

Post-doctoral Fellowship (M/F)

Title of the Project: TACRODRUGS - *Streptomyces*-based cell factories for the production of tacrolimus drugs.
(ERA-IB-2/0001/2015, project funded by FCT)

Internal Reference: PR171701

A Fellowship is open for recruitment of a Post-doctoral researcher to collaborate in the Project referred above, expecting to start on May 1st, 2017. The fellowship is for 12 months, eventually renewable. The monthly allowance is € 1,495.00.

Place of Work: IBMC/i3S - Instituto de Investigação e Inovação em Saúde, Universidade do Porto, Rua Alfredo Allen, 208

Description: The successful candidate will be responsible for generating and characterizing genome-reduced *Streptomyces* strains and for the development of molecular tools for their manipulation.

Candidate profile: The candidate should possess a Ph.D. in Biological Sciences or related areas. We are looking for highly motivated and independent candidates, with a solid publication record and experience in molecular biology techniques, microbiology, bacteria manipulation and bioinformatics tools for *in silico* sequence analysis. Preference will be given to candidates with prior experience with *Streptomyces*.

The applications should be received between 11 and 26 April 2017.

Selection method: Applications must include a letter of motivation, *curriculum vitae*, a letter of reference and PhD certificate. The candidates will be ranked according to the above items (70% CV, 20% reference, 10% motivation). Selection of the candidate will be in accordance to the ranking and, if needed, the most qualified candidates will be subjected to a personal interview (in this case evaluation will be 50% written documentation and 50 % interview).

Applications and supporting documentation are only accepted *via* the online application system:
<http://www.ibmc.up.pt/gestaocandidaturas/index.php?codigo=PR171701>

Selection Committee:

Presidente: Marta Vaz Mendes (PhD)

Vogais: Paula Tamagnini (PhD) and Paulo Oliveira (PhD)

The results will be published at the IBMC website and the selected candidate will be informed by email.

The fellowship is regulated by current laws relating to the Statute of Science Research Fellows, namely Law 40/2004 of August 18, and the Regulation of Scientific Research Studentships of the IBMC (www.ibmc.up.pt/fellowships.php).

Work Program:

The main goal of TACRODRUGS is to develop a sustainable and robust microbial industrial platform for the production of new tacrolimus and non-immunosuppressive tacrolimus analogues (tacrologues). TACRODRUGS introduces the concept of a “specialized” expression host for the production of bioactive compounds. This host combines the stability features of the universal expression host with the metabolic fitness for producing high added-value products.

The first goal is to obtain a set of genome-reduced *S. tsukubaensis* strains – generation STSU 1.0. For that purpose Cre/loxP, CRISPR/Cas and/or REDIRECT technology will be used. Generated strains will be characterized and compared to the parental strain in miniaturized microbial fermentations regarding basic physiological parameters particularly genomic stability and growth parameters.

In addition, molecular tools that will allow optimization of tacrologues biosynthesis at the molecular level will be developed. These tools will allow modulating the biosynthetic specific regulation and introducing molecular devices that will optimize the tacrologues metabolic network.