Open PhD positions for the Academic Year 2022/2023

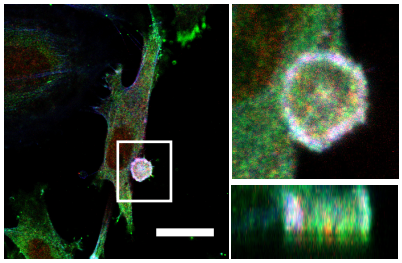
Faculty of Science BIOCEV

Laboratory:	Laboratory of Cancer Cell Invasion
Group Leader:	Doc. Daniel Rosel
Website:	http://web.natur.cuni.cz/cellbiol/invalab/

Project summary	**Supervisor:**	Doc. Daniel Rosel
Project title:	PKN3 signaling at the crossroad of Rho signaling and mitochondrial metabolism.	

Project description:

PKN kinases belong to family of PKC kinases and are involved predominantly in regulation of cytoskeletal organization as effector proteins of Rho family of small GTPases. Unlike other PKN kinases, PKN3 is physiologically expressed mostly in primary endothelial cells and osteoclasts but is also often overexpressed in cancer cells. Recently, PKN3 was found to be surprisingly enriched in mitochondria. The aim of the project will be to analyze a potential PKN3-mediated crosstalk of Rho signaling and mitochondrial physiology.



Candidate profile:

The PGS candidate should have experience in mammalian cell cultivation techniques and basic fluorescence microscopy. Experience with live-cell microscopy, and/or CRISPR/Cas9 are of further advantage.

Suggested reading:

Zhang H, Cao X, Tang M, Zhong G, Si Y, Li H, Zhu F, Liao Q, Li L, Zhao J, Feng J, Li S, Wang C, Kaulich M, Wang F, Chen L, Li L, Xia Z, Liang T, Lu H, Feng XH, Zhao B. A subcellular map of the human kinome. Elife. 2021 May 14;10:e64943.

Dibus M, Brábek J, Rosel D. A Screen for PKN3 Substrates Reveals an Activating Phosphorylation of ARHGAP18. Int J Mol Sci. 2020 Oct 20;21(20):E7769.

Gemperle J, Dibus M, Koudelková L, Rosel D, Brábek J. The interaction of p130Cas with PKN3 promotes malignant growth. Molecular Oncology 2019, 13(2):264-289.