Project abstract

Name of DKFZ research division/group:	***Metabolic crosstalk in cancer (B350)***
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Group homepage: Please visit our website for further information on our research and recent publications.	***https://www.dkfz.de/en/brain-cancer-metabolism/***

PROJECT PROPOSAL

Please, add a short description of the research focus of your group and of a potential project for a clinician scientist working in your group (max. 300-350 words in total)

The major goal of the division of **Metabolic Crosstalk in Cancer** is to unravel how metabolites function as signalling molecules in the crosstalk between tumor cells and the tumor microenvironment, thereby contributing to the malignant properties of tumor cells and/ or the suppression of anti-tumor immune responses.

Translational research project: Validation of metabolic biomarkers linked to tryptophan, tryptophan catabolites, amino acids, amino acid metabolites, and ceramides in cancer patients

Our fundamental research has led to the mechanism-based identification of metabolic biomarkers linked to tryptophan, tryptophan catabolites, amino acids, amino acid metabolites, and ceramides that may contribute to diagnosis, risk assessment and prediction of therapy response in cancer patients. The overarching goal of this translational research project is to validate these biomarkers and identify the clinical settings, in which they are most beneficial. By confirming the clinical relevance of these biomarkers, we aim to establish a robust foundation for their integration into routine diagnostic and prognostic assessments, ultimately improving patient outcomes.

This translational research project seeks to bridge the gap between basic science discoveries and clinical applications by validating a comprehensive panel of metabolic biomarkers in cancer patients. The outcomes of this study have the potential to revolutionize cancer diagnostics, prognostics, and personalized treatment strategies, advancing the field of precision medicine.