Department of Biology
Faculty of Medicine • Masaryk University

MEDICAL BIOLOGY – 4 YEARS, FULL-TIME DOCTORAL STUDIES

AT THE DEPARTMENT OF BIOLOGY, FACULTY OF MEDICINE AT MASARYK UNIVERSITY IN BRNO

Two PhD-student positions are available immediately in the field of receptor tyrosine kinase (RTK) signaling.

RTKs participate in numerous cellular processes like proliferation, differentiation, survival, migration and metabolism. Individual RTKs from e.g. EGFR, FGFR, Trk or Eph families are activated by their specific ligands but virtually all of them activate RAS/MAP kinase (MAPK) and phosphatidylinositide-3 kinase (PI3K)/AKT pathways. The signaling output of these overlapping pathways is then determined by intracellular regulators and adaptor proteins which make up signaling scaffold and cross points. However, identity and the mode of action of these proteins is largely unknown. We have developed tools enabling rapid and precise reading of RTK pathway activation (Elife 2017; 6. pii: e21536) which may be used to:

- Identify proteins essential for signaling activated by particular RTK
- Identify proteins that play a role in RTK signaling during cancer development
- Find therapeutics targeting the only one particular RTK
- Find therapeutics that can boost proliferation/differentiation of tissue specific stem cells

Candidate will have the opportunity to select hers/his topic from the list above.

Funding: Standard MU scholarship in addition to a contract at grants or institutional projects (up to 30,000 CZK/month, depending on experience).

Prerequisites and requirements for applicants and students
- MSc degree in cellular and molecular biology, biochemistry or similar field
- Basic training in modern molecular biology techniques
- Well-organized, motivated and passionate about research
- Speaks English

Other obligations and recommendations: http://www.med.muni.cz/index.php?id=795

Supervisor´s name: **Mgr. Pavel Krejčí, Ph.D.**

Contact: tel: +420 549 49 5395, e-mail: krejcip@med.muni.cz

For further reference:
Science Signaling 2018;11(548). pii: eaap8608.
Sci Transl Med. 2018;10(459). pii: eaat9356.
Biomaterials. 2018;176:106-121.
Hum Mol Genet. 2018;27(6):1093-1105.
Elife 2017; 6. pii: e21536