

**ANNOUNCEMENT FOR THE OPENING OF AN INTERNATIONAL SELECTION TENDER
PROCEDURE FOR DOCTORATE HIRING OF DECREE-LAW NO. 57/2016 OF 29 AUGUST,
amended by 57/2017 Law of 19 July.**

Internal Reference: Researcher/FCT_PROJ2017/IBMC/3103/2021

1. The meeting of the Board of Directors of IBMC deliberated the opening of an international selection tender for 1 vacancy of doctorate to perform duties of scientific research in the scientific area(s) of Immunology, under a work contract with non-fixed term under the Portuguese labor Law in order to perform duties, as researcher within the project with the reference POCI-01-0145-FEDER-028779 and the title “Thymus regeneration: Development of a high-content discovery program to identify new bioactive compounds and molecular determinants that induce Foxn1 expression in thymic epithelial cells” at IBMC, financed by FEDER - Fundo Europeu de Desenvolvimento Regional funds through the COMPETE 2020 - Operacional Programme for Competitiveness and Internationalisation (POCI), Portugal 2020, and by Portuguese funds through FCT - Fundação para a Ciência e a Tecnologia/Ministério da Ciência, Tecnologia e Ensino Superior.

2. Project summary: Strategies for regenerative medicine through the use of embryonic stem cells and induced pluripotent stems cells remain inadequate. Alternative approaches include activating stem cells intrinsic to regenerative tissues. This proposal is focused on studying the thymus, the organ dedicated to the production of T cells, which are key components of immune responses to pathogens and cancer cells. As we age, T-cells become less effective in responding to pathogens, tumours and vaccines. Moreover, they are also more likely to attack our own bodies (autoimmunity) or to turn into cancer (leukaemia). Given the key role of T cells in immunity and the present interest in T cell-driven immunotherapy, there is a growing need to understand how T-cell development is controlled in order to intervene medically in thymus-associated disorders. The activity of the thymus drops with age, leading to an age-related reduction in thymic T cell out-put and quality, compromising the replacement of T cells in the periphery and causing poorer immunity in the elderly and bone marrow transplanted patients. Consequently, the development of vaccines and regenerative therapies for the treatment of infectious diseases, cancer and autoimmunity depends on our knowledge of T-cell differentiation.

Within the thymus, thymic epithelial cells (TECs) provide a specialized environment that is essential to the development and selection of T cells that are simultaneously reactive to pathogens and tolerant to the body’s own components. Despite the central role of TECs in directing elementary principles of T cell immunity and tolerance induction, we lack details on the identity of the molecular determinants that harness their function in vivo. TEC differentiation is critically dependent on the forkhead box protein N1 (Foxn1), but how its expression is regulated remains elusive.

Collectively, this project has the potential to contribute to one of the great challenges of modern immunology – regenerate and repair thymic function through the functional engagement of TECs - and therefore, represents a major advance in Health Sciences.

Tasks in which the applicant will be involved:

We take a holistic approach to analyse TEC differentiation, integrating the study of molecular processes taking place at cellular level and the analysis of in vivo mouse models. Using advanced research tools that combine reporter mice, clonogenic assays high-content screening and organotypic cultures, we aim at discovering new bioactive small molecules that promote Foxn1 expression in TECs. Using subsequent complementary biochemical, genetic and computational methods, we will unravel the identity of the intracellular molecular partners that interact with the compound and mediate Foxn1 induction, producing the most reliable targets and mechanistic hypothesis. Lastly, we will assess the physiological role of the newly identified determinants of Foxn1 expression in TEC differentiation and thymopoiesis.

3. Applicable Legislation

- Decree-Law no. 57/2016 of 29 August, amended by Law 57/2017 of 19 July, which approved the doctorate hiring regime destined to stimulate scientific and technological employment for all knowledge areas (RJEC),
- Portuguese labor law
- Regulatory Decree Nr 11-A / 2017, of 29th December.

4. Pursuant to article 13 of RJEC, the tender selection panel shall be formed by:

President: Nuno Alves;

Other members: Pedro Miguel Rodrigues; Rute Pinto

5. Workplace shall be at IBMC, Rua Alfredo Allen, 208, Porto. Group: Thymus Development and Function

6. Monthly remuneration: Gross monthly Remuneration is 2134.73€, in accordance with subsection a), section 1, article 15 from Law nr 57/2017, 19th July, and with the remuneration position at initial level predicted in article 2 of Regulatory Decree nr 11-A/2017, of 29th December, correspondent to level 33 at Tabela Remuneratória Única, approved by Order nr 1553-C/2008, 31st December, with the category Junior Researcher.

7. Any national, foreign and stateless candidate(s) who hold a doctorate degree in Biology and a scientific and professional curriculum whose profile is suited for the activity to be performed can submit their applications. In the event the doctorate degree was awarded by a foreign higher education institution, said degree must comply with the provisions of Decree-Law no. 66/2018 of 16 August, and all formalities established therein must be complied with at the application deadline.

8. The tender admission requirements are:

- a. Author of at least 4 peer-review research manuscripts in the areas of T cell biology, Stem Cells or Regenerative Medicine (please underline those 4 publications in your CV).
- b. Experience and Accreditation to perform animal (mice) experimentation (mandatory to attach certificate FELASA C).
- c. Experience in the area of Immunobiology. Particularly, T cell development and function or related areas.
- d. Experience in culture, molecular modification, and multi-color flow cytometry analysis of hematopoietic cells, and study of differentiation and molecular mechanisms of stem cells.
- e. Oral and poster presentations of scientific results in international conferences in related areas.
- f. Immediate availability to start functions in the project.

The skills outline in b., c., d. and e. should be clearly demonstrated in the publications and/or indicated in the motivation letter.

9. Pursuant to article 5 of RJEC, selection is to be made based on candidate scientific and curricular career evaluation.

10. Scientific and curricular career evaluation focuses on relevance, quality and up-to-dateness:

- a) of scientific, technological, cultural or artistic production in the last ten years, deemed most relevant by the candidate;
- b) of research activities, applied or based on practical work, developed in the last ten years, deemed most impactful by the candidate;
- c) of knowledge extension and dissemination activities developed in the last ten years, namely under the scope of the promotion of culture and scientific practices, deemed most relevant by the candidate.

11. The five-year period mentioned above can be extended by the panel, if requested by the candidate, whenever the suspension of scientific activities is reasoned by

socially protected grounds like paternity leave, long-term serious illness, and other legal situations of unavailability to work.

12. Evaluation criteria are the following:

a) Detailed CV:

- List of scientific publications and their impact factor (30%)
- Experience and Accreditation to perform animal (mice) experimentation – mandatory (20%)
- Relevant research experience in the project area (30%)

b) Letter of motivation:

- Interest and motivation for the research area of the project (20%)

13. Candidate final classification system shall be given based on a scale 0-100.

14. The panel shall deliberate by means of roll-call vote justified under adopted and disclosed selection criteria, with no abstentions allowed.

15. Minutes of panel meetings shall be executed and shall include a summary of all occurrences of said meeting, as well as of all votes casted by the members and respective reasoning, and shall be provided to candidates whenever required.

16. After selection criteria application, the panel shall prepare a sorted list of approved candidates and respective classification.

17. Panel's final decision shall be validated by the leader of the institution, who is also in charge of deciding about the hiring.

18. Application formalization:

18.1. Applications shall include all supported documents encompassed by section 7 and 8 for tender admission, namely:

- a) Certificate or diploma copy;
- b) Curriculum vitae, detailed and structured pursuant to sections 10 and 12;
- c) Other documentation relevant for the evaluation of qualifications in a related scientific area;
- d) motivation letter (in English – mandatory)

18.2. Candidates shall submit their application filling in the required information and supporting documentation, in a digital form, in PDF format, from the 19th to 30th April 2021 link:

https://dozer.i3s.up.pt/applicationmanagement/#/addapplications/ResearcherFCT_PROJ2017IBMC31032021

19. All candidates who formalize their applications in an improper way or fail to prove the requirements imposed by this tender are excluded from admission. In case of doubt, the panel is entitled to request any candidate to present further documentation supporting their statements.

20. False statements provided by the candidates shall be punished by law.

21. Both admitted and excluded candidate list and final classification list shall be published in the website of the Institute and the candidates are notified by email.

After publication, all candidates have 10 working days to respond. Panel's final decisions are pronounced within a period of 90 days, from the application deadline, published at IBMC website.

The expected starting date is 1st June 2021

22. This tender is exclusively destined to fill this specify vacancy and can be terminated at any time until approval of final candidate list, expiring with the respective occupation of said vacancy.

23. Non-discrimination and equal access policy: IBMC actively promotes a non-discrimination and equal access policy, wherefore no candidate can be privileged, benefited, impaired or deprived of any rights whatsoever, or be exempt of any duties based on their ancestry, age, sex, sexual preference, marital status, family and economic conditions, instruction, origin or social conditions, genetic heritage, reduced work capacity, disability, chronic illness, nationality, ethnic origin or race, origin territory, language, religion, political or ideological convictions and union membership.

24. The panel has approved this announcement in meeting held on 31/03/2021.

25. Pursuant to Decree-Law no. 29/2001 of 3 February, disabled candidates shall be preferred in a situation of equal classification, and said preference supersedes any legal preferences. Candidates must declare, on their honour, their respective disability degree, type of disability and communication/expression means to be used during selection period on their application form, under the regulations above.