

TITLE

Design, synthesis and characterization of biomimetic systems and metal-binding molecules as theranostic agents

DESCRIPTION

There is clear evidence suggesting a close relationship between AD risk factors and type 2 Diabetes Mellitus (T2DM) occurrence. The research activity will focus on the design and synthesis of novel peptide-based systems to be employed as bio-mimetic theranostic agents in preclinical models of type 2 diabetes (T2DM) and/or Alzheimer's diseases (AD). During the 36 months of work, the candidate will get expertise on: i) advanced chemical strategies for the synthesis of peptide-based bio-conjugates; ii) the experimental techniques necessary for a thorough structural, conformational yet functional characterization of the synthesized systems. Moreover, to cross the boundaries among different disciplines, the selected candidate will be also involved in the biological studies aimed at determining, either in vitro or in vivo, the bio-sensing properties, the action specificity as well as the potential therapeutic efficacy and non-toxicity of these compounds using suitable biological models.

SELECTION CRITERIA

Eligibility Criteria

- Academic degree: Applicants shall have a master degree in **Chemistry, Biology or Biomolecular 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.