



## Thomas Koehnke

Senior Research Scientist-Basic Life, Stem Cell Bio Regenerative Med Institute

### Bio

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#### EDUCATION AND CERTIFICATIONS

- Fellowship, University Hospital of Munich (LMU), Munich, Germany , Medicine - Hematology/Oncology (2017)
- Dr. med., Charité - University Medicine Berlin, Berlin, Germany , Medicine (2015)
- Residency Training, University Hospital of Munich (LMU), Munich, Germany , Medicine - Hematology/Oncology (2013)
- M.D., Georg-August-Universität Göttingen, Göttingen, Germany , Medicine (2010)

### Publications

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#### PUBLICATIONS

- **DNMT3A R882H Is Not Required for Disease Maintenance in Primary Human AML, but Is Associated With Increased Leukemia Stem Cell Frequency.** *Cancer discovery*  
Köhnke, T., Karigane, D., Hilgart, E., Fan, A. C., Kayamori, K., Miyauchi, M., Collins, C. T., Suchy, F. P., Rangavajhula, A., Feng, Y., Nakauchi, Y., Martinez-Montes, E., Fowler, et al  
2025
- **Sensitive detection of novel structural variants and 3D chromosome conformation reveals likely novel drivers including enhancer hijacking in AML**  
Koehnke, T., Ediriwickrema, A., Bhakta, M., Fortuna, A., Tiwari, C., Sanborn, Z., Zhang, T., Munding, L., Majeti, R.  
ELSEVIER.2025: 5257-5258
- **Inhibition of DOCK1 prevents the clonal expansion of high-risk TP53-mutant clonal hematopoiesis induced by genotoxic stressors**  
Feng, Y., Koehnke, T., Patrick, B., Benard, B., Kayamori, K., Heaton, E., Collins, C., Chavez, J., Zhang, T., Gentles, A., Majeti, R.  
ELSEVIER.2025: 631-632
- **Human HSPCs CRISPR-engineered to endogenously express oncogenic NRAS generate a transplantable lethal myeloid malignancy targetable with novel RAS therapeutics**  
Liu, S., Collins, C., Chavez, J., Choi, S., Koehnke, T., Majeti, R.  
ELSEVIER.2025: 5004-5005
- **Intra-leukemic interferon signaling suppresses expansion and mediates chemoresistance in human AML.** *Blood cancer discovery*  
Karigane, D., Fan, A. C., Nishimura, T., Kayamori, K., Nakauchi, Y., Köhnke, T., Rangavajhula, A., Ediriwickrema, A., Benard, B. A., Thomas, R., Zhao, F., Stafford, M., Suchy, et al  
2025
- **A single-cell framework identifies functionally and molecularly distinct multipotent progenitors in adult human hematopoiesis.** *Cell reports*  
Ediriwickrema, A., Nakauchi, Y., Fan, A. C., Köhnke, T., Hu, X., Luca, B. A., Kim, Y., Ramakrishnan, S., Nakamoto, M., Karigane, D., Linde, M. H., Azizi, A., Newman, et al  
2025; 44 (9): 116236

- **Quantification of intrinsic regulatory factors refines human hematopoietic progenitor definitions and reveals early erythroid lineage priming.** *Cell reports*  
Favaro, P., Glass, D. R., Borges, L., Baskar, R., Lam, A., Reynolds, W., Ho, D., Bruce, T., Tebaykin, D., Koehnke, T., Scanlon, V. M., Shestopalov, I., Bendall, et al  
2025; 44 (7): 115913
- **A CEBPB/IL-1 $\beta$ /TNF- $\alpha$  Feedback Loop Drives Drug Resistance to Venetoclax and MDM2 Inhibitors in Monocytic Leukemia.** *Blood*  
Allen, B., Bottomly, D., Köhnke, T., Wang, A., Lin, H. Y., Johnson, K., Kenna, I., Streltsova, A., Martin, E., Chen, R., Savoy, L., Long, N., Ryabinin, et al  
2025
- **A New Era of Functional Experimentation in Human Hematopoiesis and Leukemia Research.** *Experimental hematology*  
Köhnke, T., Feng, Y., Majeti, R.  
2024: 104652
- **ENGINEERING SEQUENTIAL MUTATIONS INTO HUMAN HSPCS YIELDS AN AGGRESSIVE MYELOID MALIGNANCY ALLOWING FOR INTERROGATION OF PRELEUKEMIC TRANSFORMATION**  
Collins, C., Nakauchi, Y., Koehnke, T., Chavez, J., Choi, S., Sharma, R., Zhao, F., Majeti, R.  
ELSEVIER SCIENCE INC.2024
- **ENGINEERING SEQUENTIAL MUTATIONS INTO HUMAN HSPCS YIELDS AN AGGRESSIVE MYELOID MALIGNANCY ALLOWING FOR INTERROGATION OF PRELEUKEMIC TRANSFORMATION**  
Collins, C., Nakauchi, Y., Koehnke, T., Chavez, J., Choi, S., Sharma, R., Zhao, F., Majeti, R.  
ELSEVIER SCIENCE INC.2024
- **Convergent epigenetic evolution drives relapse in acute myeloid leukemia.** *eLife*  
Nuno, K., Azizi, A., Koehnke, T., Lareau, C., Ediriwickrema, A., Corces, M. R., Satpathy, A. T., Majeti, R.  
2024; 13
- **Human ASXL1-mutant hematopoiesis is driven by a truncated protein associated with aberrant de-ubiquitination of H2AK119.** *Blood cancer discovery*  
Kohnke, T., Nuno, K. A., Alder, C. C., Gars, E. J., Phan, P., Fan, A. C., Majeti, R.  
2024
- **IDH1-mutant preleukemic hematopoietic stem cells can be eliminated by inhibition of oxidative phosphorylation.** *Blood cancer discovery*  
Landberg, N., Köhnke, T., Feng, Y., Nakauchi, Y., Fan, A. C., Linde, M. H., Karigane, D., Lim, K., Sinha, R., Malcovati, L., Thomas, D., Majeti, R.  
2023
- **ASXL1 Truncating Mutations Drive Leukemic Resistance to T Cell Attack**  
McCurry, D., Ge, Z., Lee, J., Raparla, P., Koehnke, T., Pasumarthi, R., Leng, X., Pasvolosky, O., Nguyen, V., Maurer, K., Li, S., Livak, K. J., Azizi, et al  
AMER SOC HEMATOLOGY.2023
- **Serum Amyloid A1 (SAA1) Secreted By the Stromal Microenvironment Drives Malignant Clonal Proliferation in Myelodysplastic Syndromes (MDS) and Acute Myeloid Leukemia (AML)**  
Chernak, B., Galan-Diez, M., Ali, A., Cuesta-Dominguez, A., Chen, Z., Koehnke, T., Majeti, R., Carroll, M., Raza, A., Kousteni, S.  
AMER SOC HEMATOLOGY.2023
- **Cebpb/IL1/TNF $\alpha$  Positive Feedback Loop Drives Drug Resistance of BCL2 and MDM2 Inhibitors in Monocytic Leukemia Cells**  
Allen, B., Bottomly, D., Wang, A., Koehnke, T., Savoy, L., Ryabini, P., Chen, R., Johnson, K., Kurtz, S. E., Agarwal, A., Barton, M., Druker, B. J., Majeti, et al  
AMER SOC HEMATOLOGY.2023
- **BCOR Loss Confers Increased Stemness and Partially Rescues RUNX1-Deficient Phenotypes in Human Hematopoietic Stem and Progenitor Cells**  
Jackson, K. K., Fan, A. C., Karigane, D., Zhao, F., Collins, C. T., Nakauchi, Y., Kayamori, K., Rangavajhula, A. S., Koehnke, T., Majeti, R.  
AMER SOC HEMATOLOGY.2023
- **Gene Correction of DNMT3A:R882H in Primary Human AML Demonstrates That This Mutation Is Not Required for Disease Maintenance, but Is Associated with Increased Leukemia Stem Cell Frequency**  
Koehnke, T., Karigane, D., Hilgart, E., Kayamori, K., Fan, A. C., Collins, C. T., Suchy, F. P., Rangavajhula, A. S., Feng, Y., Nakauchi, Y., Martinez-Montes, E., Koldobskiy, M., Feinberg, et al

AMER SOC HEMATOLOGY.2023

- **Intra-Leukemic IFN. Signaling Mediates Cell Cycle Suppression and Chemoresistance in AML**  
Karigane, D., Fan, A. C., Kayamori, K., Nakauchi, Y., Koehnke, T., Rangavajhula, A. S., Ediriwickrema, A., Majeti, R.  
AMER SOC HEMATOLOGY.2023
- **Engineering Sequential Mutations into Human HSPCs Yields an Aggressive Myeloid Malignancy Allowing for Interrogation of Preleukemic Transformation**  
Collins, C. T., Nakauchi, Y., Koehnke, T., Chavez, J. S., Choi, S., Sharma, R., Zhao, F., Majeti, R.  
AMER SOC HEMATOLOGY.2023
- **RUNX1 loss renders hematopoietic and leukemic cells dependent on interleukin-3 and sensitive to JAK inhibition.** *The Journal of clinical investigation*  
Fan, A. C., Nakauchi, Y., Bai, L., Azizi, A., Nuno, K. A., Zhao, F., Köhnke, T., Karigane, D., Cruz-Hernandez, D., Reinisch, A., Khatri, P., Majeti, R.  
2023
- **Engineering Oncogenic Heterozygous Gain-of-Function Mutations in Human Hematopoietic Stem and Progenitor Cells.** *Journal of visualized experiments : JoVE*  
Sconocchia, T., Foßelteder, J., Köhnke, T., Majeti, R., Reinisch, A.  
2023
- **Reprogramming Cancer into Antigen Presenting Cells as a Novel Immunotherapy.** *Cancer discovery*  
Linde, M. H., Fan, A. C., Kohnke, T., Trotman-Grant, A. C., Gurev, S. F., Phan, P., Zhao, F., Haddock, N. L., Nuno, K. A., Gars, E. J., Stafford, M., Marshall, P. L., Dove, et al  
2023
- **Targeting IDH1-Mutated Pre-Leukemic Hematopoietic Stem Cells in Myeloid Disease, Including CCUS and AML**  
Landberg, N., Koehnke, T., Nakauchi, Y., Fan, A., Karigane, D., Thomas, D., Majeti, R.  
AMER SOC HEMATOLOGY.2022: 2234-2235
- **Uncovering the Enemy: Single-Cell Transcriptional Profiling of Measurable Residual Disease (MRD) Cells**  
Kazerani, M., Wange, L., Tast, B., Solovey, M., Nixdorf, D., Rohrbacher, L., Heitmueller, C., Koehnke, T., Schnorfeil, F., Grunwald, V. V., Spiekermann, K., Metzeler, K. H., Hopfner, et al  
AMER SOC HEMATOLOGY.2022: 6321-6322
- **Dysregulated lipid synthesis by oncogenic IDH1 mutation is a targetable synthetic lethal vulnerability.** *Cancer discovery*  
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2022
- **Integrated multiomic approach for identification of novel immunotherapeutic targets in AML.** *Biomarker research*  
Köhnke, T., Liu, X., Haubner, S., Bücklein, V., Hänel, G., Krupka, C., Solis-Mezarino, V., Herzog, F., Subklewe, M.  
2022; 10 (1): 43
- **The cell type specific 5hmC landscape and dynamics of healthy human hematopoiesis and TET2-mutant pre-leukemia.** *Blood cancer discovery*  
Nakauchi, Y., Azizi, A., Thomas, D., Corces, M. R., Reinisch, A., Sharma, R., Cruz Hernandez, D., Kohnke, T., Karigane, D., Fan, A., Martinez-Krams, D., Stafford, M., Kaur, et al  
2022
- **Clonal hematopoiesis: from mechanisms to clinical intervention.** *Cancer discovery*  
Kohnke, T., Majeti, R.  
2021
- **The TRACE-Seq method tracks recombination alleles and identifies clonal reconstitution dynamics of gene targeted human hematopoietic stem cells.** *Nature communications*  
Sharma, R. n., Dever, D. P., Lee, C. M., Azizi, A. n., Pan, Y. n., Camarena, J. n., Köhnke, T. n., Bao, G. n., Porteus, M. H., Majeti, R. n.  
2021; 12 (1): 472
- **Chromatin Accessibility Analysis Reveals Epigenetic Evolution Is a Common Mechanism of Relapse in Acute Myeloid Leukemia**  
Nuno, K. A., Azizi, A., Koehnke, T., Ediriwickrema, A., Corces, M., Majeti, R.

2021

- **Enasidenib drives human erythroid differentiation independently of isocitrate dehydrogenase 2.** *The Journal of clinical investigation*  
Dutta, R. n., Zhang, T. Y., Köhnke, T. n., Thomas, D. n., Linde, M. n., Gars, E. n., Stafford, M. n., Kaur, S. n., Nakauchi, Y. n., Yin, R. n., Azizi, A. n., Narla, A. n., Majeti, et al  
2020
- **Integrated analysis of patient samples identifies biomarkers for venetoclax efficacy and combination strategies in acute myeloid leukemia.** *Nature cancer*  
Zhang, H. n., Nakauchi, Y. n., Köhnke, T. n., Stafford, M. n., Bottomly, D. n., Thomas, R. n., Wilmot, B. n., McWeeney, S. K., Majeti, R. n., Tyner, J. W.  
2020; 1 (8): 826–39
- **Single-cell mutational profiling enhances the clinical evaluation of AML MRD.** *Blood advances*  
Edirivickrema, A. n., Aleshin, A. n., Reiter, J. G., Corces, M. R., Köhnke, T. n., Stafford, M. n., Liedtke, M. n., Medeiros, B. C., Majeti, R. n.  
2020; 4 (5): 943–52
- **Toll-like receptor 7/8-matured RNA-transduced dendritic cells as post-remission therapy in acute myeloid leukaemia: results of a phase I trial** *CLINICAL & TRANSLATIONAL IMMUNOLOGY*  
Lichtenegger, F. S., Schnorfeil, F. M., Rothe, M., Deiser, K., Altmann, T., Buecklein, V. L., Koehnke, T., Augsberger, C., Konstandin, N. P., Spiekermann, K., Moosmann, A., Boehm, S., Boxberg, et al  
2020; 9 (3): e1117
- **Response assessment in acute myeloid leukemia by flow cytometry supersedes cytomorphology at time of aplasia, amends cases without molecular residual disease marker and serves as an independent prognostic marker at time of aplasia and post-induction** *HAEMATOLOGICA*  
Koehnke, T., Buecklein, V., Rechkemmer, S., Schneider, S., Rothenberg-Thurley, M., Metzeler, K. H., Sauerland, M., Hiddemann, W., Spiekermann, K., Subklewe, M.  
2019; 104 (11): E510–E513
- **Asparaginase activities during intensified treatment with pegylated E. coli asparaginase in adults with newly-diagnosed acute lymphoblastic leukemia** *LEUKEMIA & LYMPHOMA*  
Lanvers-Kaminsky, C., Niemann, A., Eveslage, M., Beck, J., Koehnke, T., Martin, S., de Wit, M., Spriewald, B., Hauspurg, H., Hoelzer, D., Boos, J., Goekbuget, N.  
2020; 61 (1): 138–45
- **A Role for Lipid Mediators in Acute Myeloid Leukemia** *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*  
Loew, A., Koehnke, T., Rehbeil, E., Pietzner, A., Weylandt, K.  
2019; 20 (10)
- **Barcoded Clonal Tracking of CRISPR-Cas9 and rAAV6-Mediated Gene Targeting in Human Hematopoietic Stem and Progenitor Cells**  
Dever, D. P., Sharma, R., Lee, C. M., Aziz, A., Koehnke, T., Camarena, J., Pan, Y., Zhao, F., Bao, G., Majeti, R., Porteus, M.  
CELL PRESS.2019: 5
- **Data mining for mutation-specific targets in acute myeloid leukemia.** *Leukemia*  
Benard, B., Gentles, A. J., Kohnke, T., Majeti, R., Thomas, D.  
2019
- **Coexpression profile of leukemic stem cell markers for combinatorial targeted therapy in AML.** *Leukemia*  
Haubner, S., Perna, F., Köhnke, T., Schmidt, C., Berman, S., Augsberger, C., Schnorfeil, F. M., Krupka, C., Lichtenegger, F. S., Liu, X., Kerbs, P., Schneider, S., Metzeler, et al  
2019; 33 (1): 64-74
- **Azacitidine and Ascorbate Inhibit the Competitive Outgrowth of Human TET2 Mutant HSPCs in a Xenograft Model of Pre-Leukemia**  
Nakauchi, Y., Thomas, D., Sharma, R., Corces, M., Reinisch, A., Cruz, D., Koehnke, T., Karigane, D., Fan, A., Majeti, R.  
AMER SOC HEMATOLOGY.2018
- **Persistence of pre-leukemic clones during first remission and risk of relapse in acute myeloid leukemia.** *Leukemia*  
Rothenberg-Thurley, M., Amler, S., Goerlich, D., Köhnke, T., Konstandin, N. P., Schneider, S., Sauerland, M. C., Herold, T., Hubmann, M., Ksienzyk, B., Zellmeier, E., Bohlander, S. K., Subklewe, et al  
2018; 32 (7): 1598-1608

- **Diagnosis of CLL revisited: increased specificity by a modified five-marker scoring system including CD200.** *British journal of haematology*  
Köhnke, T., Wittmann, V. K., Bücklein, V. L., Lichtenegger, F., Pasic, Z., Hiddemann, W., Spiekermann, K., Subklewe, M.  
2017; 179 (3): 480-487
- **Recent developments in immunotherapy of acute myeloid leukemia.** *Journal of hematology & oncology*  
Lichtenegger, F. S., Krupka, C., Haubner, S., Köhnke, T., Subklewe, M.  
2017; 10 (1): 142
- **Targeting CD157 in AML using a novel, Fc-engineered antibody construct.** *Oncotarget*  
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2017; 8 (22): 35707-35717
- **Blockade of the PD-1/PD-L1 axis augments lysis of AML cells by the CD33/CD3 BITE antibody construct AMG 330: reversing a T-cell-induced immune escape mechanism.** *Leukemia*  
Krupka, C., Kufer, P., Kischel, R., Zugmaier, G., Lichtenegger, F. S., Köhnke, T., Vick, B., Jeremias, I., Metzeler, K. H., Altmann, T., Schneider, S., Fiegl, M., Spiekermann, et al  
2016; 30 (2): 484-91
- **Increase of PD-L1 expressing B-precursor ALL cells in a patient resistant to the CD19/CD3-bispecific T cell engager antibody blinatumomab.** *Journal of hematology & oncology*  
Köhnke, T., Krupka, C., Tischer, J., Knösel, T., Subklewe, M.  
2015; 8: 111
- **Virus infection in HLA-haploidentical hematopoietic stem cell transplantation: incidence in the context of immune recovery in two different transplantation settings.** *Annals of hematology*  
Tischer, J., Engel, N., Fritsch, S., Prevalsek, D., Hubmann, M., Schulz, C., Zoellner, A. K., Bücklein, V., Reibke, R., Mumm, F., Rieger, C. T., Hill, W., Ledderose, et al  
2015; 94 (10): 1677-88
- **Immunotherapy for Acute Myeloid Leukemia.** *Seminars in hematology*  
Lichtenegger, F. S., Krupka, C., Köhnke, T., Subklewe, M.  
2015; 52 (3): 207-14
- **Early assessment of minimal residual disease in AML by flow cytometry during aplasia identifies patients at increased risk of relapse.** *Leukemia*  
Köhnke, T., Sauter, D., Ringel, K., Hoster, E., Laubender, R. P., Hubmann, M., Bohlander, S. K., Kakadia, P. M., Schneider, S., Dufour, A., Sauerland, M. C., Berdel, W. E., Büchner, et al  
2015; 29 (2): 377-86
- **Molecular response assessment by quantitative real-time polymerase chain reaction after induction therapy in NPM1-mutated patients identifies those at high risk of relapse.** *Haematologica*  
Hubmann, M., Köhnke, T., Hoster, E., Schneider, S., Dufour, A., Zellmeier, E., Fiegl, M., Braess, J., Bohlander, S. K., Subklewe, M., Sauerland, M. C., Berdel, W. E., Büchner, et al  
2014; 99 (8): 1317-25
- **CD33 target validation and sustained depletion of AML blasts in long-term cultures by the bispecific T-cell-engaging antibody AMG 330.** *Blood*  
Krupka, C., Kufer, P., Kischel, R., Zugmaier, G., Bögeholz, J., Köhnke, T., Lichtenegger, F. S., Schneider, S., Metzeler, K. H., Fiegl, M., Spiekermann, K., Baeuerle, P. A., Hiddemann, et al  
2014; 123 (3): 356-65
- **Acetylsalicylic Acid reduces the severity of dextran sodium sulfate-induced colitis and increases the formation of anti-inflammatory lipid mediators.** *BioMed research international*  
Köhnke, T., Gomolka, B., Bilal, S., Zhou, X., Sun, Y., Rothe, M., Baumgart, D. C., Weylandt, K. H.  
2013; 2013: 748160
- **Kinetics of CEA and CA15-3 correlate with treatment response in patients undergoing chemotherapy for metastatic breast cancer (MBC).** *Tumour biology : the journal of the International Society for Oncodevelopmental Biology and Medicine*  
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- **Reduction of inflammation and chronic tissue damage by omega-3 fatty acids in fat-1 transgenic mice with pancreatitis.** *Biochimica et biophysica acta*  
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