Martin Zenke, PhD, Professor of Cell Biology

Extended Research Profile

Personal Data

Name and Academic Title	**Martin Zenke** – PhD, Professor 07.08.1953 in Korbach/Waldeck (Germany)
Current Position	Professor of Cell Biology, RWTH Aachen University
Wikipedia	https://en.wikipedia.org/wiki/Martin_Zenke

Affiliation

Institution	**RWTH Aachen University**
Institute/Department **Address**	Department of Hematology, Oncology and Stem Cell Transplantation Department of Medicine IV RWTH Aachen University Medical School Pauwelsstrasse 30 52074 Aachen, Germany martin.zenke@rwth-aachen.de www.molcell.de www.stemcellfactory.de

University Education

1979 - 1982	Graduate studies in Molecular and Cell Biology, Institute for Virus Research, German Cancer Research Center (DKFZ), Heidelberg, Germany
1972 – 1978	Studies in Chemistry/Biochemistry and Medicine, Philipps-University, Marburg, Germany

Academic Qualifications

1992	Lecture qualification (Habilitation) in Molecular Genetics, Faculty of Life Sciences, Vienna University, Vienna, Austria
1982	PhD, Faculty of Life Sciences, Ruprecht-Karls-University, Heidelberg, Germany
1978	Diplom (Master), Chemistry/Biochemistry, Philipps-University, Marburg, Germany

Scientific Career

Since 2022	Professor of Cell Biology, c/o Department of Hematology, Oncology and Stem Cell Transplantation, Department of Medicine IV, RWTH Aachen University Medical School, RWTH Aachen University, Aachen, Germany
2003 - 2022	Professor of Cell Biology (C4) and Chairman, Institute for Biomedical Engineering, Department of Cell Biology, RWTH Aachen University Medical School and Helmholtz Institute for Biomedical Engineering, RWTH, Aachen, Germany
2011 - 2014	Managing Director Helmholtz Institute for Biomedical Engineering (3 years legislative period), RWTH Aachen University, Aachen, Germany
1995 - 2003	Research Group Leader (C3), Max-Delbrück-Center for Molecular Medicine (MDC), Berlin, Germany
1988 - 1995	Junior Scientist and Group Leader, Institute of Molecular Pathology (IMP), Vienna, Austria
1985 - 1988	EMBL Fellow and Staff Scientist with Thomas Graf and Hartmut Beug, Differentiation Programme, European Molecular Biology Laboratory (EMBL), Heidelberg, Germany
1982 - 1985	Postdoctoral Fellow with Pierre Chambon, Université Louis Pasteur and Laboratoire de Genetique Moleculaire des Eucaryotes (LGME), Strasbourg, France

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Functions (Selection)

Member of Editorial Board *Journal Biological Chemistry* (since 2015)

Member of “Gene Technology Report”, Berlin-Brandenburg Academy of Sciences and Humanities, BBAW, Berlin, Germany (since 2013)

Initiator, Coordinator and Project Leader *StemCellFactory* (www.stemcellfactory.de) “Automatic Production, Expansion and Differentiation of Induced Pluripotent Stem Cells (iPS Cells)” (since 2010)

Member of “Central Ethics Committee for Stem Cell Research”, Federal Ministry of Education and Research (BMBF) and Federal Ministry of Health (BMG), Berlin, Germany (since 2008)

Secondary affiliation at the Faculty of Mathematics, Computer Science and Natural Sciences, RWTH Aachen University, Aachen, Germany (since 2005)

Member of Steering Committee “Stem Cell Network North Rhine-Westphalia”, Ministry of Innovation, Science and Research of the Federal State of North Rhine-Westphalia, Düsseldorf, Germany (since 2004)

Project leader, Clinical Research Unit CRU 344, “Untangling and targeting mechanism of myelofibrosis in myeloproliferative neoplasms (MPN)”, Aachen, Germany (2020-2022)

Project leader, BMBF Program "Chronic Pain”, Research Network Bio2Treat, Aachen, Germany (2019-2022)

Project Leader (jointly with R. C. Zhao, Beijing, China), NSFC/DFG Sino-German Joint Funding Program “Molecular Principles of Stem Cell Biology” (2010-2014)

Chairman, Evaluation Committee, Norwegian Stem Programme, Research Council of Norway, Oslo, Norway (2010)

Project Leader (jointly with Mat Daemen, Maastricht University, The Netherlands), Euregio Cardiovascular International Research Training Group DFG GRK1508 (EuCAR) “Arterial Remodelling“ (2008-2013)

Member of Steering Committee and Project Leader, DFG Priority Programme 1356 “Pluripotency and Cellular Reprogramming” (2006-2014)

Member of Executive Board, Interdisciplinary Center for Clinical Research Aachen (IZKF Aachen), Faculty of Medicine, RWTH Aachen University, Aachen, Germany (2005-2014)

Project Leader, SFB 542 „Molecular Mechanisms in Inflammation: Cytokines, Signal Transduction and Pathological Consequences“, Aachen, Germany (2005-2011)

Project Leader, BMBF Program on “Cell-based Regenerative Therapies“ (2005-2008)

Project Leader, BMBF Program on “Tissue Engineering“, Research Network AescuLife (2003-2006)

Project Leader (jointly with Petr Bartunek, Prague), Volkswagen Foundation, “Nuclear hormone receptors in normal and malignant hematopoiesis“ (2002-2005)

Project Leader, DFG Priority Programme 1109 “Embryonic and Tissue-specific Stem Cells – Regenerative Systems for Cell and Tissue Repair“ (2001-2007)

Project Leader, Helmholtz Society Strategic Fonds, “Immune Therapy and Gene Therapy of Cancer” (2000-2003)

Project Leader, Edward Jenner Institute for Vaccine Research (EJIVR) and Medical Research Council (MRC), UK, “Towards Dendritic Cell Targeted Vaccines“ (1999-2002)

Project Leader, SFB 506 “Recombinant Nucleic Acids and Proteins for Tumor Therapy“, Berlin, Germany (1997-2003)

Project Leader, DFG Graduate Programme 426, “The Molecular Basis of Therapy“, Berlin, Germany (1998-2001)

Project Leader, German Research Foundation (DFG), “Gene Expression in Antigen Presenting Dendritic Cells“ (1998-2000)

Project Leader (jointly with Michal Dvorak, Prague), Howard Hughes Medical Institute (HHMI), “v-Myb and c-Myb in Growth Control and Differentiation“ (1995-2000)

Project Leader, Austrian Science Fund (FWF), Vienna, Austria, “ErbA Function in Red Blood Cells” (1992-1995)

Supervisor of PhD, master and bachelor theses (>100, not listed), member of numerous PhD Thesis committees and hiring commissions, lecturer for undergraduate and graduate studies in biology.

Ad hoc Review Activities (Journals, selection):

Genes & Development, EMBO Journal, Blood, Development, EMBO Reports, Nature Biotech., Nature Rev. Mol. Cell Biol., Genome Biol., J. Gene Med., Gene, J. Mol. Med., J. Cell Sci., Int. J. Biochem. Cell Biol., Oncogene, Differentiation, Cancer Letters, Immunobiology, Proc. Nat. Acad. Sci. USA, BBA, Cells Tissues Organs, Mol. Thera., PLoS Biology, Exp. Hematol., J. Biochem., J. Immunol., PLoS ONE, Trends Biotechn., Exp. Opin. Biol. Ther., Stem Cells; Eur. J. Cell Biol., Dev. Biol., Nucl. Acid Res., Stem Cells Dev., PLoS Genomics, J. Biol. Chem., Scientific Reports, Immunity, J. Exp Med., Nature Commun., Nature Immunol., Stem Cell Reports

Ad hoc Review Activities (Institutions, selection):

European Commission, Brussels, Belgium; German Research Foundation (DFG), Bonn, Germany; Human Frontier Science Program (HFSP), Strasbourg, France; Ministere de la Recherche de la France, Paris, France; NOW-Council, Earth and Life, Den Haag, The Netherlands; Boehringer Ingelheim Fonds, Ingelheim, Germany; Austrian Science Fund (FWF), Vienna, Austria; Center National de la Recherche Scientifique (CNRS), Paris, France; National Medical Research Council (NMRC) Singapur; Norwegian Research Council, Oslo, Norway; Spanish Ministry of Science and Innovation, Madrid, Spain; Medical Research Council (MRC), London, UK; Alexander von Humboldt Foundation, Bonn, Germany; Melinda and Bill Gates Foundation, Seattle, USA; European Research Council (ERC), Brussels, Belgium

Past and Current 3rd Party Funding

Alexander von Humboldt Foundation
Austrian Science Fund (FWF)
Edward Jenner Institute for Vaccine Research (now Jenner Institute)
European Union (EU)
Federal Ministry of Education and Research (BMBF)
German Federal State North Rhine-Westphalia
German Research Foundation (DFG)
Howard Hughes Medical Institute (HHMI)
Volkswagen Foundation

Memberships

American Association for the Advancement of Science (AAAS)
American Society for Biochemistry and Molecular Biology (ASBMB)
German Society for Biochemistry and Molecular Biology (GBM)
German Society for Cell Biology (DGZ)
German Society for Immunology (DGfI)
German Stem Cell Network (GSCN)
International Society for Stem Cell Research (ISSCR)
Society of German Chemists (GDCh)

Outreach and Public Relation

Member of the “Gene Technology Report (Gentechnologiebericht)” of Berlin-Brandenburg Academy of Sciences and Humanities (BBAW):
Monitoring project on the development of genetic engineering in Germany, including annual reports and focused topic reports, lectures, panel discussion and workshops, aiming at analysing the state and development of genetic engineering in Germany and providing transparent information to the public.

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Organiser of “UniStem Day”, Stem Cell Network.NRW and German Stem Cell Network (GSCN): Annual one-day meeting for high school students dedicated to dissemination and outreach of stem cell science, including lectures, workshops and lab visits.

Frequent and numerous interviews and statements in public media on stem cells and their application in medicine and biotechnology.

Extended List of Key Publications

Ma, Z., Toledo, M. A. S., Wanek, P., Mabrouk, M. H. E., Smet, F Pulak, R., Pieske, S., Piotrowski, T., Herfs, W., Brecher, C., Schmitt, R. H., Wagner, W., and Zenke, M. (2022). Cell cluster sorting in automated differentiation of patient-specific induced pluripotent stem cells towards blood cells. *Frontiers in Bioengineering and Biotechnology,* in press.

Toledo, M. A. S., Fu, X., Kluge, F., Götz, K., Schmitz, S., Wanek, P., Schüler, H. M., Pannen, K., Chatain, N., Koschmieder, S., Brümmendorf, T. H., and Zenke M. (2022). CRISPR/Cas9-engineered human ES cells harboring heterozygous and homozygous c-KIT knockout. *Stem Cell Research* 60, 102732.

Park, Y. S., Lee, Y., Choi, N. Y. Hwang, H. S., Rose-John, S., Zenke, M. and Ko, K. (2022). Enhancement of proliferation of human umbilical cord blood-derived CD34+ hematopoietic stem cells by a combination of hyper-interleukin-6 and small molecules. *Biochemistry and Biophysics Reports* 29, 101214.

Elsafi Mabrouk, M. H., Goetzke, R., Abagnale, G., Yesilyurt, B., Salz, L., Cypris, O., Glück, P., Liesenfelder, S., Zeevaert, K., Ma, Z., Toledo, M. A. S., Li, R., Costa, I. G., Lampert, A., Pachauri, V., Schnakenberg, U., Zenke, M., and Wagner, W. (2022). The spatial self-organisation within pluripotent stem cell colonies is continued in detaching aggregates. *Biomaterials* 282, 121389.

Bernardo, M. P., Silva, B. C.R., Hamouda, A.E.I., Toledo, M.A.S., Schalla, C., Rütten, S., Goetzke, R., Mattoso, L.H.C., Zenke. M., and Sechi, A. (2022). PLA/Hydroxyapatite scaffolds exhibit *in vitro* immunological inertness and promote robust osteogenic differentiation of human mesenchymal stem cells without osteogenic stimuli. *Scientific Reports,* 12, 2333.

Xu, H., Look, T., Prithiviraj, S., Lennartz, D., Delgado Cáceres, M., Götz, K., Wanek, P., Häcker, H., Kramann, R., Seré, K., and Zenke, M. (2021). CRISPR/Cas9 editing in conditionally immortalized HoxB8 cells for studying gene regulation in dendritic cells. *Eur. J. Immunol.*, 2021 Nov 26. doi: 10.1002/eji.202149482. Online ahead of print.

Olschok, K., Han, L., Toledo, M. A. S., Boehnke, J., Theocharides, A., Maurer, A., Schüler, H. M., Buhl, E. M., Kalmer, M., Pannen, K., Gupta, S., Boor, P., Gezer, D., Brümmendorf, T. H., Zenke, M., Chatain, N., and Koschmieder, S. (2021). CALR frameshift mutations in MPN patient-derived iPSCs accelerate maturation of megakaryocytes. *Stem Cell Reports* 16, 2768-2783.

Li, Z., Kuppe, C., Ziegler, S., Cheng, M., Kabgani, N., Menzel, S., Zenke, M., Kramann, R., and Ivan G. Costa, I. G. (2021). Chromatin-accessibility estimation of single-cell ATAC data with scOpen. *Nature Communications* 12, 6386.

Riegert, J., Töpel, A., Schieren, J., Coryn, R., Dibenedetto, S., Braunmiller, D., Zajt, K., Schalla, C., Rütten, S., Zenke, M., Pich, A., and Sechi, A. (2021). Guiding cell adhesion and motility by modulating mechanical and topographical properties of microgel arrays. *PLoS ONE* 16, 257495.

Raja, S., Buhl, E. M., Dreschers, S., Schalla, C., Zenke, M., Luiz H. C. Mattoso, L. H. C., and Sechi, A. (2021). Curauá-derived carbon dots: fluorescent probes for effective Fe(III) ion detection, cellular labeling and bioimaging. *Materials Science & Engineering C* 129, 112409.

Wagner, A. D., Wittkop, U., Thalmann, J., Willmen, T., Gödecke, V., Hodam, J., Ronicke, S., and Zenke, M. (2021). Glucocorticoid effects on tissue residing immune cells in giant cell arteritis: Importance of GM-CSF. *Frontiers in Medicine* 8, 709404.

Boehnke, J., Atakhanov, S., Toledo, M. A. S., Schüler, H. M., Sontag, S., Chatain, N., Koschmieder, S., Brümmendorf, T. H., Kramann, R., and Zenke, M. (2021). CRISPR/Cas9 mediated CXCL4 knockout in human iPS cells of polycythemia vera patient with JAK2 V617F mutation. *Stem Cell Research* 55, 102490.

Satoh, T., Toledo, M. A. S., Boehnke, J., Olschok, K., Küstermann, C., Sontag, S., Seré, K., Koschmieder, S., Brümmendorf, T. H., Chatain, N., Tagawa, Y.-I., and Zenke, M. (2021). Human DC3 antigen presenting dendritic cells from induced pluripotent stem cells. *Front. Cell Dev. Biol.* 9, 667304.

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Blanco, G. E. O., de Souza, C. W. O., Bernardo, M. P., Zenke, M., Mattoso, L. H. C., and Moreira, F. K. V. (2021). Antimicrobially active gelatin/[Mg-Al-CO_3]-LDH nanocomposites based on clove essential oil for skin wound healing. *Materials Today Communications* 27, 102169.

Cichoń, M. A., Klas, K., Buchberger, M., Hammer, M., Seré, K., Zenke, M., Tschachler, E., and Elbe-Bürger, A. (2021). Distinct distribution of RTN1A in immune cells in mouse skin and lymphoid organs. *Front. Cell Dev. Biol.* 8, 608876.

Toledo, M. A. S., Gatz, M., Sontag, S., Gleixner, K. V., Eisenwort, G., Feldberg, K., Hamouda, A. E. I., Kluge, F., Guareschi, R., Rossetti, G., Sechi, A. S., Dufva, O. M. J., Mustjoki, S. M., Maurer, A., Schüler, H. M., Goetzke, R., Braunschweig, T., Kaiser, A., Panse, J., Jawhar, M., Reiter, A., Hilberg, F., Ettmayer, P., Wagner, W., Koschmieder, S., Brümmendorf, T. H., Valent, P., Chatain, N., and Zenke, M. (2021). Nintedanib targets KIT D816V neoplastic cells derived from induced pluripotent stem cells of systemic mastocytosis. *Blood* 135, 2070-2084. with Commentary by Dorrance, A. (2021). „Mast“ering drug discovery with iPSCs. *Blood* 137, 1993-1994.

Schäringer, K., Maxeiner, S., Schalla, C., Rütten, S., Zenke, M., and Sechi, A. (2021). LSP1-myosin1e bi-molecular complex regulates focal adhesion dynamics and cell migration. *FASEB J.* 35, e21268.

Raja, S., Hamouda, A. E. I., Toledo, M. A. S., Hu, C., Bernardo, M. P., Schalla, C., Leite, L. S. F., Buhl, E. M., Dreschers, S., Pich, A., Zenke, M., Mattoso, L. H. C., and Sechi, A. (2021). Functionalized cellulose nanocrystals (CNCs) for cellular labeling and bioimaging. *Biomacromolecules 22, 454-466.*

Chteinberg, E., Wetzels, S., Gerritsen, W., Temmerman, L., van den Oord, J., Biessen E., Kurz, A. K., Winnepenninckx, V., Zenke, M., Speel, E.-J., and zur Hausen, A. (2020). Navitoclax combined with Alpelisib effectively inhibits Merkel cell carcinoma cell growth in vitro. *Ther. Adv. Med. Oncol.* 12, 1-16.

Zenke, M. (2020). Human ES cell-derived dendritic cells: meeting the challenge of immune rejection in allogeneic cell therapy. *EBioMedicine* 62, 103144.

Lampert, A., Bennett, D. L., McDermott, L. A., Neureiter, A., Eberhardt, E., Winner, B., and Zenke, M. (2020). Human sensory neurons derived from pluripotent stem cells for disease modelling and personalized medicine. *Neurobiol. Pain* 8, 100055.

Elanzew, A., Nießing, B., Langendoerfer, D., Rippel, O., Piotrowski, T., Schenk, F., Kulik, M., Peitz, M., Breitkreuz, Y., Jung, S., Wanek, P., Stappert, L., Schmitt, R. H., Haupt, S., Zenke, M., König, N., and Brüstle, O. (2020). The StemCellFactory: a modular system integration for automated generation and expansion of human induced pluripotent stem cells. *Frontiers Bioeng. Biotech.* 8, 580352.

Ratnavadivel, S., Szymanski de Toledo, M., Rasmussen, T. B., Šarić, T., Gummert, J., Zenke, M., and Milting, H. (2020). Human pluripotent stem cell line (HDZi001-A) derived from a patient carrying the ARVC-5 associated mutation TMEM43-p.S358L. *Stem Cell Res.* 48, 101957.

Cypris, O., Eipel, M., Franzen, J., Rösseler, C., Tharmapalan, V., Kuo, C. C., Vieri, M., Nikolic, M., Kirschner, M., Brümmendorf, T. H., Zenke, M., Lampert, A., Beier, F., and Wagner, W. (2020). *PRDM8* reveals aberrant DNA methylation in aging syndromes and is relevant for hematopoietic and neuronal differentiation. *Clin. Epigenetics* 12, 125.

Chteinberg, E., Vogt, J., Kolarova, J., Bormann, F., van den Oord, J., Speel, E. J., Winnepenninckx, V., Kurz, A. K., Zenke, M., Siebert, R., zur Hausen, A. (2020). The curious case of Merkel cell carcinoma: epigenetic youth and lack of pluripotency. *Epigenetics* 15, 1319-1324.

Hollmann, J., Brecht, J., Goetzke, R., Franzen, J., Selich, A., Schmidt, M., Eipel, M., Ostrowska, A., Hapala, J., Fernandez-Rebollo, E., Müller-Newen, G., Rothe, M., Eggermann, T., Zenke, M., and Wagner, W. (2020). Genetic barcoding reveals clonal dominance in iPSC-derived mesenchymal stromal cells. *Stem Cell Res. Ther*. 11, 105.

Baumeister, J., Chatain, N., Hubrich, A., Maié, T., Costa, I. G., Denecke, B., Han, L., Küstermann, C., Sontag, S., Seré, K., Strathmann, K., Zenke, M., Schuppert, A., Brümmendorf, T. H., Kranc, K. R., Koschmieder, S., and Gezer, D. (2020). Hypoxia-inducible factor-1 (HIF-1) is a new therapeutic target in JAK2V617F-positive myeloproliferative neoplasms. *Leukemia* 34, 1062-1074.

Li, Z., Schulz, M. H., Look, T., Begemann, M., Zenke, M., and Costa, I. G. (2019). Identification of transcription factor binding sites using ATAC-seq. *Genome Biology* 20, 45.

Meents, J. E., Bressan, E., Sontag, S., Foerster, A., Hautvast, P., Rösseler, C., Hampl, M., Schüler, H., Goetzke, R., Chi Le, T. K., Kleggetveit, I. P., Le Cann, K., Kerth, C., Rush, A. M., Rogers, M., Kohl, Z., Schmelz, M., Wagner, W., Jørum, E., Namer, B., Winner, B., Zenke, M., and Lampert, A. (2019).

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The role of Nav1.7 in human nociceptors: insights from human iPS cell-derived sensory neurons of erythromelalgia patients. *Pain,* Jan 31 2019, Epub ahead of print.

Zenke, M., Marx-Stölting and Schickl, H., Editors (2018). Stem Cell Research – Current scientific and societal developments. Nomos Publisher, Baden-Baden, Germany.

Capucha, T., Koren, N., Nassar, M., Heyman, O., Nir, T., Levy, M., Zilberman-Schapira, G., Zelentova, K., Eli-Berchoer, L., Zenke, M., Hieronymus, T., Wilensky, A., Bercovier, H., Elinav, E., Clausen, B. E., and Hovav, A.-H. (2018). Sequential BMP7/TGF-β1 signaling and microbiota instruct mucosal Langerhans cell differentiation. *J. Exp. Med.* 215, 481-500.

Sontag, S., Förster, M., Seré, K., and Zenke, M. (2017). Differentiation of human induced pluripotent stem cells (iPS cells) and embryonic stem cells (ES cells) into human dendritic cell (DC) subsets. *Bio-Protocol*s 7, e2419, 2017.

Sontag, S., Förster, M., Qin, J., Wanek, P., Mitzka, S., Schüler, H. M., Koschmieder, S., Rose-John, S., Seré, K., and Zenke, M. (2017). Modelling IRF8 deficient human hematopoiesis and dendritic cell development with engineered induced pluripotent stem cells. *Stem Cells* 35, 898-908.

Allhoff, M., F. Pires, J., Seré, K., Zenke, M., and G. Costa, I. (2016). Differential peak calling of ChIP-seq signals with replicates with THOR. *Nucleic Acids Res*. 44, e153.

Sechi, A., Freitas, J. M. G., Wünnemann, P., Töpel, A., Paschoalin, R. T., Ullmann, S., Schröder, R., Aydin, G., Rütten, S., Böker, A., Zenke, M., and Pich A. (2016). Surface-grafted nanogel arrays direct cell adhesion and motility. (cover story). *Adv. Mater. Interfaces 3*, 1600455.

Gusmão, E. G., Allhoff, M., Zenke, M., and Costa, I. G. (2016). Analysis of computational footprinting methods for DNase sequencing experiments. *Nature Methods* 13, 303-309.

Gamper, I., Fleck, D., Barlin, M., Spehr, M., El Sayad, S., Kleine, H., Maxeiner, S., Schalla, C., Aydin, Hoss, M., Litchfield, D. W., Lüscher, B., Zenke, M., and Sechi, A. (2016). GAR22β regulates cell migration, sperm motility, and axoneme structure. *Mol. Biol. Cell* 27, 277-294.

Lin, Q., Chauvistré, H., Costa, I. G., Gusmão, E. G., Mitzka, S., Haenzelmann, S., Baying, B., Klisch, T., Moriggl, R., Hennuy, B., Smeets, H., Hoffmann, K., Benes, V., Seré, K., and Zenke, M. (2015). Epigenetic program and transcription factor circuitry of dendritic cell development. *Nucleic Acids Res.* 43, 9680-9693.

Capucha, T., Mizraji, G., Segev, H., Blecher-Gonen, R., Winter, D., Khalaileh, A., Tabib, Y., Attal, T., Nassar, M., Zelentsova, K., Kisos, H., Zenke, M., Seré, K., Hieronymus, T., Burstyn-Cohen, T., Amit, I., Wilensky, A. and Hovav, A. H. (2015). Distinct murine mucosal Langerhans cell subsets develop from pre-dendritic cells and monocytes. *Immunity* 43, 369-381.

Lenz, M., Goetzke, R., Schenk, A., Schubert, C., Veeck, J., Hemeda, H., Koschmieder, S., Zenke, M., Schuppert, A., and Wagner, W. (2014). Epigenetic biomarker for quality control of pluripotent stem cells. *Sci. Rep.* 5, 8973.

Allhoff, M., Seré, K., Chauvistré, H., Lin, Q., Zenke, M., and Costa, I. G. (2014). Detecting differential peaks in ChIP-seq signals with ODIN. *Bioinformatics* 30, 3467-3475.

Frobel, J., Hemeda, H., Lenz, M., Abagnale, G., Jousssen, S., Denecke, B., Saric, T., Zenke, M., and Wagner. W. (2014). Epigenetic rejuvenation of mesenchymal stromal cells derived from induced pluripotent stem cells. *Stem Cell Reports* 3, 414-422.

Wang, X., Qin, J., Zhao, R. C., and Zenke, M. (2014). Reduced immunogenicity of induced pluripotent stem cells derived from Sertoli cells. *PLoS ONE* 9, e106110.

Gusmão, E. G., Dieterich, C., Zenke, M., and Costa, I. G. (2014). Detection of active transcription factor binding sites with the combination of DNase hypersensitivity and histone modifications. *Bioinformatics* 30, 3143-3151.

Qin, J., Sontag, S., Lin, Q., Mitzka, S., Leisten I., Schneider, R. K., Wang, X., Jauch, A., Peitz, M., Brüstle, O., Wagner, W., Zhao, R. C., and Zenke, M. (2014). Cell fusion enhances mesendodermal differentiation of human induced pluripotent stem cells. *Stem Cells Dev.* 23. 2875-2882.

Chauvistré, H., Küstermann, C., Rehage, N., Klisch, T., Mitzka, S., Felker, P., Rose-John, S., Zenke, M., and Seré, K. M. (2014). Dendritic cell development requires histone deacetylase activity. *Eur. J. Immunol.* 44, 2478-2488.

Hieronymus, T., Zenke, M., Baek, J.-H. and Seré, K. (2015). The clash of Langerhans cell homeostasis in skin: should I stay or should I go? *Semin. Cell Dev. Biol.* 41, 30-38.

Ding, X., Wang, X., Sontag, S., Qin, J., Wanek, P., Lin, Q., and Zenke, M. (2014). The polycomb protein Ezh2 impacts on induced pluripotent stem cell generation. *Stem Cells Dev*. 23, 931-940.

Seré, K., Baek, J.-H., Ober-Blöbaum, J., Müller-Newen, G., Tacke, F., Yokota, Y., Zenke, M., and Hieronymus, T. (2012). Two distinct types of Langerhans cells populate the skin during steady state and inflammation. *Immunity* 37, 905-919. with Commentary by Romani, N., Tripp, C. H. and Stoitzner, P. (2012). Langerhans cells come in waves. *Immunity* 37, 766-768.

Baek, J.-H., Birchmeier, C., Zenke, M., and Hieronymus, T. (2012). The HGF receptor/Met tyrosine kinase is a key regulator of dendritic cell migration in skin immunity. *J. Immunol.* 189, 1699-1707.

Seré, K. M., Lin, Q., Felker, P., Rehage, N., Klisch, T., Ortseifer, I., Hieronymus, T., Rose-John, S., and Zenke, M. (2012). Dendritic cell lineage commitment is instructed by distinct cytokine signals. *Eur. J. Cell Biol.* 91, 515-523.

Ding, X., Lin, Q., Ensenat-Waser, R., Rose-John, S., and Zenke, M. (2012). Polycomb group protein Bmi1 promotes hematopoietic cell development from embryonic stem cells. *Stem Cells Dev.* 21, 121-132.

Neuss, S., Denecke, B., Gan, L., Lin, Q., Bovi, M., Apel, C., Wöltfe, M., Dhanasingh. A., Salber, J., Knüchel, R., and Zenke, M. (2011). Transcriptome analysis of MSC and MSC-derived osteoblasts on Resomer LT706 and PCL: Impact of biomaterial substrate on osteogenic differentiation. *PLoS ONE,* e23195.

Ko, K., Reinhardt, P., Tapia, N., Schneider, R. K., Araúzo-Bravo, M. J., Han, D. W., Greber, B., Kim, J., Kliesch, S., Zenke, M., and Schöler, H. R. (2011). Evaluating the potential of putative pluripotent cells derived from human testis. *Stem Cells* 29, 1304-1309.

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