Postdoc: Extracellular matrix in Onco-immunology

Institute: INSERM U1109 – Tumor Microenvironment laboratory
Country/City: France, Strasbourg
More information: https://orend-tme-group.com

Offer:
The extracellular matrix shapes tumor immunity and is well known to impair immune checkpoint therapy. The laboratory recently discovered several mechanisms how the matrix orchestrates immune suppression and developed novel tools to block these matrix actions in the tumor. The postdoc will be involved in further understanding how matrix regulates tumor immunity and how this can be targeted with the goal to improve cancer therapy by cleaning the tumor bed.

This international laboratory **(https://orend-tme-group.com)** is situated within the INSERM U1109, a research unit with over 100 members in the center of Strasbourg, that is dedicated to immunology research on autoimmune diseases, virology and cancer.

Recent publications from the laboratory: Benn 2023, *Sci Adv;* Fonta 2023, *Matrix Biol*; Loustau 2022, *Matrix Biol*; Yilmaz 2022*, J Cell Sci*; Murdamoothoo 2021, *EMBO Mol Med*; Deligne 2020, *Cancer Immun Res*; Spenle 2020, *Cancer Immun Res*; Sun 2019, *Matrix Biol*; Sun 2018, *Cancer Res*.

The position is offered for 24 months with a possible extension.
Keywords: tumor microenvironment, extracellular matrix, tenascin-C, tumor immunity, genetic engineered mouse models, immunology research

Scientific summary:
The extracellular matrix does not only provide three-dimensional physical cues but also directs the cellular responses through multiple mechanisms. Extracellular matrix can provide local niches, serving as substratum and sequestering soluble factors thereby orchestrating cell behaviour. In cancer the composition of the extracellular matrix is altered and thereby impacts cell properties leading to enforcement of cancer stemness, proliferation, survival and formation of new blood vessels, altogether promoting metastasis. Cancer probably can only be cured when the tumor bed is cleaned and the extracellular matrix is normalised which represents a challenge that the laboratory is addressing. Our research is aiming to understand how the extracellular matrix molecule tenascin-C is orchestrating an immune suppressive tumor microenvironment. By using tumor models with a tumor microenvironment phenocopying that of human cancer we are applying RNA seq, mass spec analysis, and cell culture work to define targetable mechanisms which include our novel targeting tools and CAR T cells targeting the matrix. We like to understand how these treatments normalise the tumor microenvironment to achieve long lasting tumor remission. The postdoc will use state of the art technology in immunology and matrix research and will work within a consortium of colleagues experienced in matrix biology, immunology, omics and network analysis.

Candidate profile:
We are seeking a highly motivated PhD who wants to develop his/her own research project in a good team-working spirit. The candidate must be strongly motivated for comprehensive research using multiple technologies.
- Knowledge on cancer immunology is welcome
- Experience in murine tumor models, histology, cell culture and flow cytometry is welcome
- Expertise in bioinformatics is appreciated

Application: Please send a concise cover letter with a statement of research interests and a summary of previous research activity and achievements. Please, also send a detailed curriculum vitae and two reference letters to Gertraud Orend: gertraud.orend@inserm.fr.