Project abstract

Name of DKFZ research division/group:	***Junior Clinical Cooperation Unit Translational Lymphoma Research (B470)***
Contact person:	***Katharina Clemm, MD*** ***k.clemm@dkfz-heidelberg.de*** ***+49-621-383 71312***
Group homepage: Please visit our website for further information on our research and recent publications.	***www.dkfz.de/translationale-lymphomforschung/index.php***

PROJECT PROPOSAL

The junior group's research is focused on malignant lymphoma. In recent years a number of novel therapeutic strategies (kinase inhibitors, inhibitors of the anti-apoptotic molecule BCL2, monoclonal antibodies, CAR T cells, antibody-drug conjugates, and others) have entered clinical practice for the treatment of malignant lymphoma. However – despite extensive characterization of the genome and transcriptome of lymphoma cells – predictive biomarkers have not been identified.

With the advent of novel treatment approaches the prognosis of aggressive lymphomas in general has significantly improved. However, the majority of (often young) patients with CNS involvement or relapse of highly malignant lymphoma will die within the first year after diagnosis. In this project the clinician scientist will address this problem by systematically characterizing the lymphoma proteome of patients with first diagnosis of aggressive lymphoma and at high risk for CNS involvement or relapse. This will be achieved by using a broad spectrum of molecular biological and biochemical methods, with a focus on functional proteomics. The aim of the project is on the one hand to identify novel predictive biomarkers for intensified, pre-emptive, CNS-directed lymphoma treatment and on the other hand to discover the molecular basis for possible novel treatment strategies for this patient subgroup.

The concept of the Clinical Cooperation Unit is based on the idea of rapid forward and reverse translation between patient care and biomolecular research. Therefore, the group's PI is also in charge of lymphoma patients at the University Hospital Mannheim. This allows us on the one hand to analyze patient material first-hand. On the other hand, we can translate our findings back to the clinic and validate potential predictive biomarkers in lymphoma patients at first diagnosis and throughout the course of the disease.