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Postdoctoral training fellow to study germinal center and lymphoma biology available in the Casola lab

Topics

Our laboratory is seeking a highly motivated and ambitious post-doctoral fellow interested to apply functional genomics approaches to study the biology and pathology of germinal center B cells.

Within the Casola lab, the candidate will have at her/his availability a number of established genetically modified lymphoma-prone mouse models, human and mouse germinal center (GC) B cell in vitro culture models amenable to forward and reverse genetic approaches, as well as an expanding biorepository of viable cell suspensions of human and mouse GC-derived B cell lymphomas for functional, single-cell and epigenetic analyses. In vivo, mouse GCB-specific gene targeting exploiting both CRISPR/Cas9 and Cre/loxP technology, combined to single cell RNA and VDJ profiling represent well established procedures running in the Casola lab.

All these technologies and approaches are instrumental to achieve the ultimate goal of the lab, namely to improve our understanding of GC B cell dynamics and apply this knowledge to unveil and reconstruct the key genetic and epigenetic changes responsible for the progressive transformation of GC B cells first into indolent and later into aggressive high-grade Non-Hodgkin B cell lymphomas. Tightly linked to this goal, is the understanding of the role of the B cell receptor in different types of GC-derived B cell malignancies, as well as defining the molecular determinants and mechanisms ensuring lymphoma evasion from BCR dependence (Varano et al., Nature 2017, Casola et al. Immunol. Rev 2019). The activities of the post-doctoral fellow will be centrally placed within the overarching goals of the lab.

The lab, infrastructural support, and collaborations

The candidate will be part of a mid-size multinational laboratory with scientists of different education (MD, biotechnologists, biologists). He/she will be offered state-of-the art support by IFOM core technology units, including flow-cytometry/cell sorting, next generation DNA and RNA (including single cell) sequencing, advanced imaging, electron microscopy and proteomics (<https://www.ifom.eu/en/cancer-research/technological-units/>). A long-standing partnership between the Casola lab and internationally recognized pathologists and oncologists acting within lymphoma reference hospitals offers the opportunity for a continuous and active exchange of information and

data with clinicians. The candidate will actively engage and collaborate with computational scientists within and outside the group/institute to analyze and interpret omics data.

The Institute

- The Casola lab operates within IFOM (<https://www.ifom.eu/en/>), an internationally recognized non-profit cancer research institute supported by the Italian Association for Cancer Research (AIRC) based in Milan, at 30 minutes from the world-renowned Duomo cathedral, within a highly dynamic urban environment expanding around Fondazione Prada, a reference center in Milan for modern art, fashion and culture events and exhibitions (<https://www.fondazioneprada.org/?lang=en>).
- IFOM continuous success is ensured by the recruitment of highly selected undergraduate, graduate and post-graduate researchers from over 24 countries worldwide.
- IFOM is hosted within a research campus shared with the European Institute of Oncology and the Italian Institute of Technology.

Candidate profile

- The candidate is expected to have a proven background in molecular and cellular immunology and/or B-lymphoma biology/genetics. Previous experiences in analyses of genetically modified mouse models, gene targeting, B cell immunology, primary human organoid cultures and single-cell omics will be positively evaluated.
- The candidate should hold a PhD degree (or be in the final stages of completion) and show proven track record of productivity. Manuscripts under peer review evaluation and/or in press will be considered. Evidence for data presentation at scientific meetings will be taken into consideration.
- Candidates holding an MD degree, in particular those with past and/or ongoing clinical hematology or pathology experience, are encouraged to apply.
- The candidate will be offered a competitive salary, commensurate with skills and working experience, and several benefits including the participation to soft skill and future perspective courses organized by the IFOM post-doctoral association (<https://www-new.ifom.eu/en/community/postdoc-association.php>). Foreign candidates as well as Italian citizens working abroad for at least three years will be able to benefit from tax exemption schemes. IFOM offers continuous support to its international investigators and their families (including homing, schooling, registration to the national health system, work permit etc.) thanks to the activities of the Welcome office.

How to apply

- Candidates interested in the position are expected to send their CV, together with a cover letter outlining their interests and describing how they meet the set criteria, and contact details of their referees to stefano.casola@ifom.eu
- Consideration of applications will begin as they are received and will continue until the position is filled.