CURRICULUM VITAE

Maike Buchner
Max-Eder Junior Research Group Leader
Institut für Klinische Chemie und Pathobiochemie
TranslaTUM - Klinikum rechts der Isar
Technische Universität München
Einsteinstr. 25
81675 München
Tel: 089/4140-9255
Email: maike.buchner@tum.de

ACADEMIC DEVELOPMENT

Principal Investigator, Technische Universität München 01/2015-current
Habilitation 2023
Postdoctoral Research Fellow, University of California, San Francisco 10/2011-12/2014
Postdoctoral Research Fellow, University of Southern California, Los Angeles 11/2010-10/2011
PhD, Molecular Medicine, University of Freiburg, Germany (*summa cum laude*) 10/2010
Master of Science, Molecular Medicine, University of Freiburg, Germany 2006
Medical-technical laboratory assistant, University of Würzburg, Germany 2001

RESEARCH AND PROFESSIONAL EXPERIENCE

Technische Universität München Principal Investigator
Institut für Klinische Chemie und Pathobiochemie, Prof. Jürgen Ruland 2015-current

- ***Projects:*** Targeted hyperactivation of PI3K/AKT and MAPK signaling in chronic lymphocytic leukemia. RANK signaling in B cells and CLL; generation and characterization of a novel syngeneic multiple myeloma mouse model (*unpublished*). Targetable metabolic dependencies in CLL.
- ***Responsibilities:*** Responsible for experimental design, data analysis and interpretation, and manuscript writing. Third party funding acquisition, staff management responsibility (currently 4 PhD students, 1 postdoc, and 1 technician).

University of California, San Francisco Postdoctoral Research Fellow
Mentor: Markus Müschen, MD/Ph.D. 2010-2014

- ***Projects:*** Investigating the functional role of the transcription factor FOXM1 in pre-B acute lymphoblastic leukemia and normal B cell development. Hypersignaling induced apoptosis in BCR-ABL1-driven acute lymphoblastic leukemia cells and negative selection.
- ***Responsibilities:*** Responsible for experimental design, data analysis and interpretation, and manuscript preparation.
- ***New Methodologies:*** Chromatin Immunoprecipitation (ChIP), flow cytometric cell sorting (including single cells and subsequent whole genome amplification), vector cloning, cell transfection, retro- and lentiviral transduction, flow cytometric analysis and sorting of B cell progenitor fractions in human and mouse bone marrow, *in vivo* bioimaging, mouse handling, *i.f. i.p.* and *i.v.* injection.

University of Freiburg, Germany Doctoral Research
Dissertation committee: Hendrik Veelken, MD., Michael Reth, Ph.D. 2006-2010
"summa cum laude"

- ***Projects:*** Identification of SYK as a potential therapeutic target in chronic lymphocytic leukemia. The functional role of SYK in the crosstalk between chronic lymphocytic leukemia cells and their microenvironment. Stromal cell protection against cellular but not humoral immune responses.
- ***Responsibilities:*** Responsible for experimental design, data analysis and interpretation and manuscript preparation; supervision of master and MD candidates.

- ***New Methodologies:*** adhesion analysis by flow chamber experiments, confocal microscopy, chemotaxis assays, quantitative real-time PCR, siRNA-mediated knockdown, calculation of drug synergism, *in vitro* protein tyrosine kinase activity assay.

University of Freiburg, Germany Master Research
Mentor: Hendrik Veelken, MD. 2005-2006

- ***Projects:*** Induction of idiotype-specific immune responses, methylation analyses of promoter regions of cytokine genes in regulatory T cells.
- ***Responsibilities:*** Contribution to experimental design, data analysis and interpretation.
- ***New Methodologies:*** spectratyping PCR, s.c. injection, *in vitro* dendritic cell maturation, *in vivo* cytotoxicity assay, magnetic bead-based cell sorting, tetramer binding assay, bisulfite sequencing.

HONORS / AWARDS / 3rd PARTY FUNDING:

2024 Project Funding by the Fritz-Thyssen-Foundation (120.000 €)

2023 Deutsche Forschungsgemeinschaft (DFG; FOR5560 P07 with Eichner as Co-PI (own contribution 278.544 €)

2023 DFG Grant (Sachbeihilfe; 407.338 €)

2022 Max Eder 2nd Funding Period by the German Cancer Aid (Deutsche Krebshilfe; 597.685 €)

2020 COVID-19 Research Grant by the medical faculty, TUM (25.000 €, w/ Selina Keppler)

2018 Project Funding by the Wilhelm-Sander-Foundation (176.800 €)

2018 – 2022: SFB1335 Board Member

2018 SFB1335 Subproject Funding P02 by the DFG (476.200 €)

2016- current: TUM Junior Fellowship (10.000 € p.a.)

2016 Max Eder-Funding by the German Cancer Aid (Deutsche Krebshilfe; 563.420 €)

2014 Abstract Achievement Award by the *American Society of Hematology*

2014 Travel grant for job interviews in Germany (Rückkehrer Stipendium DAAD)

2013 Abstract Achievement Award by the *American Society of Hematology*

2012 Abstract Achievement Award by the *American Society of Hematology*

2010 Award for outstanding achievements during Graduation in Molecular Medicine by the University Medical School Freiburg, Germany (10.000 €)

2009 Poster Award, Annual Retreat of the Department for Hematology/Oncology, Medical Center of the University Hospital Freiburg, Germany

2009 Scholarship for participation in the 3rd Comprehensive Cancer Research Training Program (CCRTP) at Stanford University, CA, USA; provided by the *Comprehensive Cancer Center Freiburg (CCCF)*, Germany

2006-2009 PhD Scholarship, provided by the University Medical School Freiburg for outstanding Molecular Medicine Graduate Students (30.000 €)

2007 Scholarship for participation in the 57th Meeting of Nobel Laureates in Lindau (Physiology or Medicine); provided by the Review Panel of the Lindau Council (http://www.lindau-nobel.de)

PUBLICATIONS (selected)

1. Ecker, V.*, Brandmeier, L*, Stumpf M., Giansanti P., Moreira AV., Pfeuffer L., Fens MHAM., Lu J., Kuster B., Engleitner T., Heidegger S., Rad R., Ringshausen I., Zenz T., Wendtner CM., Müschen M., Jellusova J., Ruland, J., and **Buchner, M**. Negative feedback regulation of MAPK signaling is an important driver of chronic lymphocytic leukemia progression. Cell Rep. 2023 Oct 3;42(10):113017.

2. Lee, HK.*, Hoechstetter, M.A.*, **Buchner, M.***, Pham, TT., Huh, J.W., Müller, K., Zange, S., von Buttlar, H., Girl, P., Wölfel, R., Brandmeier, L., Pfeuffer, L., Furth, PA., Wendtner, C.M., Hennighausen, L. (preprint) Analysis of immune responses in CLL patients after heterologous COVID-19 vaccination. Blood Advances 2023 Jan 11:bloodadvances.2022008445. *contributed equally

3. Ecker, V., Stumpf, M., Brandmeier, L., Neumayer, T., Pfeuffer, L., Engleitner, T., Ringshausen, I., Nelson, N., Jucker, M., Wanninger, S., Zenz, T., Wendtner, C., Manske, K., Steiger, K., Rad, R., Muschen, M., Ruland, J., and **Buchner, M.** (2021). Targeted PI3K/AKT-hyperactivation induces cell death in chronic lymphocytic leukemia. Nature Communications 12, 3526.

4. Alankus, B., Ecker, V., Vahl, N., Braun, M., Weichert, W., Macher-Goppinger, S., Gehring, T., Neumayer, T., Zenz, T., **Buchner, M**.[#], and Ruland, J. [#] (2021). Pathological RANK signaling in B cells drives autoimmunity and chronic lymphocytic leukemia. The Journal of Experimental Medicine 218. [#]shared senior authorship

5. Patzelt T, Keppler SJ, Gorka O, Thöne S, Wartewig T, Förster I, Lang R, **Buchner M*,** Ruland J*. (2018) Foxp1 controls mature B cell survival and the development of follicular and B-1 B cells. Proc Natl Acad Sci U S A. Mar 20;115(12):3120-3125. *Co-corresponding authors

6. Chen Z*, Seyedmehdi S*, **Buchner M**, Geng H, Lee JW, Klemm L, Titz B, Graeber T, Park E, Tan YX, Satterthwaite A, Paietta E, Hunger SP, Willman CL, Melnick A, Loh M, Jung JU, Coligan JE, Bolland S, Mak T, Limnander A, Jumaa H, Reth M, Weiss A, Lowell CA, Müschen M. Signaling thresholds and negative B cell selection in acute lymphoblastic leukemia. *Nature* 2015 Mar 23. doi: 10.1038/nature14231.

7. **Buchner M***, Park E, Geng H, Klemm L, Schjerven H, Paietta E, Kopanja D, Raychaudhuri P, Müschen M. Identification of FOXM1 as therapeutic target in B cell lineage acute lymphoblastic leukemia. *Nat Commun.* 2015 Mar 10;6:6471. * Corresponding author

8. **Buchner M**, Brantner P, Stickel N, et al. The microenvironment differentially impairs passive and active immunotherapy in Chronic Lymphocytic Leukemia - Potential therapeutic synergism of CXCR4 antagonists. *Br J Haematol.* 2010 Oct;151(2):167-78.

9. **Buchner M**, Baer C, Prinz G, et al. Spleen Tyrosine Kinase Inhibition Prevents Chemokine- and Integrin-Mediated Stromal Protective Effects in Chronic Lymphocytic Leukemia. *Blood.* 2010 Jun 3;115(22):4497-506.

10. **Buchner M**, Fuchs S, Prinz G, et al. Spleen Tyrosine Kinase Is Overexpressed and Represents a Potential Therapeutic Target in Chronic Lymphocytic Leukemia. *Cancer Res.* 2009 Jul 1;69(13):5424-32.