

POST-DOCTORAL POSITION OPEN AT INSTITUT PASTEUR DE LILLE NOVEL TUBERCULOSIS VACCINE

The project

In the frame of a European project, we are looking for a talented, highly-motivated young scientist to fill a post-doctoral position at the Institut Pasteur de Lille (France) to work on a novel concept of tuberculosis vaccine development. With the exception of COVID-19 in 2020 and 2021, tuberculosis remains the leading cause of mortality due to a single infectious organism, *Mycobacterium tuberculosis*. The only available vaccine is the Bacillus Calmette-Guérin (BCG), developed in our Institute more than 100 years ago. It is today the most widely used vaccine and the oldest vaccine still in use. Many studies have documented its protective effect in young children, but BCG-induced protection against tuberculosis in adults is rather modest. Recent studies with non-human primates have indicated a strong correlation between protection and the induction of resident memory T cells in the respiratory tract, which can be induced by intravenous BCG vaccination. However, because of safety issues of intravenous BCG vaccination, it would be preferable to explore alternative ways of inducing these cells. We have developed a live attenuated nasal pertussis vaccine, named BPZE1, which is now in advanced stage clinical development, and have shown that this vaccine induces strong resident memory T cells in the respiratory tract. In this project we will therefore use BPZE1 as a platform to present selected *M. tuberculosis* antigens to the respiratory mucosa by nasal vaccination.

Job description

The selected applicant will be responsible for the construction of recombinant BPZE1 strains, their immunological evaluation in mouse models and protection experiments against *M. tuberculosis* challenge in mice. He/She will be employed for 12 months, renewable three times. The work will be carried out at the Institut Pasteur de Lille, within a team internationally recognized for its expertise in tuberculosis and pertussis. All infrastructures, including Biosafety Level 3 laboratories, are available.

Requirements

- PhD in biological sciences
- Good knowledge in molecular biology (genetic engineering) and/or immunology (B- and T-cell immunology)
- Skills to work with rodents (mice)
- Good capacity to work collaboratively within a team and at the international level with partner institutions within the European project.
- Good communication skills (written and oral communication)

Please send your application, with your CV and list of publications to:
Camille.locht@pasteur-lille.fr