Ausgewählte Aktivitäten in der klinischen und translatationalen Epigenetik	Publikationen	Aktuelle Labor-basierte Projekte	Aktuelle klinische Studien	Link
Prof. Dr. Heiko Becker	Epigenetics in Pancreatic Ductal Adenocarcinoma: Impact on Biology and Utilization in Diagnostics and Treatment. **Cancers** 2022 DOI 10.3390/cancers14235926. Bisulfite-free epigenomics and genomics of single cells through methylation-sensitive restriction. **Commun Biol** 2021 DOI 10.1038/s42003-021-01661-w. Monosomal karyotype and chromosome 17p loss or TP53 mutations in decitabine-treated patients with acute myeloid leukemia. **Ann Hematol** 2020 DOI 10.1007/s00277-020-04082-7.	The DNA methylome as a therapeutic target in elderly patients with acute myeloid leukemia: Development of combination treatments Förderorganisation: DFG (FOR2674) Predictive epigenetic markers in immunoncological and epigenetically active treatments Förderorganisation: BMBF (NanodiagBW)	Implementation of Epigenetically active treatment in the care of patients with unresectable or metastasized Pancreatlc ductal adenoCarcinoma (EPIC) (IIT, DRKS00031481)	https://www.uniklinik-freiburg.de/medizin1/forschung/experimentelle-forschung/becker-laboratory.html
Dr. Michael Daskalakis	Reactivation of endogenous retroviral elements via treatment with DNMT- and HDAC-inhibitors. **Cell Cycle** 2018 DOI: 10.1080/15384101.2018.1442623 DNMT and HDAC inhibitors induce cryptic transcription start sites encoded in long terminal repeats. **Nat Genet** 2017 DOI 10.1038/ng.3889	Immune cellular therapy (ICT) platform for liquid and solid cancer types and systemic autoimmune diseases; Förderorganisation: University of Bern Translational study on viral mimicry: Marker for pre diction of epigenetic treatment response or prognosis in patients with AML or MDS Förderorganisation: Bernese Cancer League Characterization of Oncogenic Protein Isoforms as Targets for Myelodysplastic Syndromes Strategic Focus Area of Personalized Health and Related Technologies (PHRT) funded by six Swiss research institutions: ETHZ, EPFL, PSI, Empa, Eawag and WSL		http://www.hzl.insel.ch/de/lehre-und-forschung/blood-research-program/research-group-daskalakis
Prof. Dr. Florian Heidel	Dynamic DNA methylation reveals novel cis-regulatory elements in mouse hematopoiesis. **Exp Hematol** 2022 DOI: S0301-472X(22)00805-0 Histone demethylase KDM4C is a functional dependency in JAK2-mutated neoplasms. **Leukemia** 2022 DOI: 10.1038/s41375-022-01611-3 YBX1 mediates translation of oncogenic transcripts to control cell competition in AML. **Leukemia** 2022 DOI: 10.1038/s41375-021-01393-0	Targeted combi-nation therapies exploiting (de-) stabilization of oncogenic mRNAs Förderorganisation: Hector Stiftung Pre-clinical assessment of pharmacologic YBX1 inhibition in myeloid cancers Förderorganisation: Else Kröner-Fresenius Stiftung Macrohistone H2AFY Function in AML Förderorganisation: DFG YBX1 Function in AML Förderorganisation: DFG Tick-Tock: Linking pathology and lifestyle to epigenetic determinants of biological vs. chronological stem cell aging Förderorganisation: Leibniz-Gemeinschaft	Pelabresib Monotherapy in Patients with Myelofibrosis (IST, NCT02158858)	https://www.mhh.de/haematologie
Prof. Dr. Michael Kühn	Menin inhibitor ziftomenib (KO-539) synergizes with drugs targeting chromatin regulation or apoptosis and sensitizes acute myeloid leukemia with MLL rearrangement or NPM1 mutation to venetoclax. **Haematologica** 2023. doi: 10.3324/haematol.2022.282160. Synergistic targeting of FLT3 mutations in AML via combined menin-MLL and FLT3 inhibition. **Blood** 2020. doi: 10.1182/blood.2020005037. Targeting Chromatin Regulators Inhibits Leukemogenic Gene Expression in NPM1 Mutant Leukemia. **Cancer Discovery** 2016. doi: 10.1158/2159-8290.CD-16-0237.	Epigenetische Kontrolle leukämogener Genexpression durch Menin und MLL1-Komplexpartner-Proteine. Förderorganisation: DFG (Emmy Noether-Programm) Therapeutische Manipulation von Chromatin-Komplexen zur Verstärkung der anti-leukämischen Effizienz zellulärer Immuntherapien. Förderorganisation: DFG (SFB1292)	A Study of SNDX-5613 in R/R Leukemias Including Those With an MLLr/KMT2A Gene Rearrangement or NPM1 Mutation (IST, NCT04065399) Ziftomenib in Relapsed or Refractory Acute Myeloid Leukemia (IST, NCT04067336)	https://www.unimedizin-mainz.de/3-med/arbeitsgruppen/emmy-noether-ag-kuehn/ag-kuehn/startseite-home.html
PD Dr. Daniel Lipka	Hotspot DNMT3A mutations in clonal hematopoiesis and acute myeloid leukemia sensitize cells to azacytidine via viral mimicry response. **Nat Cancer** 2021 DOI: 10.1038/s43018-021-00213-9 International Consensus Definition of DNA Methylation Subgroups in Juvenile Myelomonocytic Leukemia. **Clin Cancer Res** 2021 DOI: 10.1158/1078-0432.CCR-20-3184	Etablierung präklinischer Modelle der juvenilen myelomonozytären Leukämie zur Entwicklung neuer therapeutischer Ansätze für Hochrisikopatienten. Förderorganisation: Deutsche José Carreras Leukämie Stiftung Heterogeneity, Evolution, and Resistance in Oncogenic fusion gene-Expressing Sarcomas affecting Adolescents and Young Adults (HEROES-AYA), SP3 - Non-invasive characterization, WP 3.1: Liquid biopsy-based assessment of intratumor heterogeneity. Förderorganisation: BMBF	N/A	www.translational-cancer-epigenomics.de/
Prof. Dr. Michael Lübbert	10-day decitabine versus 3 + 7 chemotherapy followed by allografting in older patients with acute myeloid leukaemia: an open-label, randomised, controlled, phase 3 trial. **Lancet Haematol** 2023 DOI 10.1016/S2352-3026(23)00273-9. Decitabine Induces Gene Derepression on Monosomic Chromosomes: In Vitro and In Vivo Effects in Adverse-Risk Cytogenetics AML. **Cancer Res** 2021 DOI 10.1158/0008-5472.CAN-20-1430.	The DNA methylome as a therapeutic target in elderly patients with acute myeloid leukemia: Development of combination treatments Förderorganisation: DFG (FOR2674)	Decitabine + ventoclax +/- ATRA in AML (DECIDER-2) (IIT, EudraCT 2020-005495-36) "InDACtion" vs "3+7" Induction in AML (AML21/EORTC1301) (IIT, NCT02172872)	https://www.uniklinik-freiburg.de/medizin1/forschung/experimentelle-forschung/luebbert-laboratory.html
Dr. Florian Perner	MEN1 mutations mediate clinical resistance to Menin inhibition. 2023. ***Nature*** 2023 DOI: 10.1038/s41586-023-05755-9. Novel Inhibitors of the Histone-Methyltransferase DOT1L Show Potent Antileukemic Activity in Patient-derived Xenografts. ***Blood*** 2020. DOI: 10.1182/blood.2020006113.	Deciphering epigenetic mechanisms underlying disease persistence under Menin-inhibitor treatment in Acute Myeloid Leukemia. Förderorganisation: Else Kröner-Fresenius Stiftung Targeting aberrant chromatin modifiers in clonal hematopoiesis and pre-leukemia. Förderorganisation: Deutsche Forschungsgemeinschaft; Emmy Noether-Programme	Ziftomenib in patients with R/R AML (IST, NCT04067336)	https://www.linkedin.com/in/florian-perner
Prof. Dr. Christoph Plass	DNMT and HDAC inhibitors induce cryptic transcription start sites encoded in long terminal repeats. **Nat Genetics** 2017 DOI: 10.1038/ng1117-1661c DNMT and HDAC inhibition induces immunogenic neoantigens from human endogenous retroviral element-derived transcripts. **Nat Commun** doi: 10.1038/s41467-023-42417-w	Veränderungen im Methylom hämatopoetischer Stammzellen in der alterungs-assoziierten klonalen Hämatopoese und myeloischen Leukämogenese Förderorganisation: DFG	N/A	https://www.dkfz.de/en/CanEpi/index.php