HELLMUT G. AUGUSTIN, PROF. DR.MED.VET. PH.D.

Professor and Director

PROFESSIONAL AFFILIATION

Joint Research Division Vascular Biology, European Center for Angioscience (ECAS)
Medical Faculty Mannheim, Heidelberg University, and
German Cancer Research Center Heidelberg (DKFZ-ZMBH-Alliance)
Email: augustin@angiogenese.de
Web: www.angiolab.de; www.augustinlab.de; www.twitter.com/HellmutAugustin
www.youtube.com/channel/UCvsiTZuzdjIhf0K1XRk71qg

EDUCATION

1984	DVM, School of Veterinary Medicine Hannover, Germany
1984-1987	Residency and graduate training in Veterinary Pathology, School of Vet. Medicine Hannover, Germany
1987	Doctoral degree Dr. med. vet., School of Veterinary Medicine Hannover, Germany
1992	PhD, Cornell University, Ithaca, NY, USA

PROFESSIONAL EXPERIENCE AND APPOINTMENTS

1997	Venia legendi (Habilitation) in Molecular Cell Biology, University of Göttingen, Germany
1992-2001	Research Assistant Professor (C1, C2), University of Göttingen, Germany
2001-2006	Head, Dept. of Vascular Biology & Angiogenesis Research, Tumor Biology Center, Freiburg, Germany
2002-2006	Adjunct Professor, Medical Faculty of the Albert-Ludwigs-University Freiburg, Germany
2006-2016	Aventis Foundation-endowed Chair for Vascular Biology and Angiogenesis Research, Medical Faculty Mannheim (CBTM), Heidelberg University, and German Cancer Research Center Heidelberg, Germany
2011-2016	Speaker, Cell and Tumor Biology Research Program, German Cancer Research Center, Heidelberg
2011-2016	Director, Center for Molecular Biology and German Cancer Research Center Alliance, Heidelberg
2011-2017	Deputy Director, Center for Biomedicine and Medical Technology Mannheim (CBTM), Medical Faculty Mannheim, Heidelberg University
5/2016-	Chair for Vascular Biology and Angiogenesis Research, Medical Faculty Mannheim (CBTM), Heidelberg University, and German Cancer Research Center Heidelberg, Germany
1/2018-	Founding Director, European Center for Angioscience, Medical Faculty Mannheim, Heidelberg University, and German Cancer Research Center Heidelberg, Germany (www.angioscience.de)
1/2019-	Speaker, Collaborative Research Center (CRC) 1366: Vascular Control of Organ Function (www.sfb1366.de)

RESEARCH INTERESTS

The laboratory studies 1.) the molecular mechanisms of physiological blood vessel formation, assembly, and maturation focusing on angiogenesis regulating receptor tyrosine kinases, most notably on the Angiopoietin-Tie ligand-receptor system as well as on other selected novel candidate molecules, 2.) the mechanisms of organotypic vascular differentiation and angiocrine signaling studying the lung and liver vasculature as prototypic vascular beds, 3.) the molecular mechanisms of tumor progression focusing on tumor-vessel interactions during metastasis, and 4.) translational tumor angiogenesis experiments aimed at defining the therapeutic window of stromal targeted therapies. Conceptually, the lab's work is considered as basic vascular and tumor biology research with the aim of identifying and validating novel therapeutic targets.

SCIENTIFIC COMMUNITY SERVICES

2/1997: Founder of the German vascular biology network (bi-annual meeting series [1997-2013]); 9/1998-5/2006: Coordinator of nationwide German angiogenesis Priority Research Grant (SPP1069; www.angiogenese.de): 5/2005-12/2012: Coordinator of the nationwide German tumor-vessel interaction Priority Research Grant (SPP1190; www.tumorvessel.de); 5/2005-pres.: Founding member and elected Chairman of VWFB e.V. (www.vwfb.de); 7/2005-6/2009: Vice Speaker of the SFB-TR23 "*Vascular Differentiation and Remodeling*" of the Universities Frankfurt, Heidelberg, and Freiburg; 7/2009-6/2017: Speaker of the SFB-TR23 "*Vascular Differentiation and Remodeling*" of the Universities Heidelberg and Frankfurt (www.transregio23.de); 3/2012-pres.: Senior Editor, Cancer Research; 2013-2016: Director of the Helmholtz Alliance "*Preclinical Comprehensive Cancer Center*" (PCCC; www.helmholtz-pccc.de).

SELECTED PUBLICATIONS (OF >200; CITATION SCORE: 17.700; H-INDEX: 74 [CLARIVATE WEB OF SCIENCE])

1. Felcht M, Luck R, Schering A, Seidel P, Srivastava K, Hu J, Bartol A, Kienast Y, Vettel C, Loos EK, Kutschera S, Bartels S, Appak S, Besemfelder E, Terhardt D, Chavakis E, Wieland T, Klein C, Thomas M, Uemura A, Goerdt S, Augustin HG: Angpt-2 differentially regulates angiogenesis through TIE2 and integrin signaling. **J Clin Invest**, 122:1991-2005, 2012.
2. Benest AV, Kruse K, Savant S, Thomas M, Laib AM, Loos EK, Fiedler U, Augustin HG: Angiopoietin-2 is critical for cytokine-induced vascular leakage. **PLoS One**, 8:e70459, 2013.
3. Hu J, Srivastava K, Wieland M, Runge A, Mogler C, Besemfelder E, Terhardt D, Vogel MJ, Cao L, Korn C, Bartels S, Thomas M, Augustin HG: Endothelial cell-derived Angiopoietin-2 controls liver regeneration as a spatiotemporal rheostat. **Science** 343:416-9, 2014.

4. Runge A, Hu J, Wieland M, Bergeest JP, Mogler C, Neumann A, Géraud C, Arnold B, Rohr K, Komljenovic D, Schirmacher P, Goerdt S, Augustin HG: An inducible hepatocellular carcinoma model for preclinical evaluation of antiangiogenic therapy in adult mice. **Cancer Res**, 74: 4157-69, 2014
5. Korn C, Scholz B, Hu J, Srivastava K, Wojtarowicz J, Arnsperger T, Adams RH, Boutros M*, Augustin HG*, Augustin I*: Endothelial cell-derived non-canonical Wnt ligands control vascular pruning in angiogenesis. **Development**, 141(8):1757-66, 2014 (*equal contribution).
6. Srivastava K*, Hu J*, Korn C, Savant S, Teichert M, Kapel S, Jugold M, Besemfelder E, Thomas M, Pasparakis M, Augustin HG: Postsurgical adjuvant tumor therapy by combining anti-Angiopoietin-2 and metronomic chemotherapy limits metastatic growth. **Cancer Cell,** 26:880-95, 2014.
7. Mogler C, Wieland M, König C, Hu J, Runge A, Korn C, Besemfelder E, Breitkopf-Heinlein K, Komljenovic D, Dooley S, Schirmacher P, Longerich T, Augustin HG: Hepatic stellate cell expressed Endosialin balances fibrogenesis and hepatocyte proliferation during liver damage. **EMBO Mol Med**, 7:332-6, 2015
8. Savant S, La Porta S, Budnik A, Busch K, Hu J, Tisch N, Korn C, Valls AF, Benest AV, Terhardt D, Qu X, Adams RH, Baldwin HS, Ruiz de Almodóvar C, Rodewald HR, Augustin HG: The orphan receptor Tie1 controls angiogenesis and vascular remodeling by differentially regulating Tie2 in tip and stalk cells. **Cell Rep**, 12: 1761-73, 2015.
9. Scholz B, Korn C, Wojtarowicz J, Mogler C, Augustin I, Boutros M, Niehrs C, Augustin HG: Endothelial RSPO3 controls vascular stability and pruning through non-canonical WNT/Ca(2+)/NFAT signaling. **Dev Cell**, 36: 79-93, 2016.
10. Roth L, Prahst C, Ruckdeschel T, Savant S, Weström S, Fantin A, Riedel M, Héroult M, Ruhrberg C, Augustin HG: Neuropilin-1 mediates vascular permeability independently of vascular endothelial growth factor receptor-2 activation. **Science Signal**, 9(425):ra42, 2016.
11. Viski C, König C, Kijewska M, Mogler C, Isacke C*, Augustin HG*: Endosialin-expressing pericytes promote metastatic dissemination. **Cancer Res**, 76: 5313-25, 2016 (*equally contributing senior authors).
12. Augustin HG*, Koh GY*: Organotypic vasculature: From descriptive heterogeneity to functional pathophysiology. **Science**, pii: eaal2379, 2017 (*equal contribution).
13. Hasanov Z, Ruckdeschel T, König C, Mogler C, Kapel SS, Korn C, Spegg C, Eichwald V, Wieland M, Appak S, Augustin HG: Endosialin promotes atherosclerosis through phenotypic remodeling of vascular smooth muscle cells. **Arterioscler Thromb Vasc Biol**, 37: 495-505, 2017.
14. Gengenbacher N, Singhal, M, Augustin HG: Preclinical mouse solid tumor models: Status quo, challenges, perspectives. **Nat Rev Cancer,** 17:751-765, 2017.
15. Mogler C, König C, Wieland M, Runge A, Besemfelder E, Komljenovic D, Longerich T, Schirmacher P, Augustin HG: Hepatic stellate cells limit hepatocellular carcinoma progression through the orphan receptor endosialin. **EMBO Mol Med**, 9: 741-749, 2017.
16. Teichert M, Milde L, Holm A, Stanicek L, Gengenbacher N, Savant S, Ruckdeschel T, Hasanov Z, Srivastava K, Hu J, Hertel S, Bartol A, Schlereth K, Augustin HG: Pericyte-expressed Tie2 controls vessel maturation. **Nat Commun**. 8:16106, 2017.
17. Augustin HG, Koh GY: Organotypic vasculature. **Science** 357:eaal2379, 2017.
18. La Porta S, Roth L, Singhal M, Mogler C, Spegg C, Schieb B, Qu X, Adams RH, Baldwin HS, Savant S, Augustin HG: Endothelial Tie1-mediated angiogenesis and vascular abnormalization promote tumor progression and metastasis. **J Clin Invest**, 8: 834-845, 2018
19. Schlereth K, Weichenhan D, Bauer T, Heumann T, Giannakouri E, Lipka D, Jaeger S, Schlesner M, Aloy P, Eils R, Plass C*, **Augustin** HG*: The transcriptomic and epigenetic map of vascular quiescence in the continuous lung endothelium. **Elife**, pii:e34423, 2018 (*equally contributing senior authors).
20. Singhal S#, Liu X#, Inverso D, Jiang K, Dai J, He H, Bartels S, Li W, Abdul Pari, AA, Gengenbacher N, Besemfelder E, Hui L, **Augustin HG***, Hu J*: Endothelial cell fitness dictates the source of regenerating liver vasculature. **J Exp Med**, 215: 2497-2058, 2018 (#equally contributing first authors; *equally contributing senior authors).
21. Singhal M, Gengenbacher N, La Porta S, Gehrs S, Shi J, Kamiyama M, Bodenmiller DM, Fischl A, Schieb B, Besemfelder E, Chintharlapalli S, Augustin HG: Preclinical validation of a novel metastasis-inhibiting Tie1 function-blocking antibody. **EMBO Mol Med**, 12: e11163, 2020.
22. Abdul Pari AA, Singhal M, Hübers C, Mogler C, Schieb B, Gampp A, Gengenbacher N, Reynolds LE, Terhardt D, GéraudC, Utikal J, Thomas M, Goerdt S, Hodivala-Dilke K, Augustin HG# , Felcht#: Tumor cell-derived Angiopoietin-2 promotes melanoma metastasis. **Cancer Res**, 65: 2586-2598, 2020 (#equally contributing last authors).
23. Gengenbacher N*, Singhal M*, Mogler C, Hai L, Milde L, Abdul Pari AA, Besemfelder E, Fricke C, Baumann D, Gehrs S, Utikal J, Felcht M, Hu J, Schlesner M, Offringa R, Chintharlapalli SR, Augustin HG: Timed Ang2-targeted therapy identifies the Angiopoietin-Tie pathway as key regulator of fatal lymphogenous metastasis. **Cancer Discov**, 11: 424-45, 2021.
24. Inverso D*, Shi J*, Lee KH, Jakab M, Ben-Moshe S, Kulkarni SR, Schneider M, Wang G, Komeili M, Argos Vélez P, Riedel M, Spegg C, Ruppert T, Schaeffer-Reiss C, Helm D, Singh I, Boutros M, Chintharlapalli S, Heikenwalder M, Itzkovitz S, Augustin HG: A spatial vascular transcriptomic, proteomic and phosphoproteomic atlas unveils an angiocrine Tie-Wnt signaling axis in the liver. **Dev Cell**, 56: 1677-1693, 2021 (*equally contributing first authors).
25. Singhal M*, Gengenbacher N*, Abdul Pari AA*, Kamiyama M, Hai L, Kuhn BJ, Kallenberg DM, Kulkarni SR, Camilli C, Preuss SF, Leuchs B, Mogler C, Espinet E, Besemfelder E, Heide D, Heikenwalder M, Sprick MR, Trumpp A, Krijgsveld J, Schlesner M, Hu J, Moss SE, Greenwood J, Augustin HG: Temporal multi-omics identifies LRG1 as a vascular niche instructor of metastasis. **Science Transl Med**, 13:eabe6805, 2021 (*equally contributing first authors).