

Post-doctoral position available

Scientific context

This is a collaborative project between the Team Niche and Cancer in Haematopoiesis (Nich&Canc/Hem), directed by F Pflumio and located in IRCM/IBFJ/CEA, Fontenay-aux-Roses, France, and the Biotech Smart-Immune in Paris, France.

The team Nich&Canc/Hem is interested in the molecular and cellular events that drive oncogenesis in the human haematopoietic system. This team works for several years in establishing patho-physiologic models of human leukemia starting from human patient blood/BM samples.

Smart-Immune has developed a platform that produces human T cell progenitors (ProTcell™) to be used in clinical protocols to rapidly regenerate the T cell compartments of patients suffering blood cancers and/or severe infections.

The project aims at using vulnerabilities brought by specific surface markers expressed by human leukemic cells to develop, from the ProTcell™ of Smart-Immune, a new generation of CAR-T (called CAR-ProTcells) directed against the markers of interest.

Mission

The candidate will work on the proof of concept of efficient anti-leukemic action of CAR-ProTcells in two models of human leukemia engrafted in NSG mice.

In practical NSG mice engrafted with leukemic cells will be derived (the first will use the Nalm6 cell line) and the proof of concept of anti-leukemia effect of CAR-ProTcells will be looked after. In a second time, a model established with human leukemia from patients will be developed and tested as mentioned before to prove the clinic relevance of CAR-ProTcells against B-ALL.

This B-ALL model will help develop a second more novel part of the project, aiming at using CAR-ProTcells against another type of aggressive children leukemia, the Acute Megakaryoblastic Leukemia. The post-doctoral researcher will work within the Nich&Canc/Hem lab, in close-contact with the R&D team of Smart-Immune, and the laboratory of human lymphohematopoiesis of Imagine Institute, Paris.

Knowledge

- Cell Biology and differentiation pathways
- Primary cultures, differentiation assays of hematopoietic HSPC
- In vivo mouse models (certification to work with animal is a fair requirement)
- Flow cytometry, scRNAseq
- Hematopoiesis, Immunology
- Biochemistry, molecular biology
- English written and spoken
- Capable to work in a collaborative environment
- Having worked previously on the immune system is a plus
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University training

- PhD with Cellular and Molecular Biology, plus Biochemistry trainings (obtained after 2018)
- Training and authorization to work in animal experimentation
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Contract

24 months, salary according to profile and previous experience, starting in January 2022

Contact

Please send a motivation letter and a detailed CV to francoise.pflumio@cea.fr, shabi.soheili@smart-immune.com and olivier.negre@smart-immune.com