



A Postdoctoral Fellow OR Graduate Student position

in the field of RNA Polymerase II Gene Transcription is open in Barboric laboratory, Faculty of Medicine, University of Helsinki.

The deadline for this application is October 15, 2017 or until the position is filled.

Mission

The Barboric Lab is committed to elucidating fundamental mechanisms that control the elongation phase of transcription by RNA polymerase II (Pol II) in normal and disease states. We are interested in essential cyclin-dependent kinases which trigger Pol II release from promoter-proximal pausing and facilitate productive Pol II elongation along genes. We employ biochemistry, genetics and genome wide approaches to understand how Pol II pause release is controlled by the positive transcription elongation factor (P-TEFb) and its inhibitory 7SK snRNP complex. Moreover, we are examining how another critical Pol II elongation kinase, Cdk12/CycK, impacts target gene expression, and how frequent *CDK12* cancer mutations perturb gene expression to enable tumorigenesis. Finally, we are aiming to define novel mechanisms that promote integration of Pol II transcription with maturation of precursor RNA transcripts. Funding for the selected candidate will be provided by the Academy of Finland research grant (2017-2021) entitled 'Significance of transcription elongation kinases in DNA damage response'.

Recent Publications

Ekumi KM, *et al.* Ovarian carcinoma CDK12 mutations misregulate expression of DNA repair genes via deficient formation and function of the Cdk12/CycK complex. *Nucleic Acids Res.* 2015; 43:2575-2589.

Barboric M, Fujinaga K. The two sides of Tat, *Elife* 2016; doi: 10.7554/eLife.12686.

Quaresma AJ, Bugai A, Barboric M. Cracking the control of RNA polymerase II elongation by 7SK snRNP and P-TEFb, *Nucleic Acids Res.* 2016; 44:7527-7539.

Bugai A, *et al.* RBM7 activates P-TEFb for a pro-survival transcriptional response to DNA damage. 2017; *Submitted.*

Requirements

We are looking for a creative thinker with strong analytical skills and a passion for science. We expect you to formulate your own hypotheses, propose experimental design to address them, and take advantage of the laboratory/research community's intellectual and skill resources to advance the knowledge of the field. The competitive candidate should hold MSc or PhD degree in molecular biology, biochemistry, biotechnology or related fields. Wide expertise in biochemistry and molecular biology is a pre-requisite for the position. In addition, expertise in the analysis of NGS data is appreciated. Excellent publication record as well as good command in spoken and written English is required. Please send your application including a cover letter, CV, summary of your interests, and two or three letters of reference to matjaz.barboric@helsinki.fi.

Employment Conditions

Selected candidate will be offered employment contract in accordance to the University of Helsinki salary scale system with the initial 4-month trial period.

Faculty of Medicine offers a unique and stimulating research environment surrounded by state-of-the-art resources and facilities of the leading and largest biomedical research campus in Finland. <http://www.biomed.helsinki.fi/english/>

The University of Helsinki is a research oriented university which offers stimulating and international environment and ranks amongst top 15 best universities in Europe. <https://www.helsinki.fi/en>

Employees of the University of Helsinki are covered by excellent health insurance that is free of charge. <http://www.helsinki.fi/intstaff/>

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