

Publications

Jia LJ, Rafiq M, Radosa L, Hortschansky P, Cunha C, Cseresnyés Z, Krüger T, Schmidt F, Heinekamp T, Straßburger M, Loeffler B, Doenst T, Lacerda JF, Campos A, Figge MT, Carvalho A, Kniemeyer O, Brakhage AA[#] (2023) *Aspergillus fumigatus* hijacks human p11 to redirect fungal-containing phagosomes to non-degradative pathway. *Cell Host Microbe* 31(3), 373-388.e10.

Schwarz C, Eschenhagen P, Schmidt H, Hohnstein T, Iwert C, Grehn C, Roehmel J, Steinke E, Stahl M, Lozza L, Tikhonova E, Rosati E, Stervbo U, Babel N, Mainz JG, Wisplinghoff H, Ebel F, Jia LJ, Blango MG, Hortschansky P, Brunke S, Hube B, Brakhage AA, Kniemeyer O, Scheffold A, Bacher P (2023) Antigen specificity and cross-reactivity drive functionally diverse anti-*Aspergillus fumigatus* T cell responses in cystic fibrosis. *J Clin Invest* 133(5), e161593.

Huber EM, Hortschansky P, Scheven MT, Misslinger M, Haas H, Brakhage AA, Groll M (2022) Structural insights into cooperative DNA recognition by the CCAAT-binding complex and its bZIP transcription factor HapX. *Structure* 30(7), 934-946.e4.

Kühbacher A, Peiffer M, Hortschansky P, Merschak P, Bromley MJ, Haas H, Brakhage AA, Gsaller F (2022) Azole resistance-associated regulatory motifs within the promoter of *cyp51A* in *Aspergillus fumigatus*. *Microbiol Spectr* 10(3), e0120922.

López-Berges MS, Scheven MT, Hortschansky P, Misslinger M, Baldin C, Gsaller F, Werner ER, Krüger T, Kniemeyer O, Weber J, Brakhage AA, Haas H (2021) The bZIP transcription factor HapX is post-translationally regulated to control iron homeostasis in *Aspergillus fumigatus*. *Int J Mol Sci* 22(14), 7739.

Page L, Wallstabe J, Lothar J, Bauser M, Kniemeyer O, Strobel L, Voltersen V, Teutschbein J, Hortschansky P, Morton CO, Brakhage AA, Topp M, Einsele H, Wurster S, Loeffler J (2021) CcpA- and Shm2-pulsed myeloid dendritic cells induce T-cell activation and enhance the neutrophilic oxidative burst response to *Aspergillus fumigatus*. *Front Immunol* 12, 659752.

Furukawa T, Scheven MT, Misslinger M, Zhao C, Hoefgen S, Gsaller F, Lau J, Jöchl C, Donaldson I, Valiante V, Brakhage AA, Bromley MJ, Haas H, Hortschansky P (2020) The fungal CCAAT-binding complex and HapX display highly variable but evolutionary conserved synergetic promoter-specific DNA recognition. *Nucleic Acids Res* 48(7), 3567-3590.

Hortschansky P, Misslinger M, Mörl J, Gsaller F, Bromley MJ, Brakhage AA, Groll M, Haas H, Huber EM (2020) Structural basis of HapEP88L based antifungal triazole resistance in *Aspergillus fumigatus*. *Life Sci Alliance* 3(7), e202000729.

Misslinger M, Hortschansky P, Brakhage AA, Haas H (2020) Fungal iron homeostasis with a focus on *Aspergillus fumigatus*. *Biochim Biophys Acta Mol Cell Res* 1868(1), 118885. (Review)

Misslinger M†, Scheven MT†, Hortschansky P, Sanchez Lopez-Berges M, Heiss K, Beckmann N, Heigl T, Hermann M, Krüger T, Kniemeyer O, Brakhage AA^{*}, Haas H^{*} †shared first authors, ^{*}corresponding authors (2019) The monothiol glutaredoxin GrxD is essential for sensing iron starvation in *Aspergillus fumigatus*. *PLOS Genetics* 15(9), e1008379.

Dasari P, Shopova IA, Stroe M, Wartenberg D, Dahse HM, Beyersdorf N, Hortschansky P, Dietrich S, Cseresnyés Z, Figge MT, Westermann M, Skerka C, Brakhage AA, Zipfel PF (2018) AspF2 from *Aspergillus fumigatus* recruits human immune regulators for immune evasion and cell

damage. *Front Immunol* 9, 1635.

Hoefgen S, Lin J, Fricke J, Stroe MC, Mattern DJ, Kufs JE, Hortschansky P, Brakhage AA, Hoffmeister D, Valiante V (2018) Facile assembly and fluorescence-based screening method for heterologous expression of biosynthetic pathways in fungi. *Metab Eng* 48, 44-51.

Long N, Orasch T, Zhang S, Gao L, Xu X, Hortschansky P, Ye J, Zhang F, Xu K, Gsaller F, Straßburger M, Binder U, Heinekamp T, Brakhage AA, Haas H, Lu L (2018) The Zn2Cys6-type transcription factor LeuB cross-links regulation of leucine biosynthesis and iron acquisition in *Aspergillus fumigatus*. *PLOS Genet* 14(10), e1007762.

Voltersen V, Blango MG, Herrmann S, Schmidt F, Heinekamp T, Strassburger M, Krüger T, Bacher P, Lothar J, Weiss E, Hünninger K, Liu H, Hortschansky P, Scheffold A, Loeffler J, Krappmann S, Nietzsche S, Kurzai O, Einsele H, Kniemeyer O, Filler S, Reichard U, Brakhage AA (2018) Proteome analysis reveals the conidial surface protein CcpA essential for virulence of the pathogenic fungus *Aspergillus fumigatus*. *mBio* 9(5), e01557-18.

Bergfeld A, Dasari P, Werner S, Hughes TR, Song WC, Hortschansky P, Brakhage AA, Hünig T, Zipfel PF, Beyersdorf N (2017) Direct Binding of the pH-Regulated Protein 1 (Pra1) from *Candida albicans* Inhibits Cytokine Secretion by Mouse CD4(+) T Cells. *Front Microbiol* 8, 844.

Gunnella F, Kunisch E, Bungartz M, Maenz S, Horbert V, Xin L, Mika J, Borowski J, Bischoff S, Schubert H, Hortschansky P, Sachse A, Illerhaus B, Günster J, Bossert J, Jandt KD, Plöger F, Kinne RW, Brinkmann O (2017) Low-dose BMP-2 is sufficient to enhance the bone formation induced by an injectable, PLGA fiber-reinforced, brushite-forming cement in a sheep defect model of lumbar osteopenia. *Spine J* 17(11), 1699-1711.

Hortschansky P, Haas H, Huber EM, Groll M, Brakhage AA (2017) The CCAAT-binding complex (CBC) in *Aspergillus* species. *Biochim Biophys Acta* 1860(5), 560-570. (Review)

Misslinger M, Gsaller F, Hortschansky P, Müller C, Bracher F, Bromley MJ, Haas H (2017) The cytochrome b5 CybE is regulated by iron availability and is crucial for azole resistance in *A. fumigatus*. *Metallomics* 9(11), 1655-1665.

Alborzinia H, Shaikhkarami M, Hortschansky P, Wölfl S (2016) BMP2 Transfer to Neighboring Cells and Activation of Signaling. *Traffic* 17(9), 1042-1053.

Gsaller F, Hortschansky P, Furukawa T, Carr PD, Rash B, Capilla J, Müller C, Bracher F, Bowyer P, Haas H, Brakhage AA, Bromley MJ (2016) Sterol Biosynthesis and Azole Tolerance Is Governed by the Opposing Actions of SrbA and the CCAAT Binding Complex. *PLOS Pathog* 12(7), e1005775.

Kröber A, Scherlach K, Hortschansky P, Shelest E, Staib P, Kniemeyer O, Brakhage AA (2016) HapX Mediates Iron Homeostasis in the Pathogenic Dermatophyte *Arthroderma benhamiae* but Is Dispensable for Virulence. *PLOS ONE* 11(3), e0150701.

Teutschbein J, Simon S, Lothar J, Springer J, Hortschansky P, Morton CO, Löffler J, Einsele H, Conneally E, Rogers TR, Guthke R, Brakhage AA, Kniemeyer O (2016) Proteomic profiling of serological responses to *Aspergillus fumigatus* antigens in patients with invasive aspergillosis. *J Proteome Res* 15(5), 1580-1591.

Valiante V, Baldin C, Hortschansky P, Jain R, Thywißen A, Straßburger M, Shelest E, Heinekamp

T, Brakhage AA (2016) The *Aspergillus fumigatus* conidial melanin production is regulated by the bifunctional bHLH DevR and MADS-box RlmA transcription factors. *Mol Microbiol* 102(2), 321-335.

Gallmetzer A, Silvestrini L, Schinko T, Gesslbauer B, Hortschansky P, Dattenböck C, Muro-Pastor MI, Kungl A, Brakhage AA, Scazzocchio C, Strauss J (2015) Reversible Oxidation of a Conserved Methionine in the Nuclear Export Sequence Determines Subcellular Distribution and Activity of the Fungal Nitrate Regulator NirA. *PLOS Genet* 11(7), e1005297.

Gressler M, Hortschansky P, Geib E, Brock M (2015) A new high-performance heterologous fungal expression system based on regulatory elements from the *Aspergillus terreus* terrein gene cluster. *Front Microbiol* 6, 184.

Gressler M, Meyer F, Heine D, Hortschansky P, Hertweck C, Brock M (2015) Phytotoxin production in *Aspergillus terreus* is regulated by independent environmental signals. *eLife* 4, e07861.

Hortschansky P, Ando E, Tuppatsch K, Arikawa H, Kobayashi T, Kato M, Haas H, Brakhage AA (2015) Deciphering the combinatorial DNA-binding code of the CCAAT-binding complex and the iron-regulatory basic region leucine zipper (bZIP) transcription factor HapX. *J Biol Chem* 290(10), 6058-6070.

Gsaller F, Hortschansky P, Beattie SR, Klammer V, Tuppatsch K, Lechner BE, Rietzschel N, Werner ER, Vogan AA, Chung D, Mühlenhoff U, Kato M, Cramer RA, Brakhage AA, Haas H (2014) The Janus transcription factor HapX controls fungal adaptation to both iron starvation and iron excess. *EMBO J* 33(19), 2261-2276.

Alborzinia H, Schmidt-Glenewinkel H, Ilkavets I, Breitkopf-Heinlein K, Cheng X, Hortschansky P, Dooley S, Wölfl S (2013) Quantitative kinetics analysis of BMP2 uptake into cells and its modulation by BMP antagonists. *J Cell Sci* 126(Pt 1), 117-127.

Eberhardt HU, Buhlmann D, Hortschansky P, Chen Q, Böhm S, Kemper MJ, Wallich R, Hartmann A, Hallström T, Zipfel PF, Skerka C (2013) Human factor H-related protein 2 (CFHR2) regulates complement activation. *PLOS One* 8(11), e78617.

Mischo A, Ohlenschläger O, Hortschansky P, Ramachandran R, Görlach M (2013) Structural insights into a wildtype domain of the oncoprotein E6 and its interaction with a PDZ domain. *PLOS One* 8(4), e62584-e62584.

Huber EM, Scharf DH, Hortschansky P, Groll M, Brakhage AA (2012) DNA minor groove sensing and widening by the CCAAT-binding complex. *Structure* 20(10), 1757-1768.

Linde J, Hortschansky P, Fazius E, Brakhage AA, Guthke R, Haas H (2012) Regulatory interactions for iron homeostasis in *Aspergillus fumigatus* inferred by a Systems Biology approach. *BMC Syst Biol* 6, 6.

Morgado I, Wieligmann K, Bereza M, Rönicke R, Meinhardt K, Annamalai K, Baumann M, Wacker J, Hortschansky P, Malešević M, Parthier C, Mawrin C, Schiene-Fischer C, Reymann KG, Stubbs MT, Balbach J, Görlach M, Horn U, Fändrich M (2012) Molecular basis of β -amyloid oligomer recognition with a conformational antibody fragment. *Proc Natl Acad Sci U S A* 109(31), 12503-12508.

Ohlenschläger O, Kuhnert A, Schneider A, Haumann S, Bellstedt P, Keller H, Saluz HP, Hortschansky P, Hänel F, Grosse F, Görlach M, Pospiech H (2012) The N-terminus of the human RecQL4 helicase is a homeodomain-like DNA interaction motif. *Nucleic Acids Res* 40(17), 8309-8324.

Scharf DH, Heinekamp T, Remme N, Hortschansky P, Brakhage AA, Hertweck C (2012) Biosynthesis and function of gliotoxin in *Aspergillus fumigatus*. *Appl Microbiol Biotechnol* 93(2), 467-472.

Haupt C, Bereza M, Kumar ST, Kieninger B, Morgado I, Hortschansky P, Fritz G, Röcken C, Horn U, Fändrich M (2011) Pattern recognition with a fibril-specific antibody fragment reveals the surface variability of natural amyloid fibrils. *J Mol Biol* 408(3), 529-540.

Haupt C, Morgado I, Kumar ST, Parthier C, Bereza M, Hortschansky P, Stubbs MT, Horn U, Fändrich M (2011) Amyloid fibril recognition with the conformational B10 antibody fragment depends on electrostatic interactions. *J Mol Biol* 405(2), 341-348.

Scharf DH, Remme N, Habel A, Chankhamjon P, Scherlach K, Heinekamp T, Hortschansky P, Brakhage AA, Hertweck C (2011) A dedicated glutathione S-transferase mediates carbon-sulfur bond formation in gliotoxin biosynthesis. *J Am Chem Soc* 133(32), 12322-12325.

Scharf DH, Remme N, Heinekamp T, Hortschansky P, Brakhage AA, Hertweck C (2010) Transannular disulfide formation in gliotoxin biosynthesis and its role in self-resistance of the human pathogen *Aspergillus fumigatus*. *J Am Chem Soc* 132(29), 10136-10141.

Thön M, Al Abdallah Q, Hortschansky P, Scharf DH, Eisendle M, Haas H, Brakhage AA (2010) The CCAAT-binding complex coordinates the oxidative stress response in eukaryotes. *Nucleic Acids Res* 38(4), 1098-1113.

Brakhage AA, Thön M, Spröte P, Scharf DH, Al-Abdallah Q, Wolke SM, Hortschansky P (2009) Aspects on evolution of fungal beta-lactam biosynthesis gene clusters and recruitment of trans-acting factors. *Phytochemistry* 70(15-16), 1801-1811.

Spröte P, Hynes MJ, Hortschansky P, Shelest E, Scharf DH, Wolke SM, Brakhage AA (2008) Identification of the novel penicillin biosynthesis gene *aatB* of *Aspergillus nidulans* and its putative evolutionary relationship to this fungal secondary metabolism gene cluster. *Mol Microbiol* 70(2), 445-461.

Hortschansky P, Eisendle M, Al-Abdallah Q, Schmidt AD, Bergmann S, Thön M, Kniemeyer O, Abt B, Seeber B, Werner ER, Kato M, Brakhage AA, Haas H (2007) Interaction of HapX with the CCAAT-binding complex--a novel mechanism of gene regulation by iron. *EMBO J* 26(13), 3157-3168.

Thön M, Al-Abdallah Q, Hortschansky P, Brakhage AA (2007) The thioredoxin system of the filamentous fungus *Aspergillus nidulans*: impact on development and oxidative stress response. *J Biol Chem* 282(37), 27259-27269.

