IBMC - Instituto de Biologia Molecular e Celular

Research fellowship (f/m)

Internal Code: Norte2020CANCER19

Project: NORTE-01-0145-FEDER-000029-Advancing cancer research: from basic knowledge to application

Title: High-throughput screening to identify novel drugs that override the mitotic checkpoint and induce tumour cell death

IBMC/i3S is opening **1 (one) Research Fellowship** to join its Research Program in Novel therapeutic targets and models for cancer

We are looking for a Fellow holding an **MSc degree** in Biology, Biochemistry or Bioengineering with a final score of 18 or higher. The candidate must have experience and full autonomy in cell biology, molecular biology, protein biochemistry and confocal microscopy. Good oral and written communication skills in English are required.

Group: Cell Division and Genomic Stability

PI: Carlos Conde

Work Plan:
Chromosome segregation errors during mitosis result in aneuploidy, a hallmark of cancer. To prevent this, eukaryotic cells have evolved a highly regulated signaling network called the Spindle Assembly Checkpoint (SAC) that delays mitotic exit until all chromosomes are properly attached to spindle microtubules. While a weakened SAC function may eventually contribute to tumorigenesis, complete abrogation of the SAC results in gross chromosome missegregation that is incompatible with cell viability. Therefore, a complete inactivation of the SAC represents an attractive therapeutic strategy. In line with this, several small-molecule inhibitors targeting the ATP-binding site of the SAC kinases Aurora B, Mps1 and Plk1, have already entered clinical trials. Nonetheless, the lack of specificity, which may result in significant side effects and the rapid development of drug resistance, typically associated to ATP-binding competitors, impose concerns and the demand for novel molecules that potently and selectively inhibit SAC function. In this project we will conduct a high-throughput non-biased screen of a large and diverse library containing 90000 chemical compounds to identify new molecules that override the SAC in transformed cells. Secondary screens will be designed to determine the molecular target being affected. A detailed biochemical characterization of the inhibitory mechanism will be performed, which will set the basis for chemical refinement of the identified compound towards an improvement of its pharmacological activity.

The work will be developed at Instituto de Investigação e Inovação em Saúde - i3S, Porto, Portugal.

The Research Fellowship will be for 12 months, renewable up to 20 months, and it is expected to start in September 1st 2017.

The fellowship amount is 980 euros, paid by bank transfer, preferentially.
(http://alfa.fct.mctes.pt/apoios/bolsas/valores)

Fellowships are regulated by current laws relating to the Statute of Science Research Fellows, namely Law 40/2004 of August 18, amended and republished by Decree-Law No. 202/2012 of 27 August and the Regulation of Scientific Research Studentships of INEB approved by Fundação para a Ciência e Tecnologia (http://www.fct.pt/apoios/bolsas/docs/RegulamentoBolsasFCT2015.pdf)

Selection Committee:
Carlos Conde, PhD
Claudio Sunkel, PhD
Eurico Morais de Sá, PhD

Applications are open from August 10th to August 25th, 2017.

To apply, candidates must hold a MSc degree, submit a complete CV and a letter of motivation at:

http://www.ibmc.up.pt/gestaocandidaturas/index.php?codigo=Norte2020CANCER19

The candidates will be selected according to their CV, supporting information and an interview if necessary. The ranking list of candidates will be published at IBMC website, and the selected candidate will be notified by email.