



Post-Doctoral position in cancer immunology, Institut Pasteur, Paris, France Tissue resident CD8⁺ T cells and dendritic cells in lung cancer.

Paris, March 2023

A 2-year, INCA-funded post-doctoral position is available in the Guérmonprez lab at Institut Pasteur Paris (“Dendritic cells and adaptive immunity” Unit, Immunology Department <https://research.pasteur.fr/fr/departement/immunology/>). The Guérmonprez lab investigates the role of dendritic cell subsets in regulating T cell responses (<https://www.guérmonprezlab.org>).

Project

Lung tissue resident memory CD8⁺ T cells (T_{RMS}) represent a population of cytotoxic lymphocytes able to provide frontline immunity against respiratory infections. There is strong evidence that lung cancer (NSCLC) infiltration by CD8⁺ T_{RMS} is associated with favourable clinical outcomes and improved responses to immune checkpoint blockade immunotherapies. Despite their clinical relevance, the mechanisms underlying the activation and maintenance of T_{RMS} remain ill-defined. The main objective of this project is to understand the impact of dendritic cell populations on the infiltration of lung cancer by CD8⁺ T_{RMS} during lung cancer development. This analysis will be primarily developed in a pre-clinical model of lung adenocarcinoma. Specifically, the project intends:

1. To analyse the role of DCs on the establishment and maintenance of CD8⁺ T_{RMS} in using genetic tools to manipulate DCs populations or function.
2. To uncover new actionable pathways controlling CD8⁺ T_{RMS} specification, tissue persistence or function.

The approaches to be implemented involve high dimensional characterization of lung cancer CD8⁺ T_{RMS} and single cell analysis of CD8⁺ T cell fate in lung cancer model.

Missions

The candidate is expected to:

1. Design experiments and formalize experimental protocols.
2. Conduct wet bench experiments in pre-clinical models of cancer involving animal experimentation.
3. Analyse experimental data and keep organized data archives.
4. Interact and collaborate productively with bioinformatic staff and other research teams.
5. Present data in lab meetings and communicate research outputs in scientific meetings.
6. Participate actively to the production of manuscripts for publication.

Candidate profile

We are looking for highly motivated individuals willing to bring new insights into the biology of adaptive immunity against cancer and spark innovation in cancer immunotherapy. The successful candidate is expected to have:

- Project leadership.
- A PhD level (or other with substantial research experience, engineering schools *e.g.*).
- Former working experience and training in animal experimentation.
- A solid scientific background and research experience in **at least one** of the following fields: **T lymphocyte biology, dendritic cells biology, cancer immunology**. Any additional specific technological/scientific expertise will be valued as an asset.
- Enthusiasm for basic research on cancer immunology in a multi-disciplinary academic environment.

Contact & applications

Pre-application, informal inquiries are welcome. For applications, please send to pierre.guérmonprez@pasteur.fr one CV, a publication list, the email contact for 2 references.