

JOB OPENING AT IRB BARCELONA

'POSTDOCTORAL FELLOW' (ref. PD/17/07)

IRB Barcelona is a world-class research centre devoted to understanding fundamental questions about human health and disease. It was founded in October 2005 by the Government of Catalonia (Generalitat de Catalunya) and the University of Barcelona (UB), and is located at the Barcelona Science Park (Parc Científic de Barcelona).

The Institute's missions include conducting multidisciplinary research of excellence at the unique interface between biology, chemistry and medicine, providing high-level training in the biomedical sciences to staff, students and visitors, driving innovation through active technology transfer to the benefit of society, and actively participating in an open dialogue with the public through a series of engagement and education activities.

IRB Barcelona seeks

Applications are invited for one year postdoctoral position in the Design, Synthesis and Structure of Peptides and Proteins Group at the Institute for Research in Biomedicine (IRB Barcelona). It should be noted that the research involved will require long stays at the Institut Européen de Chimie et Biologie (IECB) in Bordeaux. The postdoctoral fellow will join the research programme of Dr. Natàlia Carulla, which aims to understand the links between amyloid- β peptide ($A\beta$) and Alzheimer's disease (AD).

One of the main pathological features of Alzheimer's disease (AD) is the extracellular accumulation of the amyloid-beta peptide ($A\beta$) as fibrillar amyloid plaques. $A\beta$ is obtained from the transmembrane amyloid precursor protein (APP) by consecutive action of the enzymes β -secretase and γ -secretase. The cleavage of γ -secretase occurs sequentially, giving rise to amphipathic $A\beta$ peptides of lengths ranging from 38 to 43 residues ($A\beta_{38}$ to $A\beta_{43}$). Since amyloid plaques are detected extracellularly, it is generally considered that, after APP processing, $A\beta$ variants are fully released into the extracellular media. It is for this reason that researchers have focused on the study of $A\beta$ in a solution environment. However, several of the most likely mechanisms of $A\beta$ neurotoxicity are associated with the cell membrane, including interactions with membrane receptors, induction of membrane bilayer disorder, and generation of amyloid pores or channel-like structures. Therefore, apart from studying $A\beta$ in solution, it is crucial to examine this peptide in a membrane environment. Following previous work carried out in the group (Serra-Batiste M. et al *PNAS USA* 2016), the successful candidate will study $A\beta$ aggregation in a membrane environment.

EXPERIENCE, KNOWLEDGE, SKILLS & SELECTION CRITERIA

Must Have - Required

- The successful applicant must have a Ph.D. in any discipline of the Life Sciences.
- Candidates need to be highly motivated, enthusiastic about science, with an ability to think creatively and work independently.

Desirable

- Structural characterization of membrane proteins under different biomimetic membrane environments (detergent micelles, amphipols, bicelles, nanodiscs, and liposomes).



IRB BARCELONA endorses the Requirements and Principles of the *European Charter for Researchers*, the *Code of Conduct for the Recruitment of Researchers* and Open, Transparent, Merit-based recruitment promoted by the European Commission and follows Equal Opportunities policies.

On 9th December, 2014, IRB Barcelona was awarded the "HR Excellence in Research" logo. This recognition reflects the commitment of the Institute to continuously improving its human resources policies in line with the *Charter & Code*. The Institute works to ensure fair and transparent recruitment and appraisal procedures.

- Protein expression and purification.
- Protein structural determination using solution Nuclear Magnetic Resonance Spectroscopy, X-ray crystallography and cry-electron microscopy.
- Study of protein-ligand binding interactions.
- Extraction of membrane proteins from biological tissues

WORKING CONDITIONS & ENTITLEMENTS

- **Working conditions:** Employed in compliance with Spanish legislation and regulations under a full-time contract. Employees receive the benefits of the Spanish Social Security system covering sickness, maternity/paternity leaves and injuries at work.
- **Training and Career:** Postdoctoral researchers joining IRB Barcelona gain access to the Institute's advanced research training and career development opportunities, all within in a competitive international environment. Courses and workshops on themes of particular interest to postdocs are offered regularly by the Institute.
- **International environment:** Nearly 100 Postdoctoral researchers, most than a half of them are non-Spanish nationals, are currently working toward their research at IRB Barcelona.

HOW TO APPLY & SELECTION PROCESS

Applications for the above opening should include a cover letter summarizing the candidate past experience, research interests and career goals and CV including the names and contact information of 2-3 references and should be sent by e-mail to: irbjobs@irbbarcelona.org Reference: PD/17/07

- **Deadline for applications:** 15/10/2017
When the applicants do not fit the requirements, the deadline will be able to be extended.
- **Expected incorporation:** *Immediate incorporation*
- **Number of positions available:** 1
- **Selection process**
 - **Pre-selection:** Will be based on CV, motivation letter, experience, management of research and innovation.
 - **Interviews:** Short-listed candidates will be interviewed.
 - **Offered Position:** Job Offer will be sent to the successful candidate after the interview.

For more information please visit our website at: www.irbbarcelona.org

Note: The strengths and weaknesses of the applications will be provided upon request.

If you, as an applicant, have any suggestion or wish to make a complaint regarding the selection process, please contact us at the following email address: irbrecruitment.suggestions@irbbarcelona.org You will receive a response within a month.