Curriculum vitae

Family name, first name: **Haller, Dirk**
Researcher unique identifier(s): **Scopus Author ID: 7103258107**, **ORCID: 0000-0002-6977-4085**
Date of birth: **May 22, 1968**
Nationality: **German**
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EDUCATION AND TRAINING

2003 – 2006	DFG **Emmy Noether Research Group**, School of Life Sciences, Technical University of Munich
2001 – 2002	DFG **Emmy Noether Fellow**, University of North Carolina, Department of Medicine, Microbiology & Immunology, Chapel Hill, USA
2000 – 2001	**Research Fellow**, Immunology, Nestlé Research Center, Lausanne Switzerland
1997 – 2000	PhD in the Department of Nutrition and Food Sciences, Microbiology & Immunology University of Hohenheim, Germany
1991 – 1997	Degree (Diplom) in Food Science, University of Hohenheim, Germany
1991 – 1996	Degree (Diplom) in Nutrition Science, University of Hohenheim, Germany

CURRENT AND PAST POSITIONS

2014 – present	**Director of Corporate Research Institute,** Food & Health (ZIEL), Technical University of Munich, Germany
2008 – present	**Full Professor and Chair** Nutrition and Immunology, School of Life Sciences, (co-affiliation with Faculty of Medicine), Technical University of Munich, Germany
2006 – 2008	**Associate Professor** Experimental Nutritional Medicine, Technical University of Munich, Germany

AWARDS

2024	**Highly Cited Researcher** - Institute for Scientific Information at Clarivate
2021	Distinguished **Research Prize of the United European Gastroenterology** Association
2020	**Heinz Maier-Leibnitz Medal** awarded for Scientific Excellence in Nutrition and Microbiome by the Technical University of Munich
2015	**Main Award of the German Society of Medical Microbiology and Hygiene** (DGHM)
2007 - 2009	**German American Frontiers of Science,** National Acadamy of Sciences of America and Humboldt Foundation
2001 – 2006	**Emmy Noether Career Award**, German Research Foundation (DFG)

SCIENTIFIC LEADERSHIP & MAJOR GRANTS

2018 – present	**Collaborative Research Center (CRC1371)**, **Coordinator**, Microbiome Signatures – Functional Relevance in the Digestive Tract, German Research Foundation (DFG)
2016 – 2019	**European Joint Programming Initiative** (JPI), Coordinator, Diet-induced Arrangement of the Gut Microbiome
2013 – 2019	**Priority Programme (SPP1656)**, **Coordinator**, Intestinal Microbiota, German Research Foundation (DFG)
2011 – 2017	**Research Training Group (RTG1482)**, **Coordinator**, Interface Function of the Intestine, German Research Foundation (DFG)
2010	**Scientific Chair of the European Science Foundation** (ESF), Forward Look initiative, Gene environment interaction in chronic disease

INSTITUTIONAL RESPONSIBILITIES AND PROFESSIONAL ACTIVITIES

2025 – present	TUM Senate
2021 – present	**TUM Asia** Faculty Member and **TUM Create** Research Program, Proteins for Singapore (P4S)
2021 – 2025	**Vice-Dean Research & Innovation**, School of Life Science, Technical University of Munich, Germany
2020 – 2024	European **Joint Programming Initiative** "A healthy diet for a healthy life" Scientific Advisory Board
2020 – present	**Permanent Senate Commission on Food Safety**, German Research Foundation (DFG)
2020 – present	Associate Editor of ***Mucosal Immunology***
2019	**UK Research and Innovation**, Biotechnology and Biological Research Council (BBSRC) Institute Evaluation, UK
2018 – 2023	Litwin IBD Pioneer and Senior Research Program of the **Crohn's and Colitis Foundation of Amerika**
2018 – 2023	**Science and Innovation Advisory Committee**, Quadram Institute Bioscience, UK
2018 – 2022	**ICREA Catalan Institution for Research and Advanced Studies**, Life & Medical Science Senior Call Evaluator (2018, 2020, 2022)
2017 – present	Scientific Board of the **German Society of Nutrition** (DGE)
2017 – 2024	Associate Editor ***Inflammatory Bowel Disease***
2015 – 2019	**European Research Council (ERC)**, Panel Head, Consolidator Grants (2015, 2017, 2019)
2007 – 2011	Founding **Section Head of the German Society of Hygiene and Microbiology** (DGHM), Microbiota, Probiotics and Host
2007 – 2016	Head of Department, School of Life Sciences, Technical University of Munich

TRACK RECORD AND ACHIEVEMENT SUMMARY

Nutrition and the intestinal microbiome are key environmental factors in the aetiology of chronic disorders in the industrialized world. My whole scientific career is dedicated to develop a fundamental understanding of how the community of intestinal microbes contribute to inflammatory diseases (**Renz, 2011 Nature Immunology**; **Metwaly, 2022 and 2025 Nat. Rev. Gastroenterol. Hepatol.**). I pioneered the idea that commensal bacteria trigger a regulated circuit of inflammatory host responses through the integration of signals at the intestinal epithelial interface (**Haller, 2000 Gut; Haller, 2002 J. Biol. Chem.; Shkoda, 2007 Gastroenterology**), supporting a paradigm shift in the understanding of microbiome-host interactions. Over the last decades, my team and I identified protective and pro-inflammatory molecular structures of commensal bacteria (**Steck, 2011 Gastroenterology; von Schillde, 2012 Cell Host & Microbe**), and applied Koch's postulates in germ-free mouse models to confirm their causal role in shaping inflammatory bowel diseases (IBD) (**Schaubeck, 2016 Gut; Metwaly, 2020 Nature Communications**). In order to broaden the breadth of microbiome research towards human translation, we employ clinical and population studies to specify the role of nutrition in modulating microbiome-related human health (**Häcker, 2024 Cell Host & Microbe; Heppner, 2024 Cell Host & Microbe; Reitmeier, 2020 Cell Host & Microbe; Bazanella, 2018 Am. J. Clin. Nutrition; Lee, 2017 Gut**). How is the complex repertoire of nutritional and microbial signals integrated at the intestinal interface to shape health and diseases (**Rath, 2018 Nat. Rev. Gastroenterol. Hepatol.**). We pioneered the intriguing new concept that metabolic disruption in the intestinal epithelium contribute to tissue pathology (**Rath, 2011 Gut; Khaloian, 2020 Gut)** and coined the concept of metabolic injury (**Berger, 2016 Nature Communications; Urbauer, 2024 Cell Host & Microbe**). Chronic inflammation and cancer development are tightly connected, and current research expands the concept of metabolic stress to cancer risk targeting long-chain fatty acid-mediated dysbiosis (**Yan, 2017 Cancer Cell; Coleman, 2018 Gastroenterology; Coleman, Nature Metabolism 2025**). A key emphasis of this exiting research is to explore novel therapeutic applications for nutritional and microbiome-related therapies. Receiving the distinguished **Research Award of the United European Gastroenterology** Association in **2021** and the recognition as **Highly Cited Scientist** in **2024** underlines my international visibility.

SELECTED PUBLICATIONS

**Corresponding author*

A complete list of publications is retrievable at http://orcid.org/0000-0002-6977-4085 (Scopus: N=261, h-index 75; Google Scholar: h-index 86).

1. Coleman O., Sorbie A., Riva A., von Stern M., Kuhls S., Selegato D.M., Siegert L., Keidel I., Köhler N., Wirbel J., Kacprowski T., Dunkel A., Pauling J.K., Plagge J., Mediel-Cuadra D., Wagner S., Chadly I., Bierwith S., Peng T., Metzler T., Li X., Heikenwälder M., Schafmayer C., Hinz S., Röder C., Röcken C., Zimmermann M., Rosenstiel P., Steiger K., Jesinghaus M., Liebisch G., Ecker J., Schmidt C., Zeller G., Janssen K.P., and **Haller D**.* (2025) ATF6 activation alters colonic lipid metabolism causing tumor-associated microbial adaptation. **Nature Metabolism (in press)**
2. Metwaly A., Kriaa A., Hassani Z., Carraturo F., Druart C., Consortium I., Arnauts K., Wilmes P., Walter J., Rosshart S., Desai M.S., Dore J., Blottiere H.M. Maguin E., and **Haller D**.* (**2025**) A Consensus Statement on establishing causality, therapeutic applications and the use of preclinical models in microbiome research. **Nature Reviews Gastroenterology and Hepatology** doi: 10.1038/s41575-025-01041-3.
3. Urbauer E., Aguanno D., Mindermann N., Omer H., Metwaly A., Krammel T., Faro T., Remke M., Reitmeier S., Bärthel S., Kersting J., Huang Z., Xian F., Schmidt M., Saur D., Huber S., Stecher B., List M., Gómez-Varela D., Steiger K., Allez M., Rath E., and **Haller D**.* (2024). Mitochondrial perturbation in the intestine causes microbiota-dependent injury and gene signatures discriminative of inflammatory disease. **Cell Host and Microbe** 32, 1347-1364
4. Heppner N., Reitmeier S., Heddes M., Merino M.V., Schwartz L., Dietrich A., List M., Gigl M., Meng C., Van Der Veen D.R., Schirmer M., Kleigrewe K., Omer H., Kiessling S., and **Haller D**.* (2024). Diurnal rhythmicity of infant fecal microbiota and metabolites: A randomized controlled interventional trial with infant formula. **Cell Host and Microbe** 32, 573-587
5. Häcker D., Siebert K., Smith B.J., Köhler N., Riva A., Mahapatra A., Heimes H., Nie J., Metwaly A., Hölz H., Manz Q., De Zen F., Heetmeyer J., Socas K., Le Thi G., Meng C., Kleigrewe K., Pauling J.K., Neuhaus K., List M., Pollard K.S., Schwerd T.*, and **Haller D**.* (2024). Exclusive enteral nutrition initiates individual protective microbiome changes to induce remission in pediatric Crohn's disease. **Cell Host and Microbe** 32, 2019-2034.
6. Metwaly A., Reitmeier S., and **Haller D**.* (2022). Microbiome risk profiles as biomarkers for inflammatory and metabolic disorders. **Nature Reviews Gastroenterology and Hepatology** 19, 383-397.
7. Reitmeier S., Kiessling S., Clavel T., List M., Almeida E.L., Ghosh T.S., Neuhaus K., Grallert H., Linseisen J., Skurk T., Brandl B., Breuninger T.A., Troll M., Rathmann W., Linkohr B., Hauner H., Laudes M., Franke A., Le Roy C.I., Bell J.T., Spector T., Baumbach J., O'toole P.W., Peters A., and **Haller D**.* (2020). Arrhythmic Gut Microbiome Signatures Predict Risk of Type 2 Diabetes. **Cell Host and Microbe** 28, 258-272.
8. Metwaly A., Dunkel A., Waldschmitt N., Raj A.C.D., Lagkouvardos I., Corraliza A.M., Mayorgas A., Martinez-Medina M., Reiter S., Schloter M., Hofmann T., Allez M., Panes J., Salas A., and **Haller D**.* (2020). Integrated microbiota and metabolite profiles link Crohn's disease to sulfur metabolism. **Nature Communications** 11, 4322.
9. Khaloian S., Rath E., Hammoudi N., Gleisinger E., Blutke A., Giesbertz P., Berger E., Metwaly A., Waldschmitt N., Allez M., and **Haller D**.* (2020). Mitochondrial impairment drives intestinal stem cell transition into dysfunctional Paneth cells predicting Crohn's disease recurrence. **Gut** 69, 1939-1951.

10. Coleman O.I., Lobner E.M., Bierwirth S., Sorbie A., Waldschmitt N., Rath E., Berger E., Lagkouvardos I., Clavel T., Mccoy K.D., Weber A., Heikenwalder M., Janssen K.P., and **Haller D**.* (2018). Activated ATF6 Induces Intestinal Dysbiosis and Innate Immune Response to Promote Colorectal Tumorigenesis. **Gastroenterology** 155, 1539-1552.
11. Rath E., Moschetta A., and **Haller D**.* (2018). Mitochondrial function — gatekeeper of intestinal epithelial cell homeostasis. **Nature Reviews Gastroenterology and Hepatology** 15, 497-516.
12. Yuan D., Huang S., Berger E., Liu L., Gross N., Heinzmann F., Ringelhan M., Connor T.O., Stadler M., Meister M., Weber J., Öllinger R., Simonavicius N., Reisinger F., Hartmann D., Meyer R., Reich M., Seehawer M., Leone V., Höchst B., Wohlleber D., Jörs S., Prinz M., Spalding D., Protzer U., Luedde T., Terracciano L., Matter M., Longerich T., Knolle P., Ried T., Keitel V., Geisler F., Unger K., Cinnamon E., Pikarsky E., Hüser N., Davis R.J., Tschaharganeh D.F., Rad R., Weber A., Zender L., **Haller D.***, and Heikenwalder M.* (2017). Kupffer Cell-Derived Tnf Triggers Cholangiocellular Tumorigenesis through JNK due to Chronic Mitochondrial Dysfunction and ROS. **Cancer Cell** 31, 771-789.
13. Schaubeck M., Clavel T., Calasan J., Lagkouvardos I., Haange S.B., Jehmlich N., Basic M., Dupont A., Hornef M., Von Bergen M., Bleich A., and **Haller D**.* (2016). Dysbiotic gut microbiota causes transmissible Crohn's disease-like ileitis independent of failure in antimicrobial defence. **Gut** 65, 225-237.
14. Berger E., Rath E., Yuan D., Waldschmitt N., Khaloian S., Allgäuer M., Staszewski O., Lobner E.M., Schöttl T., Giesbertz P., Coleman O.I., Prinz M., Weber A., Gerhard M., Klingenspor M., Janssen K.P., Heikenwalder M., and **Haller D**.* (2016). Mitochondrial function controls intestinal epithelial stemness and proliferation. **Nature Communications** 7, 13171.
15. Von Schillde M.A., Hörmannsperger G., Weiher M., Alpert C.A., Hahne H., Bäuerl C., Van Huynegem K., Steidler L., Hrncir T., Pérez-Martínez G., Kuster B., and **Haller D**.* (2012). Lactocepin secreted by Lactobacillus exerts anti-inflammatory effects by selectively degrading proinflammatory chemokines. **Cell Host and Microbe** 11, 387-396.