

Publications

Böttcher B, Kienast SD, Leufken J, Eggers C, Sharma P, Leufken CM, Morgner B, Drexler HCA, Schulz D, Allert S, Jacobsen ID, Vylkova S, Leidel SA, Brunke S[#] (2024) A highly conserved tRNA modification contributes to *C. albicans* filamentation and virulence. *Microbiol Spectr* [Epub ahead of print]

Jacobsen ID[#] (2023) The role of host and fungal factors in the commensal-to-pathogen transition of *Candida albicans*. *Curr Clin Micro Rpt* 10(2), 55-65. (Review)

Jacobsen ID[#] (2023) Mouse models of Mucormycosis. *Methods Mol Biol* 2667, 181-196. (Review)

Langenhorst D, Fürst AL, Alberter K, Vilhena C, Dasari P, Daud M, Heilig L, Luther CH, Dittrich M, Reiher N, Wich M, Elmowafy M, Jacobsen ID, Jungnickel B, Zipfel PF^{*}, Beyersdorf N[#] (2023) Soluble enolase 1 of *Candida albicans* and *Aspergillus fumigatus* stimulates human and mouse B cells and monocytes. *J Immunol* 211(5), 804-815.

Rebai Y, Wagner L, Gnaïen M, Hammer ML, Kapitan M, Niemiec MJ, Mami W, Mosbah A, Messadi E, Mardassi H, Vylkova S, Jacobsen ID, Znaïdi S[#] (2023) *Escherichia coli* nissle 1917 antagonizes *Candida albicans* growth and protects intestinal cells from *C. albicans*-mediated damage. *Microorganisms* 11(8), 1929.

Refisch A[#], Sen ZD, Klassert TE, Busch A, Besteher B, Danyeli LV, Helbing D, Schulze-Späte U, Stallmach A, Bauer M, Panagiotou G, Jacobsen ID, Slevogt H, Opel N, Walter M (2023) Microbiome and immuno-metabolic dysregulation in patients with major depressive disorder with atypical clinical presentation. *Neuropharmacology* 235, 109568. (Review)

Schädel P, Czapka A, Gebert N, Jacobsen ID, Ori A[#], Werz O[#] (2023) Metabololipidomic and proteomic profiling reveals aberrant macrophage activation and interrelated immunomodulatory mediator release during aging. *Aging Cell* 22(7), e13856.

Jungnickel B, Jacobsen ID (2022) Systemic Candidiasis in mice: New insights from an old model. *Front Fungal Biol* 3, 940884. (Review)

Mentrup T, Stumpff-Niggemann AY, Leinung N, Schlosser C, Schubert K, Wehner R, Tunger A, Schatz V, Neubert P, Gradtke AC, Wolf J, Rose-John S, Saftig P, Dalpke A, Jantsch J, Schmitz M, Fluhrer R, Jacobsen ID, Schröder B (2022) Phagosomal signalling of the C-type lectin receptor Dectin-1 is terminated by intramembrane proteolysis. *Nat Commun* 13(1), 1880.

Niemiec MJ, Kapitan M, Himmel M, Döll K, Krüger T, Köllner TG, Auge I, Kage F, Alteri CJ, Mobley HLT, Monsen T, Linde S, Nietzsche S, Kniemeyer O, Brakhage AA, Jacobsen ID (2022) Augmented enterocyte damage during *Candida albicans* and *Proteus mirabilis* coinfection. *Front Cell Infect Microbiol* 12, 866416.

Ramírez-Zavala B, Krüger I, Dunker C, Jacobsen ID, Morschhäuser J (2022) The protein kinase Ire1 has a Hac1-independent essential role in iron uptake and virulence of *Candida albicans*. *PLOS Pathog* 18(2), e1010283.

Arastehfar A, Carvalho A, Houbraken J, Lombardi L, Garcia-Rubio R, Jenks JD, Rivero-Menendez O, Aljohani R, Jacobsen ID, Berman J, Osheroov N, Hedayati MT, Ilkit M, Armstrong-

James D, Gabaldón T, Meletiadiis J, Kostrzewa M, Pan W, Lass-Flörl C, Perlin DS, Hoenigl M (2021) *Aspergillus fumigatus* and aspergillosis: From basics to clinics. *Stud Mycol* 100, 100115. (Review)

d'Enfert C, Kaune AK, Alaban LR, Chakraborty S, Cole N, Delavy M, Kosmala D, Marsaux B, Fróis-Martins R, Morelli M, Rosati D, Valentine M, Xie Z, Emritloll Y, Warn PA, Bequet F, Bougnoux ME, Bornes S, Gresnigt MS, Hube B, Jacobsen ID, Legrand M, Leibundgut-Landmann S, Manichanh C, Munro CA, Netea MG, Queiroz K, Roget K, Thomas V, Thorat C, Van den Abbeele P, Walker AW, Brown AJP (2021) The impact of the Fungus-Host-Microbiota interplay upon *Candida albicans* infections: current knowledge and new perspectives. *FEMS Microbiol Rev* 45(3), fuaa060. (Review)

Dunker C, Polke M, Schulze-Richter B, Schubert K, Rudolphi S, Gressler AE, Pawlik T, Prada Salcedo JP, Niemiec MJ, Slesiona-Künzel S, Swidergall M, Martin R, Dandekar T, Jacobsen ID (2021) Rapid proliferation due to better metabolic adaptation results in full virulence of a filament-deficient *Candida albicans* strain. *Nat Commun* 12(1), 3899.

Ferreira-Gomes M, Wich M, Böde S, Hube B, Jacobsen ID, Jungnickel B (2021) B cell recognition of *Candida albicans* hyphae via TLR 2 promotes IgG1 and IL-6 secretion for TH17 differentiation. *Front Immunol* 12, 698849.

Machata S, Sreekantapuram S, Hünninger K, Kurzai O, Dunker C, Schubert K, Krüger W, Schulze-Richter B, Speth C, Rambach G, Jacobsen ID (2021) Significant differences in host-pathogen interactions between murine and human whole blood. *Front Immunol* 11, 565869.

Wich M, Greim S, Ferreira-Gomes M, Krüger T, Kniemeyer O, Brakhage AA, Jacobsen ID, Hube B, Jungnickel B (2021) Functionality of the human antibody response to *Candida albicans*. *Virulence* 12(1), 3137-3148.

Birštonas L, Dallemulle A, López-Berges MS, Jacobsen ID, Offterdinger M, Abt B, Straßburger M, Bauer I, Schmidt O, Sarg B, Lindner H, Haas H, Gsaller F (2020) Multiplex genetic engineering exploiting pyrimidine salvage pathway-based endogenous counterselectable markers. *mBio* 11(2), e00230-20.

Gerwien F, Dunker C, Brandt P, Garbe E, Jacobsen ID, Vylkova S (2020) Clinical *Candida albicans* vaginal isolates and a laboratory strain show divergent behaviors during macrophage interactions. *mSphere* 5(4), e00393-20.

Halder LD, Jo EAH, Hasan MZ, Ferreira-Gomes M, Krüger T, Westermann M, Palme DI, Rambach G, Beyersdorf N, Speth C, Jacobsen ID, Kniemeyer O, Jungnickel B, Zipfel PF, Skerka C (2020) Immune modulation by complement receptor 3-dependent human monocyte TGF- β 1-transporting vesicles. *Nat Commun* 11(1), 2331.

Machata S, Müller MM, Lehmann R, Sieber P, Panagiotou G, Carvalho A, Cunha C, Lagrou K, Maertens J, Slevogt H, Jacobsen ID (2020) Proteome analysis of bronchoalveolar lavage fluids reveals host and fungal proteins highly expressed during invasive pulmonary aspergillosis in mice and humans. *Virulence* 11(1), 1337-1351.

Matthias J, Heink S, Picard F, Zeiträg J, Kolz A, Chao YY, Soll D, de Almeida GP, Glasmacher E, Jacobsen ID, Riedel T, Peters A, Floess S, Huehn J, Baumjohann D, Huber M, Korn T, Zielinski CE (2020) Salt generates antiinflammatory Th17 cells but amplifies pathogenicity in proinflammatory cytokine microenvironments. *J Clin Invest* 130(9), 4587-4600.

Ruben S, Garbe E, Mogavero S, Albrecht-Eckardt D, Hellwig D, Häder A, Krüger T, Gerth K, Jacobsen ID, Elshafee O, Brunke S, Hünninger K, Kniemeyer O, Brakhage AA, Morschhäuser J, Hube B, Vylkova S, Kurzai O, Martin R (2020) Ahr1 and Tup1 contribute to the transcriptional control of virulence-associated genes in *Candida albicans*. *mBio* 11(2), e00206-20.

Sprenger M, Hartung TS, Allert S, Wisgott S, Niemiec MJ, Graf K, Jacobsen ID, Kasper L, Hube B (2020) Fungal biotin homeostasis is essential for immune evasion after macrophage phagocytosis and virulence. *Cell Microbiol* 22(7), e13197.

Sreekantapuram S^{*}, Lehnert T^{*}, Prauße MTE, Berndt A, Berens C, Figge MT^{**}, Jacobsen ID^{**}; ^{*} authors contributed equally; ^{**} corresponding authors (2020) Dynamic interplay of host and pathogens in an avian whole blood model. *Front Immunol* 11, 500.

von Müller C, Bulman F, Wagner L, Rosenberger D, Marolda A, Kurzai O, Eißmann P, Jacobsen ID, Perner B, Hemmerich P, Vylkova S (2020) Active neutrophil responses counteract *Candida albicans* burn wound infection of *ex vivo* human skin explants. *Sci Rep* 10(1), 21818.

Fischer J, Walter C, Tönges A, Aleth H, Jordão MJC, Leddin M, Gröning V, Erdmann T, Lenz G, Roth J, Vogl T, Prinz M, Dugas M, Jacobsen ID, Rosenbauer F (2019) Safeguard function of PU.1 shapes the inflammatory epigenome of neutrophils. *Nat Immunol* 20(5), 546-558.

Jacobsen ID (2019) Fungal infection strategies. *Virulence* 10(1), 835-839. (Review)

Jacobsen ID (2019) Animal models to study mucormycosis. *J Fungi (Basel)* 5(2), 27. (Review)

Klaile E, Müller MM, Zubiría-Barrera C, Brehme S, Klassert TE, Stock M, Durotin A, Nguyen TD, Feer S, Singer BB, Zipfel PF, Rudolphi S, Jacobsen ID, Slevogt H (2019) Unaltered fungal burden and lethality in human CEACAM1-transgenic mice during *Candida albicans* dissemination and systemic infection. *Front Microbiol* 10, 2703.

Kresinsky A, Schnöder TM, Jacobsen ID, Rauner M, Hofbauer LC, Ast V, König R, Hoffmann B, Svensson C-M, Figge MT, Hilger I, Heidel FH, Böhmer FD, Müller JP (2019) Lack of CD45 in FLT3-ITD mice results in a myeloproliferative phenotype, cortical porosity, and ectopic bone formation. *Oncogene* 38(24), 4773-4787.

Krüger W, Vielreicher S, Kapitan M, Jacobsen ID, Niemiec MJ (2019) Fungal-bacterial interactions in health and disease. *Pathogens* 8(2), 70. (Review)

Maurer M, Gresnigt MS, Last A, Wollny T, Berlinghof F, Pospich R, Cseresnyes Z, Medyukhina A, Graf K, Gröger M, Raasch M, Siwczak F, Nietzsche S, Jacobsen ID, Figge MT, Hube B, Huber O, Mosig AS (2019) A three-dimensional immunocompetent intestine-on-chip model as *in vitro* platform for functional and microbial interaction studies. *Biomaterials* 220, 119396.

Allert S^{*}, Förster TM^{*}, Svensson C-M, Richardson JP, Pawlik T, Hebecker B, Rudolphi S, Juraschitz M, Schaller M, Blagojevic M, Morschhäuser J, Figge MT, Jacobsen ID, Naglik JR, Kasper L, Mogavero S, Hube B; ^{*} authors contributed equally (2018) *Candida albicans*-induced epithelial damage mediates translocation through intestinal barriers. *mBio* 9(3), e00915.

Beyer R, Jandric Z, Zutz C, Gregori C, Willinger B, Jacobsen ID, Kovarik P, Strauss J, Schüller C (2018) Competition of *Candida glabrata* against *Lactobacillus* is Hog1 dependent. *Cell Microbiol* 20(12), e12943.

Conrad T*, Kniemeyer O, Henkel SG, Krüger T, Mattern DJ, Valiante V, Guthke R, Jacobsen ID, Brakhage AA, Vlaic S, Linde J (2018) Module-detection approaches for the integration of multilevel omics data highlight the comprehensive response of *Aspergillus fumigatus* to caspofungin. *BMC Syst Biol* 12(1), 88.

de Assis LJ, Manfiolli A, Mattos E, Fabri JHTM, Malavazi I, Jacobsen ID, Brock M, Cramer RA, Thammahong A, Hagiwara D, Ries LNA, Goldman GH (2018) Protein kinase a and high-osmolarity glycerol response pathways cooperatively control cell wall carbohydrate mobilization in *Aspergillus fumigatus*. *mBio* 9(6), e01952-18.

Desai PR, Lengeler K, Kapitan M, Janßen SM, Alepuz P, Jacobsen ID, Ernst JF (2018) The 5' untranslated region of the EFG1 transcript promotes its translation to regulate hyphal morphogenesis in *Candida albicans*. *mSphere* 3(4), e00280-18.

Eberl C, Speth C, Jacobsen ID, Hermann M, Hagleitner M, Deshmukh H, Ammann CG, Lass-Flörl C, Rambach G (2018) *Candida*: Platelet interaction and platelet activity *in vitro*. *J Innate Immun* 11(1), 52-62.

Irmscher S, Döring N, Halder LD, Jo EAH, Kopka I, Dunker C, Jacobsen ID, Luo S, Slevogt H, Lorkowski S, Beyersdorf N, Zipfel PF, Skerka C (2018) Kallikrein cleaves C3 and activates complement. *J Innate Immun* 10(2), 94-105.

Kapitan M, Niemiec MJ, Steimle A, Frick JS, Jacobsen ID (2018) Fungi as part of the microbiota and interactions with intestinal bacteria. In: Curr Top Microbiol Immunol (ed.) Current Topics in Microbiology and Immunology 422, pp. 265-301. Springer, Berlin, Heidelberg. (Review)

Luo S, Dasari P, Reiher N, Hartmann A, Jacksch S, Wende E, Barz D, Niemiec MJ, Jacobsen I, Beyersdorf N, Hünig T, Klos A, Skerka C, Zipfel PF (2018) The secreted *Candida albicans* protein Pra1 disrupts host defense by broadly targeting and blocking complement C3 and C3 activation fragments. *Mol Immunol* 93, 266-277.

Persyn A, Rogiers O, Brock M, Vande Velde G, Lamkanfi M, Jacobsen ID, Himmelreich U, Lagrou K, Van Dijck P, Kucharíková S (2018) Monitoring of fluconazole and caspofungin activity against *in vivo* *Candida glabrata* biofilms by bioluminescence imaging. *Antimicrob Agents Chemother* 63(2), e01555-18.

Polke M, Leonhardt I, Kurzai O, Jacobsen ID (2018) Farnesol signalling in *Candida albicans* - more than just communication. *Crit Rev Microbiol* 44(2), 230-243. (Review)

Schaarschmidt B, Vlaic S, Medyukhina A, Neugebauer S, Nietzsche S, Gonnert FA, Rödel J, Singer M, Kiehntopf M, Figge MT, Jacobsen ID, Bauer M, Press AT (2018) Molecular signatures of liver dysfunction are distinct in fungal and bacterial infections in mice. *Theranostics* 8(14), 3766-3780.

Seyedmousavi S, Bosco SMG, de Hoog S, Ebel F, Elad D, Gomes RR, Jacobsen ID, Martel A, Mignon B, Pasmans F, Piecková E, Rodrigues AM, Singh K, Vicente VA, Wibbelt G, Wiederhold NP, Guillot J (2018) Fungal infections in animals: a patchwork of different situations. *Med Mycol* 56(suppl_1), 165-187. (Review)

Templeton SP, Rivera A, Hube B, Jacobsen ID (2018) Editorial: Immunity to human fungal pathogens: Mechanisms of host recognition, protection, pathology, and fungal interference. *Front Immunol* 9, 2337. (Review)

Zipfel PF, Luo S, Dasari P, Reiher N, Jacobsen I, Beyersdorf N, Klos A, Serka C (2018) Reply to kang and brooks: Comment on the interpretation of binding of Pra1, the fungal immune evasion protein from *Candida albicans* to the human C3 and on the conformational changes of C3 upon activation: Kang and brooks optimization of biolayer-interfero. *Mol Immunol* 101, 638-639.

Cunha C, Gonçalves SM, Duarte-Oliveira C, Leite L, Lagrou K, Marques A, Lupiañez CB, Mesquita I, Gaifem J, Barbosa AM, Pinho Vaz C, Branca R, Campilho F, Freitas F, Ligeiro D, Lass-Flörl C, Löffler J, Jurado M, Saraiva M, Kurzai O, Rodrigues F, Castro AG, Silvestre R, Sainz J, Maertens JA, Torrado E, Jacobsen ID, Lacerda JF, Campos A, Carvalho A (2017) IL-10 overexpression predisposes to invasive aspergillosis by suppressing antifungal immunity. *J Allergy Clin Immunol* 140(3), 867-870.e9.

Halder LD, Abdelfatah MA, Jo EA, Jacobsen ID, Westermann M, Beyersdorf N, Lorkowski S, Zipfel PF, Skerka C (2017) Factor H Binds to Extracellular DNA Traps Released from Human Blood Monocytes in Response to *Candida albicans*. *Front Immunol* 7, 671.

Jacobsen ID, Hube B (2017) *Candida albicans* morphology: still in focus. *Expert Rev Anti Infect Ther* 15(4), 327-330. (Review)

Niemiec MJ, Kapitan M, Polke M, Jacobsen ID (2017) Commensal to Pathogen Transition of *Candida albicans*. In: Elsevier (ed.) Reference Module in Life Sciences 2017 Elsevier. ISBN: 9780128096338. (Review)

Polke M, Jacobsen I (2017) A Flow-assay for Farnesol Removal from Adherent *Candida albicans* Cultures. *Bio-protocol* 7(19), e2562.

Polke M, Jacobsen ID (2017) Quorum sensing by farnesol revisited. *Curr Genet* 63(5), 791-797. (Review)

Polke M, Sprenger M, Scherlach K, Albán-Proaño MC, Martin R, Hertweck C, Hube B, Jacobsen ID (2017) A functional link between hyphal maintenance and quorum sensing in *Candida albicans*. *Mol Microbiol* 103(4), 595-617.

Schulze B, Rambach G, Schwartze VU, Voigt K, Schubert K, Speth C, Jacobsen ID (2017) Ketoacidosis alone does not predispose to mucormycosis by *Lichtheimia* in a murine pulmonary infection model. *Virulence* 8(8), 1657-1667.

Sobotta K, Bonkowski K, Liebler-Tenorio E, Germon P, Rainard P, Hambruch N, Pfarrer C, Jacobsen ID, Menge C (2017) Permissiveness of bovine epithelial cells from lung, intestine, placenta and udder for infection with *Coxiella burnetii*. *Vet Res* 48(1), 23.

Förster TM, Mogavero S, Dräger A, Graf K, Polke M, Jacobsen ID, Hube B (2016) Enemies and brothers in arms: *Candida albicans* and gram-positive bacteria. *Cell Microbiol* 18(12), 1709-1715. (Review)

Geib E, Gressler M, Viediarnikova I, Hillmann F, Jacobsen ID, Nietzsche S, Hertweck C, Brock M (2016) A non-canonical melanin biosynthesis pathway protects *Aspergillus terreus* conidia from environmental stress. *Cell Chem Biol* 23(5), 587-597.

Hebecker B, Vlaic S, Conrad T, Bauer M, Brunke S, Kapitan M, Linde J, Hube B, Jacobsen ID (2016) Dual-species transcriptional profiling during systemic candidiasis reveals organ-specific host-pathogen interactions. *Sci Rep* 6, 36055.

Joehnk B, Bayram O, Valerius O, Heinekamp T, Jacobsen ID, Mattern D, Brakhage AA, Braus G (2016) SCF Ubiquitin Ligase F-box Protein Fbx15 Controls Nuclear Co-repressor Localization, Stress Response and Virulence of the Human Pathogen *Aspergillus fumigatus* *PLOS Pathog* 12(9), e1005899.

Kroll K, Shekhova E, Mattern DJ, Thywissen A, Jacobsen ID, Strassburger M, Heinekamp T, Shelest E, Brakhage AA, Kniemeyer O (2016) The hypoxia-induced dehydrogenase HorA is required for coenzyme Q10 biosynthesis, azole sensitivity and virulence of *Aspergillus fumigatus* *Mol Microbiol* 101(1), 92-108.

Böttcher B, Palige K, Jacobsen ID, Hube B, Brunke S (2015) Csr1/Zap1 maintains zinc homeostasis and influences virulence in *Candida dubliniensis* but is not coupled to morphogenesis. *Eukaryot Cell* 14(7), 661-670.

Brunke S, Quintin J, Kasper L, Jacobsen ID, Richter ME, Hiller E, Schwarzmüller T, d'Enfert C, Kuchler K, Rupp S, Hube B, Ferrandon D (2015) Of mice, flies - and men? Comparing fungal infection models for large-scale screening efforts. *Dis Model Mech* (8), 473-486.

Duggan S, Essig F, Hünninger K, Mokhtari Z, Bauer L, Lehnert T, Brandes S, Häder A, Jacobsen ID, Martin R, Figge MT, Kurzai O (2015) Neutrophil activation by *Candida glabrata* but not *Candida albicans* promotes fungal uptake by monocytes. *Cell Microbiol* 17(9), 1259-1276.

Kaerger K, Schwartze VU, Dolatabadi S, Nyilasi I, Kovács SA, Binder U, Papp T, Hoog Sd, Jacobsen ID, Voigt K (2015) Adaptation to thermotolerance in *Rhizopus* coincides with virulence as revealed by avian and invertebrate infection models, phylogeny, physiological and metabolic flexibility. *Virulence* 6(4), 395-403.

Polke M, Hube B, Jacobsen ID (2015) *Candida* survival strategies. *Adv Appl Microbiol* 91, 139-235.

Brunke S, Seider K, Fischer D, Jacobsen ID, Kasper L, Jablonowski N, Wartenberg A, Bader O, Enache-Angoulvant A, Schaller M, d'Enfert C, Hube B (2014) One small step for a yeast - Microevolution within macrophages renders *Candida glabrata* hypervirulent due to a single point mutation. *PLOS Pathog* 10(10), e1004478.

Hebecker B, Naglik JR, Hube B, Jacobsen ID (2014) Pathogenicity mechanisms and host response during oral *Candida albicans* infections. *Expert Rev Anti Infect Ther* 12(7), 867-879. (Review)

Jacobsen ID (2014) *Galleria mellonella* as a model host to study virulence of *Candida*. *Virulence* 5(2), 237-239.

Jacobsen ID, Lüttich A, Kurzai O, Hube B, Brock M (2014) *In vivo* imaging of disseminated murine *Candida albicans* infection reveals unexpected host sites of fungal persistence during antifungal therapy. *J Antimicrob Chemother* 69(10), 2785-2796.

Krljanac B, Weih D, Jacobsen ID, Hu D, Koliesnik I, Reppe K, Witzernath M, Weih F (2014) NF- κ B2/p100 deficiency impairs immune responses to T-cell-independent type 2 antigens. *Eur J Immunol* 44(3), 662-672.

Kroll K, Pähitz V, Hillmann F, Vaknin Y, Schmidt-Heck W, Roth M, Jacobsen ID, Osherov N, Brakhage AA, Kniemeyer O (2014) Identification of hypoxia-inducible target genes of *Aspergillus*

fumigatus by transcriptome analysis reveals cellular respiration as important contributor to hypoxic survival. *Eukaryot Cell* 13(9), 1241-1253.

Miramón P, Dunker C, Kasper L, Jacobsen ID, Barz D, Kurzai O, Hube B (2014) A family of glutathione peroxidases contributes to oxidative stress resistance in *Candida albicans*. *Med Mycol* 52(3), 223-239.

Otzen C, Bardl B, Jacobsen ID, Nett M, Brock M (2014) *Candida albicans* utilizes a modified β -oxidation pathway for the degradation of toxic propionyl-CoA. *J Biol Chem* 289(12), 8151-8169.

Quintin J, Voigt J, van der Voort R, Jacobsen ID, Verschueren I, Hube B, Giamarellos-Bourboulis EJ, van der Meer JW, Joosten LA, Kurzai O, Netea MG (2014) Differential role of NK cells against *Candida albicans* infection in immunocompetent or immunocompromised mice. *Eur J Immunol* 44(8), 2405-2414.

Schwartz VU, de A. Santiago ALCM, Jacobsen ID, Voigt K (2014) The pathogenic potential of the *Lichtheimia* genus revisited: *Lichtheimia brasiliensis* is a novel, non-pathogenic species. *Mycoses* 57(Suppl. 3), 128-131.

Schwartz VU, Jacobsen ID (2014) Mucormycoses caused by *Lichtheimia* species. *Mycoses* 57(Suppl. 3), 73-78.

Schwartz VU, Winter S, Shelest E, Marcet-Houben M, Horn F, Wehner S, Linde J, Valiante V, Sammeth M, Riege K, Nowrousian M, Kaerger K, Jacobsen ID, Marz M, Brakhage AA, Gabaldón T, Böcker S, Voigt K (2014) Gene expansion shapes genome architecture in the human pathogen *Lichtheimia corymbifera*: an evolutionary genomics analysis in the ancient terrestrial Mucorales (Mucoromycotina). *PLOS Genetics* 10(8), e1004496.

Schwarz Müller T, Ma B, Hiller E, Istel F, Tscherner M, Brunke S, Ames L, Firon A, Green B, Cabral V, Marcet-Houben M, Jacobsen ID, Quintin J, Seider K, Frohner I, Glaser W, Jungwirth H, Bachellier-Bassi S, Chauvel M, Zeidler U, Ferrandon D, Gabaldón T, Hube B, d'Enfert C, Rupp S, Cormack B, Haynes K, Kuchler K (2014) Systematic phenotyping of a large-scale *Candida glabrata* deletion collection reveals novel antifungal tolerance genes. *PLOS Pathog* 10(6), e1004211.

Voigt J, Hünig K, Bouzani M, Jacobsen ID, Barz D, Hube B, Löffler J, Kurzai O (2014) Human natural killer cells acting as phagocytes against *Candida albicans* and mounting an inflammatory response that modulates neutrophil antifungal activity. *J Infect Dis* 209(4), 616-626.

Wartenberg A, Linde J, Martin R, Schreiner M, Horn F, Jacobsen ID, Jenull S, Wolf T, Kuchler K, Guthke R, Kurzai O, Forche A, d'Enfert C, Brunke S, Hube B (2014) Microevolution of *Candida albicans* in macrophages restores filamentation in a nonfilamentous mutant. *PLOS Genet* 10(12), e1004824.

Wilson D, Mayer FL, Miramón P, Citiulo F, Slesiona S, Jacobsen ID, Hube B (2014) Distinct roles of *Candida albicans*-specific genes in host-pathogen interactions. *Eukaryot Cell* 13(8), 977-989.

Hennicke F, Grumbt M, Lermann U, Ueberschaar N, Palige K, Böttcher B, Jacobsen ID, Staib C, Morschhäuser J, Monod M, Hube B, Hertweck C, Staib P (2013) Factors supporting cysteine tolerance and sulfite production in *Candida albicans*. *Eukaryot Cell* 12(4), 604-613.

Lüttich A, Brunke S, Hube B, Jacobsen ID (2013) Serial passaging of *Candida albicans* in

systemic murine infection suggests that the wild type strain SC5314 is well adapted to the murine kidney. *PLOS One* 8(5), e64482.

Otto GP, Ludewig K, Jacobsen ID, Schaarschmidt B, Hube B, Bauer M (2013) Limitation of (1→3)- β -D-glucan monitoring in major elective surgery involving cardiopulmonary bypass. *Crit Care* 17(3), 437.

Otzen C, Müller S, Jacobsen ID, Brock M (2013) Phylogenetic and phenotypic characterisation of the 3-ketoacyl-CoA thiolase gene family from the opportunistic human pathogenic fungus *Candida albicans*. *FEMS Yeast Res* 13(6), 553-564.

Braukmann M, Sachse K, Jacobsen ID, Westermann M, Menge C, Saluz HP, Berndt A (2012) Distinct intensity of host-pathogen interactions in *Chlamydia psittaci*- and *Chlamydia abortus*-infected chicken embryos. *Infect Immun* 80(9), 2976-2988.

Citiulo F, Jacobsen ID, Miramón P, Schild L, Brunke S, Zipfel PF, Brock M, Hube B, Wilson D (2012) *Candida albicans* scavenges host zinc via Pra1 during endothelial invasion. *PLOS Pathog* 8(6), e1002777.

Jacobsen ID, Grosse K, Hube B (2012) Embryonated chicken eggs as alternative infection model for pathogenic fungi. In: Brand AC, MacCallum DM (eds.) *Methods in Molecular Biology. Host-fungus interactions. Methods and Protocols*. 845, pp. 487-496. Humana Press (Springer).

Jacobsen ID, Wilson D, Wächter B, Brunke S, Naglik JR, Hube B (2012) *Candida albicans* dimorphism as a therapeutic target. *Expert Rev Anti Infect Ther* 10(1), 85-93. (Review)

Mayer FL, Wilson D, Jacobsen ID, Miramón P, Große K, Hube B (2012) The novel *Candida albicans* transporter Dur31 is a multi-stage pathogenicity factor. *PLOS Pathog* 8(3), e1002592.

Mayer FL, Wilson D, Jacobsen ID, Miramón P, Slesiona S, Bohovych IM, Brown AJ, Hube B (2012) Small but crucial: the novel small heat shock protein Hsp21 mediates stress adaptation and virulence in *Candida albicans*. *PLOS One* 7(6), e38584.

McCormick A, Jacobsen ID, Broniszewska M, Beck J, Heesemann J, Ebel F (2012) The two-component sensor kinase TcsC and its role in stress resistance of the human-pathogenic mold *Aspergillus fumigatus*. *PLOS One* 7(6), e38262-e38262.

Schrödl W, Heydel T, Schwartze VU, Hoffmann K, Grosse-Herrenthey A, Walther G, Alastruey-Izquierdo A, Rodriguez-Tudela JL, Olias P, Jacobsen ID, de Hoog GS, Voigt K (2012) Direct analysis and identification of pathogenic *Lichtheimia* species by matrix-assisted laser desorption ionization-time of flight analyzer-mediated mass spectrometry. *J Clin Microbiol* 50(2), 419-427.

Schwartze VU, Hoffmann K, Nyilasi I, Papp T, Vágvolgyi C, de Hoog S, Voigt K, Jacobsen ID (2012) *Lichtheimia* species exhibit differences in virulence potential. *PLOS One* 7(7), e40908.

Slesiona S, Gressler M, Mhlan M, Zaehle C, Schaller M, Barz D, Hube B, Jacobsen ID, Brock M (2012) Persistence versus escape: *Aspergillus terreus* and *Aspergillus fumigatus* employ different strategies during interactions with macrophages. *PLOS One* 7(2), e31223-e31223.

Slesiona S, Ibrahim-Granet O, Olias P, Brock M, Jacobsen ID (2012) Murine infection models for *Aspergillus terreus* pulmonary aspergillosis reveal long-term persistence of conidia and liver degeneration. *J Infect Dis* 205(8), 1268-1277.

- Fendrich V, Schneider R, Maitra A, Jacobsen ID, Opfermann T, Bartsch DK (2011) Detection of precursor lesions of pancreatic adenocarcinoma in PET-CT in a genetically engineered mouse model of pancreatic cancer. *Neoplasia* 13(2), 180-186.
- Jacobsen ID, Grosse K, Berndt A, Hube B (2011) Pathogenesis of *Candida albicans* infections in the alternative chorio-allantoic membrane chicken embryo model resembles systemic murine infections. *PLOS One* 6(5), e19741-e19741.
- Keller S, Macheleidt J, Scherlach K, Schmalzer-Ripcke J, Jacobsen ID, Heinekamp T, Brakhage AA (2011) Pyomelanin formation in *Aspergillus fumigatus* requires HmgX and the transcriptional activator HmgR but is dispensable for virulence. *PLOS One* 6(10), e26604.
- Martin R, Moran GP, Jacobsen ID, Heyken A, Domey J, Sullivan DJ, Kurzai O, Hube B (2011) The *Candida albicans*-specific gene EED1 encodes a key regulator of hyphal extension. *PLOS One* 6(4), e18394.
- Olias P, Gruber AD, Hafez HM, Lierz M, Slesiona S, Brock M, Jacobsen ID (2011) Molecular epidemiology and virulence assessment of *Aspergillus fumigatus* isolates from white stork chicks and their environment. *Vet Microbiol* 148(2-4), 348-355.
- Olias P, Jacobsen ID, Gruber AD (2011) Fungal species identification from avian lung specimens by single hypha laser microdissection and PCR product sequencing. *Med Mycol* 49(1), 56-61.
- Wartenberg D, Lapp K, Jacobsen ID, Dahse HM, Kniemeyer O, Heinekamp T, Brakhage AA (2011) Secretome analysis of *Aspergillus fumigatus* reveals Asp-hemolysin as a major secreted protein. *Int J Med Microbiol* 301(7), 602-611.
- Behnsen J, Lessing F, Schindler S, Wartenberg D, Jacobsen ID, Thoen M, Zipfel PF, Brakhage AA (2010) Secreted *Aspergillus fumigatus* protease Alp1 degrades human complement proteins C3, C4, and C5. *Infect Immun* 78(8), 3585-3594.
- Gehrke A, Heinekamp T, Jacobsen ID, Brakhage AA (2010) Heptahelical receptors GprC and GprD of *Aspergillus fumigatus* are essential regulators of colony growth, hyphal morphogenesis, and virulence. *Appl Environ Microbiol* 76(12), 3989-3998.
- Jacobsen ID, Brunke S, Seider K, Schwarzmüller T, Firon A, d'Enfert C, Kuchler K, Hube B (2010) *Candida glabrata* persistence in mice does not depend on host immunosuppression and is unaffected by fungal amino acid auxotrophy. *Infect Immun* 78(3), 1066-1077.
- Jacobsen ID, Grosse K, Slesiona S, Hube B, Berndt A, Brock M (2010) Embryonated eggs as an alternative infection model to investigate *Aspergillus fumigatus* virulence. *Infect Immun* 78(7), 2995-3006.
- Kotz A, Wagener J, Engel J, Routier FH, Echtenacher B, Jacobsen I, Heesemann J, Ebel F (2010) Approaching the secrets of N-glycosylation in *Aspergillus fumigatus*: characterization of the AfOch1 protein. *PLOS One* 5(12), e15729-e15729.
- Menger B, Vogt PM, Jacobsen ID, Allmeling C, Kuhbier JW, Mutschmann F, Reimers K (2010) Resection of a large intra-abdominal tumor in the Mexican axolotl: a case report. *Vet Surg* 39(2), 232-233.
- Schöbel F, Jacobsen ID, Brock M (2010) Evaluation of lysine biosynthesis as an antifungal drug

target: biochemical characterization of *Aspergillus fumigatus* homocitrate synthase and virulence studies. *Eukaryot Cell* 9(6), 878-893.

Schrettl M, Beckmann N, Varga J, Heinekamp T, Jacobsen ID, Jöchl C, Moussa TA, Wang S, Gsaller F, Blatzer M, Werner ER, Niermann WC, Brakhage AA, Haas H (2010) HapX-mediated adaption to iron starvation is crucial for virulence of *Aspergillus fumigatus*. *PLOS Pathog* 6(9), e1001124-e1001124.

Laube T, Bernet A, Dahse HM, Jacobsen ID, Seifert K (2009) Synthesis and pharmacological activities of some sesquiterpene quinones and hydroquinones. *Bioorg Med Chem* 17(4), 1422-1427.

Völksch B, Thon S, Jacobsen ID, Gube M (2009) Polyphasic study of plant- and clinic-associated *Pantoea agglomerans* strains reveals indistinguishable virulence potential. *Infect Genet Evol* 9(6), 1381-1391.

Wilson D, Thewes S, Zakikhany K, Fradin C, Albrecht A, Almeida R, Brunke S, Grosse K, Martin R, Mayer F, Leonhardt I, Schild L, Seider K, Skibbe M, Slesiona S, Waechtler B, Jacobsen I, Hube B (2009) Identifying infection-associated genes of *Candida albicans* in the postgenomic era. *FEMS Yeast Res* 9(5), 688-700. (Review)

Mota Júnior AO, Malavazi I, Soriani FM, Heinekamp T, Jacobsen I, Brakhage AA, Savoldi M, Goldman MH, da Silva Ferreira ME, Goldman GH (2008) Molecular characterization of the *Aspergillus fumigatus* NCS-1 homologue, NcsA. *Mol Genet Genomics* 280(6), 483-495.

Schrettl M, Kim HS, Eisendle M, Kragl C, Nierman WC, Heinekamp T, Werner ER, Jacobsen I, Illmer P, Yi H, Brakhage AA, Haas H (2008) SreA-mediated iron regulation in *Aspergillus fumigatus*. *Mol Microbiol* 70(1), 27-43.

Hennig-Pauka I, Baltes N, Jacobsen I, Stratmann-Selke J, Gerlach GF, Selbitz HJ, Waldmann KH (0) [Study of the virulence of *Actinobacillus pleuropneumoniae* in finishing pigs as a basis for vaccination development]. *Berl Munch Tierarztl Wochenschr* 121(5-6), 189-197.

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