



POST-DOCTORAL POSITION **2-year, available immediately**

Targeting dendritic cells to improve vaccine responses against emerging infectious diseases

Key words:

Nipah, DC, vaccine, mouse models

Context and environment:

The Vaccine Research Institute (VRI), which has been established in 2011 under the banner of the French Government, aims at accelerating research for an effective HIV/AIDS vaccine development. The VRI gathers national and international leading scientists and physicians who strengthen the links between basic, translational research, patients associations and the socio-economic world.

The VRI (<http://vaccine-research-institute.fr/>) is also actively involved in a Sino-French multicentric collaborative program, investigating epidemiology, pathogenesis and therapeutic means against the emerging infection of Nipah virus. Prof. Yves Levy, Head of the VRI and Dr Sylvain Cardinaud are co-leading the development of innovative prophylactic DC-based vaccines against this infection.

Project:

Nipah virus (NiV) is a highly pathogenic, zoonotic paramyxovirus first recognized following a 1998-99 outbreak in Malaysia and Singapore. NiV infection recently emerged from bats, causing serious health and economic problems and carrying a risk of pandemic spread. There is currently neither licensed treatment nor vaccine, their manipulation in the laboratory is limited to structures with the highest Biosecurity Level 4 (BSL4) containment facilities. Thus, improving the ability of vaccines to induce strong, cellular and humoral immune responses, placing them as a new generic vaccine platform for prophylactic strategies but also at the heart of a therapeutic arsenal remains the challenge to rapidly and efficiently respond to NiV. Our proposal meets the specific challenges by developing an adapted DC-based vaccine platform, key components of which have been already validated.

Targeting antigens to dendritic cells (DC) is a vaccine technology concept supported by more than a decade of animal model and human pre-clinical experimentation. The postdoctoral candidate will be in charge of designing and producing mAbs targeting receptors of DC and fused with down-selected NiV antigens. He/she will demonstrate the immunogenicity of vaccine candidates in mouse transgenic models. The candidate will focus on cellular, humoral and transcriptomic signatures of the vaccine. Therefore, results will assess the ability of candidate vaccines to efficiently induce T and B cell responses. The candidate will then manage challenges assays performed by our collaborators in BSL-4. Overall, efficacy of new DC-based vaccine concepts against emerging infectious diseases will be established, with the perspective of testing them in clinical assays.

Candidate profile:

We are looking for a qualified and motivated Ph.D. in immunology. The candidate should have a strong experience in flow cytometry and immune functional assays. Excellent technical skills, strong motivation, autonomy and ability to quickly and effectively develop the proposed project in relation with the group leaders and collaborators will be essential. Validated training for animal experimentation is mandatory.

Salary:

Depending on experience and in accordance with the Inserm policy.

Contact:

This position is available for 24 months, and needs to start between September 2020 and November 2020. Applicants should submit to Sylvain Cardinaud (sylvain.cardinaud@inserm.fr) and Yves Levy (yves.levy@inserm.fr) a curriculum vitae, a brief description of their research accomplishments and career goals, the list of their publications and the name of three referees.