**PhD position (m/f/d) (TVL-E13/65%)**

“The function of tumor suppressor HIPK2 in genome stability and DNA repair ”

**Location & Institution:**
Mainz is a beautiful, historical University city with an international academic research environment. The Institute of Toxicology at the University Medical Center in Mainz has longstanding research expertise in the function and regulation of the cellular DNA damage response, DNA damage signaling and DNA damage repair. The Institute is well embedded into the recently established Collaborative Research Center “Regulation of DNA repair & genome stability” (SFB 1361) at the University of Mainz. Successful candidates are expected to join the International PhD Programme (IPP) on “Gene regulation, epigenetics and genome stability” in Mainz.

**Background:**
Defective DNA damage response is a major driving force for genome instability and cancer. The DNA damage-activated protein kinase HIPK2 plays a fundamental role in guiding the cell death response upon severe genome damage through site-specific phosphorylation of cellular key substrates including p53 and SIRT1. Interestingly, HIPK2 is also activated upon mild DNA damage and facilitates DNA damage-induced cell survival, DNA repair and maintenance of genome stability. The latter function of HIPK2 does not require its known key substrates, but appears to be mediated by engagement of different, novel key factors. Dissecting the molecular mechanisms by which HIPK2 controls pathway choice between cell death and DNA repair is expected to provide novel treatment strategies in cancer.

**Job description:**
The PhD project is aimed at elucidating the role of the tumor suppressor HIPK2 in regulating genome stability and DNA repair. The work program includes a broad spectrum of techniques from cell biology, molecular biology, biochemistry and molecular genetics including: generation and functional analysis of cell models using Crisp/Cas-mediated gene editing, mass spectrometry-based interactome and phosphoproteome analyses, molecular characterization of novel HIPK2-binding proteins, protein-protein interaction analyses, *in vitro* kinase assays, immunofluorescence-based subcellular localization analysis, high-content analysis, FACS-based cell cycle and cell death analyses, genome-wide RNA Seq and ChIP-Seq analyses as well as DNA repair assays in collaboration with the Z01 service project of the SFB1361.

**Qualification:**
We are looking for highly motivated applicants to join an enthusiastic and collaborative research environment. Candidates should have demonstrated very good performance during their undergraduate studies and should have a Master degree in Biochemistry, Molecular Biology or related subjects. We expect a high degree of self-motivation as well as good communication skills with a very good command of English and the ability to work in a team.

**Project duration, position and application:** 3 years, TVL-E13/65% (funded by SFB 1361)

Please send your CV, a letter of intent, University certificates and names and addresses of two references until 20th of September to Prof. Thomas Hofmann (E-mail: toxicology@uni-mainz.de).

**Project-relevant publications:**