

Postdoc position to Study Metabolic Dialogues between Stromal and Leukemic Cells in Drug Resistance of Acute Myeloid Leukemia

Site	RESTORE
City	Toulouse, France
Type of Contract	Fixed term contract (3 years)
Corps	Postdoctoral position
Quote	Full time
Remuneration	According to the Inserm index grid and experience

TITLE AND OBJECTIVE OF THE PROJECT

« Targeting metabolic dialogue in drug resistance of acute myeloid leukemia »

Despite an improvement in the complete response rate obtained after conventional chemotherapy, overall survival of acute myeloid leukemia patients is still poor due to relapses caused by tumor regrowth initiated by drug resistant leukemic clones. The project aims at elucidating how the metabolic dialogue between leukemic blasts and the stromal compartment can contribute to the onset of drug resistance and to identify metabolic targets to overcome it.

MISSIONS

The postdoctoral fellow will be involved in a highly collaborative project between the RESTORE ("Metabolic interplay and age-associated loss of function") and CRCT ("Oncometabolism and Drug Resistance in Acute Myeloid Leukemia") teams. Using patient derived xenograft models well handled by the CRCT team headed by Jean-Emmanuel Sarry, the postdoctoral fellow will be highly involved in the establishment of a precise cellular and metabolic mapping of leukemic blasts and their microenvironment, not only in the bone marrow but also in several extramedullary organs. She/he will also be devoted to unravel the metabolic interactions existing between blasts and stromal cells including mesenchymal stromal cells and adipocytes, and their role in the development of chemoresistance. Her/his work will be done in close collaboration with students and engineers working on the project, especially the bioinformatic engineer also recruited through the grant.

General responsibilities include design, implement and interpret experiments, both independently and in collaboration, and communicate research and findings in a clear and concise manner. The postdoctoral fellow will present the progress of the project during bi-monthly meetings between the two teams, as well as during national and international conferences.

QUALIFICATIONS REQUIRED

- A PhD degree preferably in biochemistry or cell biology and physiology
- Expertise in the field of metabolism and stromal cell biology (in particular adipocytes and mesenchymal stromal cells) will be highly prioritized
- Hands-on experience on *in vivo* (mice) experiments, confocal imaging, multi-color flow cytometry, oxygraphy and cell culture of mammalian primary cells
- Experience in the interpretation of mass spectrometry data obtained from metabolomics and isotope (¹³C-metabolites) tracing experiments is an asset
- Strong computer literacy including experience with image analysis, FlowJo, Prism, and Excel. Mastery of R and Python would be a plus
- High levels of initiative, autonomy and the ability to assume a high level of responsibility
- Strong interpersonal and mentoring skills needed to effectively deal with students and people of the two collaborating groups

- Proficiency in English as members of the teams are native English speakers

Additional qualifications desired

- Knowledge in histology, quantitative PCR, and general lab protocols and methodologies used in the biological sciences
- Experience in editing and writing original research articles and grant applications is an asset

EMPLOYMENT

Starting on January 2021, the job position is funded for 36 months by an INCA (Institut National du Cancer) grant.

The application should be written in English and includes:

1. Letter of motivation with a short description of the applicant's previous research and why the applicant considers her/himself a good match for the position (1-2 pages).
2. Curriculum vitae, including a description of relevant skills and experiences, as well as a full publication list.
3. Copy of PhD diploma.
4. Names, e-mail addresses and telephone numbers to 2-3 references.

CONTACT

Application should be sent to Audrey Carrière (audrey.carriere-pazat@inserm.fr) and Isabelle Ader (isabelle.ader-perarnau@inserm.fr) before november 16th, 2020.