The Instituto de Medicina Molecular (iMM João Lobo Antunes - UID/BIM/50005) opens a call for one Research Fellowship with the funding support from FCT/MCTES (PIDDAC), co-financed by FEDER, through the Programa Operacional Regional de Lisboa (POR Lisboa 2020), under the project LISBOA-01-0145-FEDER-007391.

**Work Plan and Goals:** Acute lymphoblastic leukemia (ALL) is an aggressive hematological cancer and the most frequent childhood malignancy. Although the outcome of T-ALL patients has improved significantly, the prognosis of patients with resistant or relapsed disease remains very dismal. MicroRNAs (miRNAs) are ~22 nucleotide small non-coding RNAs that regulate gene expression at the transcriptional and translational levels. In cancer, miRNA expression profiles have been shown to distinguish tumor from normal cells and to discriminate tumors of different developmental origins and differentiation stages. We aim to take advantage of cancer-specific miRNA expression profiles to create a microRNA-detector system that selectively delivers a therapeutic gene to cancer cells. In concrete, we propose to develop a microRNA-detector system that explores the differences between T-cell acute lymphoblastic leukemia (T-ALL) and normal cells regarding their miRNA expression pattern to: 1) specifically identify leukemia cells and 2) induce the expression of a therapeutic agent selectively in the malignant cells. A positive match between the expression pattern of a specific set of miRNAs inside a cell and the detector will identify that cell as malignant and thereby trigger cell death via activation of a therapeutic gene present in the microRNA-detector system. The expression of the therapeutic (apoptosis-inducing) gene will be stringently regulated, induced only upon a combination of selected miRNAs being specifically present and absent concomitantly in the target cells. This innovative strategy has the potential to effectively circumvent the lack of specificity in T-ALL therapy.

**Scientific Area:** Health Sciences - Oncobiology

**Candidate's Profile**

- Master's degree in Biological sciences;
- Previous experience in cell culture and cloning (all mandatory);
- Previous experience with RNA extraction, cDNA synthesis and real time PCR (all mandatory);
- Previous experience in flow cytometry and cell viability analysis (all mandatory);
- Experience in working in different environments (e.g. in different research topics);
- Good presentation skills and English proficiency;

**Duration of Fellowship contract:** 10 (ten) months, on an exclusive basis, eventually renewable, not exceeding the eligibility period of the project.

**Law and Regulation:** Research Fellowship Statute (Law nr 40/2004, from August 18th, republished in attach to Decree-Law nr 202/2012, from August 27th), iMM João Lobo Antunes Regulation Fellowship, Career By-Law and Assessment Regulations.

The iMM João Lobo Antunes undertakes to ensure compliance with the principles of non-discrimination and equality and to that extent, provides that no candidate can be privileged, benefited, harmed or deprived of any right or exempted from any duty due in particular ancestry, age, gender, sexual orientation, marital status, family status, economic status, education, social origin or condition, genetic heritage, reduced working capacity, disability, chronic disease, nationality, ethnic origin or race, place of origin, language, religion, political or ideological convictions and trade union membership.

**Predicted Start Date:** March 2018

**WorkPlace and Scientific Orientation:** The work will be developed at João Barata's Lab, at iMM João Lobo Antunes under the supervision of Rita Fragoso, PhD.

**Fellow Monitoring Centre:** The monitoring centre works on Tuesday (09:00AM to 01:00PM / 02:00PM to 06:00PM) and Thursday (02:00PM to 06:00PM), at Human Resources of iMM João Lobo Antunes.

**Monthly Remuneration:** 980€ according to the values defined in FCT Fellowship Regulation [www.fct.pt/apoios/bolsas/valores]. The amount will be paid through bank transfer.

** Necessary Documents for Applications:** 1) Detailed CV, including list of publications; 2) A motivation letter with a short description of previous research experience with relevance to the project, main scientific achievements, and why you believe we should hire you. The non-compliance with these requirements determines the immediate rejection of the application.

**Evaluation:** Applications will be evaluated by a jury composed of João Taborda Barata, Afonso Almeida and Rita Fragoso, all PhD.

**Selection Method:** Motivation letter (30%) and CV evaluation (70%), based on the general adequacy of the track record of the candidate to the project.

**Deadlines and Submission of Applications:** The call will be open for 10 working days, starting on 12th February and ending on 23rd February, 2018. Applications should be sent to iMM Human Resources through the email imm-hr@medicina.ulisboa.pt, indicating the reference of fellowship (mandatory). The non-compliance with these requirements determines the immediate rejection of the application.

**Communication of Results:** The results will be published at [https://imm.medicina.ulisboa.pt/en/job-opportunities/results/](https://imm.medicina.ulisboa.pt/en/job-opportunities/results/) and posted at the entrance lobby of the Institute.

Lisbon, 26th January, 2018

Executive Director of iMM João Lobo Antunes
Professor Doutora Maria Manuel Dias da Mota