



CHARLES UNIVERSITY IN PRAGUE
Faculty of Science - BIOCEV
Department of Cell Biology

Průmyslová 595
A2.084, Vestec 252 42
Czech Republic

phone: +420 325873900
fax: +420 2219517661
e-mail: rosel@natur.cuni.cz

Supervisor's review of PhD thesis

Author: Michal Dibus, Mgr.

Supervisor: doc. RNDr. Daniel Rösel, Ph.D.

Title of the thesis: **Identification of novel substrates of PKN3 kinase and characterization of the role of phosphorylation in the regulation of Rho GAP activity**

Michal joined our lab in 2013 as a pre-graduate student with exceptional interest in cell biology and biochemistry. During his Bc and MSc studies, his lab work was focused on crosstalk of PKN3 and p130Cas signaling. For his PhD studies, we slightly changed the subject of his research towards revealing the role of PKN3, at that time quite unknown kinase, focusing on its physiological targets and its connection to Rho signaling. From the very beginning, Michal has shown great interest in new and unconventional methodological approaches and, out of his own initiative, introduced them in the lab. Among them, I would like to point out the generation of PKN3 kinase mutant in the so-called gatekeeper residue of its kinase domain, which allowed us to screen its substrates using bulky ATP analogs.

Besides his two major RhoGAP-related projects described in his PhD thesis, Michal also participated on 4 other publications mostly as an expert on Rho activation and coprecipitation studies. As part of this collaboration, Michal once again demonstrated his talent for innovative approaches and his rare ability to successfully complete experiments under time pressure = during work on paper revisions.

Apart from already published work Michal also participates in our "hunt" for migrastatics compounds. He developed a medium-throughput (96 well plate format) spheroid invasion screen we now use for analysis of potential migrastatics and using the screen he identified promising compounds.

To summarize, during the 8 years of his work in "practical science", Michal has mastered a number of methodological approaches of molecular biology, protein biochemistry, MS analysis, medium-throughput live cell microscopy and cell cultivation. I write this to the best of my opinion, and I believe Michal has demonstrated that he can successfully pursue his own scientific career and met all requirements to be awarded a PhD degree.

In Prague, 25th of May 2021

Doc. RNDr. Daniel Rösel, Ph.D.