CV Prof. Dr. Maren von Köckritz-Blickwede

- **Professor for Biochemistry, Director Institute of Biochemistry, University of Veterinary Medicine Hannover (TiHo)**
- **Director for Scientific Administration and Biosafety Management, Research Center for Emerging Infections and Zoonosis (RIZ)**

Personal Information Born: 1976, Nationality: German; 2 kids

Scientific discipline and key expertise

- Biochemistry of infection
- Innate immunity
- Host-pathogen interaction
- Hypoxia/tissue oxygen supply
- Alternatives to animal experiments

Education, research, and professional experience

Since 2026	Director Institute of Biochemistry, TiHo
Since 2019	Director for Scientific Administration and Biosafety Management, Research Center for Emerging Infections and Zoonosis (RIZ), TiHo
Since 2017	Biosafety expert for BSL3
Since 2015	Professor for Biochemistry of Infection, Institute of Biochemistry, TiHo
2014	Lecture qualification (Habilitation) in Biochemistry and Infection Biology, TiHo
2010 - 2015	Head of the Infection Biochemistry Group, Institute of Biochemistry, TiHo
2008 - 2010	Post-doctoral fellow at the Department of Pharmacology & Drug Discovery, San Diego School of Medicine, University of California, supported by Deutsche Akademie der Naturforscher Leopoldina.
2004 - 2008	PostDoc at the Department of Microbial Pathogenicity, Helmholtz Center for Infection Research (HZI), Braunschweig, Germany.
2004	Dr. rer. nat., University of Veterinary Medicine, Hannover, Germany
1995 - 2001	Studies of Biology, University of Hannover, Germany
1998 - 1999	Integrated studies of Tropical Biology at the Universidad Nacional de Heredia, Costa Rica, funded by a scholarship from the German Academic Exchange Service

Selected awards and honors

2012	*Gustav-Rosenberger Gedächtnispreis zur Förderung des wissenschaftlichen Nachwuchses*, University of Veterinary Medicine Hannover
2008	Leopoldina fellowship for 2 years PostDoc in USA

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2008 Awardee of the Helmholtz-Network-Mentoring Program

Selected extraordinary functions

Since 2024 Chairperson of the review board Agriculture, Forestry and Veterinary Medicine, Deutsche Forschungsgemeinschaft

Since 2023 Member of the Scientific Advisory Board of the German Primate Center

Since 2023 Deputy Spokeswoman of the Research Network "MikroReplaceSystems" to "Replace and Reduce Animal Experiments in Lower Saxony" (R2N).

Since 2021 Deputy Spokeswoman of the COVID-19 Research Network COFONI

Since 2020 Member of the DFG Review Board (207-08 Veterinary Medicine)

Since 2017 Chairperson of the Preclinical Commission (Vorsitz "Fachkommission Vorklinik"), University of Veterinary Medicine, Hannover, Germany.

Since 2015 Biosafety officer (S1-S3), Research Center for Emerging Infections and Zoonosis, University of Veterinary Medicine, Hannover, Germany.

Book Editor

Kues W, **von Köckritz-Blickwede M**. Biochemie für die Tiermedizin. 1st Edition 2021, Thieme

Selected publications

1. Lynch-Miller M, Lockow S, Dümmer K, Henneck T, Olmer R, Jaboreck MC, Mergani AO, Wandrey M, Branitzki-Heinemann K, Brogden G, Naim HY, Martin U, Schulz C, Talbot SR, Meurer M, Baumgärtner W, **von Köckritz-Blickwede M**. Characterization of 3D human pulmonary epithelial model morphology and oxygen status under normoxia and hypoxia. Biochim Biophys Acta Mol Cell Res. 2025 Aug;1872(6):119980. doi: 10.1016/j.bbamcr.2025.119980. **Key contribution**: hypoxia, 3D pulmonary air-liquid-interface-models using permanent cell lines compared to primary epithelial cell.
2. Wirz K, Schulz C, Söbbeler F, Armando F, Beythien G, Gerhauser I, de Buhr N, Pilchová V, Meyer Zu Natrup C, Baumgärtner W, Kästner S, **von Köckritz-Blickwede M**. A New Methodology for the Oxygen Measurement in Lung Tissue of an Aged Ferret Model Proves Hypoxia During COVID-19. Am J Respir Cell Mol Biol. 2024 Apr 30. doi: 10.1165/rcmb.2024-0005OC. **Key contribution**: COVID-19 ferret model in vivo, tissue oxygen measurement in vivo.
3. Aksu M, Kumar P, Güttler T, Taxer W, Gregor K, Mußil B, Rymarenko O, Stegmann KM, Dickmanns A, Gerber S, Reineking W, Schulz C, Henneck T, Mohamed A, Pohlmann G, Ramazanoglu M, Mese K, Groß U, Ben-Yedidia T, Ovadia O, Fischer DW, Kamensky M, Reichman A, Baumgärtner W, **von Köckritz-Blickwede M**, Dobbelstein M, Görlich D. Nanobodies to multiple spike variants and inhalation of nanobody-containing aerosols neutralize SARS-CoV-2 in cell culture and hamsters. Antiviral Res. 2024 Jan;221:105778. doi: 10.1016/j.antiviral.2023.105778. **Key contribution**: COVID-19 hamster model in vivo, hematology and blood chemistry, inhalation model for hamster under BSL-3- environment.

4. Mergani A, Meurer M, Wiebe E, Dümmer K, Wirz K, Lehmann J, Brogden G, Schenke M, Künnemann K, Naim HY, Grassl GA, **von Köckritz-Blickwede M***, Seeger B*. Alteration of cholesterol content and oxygen level in intestinal organoids after infection with Staphylococcus aureus. FASEB J. 2023 Dec;37(12):e23279. doi: 10.1096/fj.202300799R. **Key contribution**: Cholesterol and oxysterol quantification by HPLC, intracellular and extracellular oxygen measurements in 3D alternative models, organoid infections with Staphylococcus aureus to study host-pathogen interaction.
5. de Buhr N, Parplys AC, Schroeder M, Henneck T, Schaumburg B, Stanelle-Bertram S, Jarczak D, Nierhaus A, Hiller J, Peine S, Kluge S, Klingel K, Gabriel G, **von Köckritz-Blickwede M**. Impaired Degradation of Neutrophil Extracellular Traps: A Possible Severity Factor of Elderly Male COVID-19 Patients. J Innate Immun. 2022;14(5):461-476. doi: 10.1159/000521594. **Key contribution**: Quantification of biochemical marker for neutrophil extracellular traps and immunological parameters in COVID-19 patient samples; visualization of neutrophil extracellular traps in COVID-19 patient biopsies by confocal fluorescence microscopy.
6. de Buhr N, Bonilla MC, Pfeiffer J, Akhdar S, Schwennen C, Kahl BC, Waldmann KH, Valentin-Weigand P, Hennig-Pauka I, **von Köckritz-Blickwede M**. Degraded neutrophil extracellular traps promote the growth of Actinobacillus pleuropneumoniae. Cell Death Dis. 2019 Sep 10;10(9):657. doi: 10.1038/s41419-019-1895-4. **Key contribution**: Biochemical characterization of neutrophil extracellular traps in vivo and in vitro, confocal fluorescence microscopy to study innate immune responses in vivo.
7. Noack A, Gericke B, **von Köckritz-Blickwede M**, Menze A, Noack S, Gerhauser I, Osten F, Naim HY, Löscher W. Mechanism of drug extrusion by brain endothelial cells via lysosomal drug trapping and disposal by neutrophils. Proc Natl Acad Sci USA. 2018 Oct 9;115(41):E9590-E9599. doi: 10.1073/pnas.1719642115. **Key contribution**: Biochemical characterization of neutrophil Responses, confocal fluorescence microscopy to study innate immune responses in vitro.
8. Ulas T, Pirr S, Fehlhaber B, Bickes MS, Loof TG, Vogl T, Mellinger L, Heinemann AS, Burgmann J, Schöning J, Schreek S, Pfeifer S, Reuner F, Völlger L, Stanulla M, **von Köckritz-Blickwede M**, Glander S, Barczyk-Kahlert K, von Kaisenberg CS, Friesenhagen J, Fischer-Riepe L, Zenker S, Schultze JL, Roth J, Viemann D. S100-alarmin-induced innate immune programming protects newborn infants from sepsis. Nat Immunol. 2017 Jun;18(6):622-632. doi: 10.1038/ni.3745. **Key contribution**: Neonatal murine sepsis model in vivo, biochemical characterization of innate immune response.
9. Chow OA*, **von Köckritz-Blickwede M***, Bright AT, Hensler ME, Zinkernagel AS, Cogen AL, Gallo RL, Monestier M, Wang Y, Glass CK, Nizet V. Statins enhance formation of phagocyte extracellular traps. Cell Host Microbe. 2010 Nov 18;8(5):445-54. doi: 10.1016/j.chom.2010.10.005. **Key contribution**: Biochemical and cellular characterization of alterations in the cholesterol metabolism, confocal fluorescence microscopy to study innate immune responses, in vivo mouse model of infection
10. **von Köckritz-Blickwede M**, Goldmann O, Thulin P, Heinemann K, Norrby-Teglund A, Rohde M, Medina E. Phagocytosis-independent antimicrobial activity of mast cells by means of extracellular trap formation. Blood. 2008 Mar 15;111(6):3070-80. doi: 10.1182/blood-2007-07-104018**. Key contribution**: Biochemical and cellular characterization of mast cell responses to infection, confocal fluorescence microscopy to study innate immune responses.