

POSTDOCTORAL POSITION – CANCER HETEROGENEITY, PLASTICITY AND METASTASIS

DESCRIPTION:

A postdoctoral position is available for a highly motivated candidate with background in cancer biology, to investigate the pathological plasticity and heterogeneity of tumours, its role in cancer dissemination and therapy resistance.

Cancer Plasticity Group (CAP), headed by Dr. Karel Souček, is located at Department of Cytokinetics, Institute of Biophysics AS CR and provides a dynamic research environment with state-of-the-art facilities. CAP is a part of a unique interdisciplinary research platform - Centre of Biomolecular and Cellular Engineering (CBCE), which represents one of the research platforms of International Clinical Research Centre (ICRC). ICRC links together pre-clinical basic research (e.g. in stem cell biology, cancer biology etc.) with clinical research (for more info see <http://www.fnusa-icrc.org/en/>). The CBCE platform focuses on research of biologically active small molecules and engineered proteins, which currently represent the most promising tools for influencing biological processes such as genomic cell stability, cell growth, cell differentiation, cell reprogramming to pluripotency, cell death, and cell survival.

Desired starting date: spring 2019 (negotiable)
Type of contract: full-time assignment (1 FTE), 1 year with extension

About FNUSA-ICRC

The International Clinical Research Center of St. Anne's University Hospital in Brno (FNUSA-ICRC), Czech Republic is a new-generation research center focusing on the pathogenesis of diseases including finding new methods, technologies and medicaments for effective prevention, early diagnostics and individualized treatment.

We are a top Central European research center with more than 300 researchers, new technologies and experience in using EU grant support. We focus on research and development mainly in the fields of cardiovascular and neurological diseases. Our partners are world-class research centers and universities.

RESEARCH TOPIC:

- Correlation of the plasticity of cancer cells with aberrant signaling in cancer cells, dissemination capability and chemoresistance.
- Description of heterogeneity of expression of markers defining most aggressive cells at single cell level within tumor.
- Introducing the methods for expansion of clinical samples maintaining its original phenotype (e.g. patient-derived xenografts, 3D in vitro cultures of organoids/tumoroids).

To achieve these goals we use various in vitro and in vivo models including complex analysis of cytokinetics – analysis of proliferation, differentiation and cell death using variety of methods and approaches including single cell analysis techniques and pre-clinical in vivo imaging of tumor progression using immunodeficient mice.

PROFILE OF CANDIDATE:

- PhD in cell or cancer biology/physiology/biochemistry/molecular biology/immunology
- high motivation and enthusiasm
- team oriented with good communication skills
- solid knowledge of cell & molecular biology and biochemistry
- good laboratory practice habits
- good balance between creativity and practicality (capability to follow and respect established lab rules and procedures)
- experience with lab animal work
- solid knowledge and practical experience with multiparametric flow cytometry
- proficiency in English language

SELECTED PAPERS:

Remsik J, et al. (2018) Plasticity and intratumoural heterogeneity of cell surface antigen expression in breast cancer. *Br J Cancer* 118: 813-819

Remšík J., et al. (2018) Trop-2 plasticity is controlled by epithelial-to-mesenchymal transition. *Carcinogenesis*

Samadder P, et al. (2017) Synthesis and Profiling of a Novel Potent Selective Inhibitor of CHK1 Kinase Possessing Unusual N-trifluoromethylpyrazole Pharmacophore Resistant to Metabolic N-dealkylation. *Mol Cancer Ther* 16: 1831-1842

APPLICATIONS:

- Curriculum Vitae
- cover letter describing motivation and previous experience
- two best publications with detail description of your contribution
- two contacts for recommendation
- send application to Jitka Kresanová (jitka.kresanova@fnusa.cz).



All candidates are assessed regardless of age, sex, marital status, sexual orientation, race, skin color, religion, ethnicity, nationality, citizenship, political affiliation and any other aspect not related to work performance.

By replying to this ad or sending your resume and any other personal documents to St. Anne's University Hospital in Brno, you are granting your consent for your personal information to be collected, processed and stored under Act No. 101/2000 Sb., on Personal Data Protection. You agree to provide your personal information to St. Anne's University Hospital solely for the purpose of recruitment for a period not to exceed 1 year. If your personal documents are not sent back to you, they will be shredded.