dkfz. GERMAN CANCER RESEARCH CENTER IN THE HELMHOLTZ ASSOCIATION

Research for a Life without Cancer

Research profile for applicants

Name of DKFZ research division/group:	*Immunotherapy & Immunoprevention (D410)*
Contact person:	*Angelika Riemer, MD, PhD* *a.riemer@dkfz.de*
Group homepage: *Visit this website for further information on current research and recent publications.*	*https://www.dkfz.de/en/immuntherapie-immunpraevention/index.php*
Eligibility:	• *DKFZ Postdoctoral Fellowships*

RESEARCH PROFILE AND PROJECT TOPICS (short description of the research focus of the group and of a potential project for a postdoc, max. 350 words)

In the scope of the first focus area of the group, development of a therapeutic vaccine against HPV-induced malignancies, we have developed various high-sensitivity mass spectrometry approaches to detect HLA-presented peptides on transformed cells (immunopeptidomics). In the second focus area of the group, we apply these immunopeptidomics techniques for the detection and validation of mutation-derived tumor neoepitopes. These epitopes offer the chance of specifically attacking tumor cells, without harming healthy tissues. This is done in various collaborations with research and clinical partners, with the main aim of inducing effective anti-tumor adaptive immune responses in cancer patients, or to provide target epitope identification for adoptive T cell therapies.

We are seeking a postdoctoral researcher with expertise in mass spectrometry, preferably in the field of immunopeptidomics. Furthermore, the ideal candidate should also have experience in *in vitro* immunogenicity testing, such as ELISpot and/or *in vitro* killing assays. The first goal of the proposed project aims to establish a modular toolbox comprised of cell lines with monoallelic HLA expression in combination with tandem minigenes encoding viral and/or mutation-derived neoepitopes. Using this modular system, the candidate will generate epitome maps for combinations of common HLA alleles and frequent tumor-specific and/or tumor-associated antigens. Furthermore, the system will be used to elucidate differences in epitope presentation and T cell recognition between different HLA subtypes. Overall, the project will provide a valuable tool to identify actionable neoepitopes and investigate their benefit for treating large patient cohorts using so-called warehouse approaches.

CONNECTING THE DOTS.
TO ADVANCE RESEARCH CAREERS

International Postdoc Program
www.dkfz.de/postdoc