

## TITLE

Molecular Imaging in discovery and evaluation of new drugs

## DESCRIPTION

The aim to use targeted drugs is to interfere with specific pathways involved in tumor progression in order to modulate tumor cell ability to grow, to communicate with other cells and to invade other sites. Furthermore, these drugs will be developed to have minimal impact on normal cells and, consequently, to reduce side-effects. The new molecules developed for specific targets will be studied in the theranostic field, therefore they will be used for tumor diagnosis and therapy. Anti-tumoral activity of new drugs will be tested in vitro on tumor cell lines that then will be injected in nude mice to obtain animal tumor models. The response to treatment and the therapeutic efficacy of new drugs will be evaluated using molecular imaging techniques such as biomicroscopy ultrasound, PET / CT, SPECT, MRI 9.7 T and optical imaging. All diagnostic equipments for small animals are in preclinical imaging facility of our institute.

## SELECTION CRITERIA

### Eligibility Criteria

- Academic degree: Applicants shall have a master degree in **Biology or Biomolecular Sciences or Medicine and Surgery**, 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.