

## The Research Unit INTHERES “Innovations thérapeutiques et résistances” has an open position for a postdoctoral fellow (M/F)

### Research project: FLAV4AMR Flavodoxin inhibitors to kill resistant bacteria

#### A Transnational Project financed by the *Joint Programming Initiative on Antimicrobial Resistance (JPI-AMR)*

##### **Background and aim of the project:**

The FLAV4AMR project is a transnational collaboration that gathers the expertise and resources required to address lead improvement to the point of producing novel antibiotics ready for clinical trials, and to clarify the overall importance of flavodoxin as a novel drug target. The project has two goals:

1. To culminate the improvement of inhibitors of the flavodoxin from *H. pylori*, which have shown efficacy against reference and clinical strains (including a clarithromycin-resistant one) and in a mice model.
2. To determine the relevance of flavodoxin as a novel drug target to fight bacteria which pose problems associated to antimicrobial resistance.

The work performed in the group InTheRes (France) will focus on the study of selected flavodoxin inhibitors against *H. pylori* in *in vitro* PK/PD systems. Time-kill studies will be performed in static conditions and in dynamic conditions using the Hollow Fiber Infection Model (HFIM) to explore concentration-effect relationships, of flavodoxin inhibitors alone or in combination with antibiotics. These early stage PK/PD data will serve optimizing the use of active compounds in animals models (other partners), and defining dosage regimens in patients.

The candidate will have to adapt and implement for *H. pylori* the time-kill protocols and HFIM system that we already master in the Lab.

**Duration of funding:** 24 months

**Starting:** February-March 2020

##### **Profile of the candidate and skills:**

- PhD degree (microbiology, biomedical or pharmaceutical sciences, or any other relevant discipline)
- Experience in microbiology and/or molecular biology and/or *in vivo* models
- Experience in *Helicobacter pylori* will be appreciated
- Dynamism. Autonomy. Excellent organization and communication skills.

##### **How to apply:**

Send to Prof A. Bousquet-Mélou ([alain.bousquet-melou@envt.fr](mailto:alain.bousquet-melou@envt.fr))

- a motivation letter
- a curriculum vitae (including a publication list)
- 2 recommendation letters

##### **Description of the laboratory:**

The laboratory is located in the campus of the National Veterinary College of Toulouse (ENVT), France. The laboratory is a joint research unit between ENVT and INRA (the French National Institute of Agricultural Research). The team counts 6 permanent teachers and researchers, 4 engineers or technicians, 1 post-doctoral fellow, 3 PhD students, and 4-6 undergraduate students. Language spoken include French and English. The activities of the team are dedicated to the treatment of bacterial infections in animals and humans. The research axes focus on the development of innovations in the field of therapeutic solutions (combinations, alternatives to antibiotics) for both animals and humans, and in intervention strategies in food-producing animals.

##### **Other collaborative teams in this project:**

J. Sancho (BIFI-University of Zaragoza, Spain; project leader); U. Schaible (Research Centre Borstel, Germany); E. Touati (Pasteur Institute, Paris, France)