AK Klinische & Translationale Epigenetik

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DGHO DEUTSCHE GESELLSCHAFT FÜR HÄMATOLOGIE UND MEDIZINISCHE ONKOLOGIE

Projects

Therapeutic targeting of chromatin alterations in leukemia and solid tumors

Florian Perner[1,2] | Tobias Berg[2,3] | Daniel Sasca[2,4] | Sophie-Luise Mersiowsky[5] | Jayant Y. Gadrey[6] | Johanna Thomas[5] | Michael W. M. Kühn[2,4] | Michael Lübbert[2,5]

IJC INTERNATIONAL JOURNAL OF CANCER | UICC

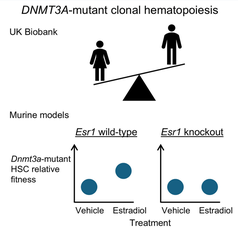
2025

Special issue of International Journal of Cancer:
Principles of Chromatin Remodeling in Cancer and translational perspectives

Guest Editors:
Ruud Delwel (Rotterdam, The Netherlands),
Hinrich Gronemeyer (Strasbourg, France)
Christoph Plass (Heidelberg, Germany)

Sex differences in DNMT3A-mutant clonal hematopoiesis and the effects of estrogen

Authors
Julia Stomper, Abhishek Niroula, Roger Belizaire, Marie McConkey, Tagore Sanketh Bandaru, Benjamin L. Ebert

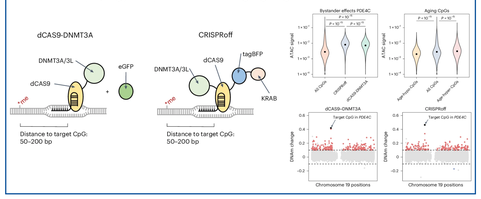


CellPress
Cell Reports
2025

Epigenetic editing at individual age-associated CpGs affects the genome-wide epigenetic aging landscape

Sven Liesenfelder[1,2], Mohamed H. Elsafi Mabrouk[1,2,3], Jessica Iliescu[1,2], Monica Varona Baranda[1,2], Athanasia Mizi[4], Juan-Felipe Perez-Correa[1,2], Martina Wessiepe[5], Argyris Papantonis[4] & Wolfgang Wagner[1,2,6]

nature aging
2025



Enhancer Hijacking Discovery in AML by Pyjacker Identifies MNX1 Activation via Deletion 7q

Etienne Sollier, Anna Riedel, Ulrich H. Toprak, Jualnna A. Wierczkowska, Jan Philipp Bruchhaus, Jan Philipp Schmitz, Mariam Hakobyan, Aurore Touzart, Ekaterina Jahn, Birga Vick, Fiona Brown-Burke, Katherine Kelly, Simge Kelekçi, Anastasija Pejkovska, Ashish Goyal, Marion Bähr, Karsten Breuer, Mei-Ju May Chen, Maria Llamazares-Prada, Mark Hartmann, Maximilian Schönung, Nadia Correia, Christoph Lepenies, Abdullah, Ursula Klingmüller, Sadaf S. Mughal, Benedikt Brors, Frank Westermann, Elias Ulrich, Robert J. Autry, Matthias Schlesner, Sebastian Vosberg, Tobias Herold, Philipp A. Greif, Dietmar Pfeifer, Michael Lübbert, Thomas Fischer, Florian H. Heidel, Claudia Gebhard, Wencke Walter, Torsten Haferlach, Anne-Kathrin Eisfeld, Krzysztof Mrózek, Christian Buske, Lars Bullinger, Leonie Smeenk, Claudia Erpelinck-Verschueren, Roger Mulet-Lazaro, Ruud Delwel, Aurélie Ernst, Michael Scherer, Paolo Lubik, Irmela Jeremias, Konstanze Döhner, Hartmut Döhner, Daniel B. Lipka, and Christoph Plass

AACR American Association for Cancer Research | JOURNALS | BLOOD CANCER DISCOVERY

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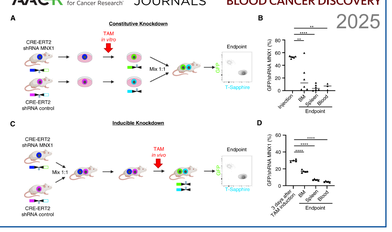
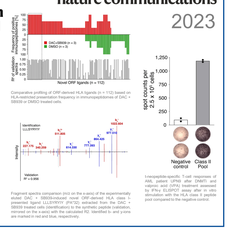


Epigenetic inhibitors induce novel, HLA-presented neoantigens

DNMT and HDAC inhibition induces immunogenic neoantigens from human endogenous retroviral element-derived transcripts

Ashish Goyal[1,2], Jens Bauer[3,4,5,6,7], Joschka Hey[8], Dimitris N. Papageorgiou[9,10], Ekaterina Stepanova[11], Michael Daskalakis[12], Jonas Schell[13], Mariusz Dubbelaar[14,15], Boris Klimovich[16], Dominic Schwarz[17], Melanie Märklin[18], Malte Roeder[1], Yu-Yu Lin[1], Tobias Maß[19], Oliver Micke[1], Hans-Georg Rammensee[14,15], Michael Lübbert[20], Fabrizio Lacaya Puch[21], Jeroen Krijgsveld[22], Juliane S. Walz[23,24,25] & Christoph Plass[26,27,28]

nature communications
2023

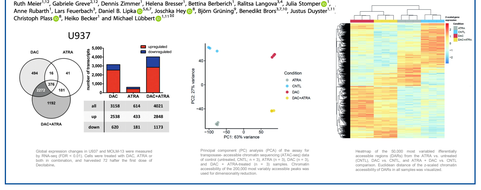


ATRA addition to decitabine results in cooperative effects on transcriptome and chromatin of AML cells

The antileukemic activity of decitabine upon *PML/RARA*-negative AML blasts is supported by all-*trans* retinoic acid: in vitro and in vivo evidence for cooperation

Ruth Meier[1,2], Gabriele Greve[1,2], Dennis Zimmer[1], Helena Bresser[1], Bettina Berberich[1], Ralitsa Langova[3,4], Julia Stomper[1], Anne Rubarth[1], Lars Feuerbach[1], Daniel B. Lipka[1,5], Joschka Hey[6], Björn Grüning[7], Benedikt Brors[8,9,10], Justus Duyster[1,2], Christoph Plass[11], Heiko Becker[1] and Michael Lübbert[1,2,12]

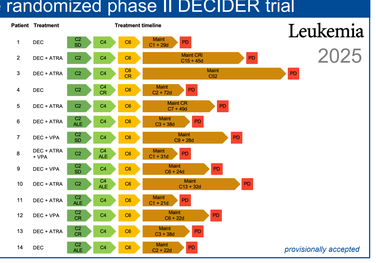
Blood Cancer Journal
2022



Genetic and epigenetic alterations at secondary resistance after continued decitabine-based treatment in the randomized phase II DECIDER trial

Inga Hund, Maria Elena Hess, Geoffroy Andrieux, Julia Stomper, Gabriele Greve, Christoph Niemöller, Tobias Ma, David Uhl, Olga Grishina, Felicitas Thol, Michael Heuser, Gesine Bug, Martina Crysandt, Andreas Neubauer, Justus Duyster, Hartmut Döhner, Melanie Boerries, Michael Lübbert, Heiko Becker

Leukemia
2025

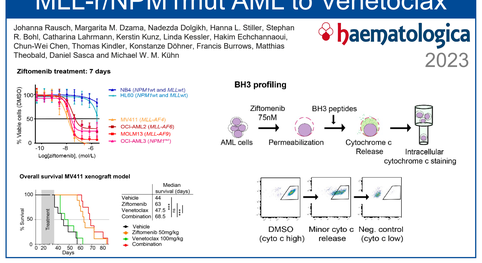


provisionally accepted

Ziftomenib synergizes and sensitizes MLL-r/NPM1mut AML to Venetoclax

Johanna Rausch, Margarita M. Dzama, Nadezda Dolgikh, Hanna L. Stiller, Stephan R. Bohl, Catharina Lahrmann, Kerstin Kunz, Linda Kessler, Hakim Echchannaoui, Chun-Wei Chen, Thomas Kindler, Konstanze Döhner, Francis Burrows, Matthias Theobald, Daniel Sasca and Michael W. M. Kühn

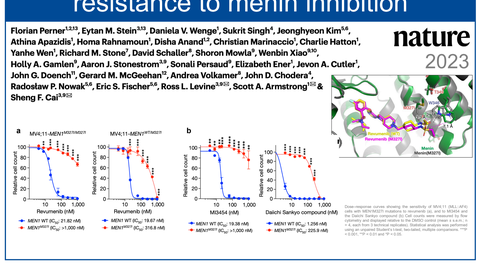
haematologica
2023



MEN1 mutations mediate clinical resistance to menin inhibition

Florian Perner[1,2,13], Eytan M. Stein[3,13], Daniela V. Wenge[1], Sukrit Singh[4], Jeonghyeon Kim[5,6], Athina Apazidis[1], Homa Rahnamoun[1], Disha Anand[1,2], Christian Marinaccio[3], Charlie Hatton[3], Yanhe Wen[7], Richard M. Stone[8], David Schaller[9], Shoron Mowla[9], Wenbin Xiao[9,10], Holly A. Garnett[9], Aaron J. Stonestrom[11], Sonali Persaud[3], Elizabeth Ener[1], Jevon A. Cutler[1], John G. Doench[11], Gerard M. McGeehan[12], Andrea Volkamer[6], John D. Chodera[4], Radosław P. Nowak[5,6], Eric S. Fischer[3,6], Ross L. Levine[3,8☒], Scott A. Armstrong[1☒] & Sheng F. Cai[3,8☒]

nature
2023



Acute resistance to BET inhibitors remodels compensatory transcriptional programs via p300 coactivation

Viral Shah,[1,2,*] George Giotopoulos,[4,5,*] Hikari Osaki,[4,5,*] Markus Meyenhofer,[1,3] Eshwar Meduri,[4,5] Aaron Gallego-Crespo,[1,3] Malte A. Behrendt,[1,2] Maria Saura-Pañella,[1,3] Aarti Tarkar,[4] Benedict Schubert,[1] Haiyang Yun,[4,5,7] Sarah J. Horton,[4,5] Shuchi Agrawal-Singh,[4,5] Patricia S. Haehnel,[1,3] Faisal Basheer,[4,5] Dave Lugo,[1] Ioanna Eleftheriadou,[1] Olena Barbash,[1] Arindam Dhar,[4] Michael W. M. Kühn,[1,5,6] Borhane Guezguez,[1,2] Matthias Theobald,[1,5,6] Thomas Kindler,[1,5,6] Paolo Galipoli,[1,2] Paul Yeh,[11] Mark A. Dawson,[12] Rab K. Prinjha,[4] Brian J. P. Huntly,[4,5,*] and Daniel Sasca[1,5,6,7,8,*]

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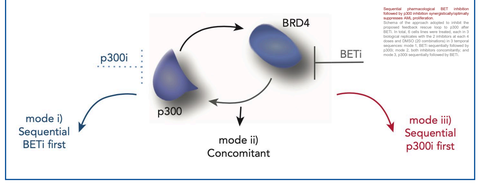


LSD1 inhibitor + ATRA induces CD38 expression on AML blasts in vivo

Sensitization of Non-M3 Acute Myeloid Leukemia Blasts to All-*Trans* Retinoic Acid by the LSD1 Inhibitor Tranylcypromine: TRANSATRA Phase I Study

Michael Kruszewski[1] | Claudia Schnoor[2] | Tobias Berg[2,3,4] | Usama Dr Rahman[5] | Marcus Schittenhelm[6,7] | Katharina Götze[8,9,10] | Andrea Kündgen[11] | Caroline Pabst[12] | Tobias Ma[1] | Anna Fing[13] | Julia Stomper[1] | Dietmar Pfeifer[1] | Eric Metzger[14,15] | Johannes Jung[16] | Kevin Mochalskki[1] | Johanna Thomas[1] | Gesine Bug[1] | Justus Duyster[1,10,19] | Manfred Jung[14,15] | Roland Schüle[14,15] | Ralph Wäsch[1] | Olga Grishina[1] | Michael Lübbert[1,10,19]

Business Insights in Haematology

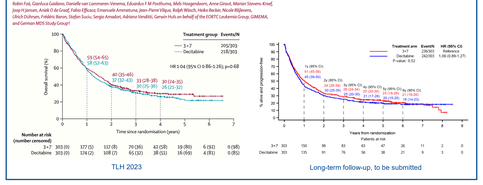
2025

Decitabine is not inferior to 3+7 in treatment of older patiens

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

Michael Lübbert*, Pierre W Wijermans*, Michal Kosinski, Sylvain Chantepie, Walter J F M Van de Velden, Richard Nappeney, Lamorna Grillbäck-Cox, Andreas Neubauer, Martina Crysandt, Radowan Ishmaw, Maria Lopez, Stephen Fuhrmann, Ernesto Audisio, Anna Cardona, Oliver Legrand, Robin Foà, Gianluca Gaidano, Daniella van Lammeren-Venema, Eduardo F M Posthuma, Melis Hoogendoorn, Anne Geluk, Marian Stevens-Kroef, Jorge H Jansen, Arnold C de Graaf, Fabio D'Souza, Emanuele Ammatuna, Jean-Pierre Vilque, Ralph Wäsch, Heike Becker, Nicole Blijlevens, Ulrich Dühren, Frédéric Baron, Stefan Socie, Sergio Amadori, Adriano Venditti, Gerwin Huls on behalf of the EORTC Leukemia Group, GIMEMA, and German MDS Study Group†

THE LANCET Haematology
2023



Objectives

- Advance therapeutic strategies and mechanistic understanding in acute myeloid leukemia (AML)
- Investigate key epigenetic drivers (e.g. DNA methylation, histone modifications, enhancer hijacking events)
- Develop and optimize therapeutic approaches (e.g. epigenetic therapies as monotherapy or in combination, targeted inhibition of oncogenic pathways)
- Identify and overcome mechanisms of treatment resistance
- Characterize disease heterogenity (e.g. sex-specific and genetic influences)
- Clinical trials: IITs (high priority), e.g. HMA-venetoclax based, menin inhibition

Members

Prof. Dr. Heiko Becker (Uniklinikum Freiburg)
Prof. Dr. Tobias Berg (McMaster University Hamilton, Canada)
Dr. med. Dominic Braunagel (Uniklinikum Heidelberg)
Dr. Navina Dahmke (Uniklinikum Homburg)
PD Dr. Michael Daskalakis (Uniklinik Bern)
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Prof. Dr. med. Norbert Gattermann (Uniklinikum Düsseldorf)
Dr. Claudia Gebhard (Uniklinikum Regensburg)
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Univ. Prof. Dr. med. Michael Kühn (Universitätsmedizin Mainz)
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Prof. Dr. med. Friedrich Stölzel (Uniklinikum Kiel)
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PD Dr. med. Minna Voigtländer (Uniklinikum Hamburg-Eppendorf)
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