

Curriculum Vitae

Prof. Dr. Nico Lachmann

Personal Information

Name: Nico Lachmann, Prof. Dr.rer.nat
Address: Hannover Medical School
Department of Pediatric Pneumology, Allergology and Neonatology
Carl-Neuberg Straße 1
30625 Hannover, Germany
eMail: lachmann.nico@mh-hannover.de
Website: [Link](#)
Place of Birth: Grevesmühlen, Germany
Date of Birth: 01.08.1980

Education

06/2016 Habilitation	Hannover Medical School, Hannover (Germany) , Habilitation (Venia Legendi) in the subject of "Regenerative Medicine" <u>Cumulative Thesis:</u> "Pluripotent- and Multipotent-Stem Cell Derived Hematopoietic Cells and Their Use for Regenerative Therapies"
11/2008 – 01/2012 PhD student	Hannover Medical School, Hannover (Germany) , PhD Program "Regenerative Science", REBIRTH Cluster of Excellence Overall Grade: summa cum laude, excellent <u>Cumulative PhD Thesis:</u> "Strategies for Cell-Type Specific and Time Dependent Transgene Expression in Hematopoietic Gene Therapy"
10/2006 – 10/2008 M.Sc.	Hannover Medical School Hannover (Germany), Yale University, School of Medicine, New Haven (CT, USA) , "Biomedicine" Overall Grade: 1.9 <u>Master Thesis:</u> "Elucidation of cellular and molecular role of SMAD7 in the development of hematopoietic stem cells" Yale University School of Medicine, New Haven, CT, USA (Supervisor 1: Prof. Dr. Christoph Klein (Childrens Hospital, Munich (Dr. von Haunerschen Kinderspital München) Supervisor 2: Prof. Richard Flavell (School of Medicine, Yale University, New Haven, CT, USA)
10/2003 – 09/2006 B.Sc.	Leibniz University Hannover, Hannover (Germany) , Bachelor-program "Life Science" Overall Grade: 1.9 <u>Bachelor Thesis:</u> "Products of animal celllines cultured in an industrial scale format" (Supervisor: PD Dr. Cornelia Casper, Leibniz University Hannover)
08/2001 – 09/2003 A-Level	Berufsoberschule Lübeck, Lübeck (Germany) (Highschool equivalent) Certificate: A-Level (<i>Overall Grade: 1.5</i>)
09/1997 – 01/2001	Leibniz Research Center Borstel , Apprenticeship as Biologic Lab Assistant, Borstel Germany

Curriculum Vitae

Prof. Dr. Nico Lachmann

Academic Appointments (& professional consultancy)

07/2022 – present	ATTRACT group leader , Fraunhofer Institute for Toxicology and Experimental Medicine (ITEM)
02/2022 – present	Consultant , Catalent
09/2020 – present	Associate (W2) Professor , RESIST Cluster of Excellence, Department of Pediatric Pneumology, Allergology and Neonatology, Hannover Medical School, Hannover, Germany
10/2018 – present	Faculty of Hannover Medical School
06/2015 – 08/2020	Group-Leader (Translational Hematology of Congenital Diseases) , REBIRTH Center for Translational and Regenerative Medicine, Institute of Experimental Hematology, Hannover Medical School, Hannover, Germany
10/2013 – 12/2019	Adjunct Instructor , Division of Pulmonary Biology, Prof. Bruce Trapnell Cincinnati Childrens Hospital Medical Center, Cincinnati, OH, USA
01/2012 – 05/2015	Postdoctoral Scientist , REBIRTH Cluster of Excellence, Institute of Experimental Hematology, RG Reprogramming and Gene Therapy Prof. Thomas Moritz, Hannover Medical School, Hannover, Germany
02/2012 – 07/2013	Postdoctoral Scientist , Max-Planck-Institute for Molecular Biomedicine, Prof. Tobias Cantz, (Zellux: Train the trainer), Münster, Germany

2

Other Work Experience

03/2008 – 10/2008	Master Thesis, Department of Immunobiology (Prof. Richard Flavell), School of Medicine, Yale University, New Haven, CT, USA
02/2001 – 07/2001	Research Assistant, RG “Biophysic” (Prof. Thomas Gutschmann), Leibniz Research Center Borstel, Borstel, Germany

Internships

11/2008 – 12/2008	Department of Pediatric Hematology-Oncology (Prof. Dr. Christoph Klein), Hannover Medical School, Hannover, Germany
04/2008 – 06/2008	Institute of Cell and Molecular Pathology (Prof. Dr. Brigitte Schlegelberger), Hannover Medical School, Hannover, Germany
07/2005 – 09/2005	Bayer, Bayer Crop Science AG, Monheim, Germany

Additional work experience

09/2009 – 12/2012	Co-Founder and Associate of SciSerNet GbR
-------------------	---

Curriculum Vitae

Prof. Dr. Nico Lachmann

10/2006 – 02/2008 Office Assistant, Congress & Event Management, Hannover Medical School, Hannover, Germany

10/2003 – 02/2008 Student Sales Assistant, ATELCO Computer AG, Hannover, Germany

Awards and Honors

- 2022/23 **ERC Proof-of-Concept Grant “iPYRO”**, European Commission, Horizon 2020
- 2019 **ERC Starting Grant, “iPSC2Therapy”**, European Commission, Horizon 2020
- 2019 **Young Investigator Award**, German Stem Cell Network (GSCN), Berlin
- 2015 **Abstract Achievement Award**, American Society of Hematology (ASH) (Orlando, FL, USA)
- 2015 **Fellowship for Interdisciplinary Sciences**, Joachim Herz Stiftung
- 2015 **Best-Poster-Award**, German Stem Cell Network (GSCN, Frankfurt am Main, Germany)
- 2015 **Best Clinical Research Award**, German Society for Pulmonology (DGP) together with Dr. med. Christine Happle, Berlin, Germany
- 2015 **Klaus Betke Fellowship**, 2nd Klaus Betke Symposium, Munich, Germany
- 2014 **Top Abstract Award & Best Translational Research** (*Large-scale hematopoietic differentiation of human induced pluripotent stem cells provides granulocytes or macrophages for cell replacement- and genetic-therapies*) German Society of Hematology and Oncology (DGHO), Hamburg, Germany
- 2014 **Selected as top abstract at “Presidential Symposium”** (*Therapeutic Efficacy of Intratracheally Transplanted Macrophage Progenitor Cells Introduces a Novel Gene-Therapy Approach To Hereditary Pulmonary Alveolar Proteinosis*) American Society for Gene and Cell Therapy (ASGCT); Washington D.C. (USA)
- 2014 **Young Academy Fellowship** (*Induced pluripotent stem cell (iPSC)-derived tissue-macrophages as an innovative therapy approach of hereditary Pulmonary Alveolar Proteinosis (herPAP)*) Hannover Medical School
- 2013 **Eva-Luise Köhler Forschungspreis für seltene Erkrankungen 2013** (Eva-Luise Köhler research award for rare diseases 2013) „*Innovative treatment options for hereditary pulmonary alveolar proteinosis*“; Eva Luise und Horst Köhler Stiftung, Allianz Chronischer Seltener Erkrankungen; Berlin (Germany)
- 2012 **HiLF-Grant intramural program** Hannover Medical School “*Hematopoietic Gene Therapy of CSF2RA-Deficient Pulmonary Alveolar Proteinosis (PAP) Utilizing Patient-Specific Induced Pluripotent Stem Cells (iPSCs)*”
- 2012-2016 **Travel Awards:** American Society for Gene and Cell Therapy, **ASGCT**; European Society for Gene and Cell Therapy, **ESGCT**; International Society for Stem Cell Research, **ISSCR**, German Stem Cell Network **GSCN**

Patents

PCT/US18/32933 (Cell Therapy with lentiviral transduced CSF2RA transgene in the treatment of hereditary pulmonary alveolar proteinosis), Filing date 17.05.2017

PCT/EP2018/061574 (Stem-cell derived myeloid cells, generation and use thereof), Filing date 04.05.2017
Part of the invention was sold as an exclusive license to NovoNordisk S/A

PCT/EP2021/083371 (Application of stem-cell derived monocytes in a monocyte activation test (MAT) for the assessment of pyrogenicity and inflammatory potential), Filing date 30.11.2020

Reviewer

Curriculum Vitae

Prof. Dr. Nico Lachmann

- European Research Council (ERC)
- Agence Nationale de la Recherche (ANR), Swiss 3R Competence Centre
- Scientific journals: Nature, Nature Immunology, Nature Reviews Immunology, Nature Reviews Disease Primer, Nature Communications, Nature Communications Medicine, Nature Biomedical Engineering, iScience, Stem Cell Reports, eBioMedicine, AJRCCM, Bioactive Materials, CMLS, Differentiation, Scientific Reports, PLOS One, Human Gene Therapy, Immunotherapy, Theranostics, Experimental Hematology, Experimental Cell Research

Academic Activities

2023 – present	Member (Jury) of the Joachim-Herz-Fellowship Program, Joachim Herz Foundation, Hamburg
2023 – present	Spokesperson, Medical Scientist Program “nextGENERATION” (Regenerate Organ Function)
2023	Organizer and moderator, International UniStemDay 2023 at Hannover Medical School
2023 – present	Mentor via:mento international program University Kiel
2021 – present	Elected member, Extended Board, German Stem Cell Network, GSCN
2021 – present	EU representative for Hannover Medical School, adviser for research grants within the framework of Horizon Europe
2019 – present	Elected member of section II (Department of Internal Medicine, Pediatrics and Surgery), Hannover Medical School
2019 – present	Elected member, steering committee REBIRTH Center for Translational and Regenerative Medicine, Hannover Medical School
2014 – present	Member of the organizing committee for the “Research Week” in cooperation with the Leibniz University Hannover <i>Invited external reviewer for poster presentations</i>
2009 – present	Initiator and founder of “StemCells – Goes Back to School” <i>Scientific talks for students (highschool level) on stem cell technologies and the use of gene therapy applications to treat primary immunodeficiencies. Scientific interactions with: Gymnasium Burgdorf, Robert Koch Gymnasium in Clausthal Zellerfeld, Gymnasium in Wolfsburg, IGS Sarstedt, St. Ursula-Schule Hannover, Sophienschule Hannover</i>
2014 – 2017	Lecture at Katholische Kirche Niedersachsen for Stem Cells in Regenerative Sciences <i>Invited talks on regenerative medicine and the use of stem cell technology for clinical use. Talks are given for the catholic church in lower Saxony.</i>
2012/2013	Faculty of “Ethikuniversität an der Medizinischen Hochschule Hannover” <i>Talks about the ethical use of stem cells for regenerative medicine</i>
2009-2017	Member in the REBIRTH organizing committee for the IdeenExpo, Hannover (Germany)

4

Additional Qualifications and Certificates

2014	Qualifikation zum Prüfarzt/Prüfärztin bzw. Assistenz in klinischen Studien (GCP-Grundkurs) <i>Extended Qualification and certificate on good clinical practice (GCP)</i>
2013	“Basisprogramm zur Qualifizierung von Lehrenden der MHH” <i>MHH intramural teaching qualification class for faculty</i>
2008	Category C certificate to guide and lead animal experiments (principal investigator level), of Federation of European Laboratory Animal Science Association (FELASA) Hannover Medical School, Hannover (Germany)

Professional Societies

Curriculum Vitae

Prof. Dr. Nico Lachmann

Member “*International Society for Stem Cell Research (ISSCR)*”

Associate Member “*European Society of Gene and Cell Therapy (ESGCT)*”

Associate Member “*American Society of Gene and Cell Therapy (ASGCT)*”

Member of the “*German Stem Cell Network (GSCN)*”

Member “*European Hematology Association*”

Invited Talks and Social Media Content

2022	GSCN
2022	Podcast, Bringing Science to life, “Prof. Dr. Nico Lachmann, vom Makrophagen-Spezialisten zum Start-up Gründer” (https://www.youtube.com/watch?v=Qcij71rqmjM)
2022	Keynote lecture, DECHEMA Advanced Therapies – Challenges for Routine Applications, “Scalable generation of custom-made immune cells for innovative cell-based immunotherapies and industrial applications” in Frankfurt am Main
2021	PharmaLab 2021 “Scalable Generation of Fully Defined Monocyte/Macrophages from Human iPSC to Assess Pyrogens in Parenteral drugs and Medical Products”
2021	Innovative Therapy Days 2021, INTERNATIONAL SYMPOSIUM:LEADING RESEARCH TO INDUSTRY “IPSC-DERIVED HEMATOPOIETIC CELLS AND CELL-BASED THERAPIES”
2021	German Stem Cell Network (GSCN) Annual Meeting, “Stem cells meet cell-based immunotherapies, the hope behind regenerative medicine”
2021	Deutsche Zentren der Gesundheitsforschung, „Working as a Medical Scientist“
2020	Macrophage-directed-Therapies Summit, “Designer Macrophage Manufacturing & Exploring the Role of Macrophages in Lung Disease”
2020	ROTARY Club Hannover, “Blut auf Bestellung”
2019	European Society for Gene and Cell Therapy (ESGCT), Barcelona, “The „New Stem Cell“: macrophages for disease modeling and cell based therapies”
2019	Paul Ehrlich and Ludwig Darmstädter Research Award Symposium (nominee)
2018	Workshop Pluripotent Stem Cells in Translational Cardiovascular Research, German Society for Cardiology, Charité, Berlin
2018	Society for Laboratory Automation and Screening Europe (SLAS) Transforming Research Conference in Brussel “iPSC-Technology: New Avenues for Cell-Based Therapies”
2018	Graduation speech, PhD program “Infection Biology”, Hannover Medical School
2018	KeyNote lecture MD/PHD program “Molecular Medicine”, Hannover Medical School
2018	17th Fraunhofer seminar „Translational Lung Research Models of Lung Disease”
2017	Future Medicine 2017, Berlin “Next Generation of „Antibiotics“: Bioreactor Derived Immune Cells to Fight Infectious Diseases”
2017	12min.me, “Kann man aus Stammzellen Blut herstellen? Neue Wege in der regenerative Medizin”
2016	Volkswagen Stiftung, Herrenhausen Late “Stammzellen = Alleskönner. Was kann die Regenerative Medizin?”

Curriculum Vitae

Prof. Dr. Nico Lachmann

Publications and Articles (TOP 10, cronological)

1. Ackermann M, Rafiei Hashtchin A, Manstein F, Carvalho Oliveira M, Kempf H, Zweigerdt R, Lachmann N. „Continuous human iPSC-macrophage mass production by suspension culture in stirred tank bioreactors“ **Nat Protoc.** 2022 Feb;17(2):513-539. doi: 10.1038/s41596-021-00654-7.
2. Ackermann M, Haake K, Kempf H, Kaschutnig P, Weiss AC, Nguyen AHH, Abeln M, Merkert S, Kühnel MP, Hartmann D, Jonigk D, Thum T, Kispert A, Milsom MD, **Lachmann N.** “A 3D iPSC-differentiation Model Identifies interleukin-3 as a Regulator of Early Human Hematopoietic Specification” **Haematologica.** 2020 Apr 23;haematol.2019.228064. doi: 10.3324/haematol.2019.228064
3. Hetzel M, Lopez-Rodriguez E, Mucci A, Nguyen AHH, Suzuki T, Shima K, Buchegger T, Dettmer S, Rodt T, Bankstahl JP, Malik P, Knudsen L, Schambach A, Hansen G, Trapnell BC, **Lachmann N***, Moritz T*. “Effective hematopoietic stem cell-based gene therapy in a murine model of hereditary pulmonary alveolar proteinosis.” **Haematologica.** 2019 Jul 9
4. Ackermann M*, Kempf H*, Hetzel M, Hesse C, Hashtchin AR, Brinkert K, Schott JW, Haake K, Kühnel MP, Glage S, Figueiredo C, Jonigk D, Sewald K, Schambach A, Wronski S, Moritz T, Martin U, Zweigerdt R, Munder A, **Lachmann N** „Bioreactor-based mass production of human iPSC-derived macrophages enables immunotherapies against bacterial airway infections.“, **Nature Communications.** 2018 Nov 30;9(1):5088. doi: 10.1038/s41467-018-07570-7.
5. Happle C*, **Lachmann N***, Ackermann M, Wetzke M, Mirenska A, Göhring G, Thomay K, Mucci A, Glomb T, Suzuki T, Glage S, Dittrich-Breiholz O, Trapnell B, Moritz T, Hansen G “Pulmonary transplantation of human iPSC-derived macrophages ameliorates hereditary lung disease” **Am J Respir Crit Care Med.** 2018 Apr 13. doi: 10.1164/rccm.201708-1562OC
6. Hetzel M, Mucci A, Blank P, Nguyen AHH, Schiller J, Halle O, Kühnel MP, Billig S, Meineke R, Brand D, Herder V, Baumgärtner W, Bange FC, Goethe R, Jonigk D, Förster R, Gentner B, Casanova JL, Bustamante J, Schambach A, Kalinke U, **Lachmann N.** „Hematopoietic stem cell gene therapy for IFN γ R1 deficiency protects mice from mycobacterial infections.“ **Blood.** 2018 Feb 1;131(5):533-545. doi: 10.1182/blood-2017-10-812859.
7. **Lachmann N***, Ackermann M*, Frenzel E, Liebhaber S, Brenning S, Happle C, Hoffmann D, Klimenkova O, Lüttge D, Buchegger T, Kühnel MP, Schambach A, Janciauskiene S, Figueiredo C, Hansen G, Skokowa J, Moritz T. „Large-scale hematopoietic differentiation of human induced pluripotent stem cells provides granulocytes or macrophages for cell replacement therapies“ **Stem Cell Reports.** 2015 Feb 10;4(2):282-96. **contributed equally*
8. Suzuki T, Arumugam P, Sakagami T, **Lachmann N**, Chalk C, Sallase A, Abe S, Trapnell C, Carey B, Moritz T, Malik P, Lutzko C, Wood RE, Trapnell BC „ Pulmonary macrophage transplantation therapy“ **Nature** 2014 Oct 23;514(7523):450-4
9. Happle C*, **Lachmann N***, Skuljec J, Wetzke M, Ackermann M, Brenning S, Mucci A, Jirmo AC, Groos S, Mirenska A, Hennig C, Rodt T, Bankstahl JP, Schwerk N, Moritz T, Hansen G. „Pulmonary transplantation of macrophage progenitors as effective and long-lasting therapy for hereditary pulmonary alveolar proteinosis,“ **Science Transl Med.** 2014 Aug 20;6(250):250ra113. **contributed equally*
10. **Lachmann N***, Happle C*, Lüttge D, Wetzke M, Merkert S, Ackermann M, Kensah J, Jara-Avaca M, Mucci A, Skuljec J, Dittrich AM, Pfaff N, Brenning S, Schambach A, Steinemann D, Göhring G, Cantz T, Martin U, Schwerk N, Hansen G, Moritz T “Gene correction of human induced Pluripotent Stem Cells repairs the cellular phenotype in Pulmonary Alveolar Proteinosis” **Am J Respir Crit Care Med.** 2014 Jan 15;189(2):167-82 **contributed equally*

Books and Chapters

Curriculum Vitae

Prof. Dr. Nico Lachmann

Seltene Lungenerkrankungen, 2022, ISBN: 978-3-662-63650-3, 2. Auflage, Springer, Kapitel: „Pulmonale Alveolarproteinose“

Stem Cell Assays Methods and Protocols, 2022, ISBN: 978-1-0716-1978-0, Springer Protocols, Kapitel: „Generation of Human iPSC from Small Volume Peripheral Blood Samples“

Publications and Articles (chronological order 2012-present)

2023

Rosain J, Neehus AL, Manry J, Yang R, Le Pen J, Daher W, Liu Z, Chan YH, Tahuil N, Türel Ö, Bourgey M, Ogishi M, Doisne JM, Izquierdo HM, Shirasaki T, Le Voyer T, Guérin A, Bastard P, Moncada-Vélez M, Han JE, Khan T, Rapaport F, Hong SH, Cheung A, Haake K, Mindt BC, Pérez L, Philippot Q, Lee D, Zhang P, Rinchai D, Al Ali F, Ahmad Ata MM, Rahman M, Peel JN, Heissel S, Molina H, Kendir-Demirkol Y, Bailey R, Zhao S, Bohlen J, Mancini M, Seeleuthner Y, Roelens M, Lorenzo L, Soudée C, Paz MEJ, González ML, Jeljeli M, Soulier J, Romana S, L'Honneur AS, Materna M, Martínez-Barricarte R, Pochon M, Oleaga-Quintas C, Michev A, Migaud M, Lévy R, Alyanakian MA, Rozenberg F, Croft CA, Vogt G, Emile JF, Kremer L, Ma CS, Fritz JH, Lemon SM, Spaan AN, Manel N, Abel L, MacDonald MR, Boisson-Dupuis S, Marr N, Tangye SG, Di Santo JP, Zhang Q, Zhang SY, Rice CM, Béziat V, **Lachmann N**, Langlais D, Casanova JL, Gros P, Bustamante J., „Human IRF1 governs macrophagic IFN- γ immunity to mycobacteria“ **Cell** 2023 Feb 2;186(3):621-645.e33. doi: 10.1016/j.cell.2022.12.038.

2022

Nikolouli E, Reichstein J, Hansen G, Lachmann N. „In vitro systems to study inborn errors of immunity using human induced pluripotent stem cells“ **Front Immunol.** 2022 Nov 17;13:1024935. doi: 10.3389/fimmu.2022.1024935.

Waqas SF, Sohail A, Nguyen AHH, Usman A, Ludwig T, Wegner A, Malik MNH, Schuchardt S, Geffers R, Winterhoff M, Merkert S, Martin U, Olmer R, Lachmann N, Pessler F. “ISG15 deficiency features a complex cellular phenotype that responds to treatment with itaconate and derivatives” **Clin Transl Med.** 2022 Jul;12(7):e931. doi: 10.1002/ctm2.931

Wunderlich S, Haase A, Merkert S, Jahn K, Deest M, Frieling H, Glage S, Korte W, Martens A, Kirschning A, Zeug A, Ponimaskin E, Göhring G, Ackermann M, Lachmann N, Moritz T, Zweigerdt R, Martin U. „Targeted biallelic integration of an inducible Caspase 9 suicide gene in iPSCs for safer therapies“ **Mol Ther Methods Clin Dev.** 2022 May 31;26:84-94. doi: 10.1016/j.omtm.2022.05.011. eCollection 2022 Sep 8.

Paasch D, Meyer J, Stamopoulou A, Lenz D, Kuehle J, Kloos D, Buchegger T, Holzinger A, Falk CS, Kloth C, von Kaisenberg CS, Abken H, Schambach A, Lachmann N, Morgan M, Moritz T. “Ex Vivo Generation of CAR Macrophages from Hematopoietic Stem and Progenitor Cells for Use in Cancer Therapy.” **Cells.** 2022; 11(6):994. <https://doi.org/10.3390/cells11060994>

Ackermann M, Rafiei Hashtchin A, Manstein F, Carvalho Oliveira M, Kempf H, Zweigerdt R, Lachmann N. „Continuous human iPSC-macrophage mass production by suspension culture in stirred tank bioreactors“ **Nat Protoc.** 2022 Feb;17(2):513-539. doi: 10.1038/s41596-021-00654-7.

Kloos D, Lachmann N. “Generation of Human iPSC from Small Volume Peripheral Blood Samples.” **Methods Mol Biol.** 2022;2429:27-39. doi: 10.1007/978-1-0716-1979-7_3.

2021

Rafiei Hashtchin A, Fehlhaber B, Hetzel M, Manstein F, Stalp JL, Glage S, Abeln M, Zweigerdt R, Munder A, Viemann D, Ackermann M, Lachmann N. „Human iPSC-derived macrophages for efficient Staphylococcus aureus clearance in

Curriculum Vitae

Prof. Dr. Nico Lachmann

a murine pulmonary infection model“ **Blood Adv.** 2021 Oct 14;bloodadvances.2021004853. doi: 10.1182/bloodadvances.2021004853.

Abdin SM, Paasch D, Morgan M, **Lachmann N.** „CARs and beyond: tailoring macrophage-based cell therapeutics to combat solid malignancies“ **J Immunother Cancer.** 2021 Aug;9(8):e002741. doi: 10.1136/jitc-2021-002741.

Mucci A, Antonarelli G, Caserta C, Vittoria FM, Desantis G, Pagani R, Greco B, Casucci M, Escobar G, Passerini L, **Lachmann N,** Sanvito F, Barcella M, Merelli I, Naldini L, Gentner B. “Myeloid cell-based delivery of IFN- γ reprograms the leukemia microenvironment and induces anti-tumoral immune responses” **EMBO Mol Med** . 2021 Aug 30;e13598. doi: 10.15252/emmm.202013598

Kumar S, Koenig J, Schneider A, Wermeling F, Boddul S, Theobald SJ, Vollmer M, Kloos D, **Lachmann N,** Klawonn F, Lienenklaus S, Talbot SR, Bleich A, Wenzel N, von Kaisenberg C, Keck J, Stripecke R. “In Vivo Lentiviral Gene Delivery of HLA-DR and Vaccination of Humanized Mice for Improving the Human T and B Cell Immune Reconstitution” **Biomedicines.** 2021 Aug 5;9(8):961. doi: 10.3390/biomedicines9080961.

Janosz E, Hetzel M, Spielmann H, Tumpara S, Rossdam C, Schwabbauer M, Kloos D, von Kaisenberg C, Schambach A, Buettner FFR, Janciauskiene S, **Lachmann N,** Moritz T. „Pulmonary transplantation of alpha-1 antitrypsin (AAT)-transgenic macrophages provides a source of functional human AAT in vivo“ **Gene Ther.** 2021 Jul 19. doi: 10.1038/s41434-021-00269-3

Neehus AL, Moriya K, Nieto-Patlán A, Le Voyer T, Lévy R, Özen A, Karakoc-Aydiner E, Baris S, Yildiran A, Altundag E, Roynard M, Haake K, Migaud M, Dorgham K, Gorochov G, Abel L, **Lachmann N,** Dogu F, Haskologlu S, İnce E, El-Benna J, Uzel G, Kiykim A, Boztug K, Roderick MR, Shahrooei M, Brogan PA, Abolhassani H, Hancioglu G, Parvaneh N, Belot A, Ikinciogullari A, Casanova JL, Puel A, Bustamante J. “Impaired respiratory burst contributes to infections in PKC δ -deficient patients.” **J Exp Med.** 2021 Sep 6;218(9):e20210501. doi: 10.1084/jem.20210501.

8

Dahlke J, Schott JW, Vollmer Barbosa P, Klatt D, Selich A, **Lachmann N,** Morgan M, Moritz T, Schambach A. “Efficient Genetic Safety Switches for Future Application of iPSC-Derived Cell Transplants” **J Pers Med.** 2021 Jun 17;11(6):565. doi: 10.3390/jpm11060565.

Dannenmann B, Klimiankou M, Oswald B, Solovyeva A, Mardan J, Nasri M, Ritter M, Zahabi A, Arreba-Tutusaus P, Mir P, Stein F, Kandabarau S, **Lachmann N,** Moritz T, Morishima T, Konantz M, Lengerke C, Ripperger T, Steinemann D, Erlacher M, Niemeyer CM, Zeidler C, Welte K, Skokowa J. „iPSC modeling of stage-specific leukemogenesis reveals BAALC as a key oncogene in severe congenital neutropenia“ **Cell Stem Cell.** 2021 May 6;28(5):906-922.e6. doi: 10.1016/j.stem.2021.03.023. Epub 2021 Apr 23.

Hetzel M, Ackermann M, **Lachmann N.** „Beyond "Big Eaters": The Versatile Role of Alveolar Macrophages in Health and Disease“ **Int J Mol Sci.** 2021 Mar 24;22(7):3308. doi: 10.3390/ijms22073308.

Hoffmann D, Sens J, Brenning S, Brand D, Philipp F, Vollmer Barbosa P, Kuehle J, Steinemann D, Lenz D, Buchegger T, Morgan M, Falk CS, Klein C, Lachmann N, Schambach A. „Genetic Correction of IL-10RB Deficiency Reconstitutes Anti-Inflammatory Regulation in iPSC-Derived Macrophages“ **J Pers Med.** 2021 Mar 20;11(3):221. doi: 10.3390/jpm11030221.

Lachmann N. “Makrophagen in der Krankheitsentstehung und Therapie”. **BIOSpektrum,** 27(2), 149-151. DOI: 10.1007/s12268-021-1547-y

Mass E, **Lachmann N.** “From macrophage biology to macrophage-based cellular immunotherapies.” **Gene Ther.** 2021 Feb 4. doi: 10.1038/s41434-021-00221-5. Online ahead of print.

Curriculum Vitae

Prof. Dr. Nico Lachmann

Ackermann M, Mucci A, McCabe A, Frei S, Wright K, Snapper SB, **Lachmann N**, Williams DA, Brendel C. "Restored macrophage function ameliorates disease pathophysiology in a mouse model for IL10 receptor deficient very early onset inflammatory bowel disease." **J Crohns Colitis**. 2021 Feb 17;jjab031. doi: 10.1093/ecco-jcc/jjab031. Online ahead of print.

2020

Craig-Mueller N, Hammad R, Elling R, Alzubi J, Timm B, Kolter J, Knelangen N, Bednarski C, Gläser B, Ammann S, Ivics Z, Fischer J, Speckmann C, Schwarz K, **Lachmann N**, Ehl S, Moritz T, Henneke P, Cathomen T. "Modeling MyD88 Deficiency In Vitro Provides New Insights in Its Function." **Front Immunol**. 2020 Dec 23;11:608802. doi: 10.3389/fimmu.2020.608802. eCollection 2020.

Ackermann M, Dragon AC, **Lachmann N** "The Immune-Modulatory Properties of iPSC-Derived Antigen-Presenting Cells" **Transfus Med Hemother** 2020;47:444–452. DOI: 10.1159/000512721

Brinkert K, Hedtfeld S, Burhop A, Gastmeier R, Gad P, Wedekind D, Kloth C, Roths Schuh J, **Lachmann N**, Hetzel M, Jirmo AC, Lopez-Rodriguez E, Brandenberger C, Hansen G, Schambach A, Ackermann M, Tümmeler B, Munder A. "Rescue from Pseudomonas aeruginosa airway infection via stem cell transplantation" **Molecular Therapy**. 2020 Dec 3:S1525-0016(20)30660-2. doi: 10.1016/j.ymthe.2020.12.003. Online ahead of print.

Drick N, Dahlmann J, Sahabian A, Haase A, Göhring G, **Lachmann N**, Ringshausen FC, Welte T, Martin U, Olmer R. "Generation of two human induced pluripotent stem cell lines (MHHi017-A, MHHi017-B) from a patient with primary ciliary dyskinesia carrying a homozygous mutation (c.7915C > T [p.Arg2639*]) in the DNAH5 gene" **Stem Cell Res**. 2020 Jul;46:101848. doi: 10.1016/j.scr.2020.101848. Epub 2020 May 20.

Dahlmann J, Sahabian A, Drick N, Haase A, Göhring G, **Lachmann N**, Ringshausen FC, Welte T, Martin U, Olmer R. "Generation of two hiPSC lines (MHHi016-A, MHHi016-B) from a primary ciliary dyskinesia patient carrying a homozygous 5 bp duplication (c.248_252dup (p.Gly85Cysfs*11)) in exon 1 of the CCNO gene" **Stem Cell Res**. 2020 Jul;46:101850. doi: 10.1016/j.scr.2020.101850. Epub 2020 May 18.

Ackermann M, Haake K, Kempf H, Kaschutnig P, Weiss AC, Nguyen AHH, Abeln M, Merkert S, Kühnel MP, Hartmann D, Jonigk D, Thum T, Kispert A, Milsom MD, **Lachmann N**. "A 3D iPSC-differentiation Model Identifies interleukin-3 as a Regulator of Early Human Hematopoietic Specification" **Haematologica**. 2020 Apr 23;haematol.2019.228064. doi: 10.3324/haematol.2019.228064

Hahn K, Pollmann L, Nowak J, Nguyeh AHH, Haake K, Neehus AL, Waqas SF, Pessler F, Baumann U, Hetzel M, Casanova JL, Schulz A, Bustamante J, Ackermann M, **Lachmann N**, "Human Lentiviral Gene Therapy Restores the Cellular Phenotype of Autosomal Recessive Complete IFN- γ R1 Deficiency" **Mol Ther Methods Clin Dev**. 2020 Apr 11;17:785-795. doi: 10.1016/j.omtm.2020.04.002. eCollection 2020 Jun 12.

Merkert S, Schubert M, Haase A, Janssens HM, Scholte B, **Lachmann N**, Göhring G, Martin U. "Generation of an Induced Pluripotent Stem Cell Line (MHHi018-A) From a Patient With Cystic Fibrosis Carrying p.Asn1303Lys (N1303K) Mutation" **Stem Cell Res**. 2020 Mar 25;44:101744. doi: 10.1016/j.scr.2020.101744. Online ahead of print.

Lipus A, Janosz E, Ackermann M, Hetzel M, Dahlke J, Buchegger T, Wunderlich S, Martin U, Cathomen T, Schambach A, Moritz T, **Lachmann N**. „Targeted Integration of Inducible Caspase-9 in Human iPSCs Allows Efficient in vitro Clearance of iPSCs and iPSC-Macrophages" **J Mol Sci**, 21 (7) 2020 Apr 3 DOI: 10.3390/ijms21072481

Curriculum Vitae

Prof. Dr. Nico Lachmann

Pongpamorn P, Dahlmann J, Haase A, Ebeling CT, Merkert S, Göhring G, **Lachmann N**, Martens A, Haverich A, Martin U, Olmer R “Generation of Three Induced Pluripotent Stem Cell Lines (MHHi012-A, MHHi013-A, MHHi014-A) From a Family With Loeys-Dietz Syndrome Carrying a Heterozygous p.M253I (c.759G>A) Mutation in the TGFBR1 Gene” **Stem Cell Res** , 43, 101707 Mar 2020 DOI: 10.1016/j.scr.2020.101707

Hoffmann D, Kuehle J, Lenz D, Philipp F, Zychlinski D, **Lachmann N**, Moritz T, Steinemann D, Morgan M, Skokowa J, Klein C, Schambach A „Lentiviral Gene Therapy and Vitamin B3 Treatment Enable Granulocytic Differentiation of G6PC3-deficient Induced Pluripotent Stem Cells“ **Gene Ther** 2020 Feb 12 [Online ahead of print] DOI: 10.1038/s41434-020-0127-y

Haake K, Neehus AL, Buchegger T, Kühnel MP, Blank P, Philipp F, Olega-Quintas C, Schulz A, Grimley M, Goethe R, Jonigk D, Kalinke U, Boisson-Dupuis S, Casanova JL, Bustamante J, **Lachmann N** “Patient iPSC-Derived Macrophages to Study Inborn Errors of the IFN- γ Responsive Pathway” **Cells**, 9 (2) 2020 Feb 19 DOI: 10.3390/cells9020483

Haake K, Wüstefeld T, Merkert S, Lüttge D, Göhring G, Auber B, Baumann U, **Lachmann N**, “Human STAT1 Gain-Of-Function iPSC Line From a Patient Suffering From Chronic Mucocutaneous Candidiasis” **Stem Cell Res**, 43, 101713 2020 Jan 17 [Online ahead of print]

2019

Haake K, Lachmann N, “New Drugs for an Old Foe: Mycobacterium Tuberculosis Meets PSC-Derived Macrophages” **Stem Cell Reports** 13 (6), 957-959 2019 Dec 10 DOI: 10.1016/j.stemcr.2019.11.006

Bernecker C, Ackermann M, **Lachmann N**, Rohrhofer L, Zaehres H, Araújo-Bravo MJ, van den Akker E, Schlenke P, Dorn I. „Enhanced ex vivo generation of erythroid cells from human induced pluripotent stem cells in a simplified cell culture system with low cytokine support.“ **Stem Cells Dev**. 2019 Oct 9. doi: 10.1089/scd.2019.0132. [Epub ahead of print]

Arumugam P, Suzuki T, Shima K, McCarthy C, Sallese A, Wessendarp M, Ma Y, Meyer J, Black D, Chalk C, Carey B, **Lachmann N**, Moritz T, Trapnell BC. “Long-Term Safety and Efficacy of Gene-Pulmonary Macrophage Transplantation Therapy of PAP in Csf2ra^{-/-} Mice. **Mol Ther**. 2019 Sep 4;27(9):1597-1611

Hetzel M, Lopez-Rodriguez E, Mucci A, Nguyen AHH, Suzuki T, Shima K, Buchegger T, Dettmer S, Rodt T, Bankstahl JP, Malik P, Knudsen L, Schambach A, Hansen G, Trapnell BC, **Lachmann N***, Moritz T*. “Effective hematopoietic stem cell-based gene therapy in a murine model of hereditary pulmonary alveolar proteinosis.” **Haematologica**. 2019 Jul 9

Dannenmann B, Zahabi A, Mir P, Oswald B, Bernhard R, Klimiankou M, Morishima T, Schulze-Osthoff K, Zeidler C, Kanz L, **Lachmann N**, Moritz T, Welte K, Skokowa J. „Human iPSC-based model of severe congenital neutropenia reveals elevated UPR and DNA damage in CD34+ cells preceding leukemic transformation.“ **Exp Hematol**. 2019 Jan 4. pii: S0301-472X(19)30004-9.

Haake K, Ackermann M, **Lachmann N**. „Concise Review: Towards the Clinical Translation of Induced Pluripotent Stem Cell-Derived Blood Cells-Ready for Take-Off. **Stem Cells Transl Med**. 2019 Apr;8(4):332-339. doi: 10.1002/sctm.18-0134.

2018

Beneke V*, Küster F*, Neehus AL, Hesse C, Lopez-Rodriguez E, Haake K, Rafiei Hashtchin A, Schott JW, Walter D, Braun A, Wolkers WF, Ackermann M, Lachmann N. „An immune cell spray (ICS) formulation allows for the delivery of functional monocyte/macrophages.“ **Sci Rep**. 2018 Nov 2;8(1):16281. doi: 10.1038/s41598-018-34524-2.

Curriculum Vitae

Prof. Dr. Nico Lachmann

Ackermann M*, Kempf H*, Hetzel M, Hesse C, Hashtchin AR, Brinkert K, Schott JW, Haake K, Kühnel MP, Glage S, Figueiredo C, Jonigk D, Sewald K, Schambach A, Wronski S, Moritz T, Martin U, Zweigerdt R, Munder A, **Lachmann N** „Bioreactor-based mass production of human iPSC-derived macrophages enables immunotherapies against bacterial airway infections.“, **Nature Communications**. 2018 Nov 30;9(1):5088. doi: 10.1038/s41467-018-07570-7.

Happle C*, **Lachmann N***, Ackermann M, Wetzke M, Mirenska A, Göhring G, Thomay K, Mucci A, Glomb T, Suzuki T, Glage S, Dittrich-Breiholz O, Trapnell B, Moritz T, Hansen G “Pulmonary transplantation of human iPSC-derived macrophages ameliorates hereditary lung disease” **Am J Respir Crit Care Med**. 2018 Apr 13. doi: 10.1164/rccm.201708-1562OC

Mucci A, Lopez-Rodriguez E, Hetzel M, Liu S, Suzuki T, Happle C, Ackermann M, Kempf H, Hillje R, Kunkiel J, Janosz E, Brenning S, Glage S, Bankstahl JP, Dettmer S, Rodt T, Gohring G, Trapnell B, Hansen G, Trapnell C, Knudsen L, **Lachmann N***, Moritz T*. „iPSC-Derived Macrophages Effectively Treat Pulmonary Alveolar Proteinosis in Csf2rb-Deficient Mice.“ **Stem Cell Reports**. 2018 Sep 11;11(3):696-710. doi: 10.1016/j.stemcr.2018.07.006.

Hetzel M, Mucci A, Blank P, Nguyen AHH, Schiller J, Halle O, Kühnel MP, Billig S, Meineke R, Brand D, Herder V, Baumgärtner W, Bange FC, Goethe R, Jonigk D, Förster R, Gentner B, Casanova JL, Bustamante J, Schambach A, Kalinke U, **Lachmann N**. „Hematopoietic stem cell gene therapy for IFN γ R1 deficiency protects mice from mycobacterial infections.“ **Blood**. 2018 Feb 1;131(5):533-545. doi: 10.1182/blood-2017-10-812859.

Neehus AL, Lam J, Haake K, Merkert S, Schmidt N, Mucci A, Ackermann M, Schubert M, Happle C, Kühnel MP, Blank P, Philipp F, Goethe R, Jonigk D, Martin U, Kalinke U, Baumann U, Schambach A, Roesler J, **Lachmann N** “Impaired IFN γ -Signaling and Mycobacterial Clearance in IFN γ R1 Deficient Human iPSC-Derived Macrophages” **Stem Cell Reports**. 2018 Jan 9;10(1):7-16

2017

Kuhn A, Ackermann M, Mussolino C, Cathomen T, **Lachmann N**, Moritz T. “TALEN-mediated functional correction of human iPSC-derived macrophages in context of hereditary pulmonary alveolar proteinosis.” **Sci Rep**. 2017 Nov 9;7(1):15195.

Kunkiel J, Gödecke N, Ackermann M, Hoffmann D, Schambach A, Lachmann N, Wirth D, Moritz T. “The CpG-sites of the CBX3 ubiquitous chromatin opening element are critical structural determinants for the anti-silencing function.” **Sci Rep**. 2017 Aug 11;7(1):7919

Hetzel M, Suzuki T, Hashtchin AR, Arumugam P, Carey B, Schwabbauer M, Kuhn A, Meyer J, Schambach A, Van Der Loo J, Moritz T, Trapnell BC, **Lachmann N**. “Function and Safety of Lentivirus-Mediated Gene Transfer for CSF2RA-Deficiency” **Hum Gene Ther Methods**. 2017 Dec;28(6):318-329

Ackermann M, Kuhn A, Kunkiel J, Merkert S, Martin U, Moritz T, **Lachmann N** “Ex vivo Generation of Genetically Modified Macrophages from Human Induced Pluripotent Stem Cells” **Transfus Med Hemother** 2017 Jun;44(3):135-142

Pittermann E, **Lachmann N**, MacLean G, Emmrich S, Ackermann M, Göhring G, Schlegelberger B, Welte K, Schambach A, Heckl D, Orkin SH, Cantz T, Klusmann JH. „Gene correction of HAX1 reversed Kostmann disease phenotype in patient-specific induced pluripotent stem cells.“ **Blood Adv**. 2017 Jun 2;1(14):903-914.

Lopez-Rodriguez E, Gay-Jordi G, Mucci A, **Lachmann N**, Serrano-Mollar A. “Lung surfactant metabolism: early in life, early in disease and target in cell therapy.” **Cell Tissue Res**. 2017 Mar;367(3):721-735

Hartmann D, Fiedler J, Sonnenschein K, Just A, Pfanne A, Zimmer K, Remke J, Foinquinos A, Butzlaff M, Schimmel K, Maegdefessel L, Hilfiker-Kleiner D, **Lachmann N**, Schober A, Froese N, Heineke J, Bauersachs J, Batkai S, Thum T. “MicroRNA-Based Therapy of GATA2-Deficient Vascular Disease. **Circulation**. 2016 Dec 13;134(24):1973-1990.

Curriculum Vitae

Prof. Dr. Nico Lachmann

2016

Mucci A, Kunkiel J, Suzuki T, Brenning S, Glage S, Kühnel MP, Ackermann M, Happle C, Kuhn A, Schambach A, Trapnell BC, Hansen G, Moritz T, **Lachmann N** „Murine iPSC-derived macrophages as a tool for disease modeling of hereditary Pulmonary Alveolar Proteinosis due to *Csf2rb* deficiency“ **Stem Cell Reports**. 2016 Aug 9;7(2):292-305

Börger AK, Eicke D, Wolf C, Gras C, Aufderbeck S, Schulze K, Engels L, Eiz-Vesper B, Schambach A, Guzman CA, **Lachmann N**, Moritz T, Martin U, Blasczyk R, Figueiredo C. „Generation of HLA-universal iPSCs-derived megakaryocytes and platelets for survival under refractoriness conditions.“ **Mol Med** 2016 May 6;22. doi: 10.2119/molmed.2015.00235. [Epub ahead of print]

Skuljec J, Cabanski M, Surdziel E, **Lachmann N**, Brenning S, Pul R, Jirmo AC, Habener A, Visic J, Dalüge K, Hennig C, Moritz T, Happle C, Hansen G. „Monocyte/macrophage lineage commitment and distribution are affected by the lack of regulatory T cells in scurfy mice.“ **Eur J Immunol**. 2016 Jul;46(7):1656-68

2015

Brenning S, **Lachmann N**, Buchegger T, Hetzel M, Schambach A, Moritz T. „Chemoprotection of murine hematopoietic cells by combined gene transfer of cytidine deaminase (CDD) and multidrug resistance 1 gene (MDR1).“ **J Exp Clin Cancer Res**. 2015 Dec 12;34:148

Dreyer AK, Hoffmann D, **Lachmann N**, Ackermann M, Steinemann D, Timm B, Siler U, Reichenbach J, Grez M, Moritz T, Schambach A, Cathomen T. „TALEN-mediated functional correction of X-linked chronic granulomatous disease in patient-derived induced pluripotent stem cells.“ **Biomaterials**. 2015 Nov;69:191-200

Ackermann M, Liebhaber S, Klusmann JH, **Lachmann N**, „Lost in Translation: Pluripotent Stem Cell Derived Hematopoiesis“ **EMBO Mol Med** 2015 Jul 14;7(11):1388-402

Lachmann N*, Brenning S*, Hillje R, Schermeier H, Phaltane R, Dahlmann J, Gruh I, Heinz N, Schiedlmeier B, Baum C, Moritz T „Tightly regulated "all in one" lentiviral vectors for protection of human hematopoietic cells from anticancer chemotherapy“ **Gene Therapy** 2015 Nov;22(11):883-92 *contributed equally

Lachmann N*, Czarnecki K*, Brenning S, Phaltane P, Heise M, Heinz N, Kempf H, Dilloo D, Kaefer V, Schambach A, Heuser M, Moritz T “Deoxycytidine-kinase (dCK) knock-down as a novel myeloprotective strategy in the context of fludarabine, cytarabine, or cladribine therapy” **Leukemia**. 2015 Nov;29(11):2266-9 *contributed equally

Lachmann N*, Ackermann M*, Frenzel E, Liebhaber S, Brenning S, Happle C, Hoffmann D, Klimenkova O, Lüttge D, Buchegger T, Kühnel MP, Schambach A, Janciauskiene S, Figueiredo C, Hansen G, Skokowa J, Moritz T. „Large-scale hematopoietic differentiation of human induced pluripotent stem cells provides granulocytes or macrophages for cell replacement therapies“ **Stem Cell Reports**. 2015 Feb 10;4(2):282-96_*contributed equally

Müller-Kuller U*, Ackermann M*, Kolodziej S, Brendel C, Fritsch J, **Lachmann N**, Kunkel H, Lausen J, Schambach A, Moritz T, Grez M. „A minimal ubiquitous chromatin opening element (UCOE) effectively prevents silencing of juxtaposed heterologous promoters by epigenetic remodeling in multipotent and pluripotent stem cells“ **Nucleic Acids Res**. 2015 Feb 18;43(3):1577-92 *contributed equally

2014

Suzuki T, Arumugam P, Sakagami T, **Lachmann N**, Chalk C, Sallase A, Abe S, Trapnell C, Carey B, Moritz T, Malik P, Lutzko C, Wood RE, Trapnell BC „ Pulmonary macrophage transplantation therapy“ **Nature** 2014 Oct 23;514(7523):450-4

Happle C*, **Lachmann N***, Skuljec J, Wetzke M, Ackermann M, Brenning S, Mucci A, Jirmo AC, Groos S, Mirenska A, Hennig C, Rodt T, Bankstahl JP, Schwerk N, Moritz T, Hansen G. „Pulmonary transplantation of macrophage

Curriculum Vitae

Prof. Dr. Nico Lachmann

progenitors as effective and long-lasting therapy for hereditary pulmonary alveolar proteinosis,, **Science Transl Med.** **2014** Aug 20;6(250):250ra113. **contributed equally*

Phaltane R, **Lachmann N**, Brennig S, Ackermann M, Modlich U, Moritz T. "Lentiviral MGMTP140K- mediated in vivo selection employing a ubiquitous chromatin opening element (A2UCOE) linked to a cellular promoter" **Biomaterials.** **2014** Aug;35(25):7204-13

Lachmann N*, Happle C*, Lüttge D, Wetzke M, Merkert S, Ackermann M, Kensah J, Jara-Avaca M, Mucci A, Skuljec J, Dittrich AM, Pfaff N, Brennig S, Schambach A, Steinemann D, Göhring G, Cantz T, Martin U, Schwerk N, Hansen G, Moritz T "Gene correction of human induced Pluripotent Stem Cells repairs the cellular phenotype in Pulmonary Alveolar Proteinosis" **Am J Respir Crit Care Med.** **2014** Jan 15;189(2):167-82 **contributed equally*

Ackermann M, **Lachmann N**, Hartung S, Eggenschwiler R, Pfaff N, Happle C, Mucci A, Göhring G, Niemann H, Hansen G, Schambach A, Cantz T, Zweigerdt R, Moritz T "Promoter and lineage independent anti-silencing activity of the A2 ubiquitous chromatin opening elemtn for optimized human pluripotent stem cell-based therapy" **Biomaterials.** **2014** Feb;35(5):1531-42

2013

Lachmann N, Brennig S, Phaltane R, Flasshove M, Dillo D, Moritz T. "Myeloprotection by cytidine deaminase gene transfer in anti-leukemic therapy" **Neoplasia** **2013** Mar; 15(3):239-48

Lachmann N, Brennig S, Moritz T. Cytidine Deaminase in Myeloprotective Gene Therapy, In: Lattime E, Gerson S, editors. **Lattime-Gene Therapy of Cancer 3rd Edition, 2013**

Pfaff N*, **Lachmann N***, Ackermann M, Kohlscheen S, Brendel C, Maetzig T, Niemann H, Antoniou MN, Grez M, Schambach A, Cantz T, Moritz T. "A Ubiquitous Chromatin Opening Element (UCOE) Sustains Cytidine Deaminase Expression and Drug Resistance in Murine iPSCs and Their Hematopoietic Progeny". **Stem Cells.** **2013** Mar; 31(3):488-99 **contributed equally*

13

Lachmann N, Brennig S, Pfaff N, Schermeier H, Dahlmann J, Phaltane R, Gruh I, Modlich M, Schambach A, Baum C, Moritz T „Efficient Doxycycline-regulated cytidine deaminase expression mediates myeloprotection while avoiding transgene-specific side effects“ **Gene Ther.** **2013** Mar;20(3):298-307

2012

Lachmann N, Jagielska J, Heckl D, Brennig S, Pfaff N, Maetzig T, Modlich U, Cantz T, Gentner B, Schambach A and Moritz T "MicroRNA-150-regulated vectors allow lymphocyte-sparing transgene expression in hematopoietic gene therapy" **Gene Ther.** **2012** Sep;19(9):915-24

Pfaff N, **Lachmann N**, Kohlscheen S, Sgodda M, Araúzo-Bravo MJ, Greber B, Kues W, Glage S, Baum C, Niemann H, Schambach A, Cantz T, Moritz T. "Efficient Hematopoietic Redifferentiation of Induced Pluripotent Stem Cells Derived from Primitive Murine Bone Marrow Cells." **Stem Cells Dev.** **2012** Mar 20;21(5):689-701.

Brennig S., Rattmann I., **Lachmann N.**, Schambach A., Williams D.A., Moritz T.

„*In vivo* enrichment of cytidine deaminase gene-modified hematopoietic cells by prolonged cytosine-arabioside (Ara-C) application" **Cytotherapy.** **2012** Apr;14(4):451-60.