IBMC - Instituto de Biologia Molecular e Celular

Master degree fellowship (f/m)

Internal Code: Norte2020CANCER05

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

Title: Chemical screen for transcriptional suppressors of the pancreas oncogene KRAS

IBMC/i3S is opening **1 (one) Master degree Fellowship** to join its Research Program in Cancer.

We are looking for a Fellow holding a Master degree in Biology or related fields with experience and full autonomy working in zebrafish handling and husbandry, zebrafish microinjection, transgenesis and Crispr-Cas9 mutagenesis, molecular biology and with a license to work with animals (FELASA B). English language, both spoken and written, and good inter-personal relationships in the context of a multidisciplinary research team are essential attributes. Preference will be given to candidates with these characteristics.

Group and PI: Vertebrate Development and Regeneration, Jose Bessa

Work Plan:

In this project we will use the zebrafish as a model to screen chemical compounds that suppress the activity of *cis*-regulatory elements (CREs) involved in the transcription of *KRAS*. To reach this goal, we will first apply genome wide techniques to detect putative *cis*-regulators of *kras* active in the zebrafish pancreas. Then we will test their CRE potential using transgenic reporter assays. Validated CREs will be used to establish stable transgenic *in vivo* reporter lines that will be used in a high-throughput chemical screen to identify suppressors of CRE's activity. Chemical compounds identified in this screen will be then validated in adult zebrafish and mice.

The specific aims are:

1) Define putative CREs that belong to the kras regulatory landscape
2) Perform enhancer assays for the identified putative CREs of kras
3) Establish stable in vivo reporter lines for the validated CREs of kras
4) Screen for drugs able to suppress the transcription of KRAS using zebrafish embryos in vivo reporters
5) Validate the drugs in adult zebrafish and mice

The strategy adopted in this project uses the most updated comprehension on *cis*-transcriptional regulation of genes as a tool to identify drugs that suppress the transcription of *KRAS*. Thus, the expected outcome of this project is to identify drugs that target distinct components involved in the *cis*-regulation of *KRAS* in the pancreas and that, when combined, may efficiently supress Kras activity in a tissue specific synergistic manner.

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

The Master degree Fellowship will be for 12 months, renewable up to 36 months, and it is expected to start in May 1st 2016.

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 IBMC approved by Fundação para a Ciência e Tecnologia (http://www.fct.pt/apoios/bolsas/docs/RegulamentoBolsasFCT2015.pdf)

Selection Committee:
Carla Lopes, PhD
Renata Freitas, PhD
Jose Bessa, PhD

Applications are open from March 15th to March 31st, 2016.

To apply for the Postdoctoral Fellowship interested candidates must hold a Master degree and submit the following documents a) Complete CV; b) Letter of Motivation; and c) Referee Letter, *via* the online application system: http://www.ibmc.up.pt/gestaocandidaturas/index.php?codigo=Norte2020CANCER05

Results will be published at IBMC website, and the selected candidate will be notified by email.