

Project abstract

Name of DKFZ research division/group:	<i>Immune Modulation in Cancer (currently under B060, starting 01.04.26 D310)</i>
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Group homepage: Please visit our website for further information on our research and recent publications.	https://www.dkfz.de/en/immune-modulation-in-cancer-aq

PROJECT PROPOSAL

The complex cellular and molecular composition of tumors is critical for their pathobiology. In previous studies, we have identified molecular mechanisms and candidate mediators responsible for cancer-induced remodeling of the tumor microenvironment and the immune system.

Our current research focuses on a detailed characterization of immune and stromal cells in B-cell lymphomas and brain metastases. The goal is to uncover novel pro-tumorigenic and immunosuppressive mechanisms, as well as to identify candidate genes and signaling pathways that may serve as targets for new therapeutic strategies. In addition, we investigate novel prognostic and predictive biomarkers and analyze mechanisms of therapy resistance.

To study these questions, we employ single-cell transcriptomics, spectral flow cytometry, and proteomic analyses of primary tumor tissues and blood cells. The spatial organization of the tumor microenvironment is analyzed using multiplex immunofluorescence staining and in situ transcript quantification in tissue sections. Functional analyses and treatment studies are conducted both in patient-derived in vitro systems and in mouse models to validate the relevance of identified candidate genes and pathways.

Our preclinical therapy studies also include optimization of treatment strategies for chronic lymphocytic leukemia (CLL) and diffuse large B-cell lymphoma (DLBCL) using CAR T-cell products and bispecific antibodies.

A detailed concept on how you can contribute to our goals to improve cancer immunotherapy can be discussed with interested candidates.



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AND BACK

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