



Epigenetic mechanisms in cancer dormancy

The project

Tumor relapse and metastasis formation rely on the capability of cancer cells to adapt to hostile microenvironments, once disseminated on distal sites. Albeit its relevance, we have little biological insights related to the epigenetic mechanisms that prime cancer cells to respond to the environmental cues by entry in a reversible condition of quiescence. The project is centered on determining the contribution of epigenetic reprogramming in promoting cancer dormancy of disseminated tumor cells. The objective of this proposal is to define the role of oncogenic enhancers and 3D chromatin structure in establishing transcriptional memories in quiescent cancer cells. By using cutting edge technologies, the herein program aims to solve enhancer-centered chromatin domains to gain insights on epigenetic heterogeneity and its impact on cancer cell dormancy during tumor progression.

The candidate

We are seeking highly motivated and enthusiastic candidates, willing to challenge an innovative project by adopting a pro-active attitude and an analytical approach. The candidate should have experience on epigenome profiling (ATAC-seq, ChIP-seq and/or Hi-C) and NGS data analysis to address chromatin changes in cancer cells. The candidate should have a strong interest in interdisciplinary collaboration. The post-doc will experience both wet-lab and computational work, gaining a unique skill set required for future quantitative biology studies. Availability to learn methodologies based on using animal models is also requested. Given the international framework, the candidate should also have good communication skills and a team-oriented working attitude.

Qualifications

- A high level of motivation and interest.
- PhD in Biology, Biotechnology, Medicine, Pharmacology or in related fields
- Strong and documented research track record is required
- Prior research experience in chromatin biology, molecular biology, cancer biology will be recommended
- Experience in genome-wide chromatin profiling and NGS data analysis will be a relevant plus
- International mobility will be considered a major plus.
- Excellent communication skills and good team spirit with a solving problem attitude

The environment

Within the international and vibrant context of the Department of Cellular, Computational and Integrative Biology (CIBIO) in Trento (Italy), the Lab of Chromatin Biology & Epigenetics is interested in determining the contribution of epigenetic changes to stem cell function, both in physiological and pathological settings. Postdoctoral researchers joining the lab gain access to the Institute's advanced research training and career development opportunities. CIBIO offers the possibility to work in a young, highly dynamic and stimulating research environment thanks to a streamlined organization, which support researchers to readily adapt to new scientific challenges through cutting-edge research infrastructures. At CIBIO, research goals are pursued in the frame of an integrative view of basic biological processes and of their derangement in disease, whereby basic science co-exists with biomedical oriented translational approaches.

Salary & application

We will offer a competitive salary based on the previous experience. Please note that foreign nationals and Italians who have lived and worked abroad for at least three years are eligible for competitive tax exemption schemes. Interested and qualified candidates should submit their application including CV, a motivation letter describing how their background is best suited to this position, and contact information for at least two references. Please send all documents to Prof. Alessio Zippo (alessio.zippo@unitn.it). Applications will be considered until the position is filled.