3557 6162 PhD Student Chemistry, Food Chemistry - Dermatology (m/f/d) The German Cancer Research Center is the largest biomedical research institution in Germany. With approximately 3,000 employees, we operate an extensive scientific program in the field of cancer research.  
  
Together with university partners at seven renowned partner sites, we have established the German Cancer Consortium (DKTK).  
  
For the DKTK partner site Essen / Düsseldorf the German Cancer Research Center is seeking a  
PhD Student - Assay Development for the AHR Signature in Dermatology  
(Ref-No. 2023-0055)  
  
The PredictAHR project utilizes existing data from the German Cancer Consortium of the tumor entities malignant melanoma, glioma, sarcoma, lung cancer and chronic lymphocytic leukemia and prospectively collects samples that are profiled using high-throughput methods. Our goal is to identify a reduced set of AHR activity markers that are specific to the different tumor entities and allow the development of simple assays for the clinic. Translating the transcriptional AHR signature to proteomics data will enable immunohistochemical evaluation by pathology laboratories, while extension to metabolomics data may enable translation to biological fluids such as blood and urine that can be obtained without surgical intervention. In summary, PredictAHR will investigate the predictive power of the AHR signature in various cancers and develop assays for AHR activity that can be integrated into the clinic.   
 Cell culture: thaw, culture, split, freeze cells; functional in vitro analyses  
 Molecular biology / protein chemistry: PCR, RT-PCR, qRT-PCR, DNA and RNA isolation, protein isolation, Western blots  
 Primary animal experimental research on tumor metastasis in a translational research project that also includes human experimental issues in patients with malignant melanoma  
 Immunohistology / immunofluorescence: paraffin / cryoembedding, preparation of slides on microtome, photography of stains on microscope, processing of images on computer  
 Molecular and flow cytometric study of tumors  
 Planning and execution of metabolomics and lipidomics measurements, among others, for the characterization of metastases of malignant melanoma  
 Development of new methods for the characterization of metabolites and lipids using modern multidimensional methods (e.g. LC-LC-MS)  
 Planning and execution of cell culture experiments  
 Statistical evaluation of results  
 Documentation and evaluation of research results as well as preparation of publications, lectures, posters  
 Preparation of the dissertation within the PhD project  
   
 University degree (Master) in chemistry, food chemistry or biochemistry of at least 8 semesters  
 Animal experimental experience (breeding / keeping immunodeficient and immunocompetent mouse lines) and knowledge of basic immunological and molecular biology techniques  
 Proficiency in complex multicolor flow cytometry experiments and cell sorting  
 Profound knowledge of analytical chemistry (especially in the fields of LC, GC and MS)  
 Knowledge of metabolite and lipid analysis as well as bioinformatics is desirable  
 High degree of independence, motivation and interest in the development of modern methods and their application in cancer research  
   
 Interesting, versatile workplace  
 International, attractive working environment  
 Campus with modern state-of-the-art infrastructure  
 Access to international research networks  
 Doctoral student payment including social benefits  
 Flexible working hours  
 Comprehensive training and mentoring program through the Helmholtz International Graduate School chemist None 2023-03-07 15:57:50.815000