

TITLE

Generation, functionalization and characterization of monoclonal antibodies of diagnostic and therapeutic interest

DESCRIPTION

Monoclonal antibodies (mAbs) are very useful reagents for the specific recognition of antigens very different in nature, size and function. The high affinity coupled to a high selectivity for their antigens allow their use in all fields of biomedical research. In the project we will develop mAbs against therapeutic targets important in oncology as well as infective diseases. They will be developed by both the hybridoma technology and by screening phage display libraries. mAbs will then be engineered to obtain ScFv, Fabs, Fab2. Resulting proteins will be characterized at structural and functional level with biophysical techniques. Specifically, the candidate will design and prepare antigens, will generate and screen hybridomas, and will perform phage library screening. Moreover, the candidate will be also involved in activities focussed on the cloning, the expression, and the structural/functional characterization of fragments of the selected mAb.

SELECTION CRITERIA

Eligibility Criteria

- Academic degree: Applicants shall have a master degree in **Chemistry, Pharmacy, Biomolecular Sciences, Biological Sciences** or **Biotechnology Sciences**, corresponding to the second level of studies.
- Mobility rule: There will be no nationality restrictions. Applicants can be from any Country. However, according to the mobility rule, at the time of the application deadline researchers should not have resided or carried out their main activity (work, studies, etc.) in Italy for more than 12 months in the 3 years immediately prior to the reference date. Compulsory national service and/or short stays such as holidays will not be taken into account.
- Research experience: Applicants shall, at the time of the application deadline, be in the first four years (full-time equivalent research experience) of their research careers and not yet awarded a doctoral degree.

Full-Time Equivalent (FTE) Research Experience will be determined from the date when a researcher obtained the degree which would formally entitle him or her to embark on a doctorate, either in the country in which the degree was obtained or in Italy, irrespective of whether or not a doctorate is or was ever envisaged.

Evaluation Criteria

Step 1 -Evaluation of documentation provided by the candidate: a) Academic record and training b) Research activities c) CV/motivation letter; d) Level of English; e) Reference letters.

Step 2 - Interview: a) Scientific knowledge in the field of interest; b) Research experience in the field of interest c), Motivation; d) English proficiency.