

Postdoctoral position, Department of Biology, Faculty of Medicine and Dentistry, Palacky University Olomouc, Czech Republic

Position title: Postdoctoral research scientist
Company name: Palacky University Olomouc
Job function: Postdoc
Location: Olomouc, Czech Republic
Job type: Full-time
Job duration and support: 18 months (opening March, 2020, can be postponed until early June) supported by institutional sources (start-up) with nationally competitive salary, possibility for long-term career development after start-up expiration
Education: Ph.D.

About the Position

The Department of Biology at Faculty of Medicine and Dentistry, Palacky University Olomouc, seeks a postdoctoral research scientist with strong research interest in the area of experimental hematology including, but not limited to signaling pathways triggering leukemogenesis. A doctoral degree in biology, biochemistry, medicine, pharmacy, genetics or related is required. Graduation date should not be older than 2013. Only applicant who did not work in the Czech Republic during the last two years can be recruited. The initial funded research (start-up) will focus on modulation of molecular signaling and cellular senescence in leukemia progression and therapy (see annotation below). A background in developmental genetics, signal transduction, stem cells and/or cancer biology is preferred. After start-up expiration, the candidate is expected to receive additional 2-year contract (postdoctoral position) with the opportunity to further develop independent research and to consolidate her/his own research team or program.

About the University and the Research Group

Palacky University Olomouc is a public university, the second oldest university in the Czech Republic with strong background in biomedical research. Department of Biology at Faculty of Medicine and Dentistry, with modern facilities and instrumentation within newly built laboratories, produces high quality research, published in prestigious scientific journals (e.g. Cancer Cell, Blood 7 times, Stem Cells, Oncogene, during the last 10 years).

To Apply

Qualified applicants should send a cover letter, curriculum vitae, a statement of research interests, and contact information for at least two professional references electronically to Associate Professor Vladimir Divoky, Ph.D., Head of the Department of Biology and PI (vladimir.divoky@upol.cz or VDivoky@hotmail.com) by April 1st, 2020, at the latest.

Program Annotation

Modulation of molecular signaling and cellular senescence in leukemia progression and therapy

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Malignant transformation of hematopoiesis is a multistep process, which involves accumulation of somatic mutations and a cascade of multiple cellular events. In addition, germline predisposing variants may interact with somatic events in leukemogenesis. Targeted therapy interfering with abnormal processes in leukemogenesis belongs to the most important challenges in leukemia research. The frame of this project is based on our earlier contributions to the understanding of cooperation between oncogene-induced DNA-damage response (DDR) and inflammatory cytokine network in leukemogenesis. We described DDR as a critical mechanism rate-limiting for malignant transformation by the hematopoietic oncogene, synergizing with inflammatory factors in checkpoint signaling and senescence, thereby counteracting leukemogenesis (*Cancer Cell*, 2012;21(4):517-31). Recently we elaborated on a concept of protection mechanisms that guard myeloproliferative progenitors from cell-intrinsic and cell-extrinsic DNA damage and thus DDR, facilitating creation of a barrier preventing cell cycle arrest, myelofibrosis and rapid malignant transformation (*Oncogene*, 2019;38(28):5627-5642). Currently, we test whether and how these processes can be targeted in preventing full leukemia transformation from different preleukemia disease states.

The successful candidate will have an opportunity to join a team with long-term expertise in the field and work on a project that encompasses diverse aspects of biochemistry, cellular biology and hematooncology. Using advanced tumor models, including unique mouse strains, we will study anticancer and cytotoxic effects of diverse compounds developed by our collaborators. These progressively-designed small molecule inhibitors or senolytic drugs with potential of therapeutic application will be evaluated on organ, tissue- and cell-level. We will also investigate functional consequences of synthetic lethal interactions in DDR pathway network during the stepwise process of leukemia development. Our research group provides platform for international collaborations, substantial stability of funding and intensive interaction with clinical hematooncology.