

## Hosting group information for applicants

Name of DKFZ research division/group:

**Molecular Genetics / Tumor immunology and microenvironment (B060)**

Contact person: **Martina Seiffert**

**Group leader - Tumor immunology and microenvironment, Molecular Genetics, B060**

**phone: +49 6221 42-4586**

**fax: +49 6221 42-4639**

**m.seiffert@dkfz.de**

Group homepage: [www.dkfz.de/en/genetics/pages/projects/CLL/CLL-en.html](http://www.dkfz.de/en/genetics/pages/projects/CLL/CLL-en.html)

Please visit our website for further information on our research and recent publications.

### RESEARCH PROFILE AND PROJECT TOPICS:

My group is interested in tumor immunology and the microenvironment in B-cell lymphoma and brain metastasis, with a focus on cancer-induced immune suppression and inflammation as a driver of disease. We aim at identifying mediators and molecular mechanisms of crosstalk between the cancer cells and their surrounding neighbourhood, whereby we concentrate on immune cells of the myeloid and lymphoid lineage. We use our findings to develop and test novel immunotherapy approaches in patient-derived cocultures and genetic mouse models.

Our current work focusses on an in-depth characterization of immune and stromal cells in non-Hodgkin B-cell lymphoma and brain metastases of breast and lung cancer patients. We are exploring novel mechanisms of tumor support and immune escape and are functionally testing candidate genes and pathways for the development of novel therapy approaches. This includes also the identification of prognostic or predictive markers and unravelling mechanisms of treatment resistance. We are specifically interested in cancer-associated T-cell exhaustion, in myeloid-derived suppressor cell function, and in mediators that are responsible for both of these phenotypes, including secreted factors and extracellular vesicles.

We use single-cell transcriptome and flow cytometry analyses of primary tumor tissue and blood, spatial analyses including multiplex tissue staining and in-situ transcript quantification, ATAC-seq and chromatin immunoprecipitation followed by DNA-sequencing to decipher transcription factor regulatory networks, proteome analyses of cancer and



CONNECTING THE DOTS.  
TO ADVANCE RESEARCH CAREERS

International Postdoc Program  
[www.dkfz.de/postdoc](http://www.dkfz.de/postdoc)

immune cells, as well as functional and treatment studies in vitro and in mouse models to validate the relevance of identified candidate genes and pathways.

A glimpse on our recent work can be obtained in the following publications: Roesner et al., Leukemia 2021; Sadik et al., Cell 2020; Hanna et al., Leukemia 2019; Haderk et al., Science Immunology 2017.

I am more than happy to discuss a potential project for a PostDoctoral fellow within our group if you are interested in our research topic and work.



**CONNECTING THE DOTS.  
TO ADVANCE RESEARCH CAREERS**

[International Postdoc Program](https://www.dkfz.de/postdoc)  
[www.dkfz.de/postdoc](https://www.dkfz.de/postdoc)