

## Hosting group information for applicants

Name of DKFZ research division/group:

**Epigenetics (A130)**

Contact person: **Prof. Dr. Frank Lyko (f.lyko@dkfz.de)**

Group homepage: **[www.dkfz.de/epigenetics](http://www.dkfz.de/epigenetics)**

Please visit our website for further information on our research and recent publications.

### RESEARCH PROFILE AND PROJECT TOPICS:

The Division of Epigenetics investigates epigenetic changes in various biological contexts and characterizes the epigenetic mechanisms that underpin these changes. More recently, we have started to expand our research into the RNA world, where we are using molecular and cellular approaches to functionally characterize RNA modifications. For example, we have shown that the DNMT2 enzyme is a multisubstrate tRNA methyltransferase that methylates certain tRNAs. By analyzing RNA-methylation deficient mouse models we have demonstrated an essential function of this modification during development. Subsequent work has elucidated the underlying mechanisms and uncovered how RNA modifications can result in genome recoding. These observations represent key contributions to the novel field of epitranscriptomics, which investigates how RNA modifications can impact RNA functionally. We are currently developing our basic research into more translational approaches. This is supported by close collaborations with clinical partners to analyze the role of mRNA adenine methylation in cancer.

We are now looking for a postdoc candidate with a strong background in molecular and cellular biology to coordinate and further develop these projects. A prominent focus should be on the functional characterization of the human DNMT2 gene and its impact on cellular differentiation. The project will receive considerable scientific and financial support from a recently established network on RNA modification and processing (DFG TRR319).



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