a recently developed inhibitor LX9211 is currently in early clinical development. The PhD candidate will use both directed and unbiased approaches to identify new substrates of the NAK kinases AAK1 and BMP2K. In collaboration with the Research Associate in my lab Hana Kucharikova the candidate will optimize existing phosphoproteomics workflow to identify NAK substrates specifically in iPSC derived cortical neurons. By validation of the candidate substrates with cell biological and biochemical approaches the candidate will propose comprehensive molecular mechanism for their activity regulation and roles in cellular process.

In summary, using an integrative approach we will dissect the molecular mechanisms of NAK pathways to further our understanding of the NAK role in neurodegenerative diseases and neuropathic pain.

Funding

GACR Junior Star GM21-16786M

Requirements:

Enthusiasm, willingness to learn and explore. Resilience and perseverance.

Basics of cell biological and biochemical techniques and molecular cell biology.

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