

Publications

Müller R, König A, Groth S, Zarnowski R, Visser C, Handrianz T, Maufrais C, Krüger T, Himmel M, Lee S, Priest EL, Yildirim D, Richardson JP, Blango MG, Bougnoux ME, Kniemeyer O, d'Enfert C, Brakhage AA, Andes DR, Trümper V, Nehls C, Kasper L, Mogavero S, Gutsmann T, Naglik JR, Allert S, Hube B (2024) Secretion of the fungal toxin candidalysin is dependent on conserved precursor peptide sequences. *Nat Microbiol* 9(3), 669-683.

Sprague JL, Schille TB, Allert S, Trümper V, Lier A, Großmann P, Priest EL, Tsavou A, Panagiotou G, Naglik JR, Wilson D, Schäuble S, Kasper L^{*}, Hube B^{*#} (2024) *Candida albicans* translocation through the intestinal epithelial barrier is promoted by fungal zinc acquisition and limited by NFκB-mediated barrier protection. *Plos Pathogens* 20(3), e1012031.

Lange T, Kasper L, Gresnigt MS, Brunke S, Hube B (2023) "Under Pressure" - How fungi evade, exploit, and modulate cells of the innate immune system. *Semin Immunol* 66, 101738. (Review)

Sonnberger J, Kasper L, Lange T, Brunke S, Hube B (2023) "We've got to get out"-Strategies of human pathogenic fungi to escape from phagocytes. *Mol Microbiol* 121(3), 341-358. (Review)

Wu Y, Du S, Bimler LH, Mauk KE, Lortal L, Kichik N, Griffiths JS, Osicka R, Song L, Polsky K, Kasper L, Sebo P, Weatherhead J, Knight JM, Kheradmand F, Zheng H, Richardson JP, Hube B, Naglik JR, Corry DB (2023) Toll-like receptor 4 and CD11b expressed on microglia coordinate eradication of *Candida albicans* cerebral mycosis. *Cell Rep* 42(10), 113240.

Sprague JL, Kasper L, Hube B (2022) From intestinal colonization to systemic infections: *Candida albicans* translocation and dissemination. *Gut Microbes* 14(1), 2154548. (Review)

Radosa S, Sprague JL, Lau SH, Tóth R, Linde J, Krüger T, Sprenger M, Kasper L, Westermann M, Kniemeyer O, Hube B, Brakhage AA, Gácsér A, Hillmann F (2021) The fungivorous amoeba *Protostelium aurantium* targets redox homeostasis and cell wall integrity during intracellular killing of *Candida parapsilosis*. *Cell Microbiol* 23(11), e13389.

Sprenger M, Brunke S, Hube B, Kasper L (2021) A TRP1-marker-based system for gene complementation, overexpression, reporter gene expression, and gene modification in *Candida glabrata*. *FEMS Yeast Res* 20(8), foaa066.

Austermeier S, Kasper L, Westman J, Gresnigt MS (2020) I want to break free - macrophage strategies to recognize and kill *Candida albicans*, and fungal counter-strategies to escape. *Curr Opin Microbiol* 58, 15-23. (Review)

König A, Hube B, Kasper L (2020) The dual Function of the fungal toxin candidalysin during *Candida albicans*-macrophage interaction and virulence. *Toxins* 12(8), 469. (Review)

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.

Westman J, Walpole GFW, Kasper L, Xue BY, Elshafee O, Hube B, Grinstein S (2020) Lysosome fusion maintains phagosome integrity during fungal infection. *Cell Host Microbe* 28(6), 798-812.

Ishchuk OP, Ahmad KM, Koruza K, Bojanovič K, Sprenger M, Kasper L, Brunke S, Hube B, Säll

T, Hellmark T, Gullstrand B, Brion C, Freel K, Schacherer J, Regenber B, Knecht W, Piškur J (2019) RNAi as a tool to study virulence in the pathogenic yeast *Candida glabrata*. *Front Microbiol* 10, 1679.

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.

Gerwien F, Skrahina V, Kasper L, Hube B, Brunke S (2018) Metals in fungal virulence. *FEMS Microbiol Rev* 42(1), fux050. (Review)

Kasper L, König A, Koenig PA, Gresnigt MS, Westman J, Drummond RA, Lionakis MS, Groß O, Ruland J, Naglik JR, Hube B (2018) The fungal peptide toxin Candidalysin activates the NLRP3 inflammasome and causes cytolysis in mononuclear phagocytes. *Nat Commun* 9(1), 4260.

Sprenger M, Kasper L, Hensel M, Hube B (2018) Metabolic adaptation of intracellular bacteria and fungi to macrophages. *Int J Med Microbiol* 308(1), 215-227. (Review)

Gerwien F, Safyan A, Wisgott S, Brunke S, Kasper L, Hube B (2017) The fungal pathogen *Candida glabrata* does not depend on surface ferric reductases for iron acquisition. *Front Microbiol* 8, 1055.

Brunke S, Mogavero S, Kasper L, Hube B (2016) Virulence factors in fungal pathogens of man. *Curr Opin Microbiol* 32, 89-95. (Review)

Gabrielli E, Sabbatini S, Roselletti E, Kasper L, Perito S, Hube B, Cassone A, Vecchiarelli A, Pericolini E (2016) *In vivo* induction of neutrophil chemotaxis by secretory aspartyl proteinases of *Candida albicans*. *Virulence* 7(7), 819-825.

Gerwien F, Safyan A, Wisgott S, Hille F, Kämmer P, Linde J, Brunke S, Kasper L, Hube B (2016) A novel hybrid iron regulation network combines features from pathogenic and non-pathogenic yeasts. *mBio* 7(5), e01782-16.

Luo T, Krüger T, Knüpfer U, Kasper L, Wielsch N, Hube B, Kortgen A, Bauer M, Giamarellos-Bourboulis EJ, Dimopoulos G, Brakhage AA, Kniemeyer O (2016) Immunoproteomic analysis of antibody responses to extracellular proteins of *Candida albicans* revealed the importance of glycosylation for antigen recognition. *J Proteome Res* 15(8), 2394-2406.

Moyes DL*, Wilson D*, Richardson JP*, Mogavero S*, Tang SX, Wernecke J, Höfs S, Gratacap RL, Robbins J, Runglall M, Murciano C, Blagojevic M, Thavaraj S, Förster TM, Hebecker B, Kasper L, Vizcay G, Iancu SI, Kichik N, Häder A, Kurzai O, Luo T, Krüger T, Kniemeyer O, Cota E, Bader O, Wheeler RT, Gutschmann T, Hube B, Naglik JR (2016) Candidalysin is a fungal peptide toxin critical for mucosal infection. *Nature* 532(7597), 64-68.

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.

Gabrielli E, Pericolini E, Luciano E, Sabbatini S, Roselletti E, Perito S, Kasper L, Hube B, Vecchiarelli A (2015) Induction of Caspase-11 by aspartyl proteinases of *Candida albicans* and implication in promoting inflammatory response. *Infect Immun* 83(5), 1940-1948.

Kasper L, Miramón P, Jablonowski N, Wisgott S, Wilson D, Brunke S, Hube B (2015) Antifungal activity of clotrimazole against *Candida albicans* depends on carbon sources, growth phase, and morphology. *J Med Microbiol* 64, 714-723.

Kasper L, Seider K, Hube B (2015) Intracellular survival of *Candida glabrata* in macrophages: immune evasion and persistence. *FEMS Yeast Res* 15(5), fov042.

Mehlgarten C, Krijger JJ, Lemnian I, Gohr A, Kasper L, Diesing AK, Grosse I, Breunig KD (2015) Divergent evolution of the transcriptional network controlled by Snf1-interacting protein Sip4 in budding yeasts. *PLOS One* 10(10), e0139464.

Pericolini E, Gabrielli E, Amacker M, Kasper L, Roselletti E, Luciano E, Sabbatini S, Kaeser M, Moser C, Hube B, Vecchiarelli A, Cassone A (2015) Secretory aspartyl proteinases cause vaginitis and can mediate vaginitis caused by *Candida albicans* in mice. *MBio* 6(3), e00724.

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.

Kasper L, Seider K, Gerwien F, Allert S, Brunke S, Schwarzmüller T, Ames L, Zubiria-Barrera C, Mansour MK, Becken U, Barz D, Vyas JM, Reiling N, Haas A, Haynes K, Kuchler K, Hube B (2014) Identification of *Candida glabrata* genes involved in pH modulation and modification of the phagosomal environment in macrophages. *PLOS One* 9(5), e96015.

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.

Seider K, Gerwien F, Kasper L, Allert S, Brunke S, Jablonowski N, Schwarzmüller T, Barz D, Rupp S, Kuchler K, Hube B (2014) Immune evasion, stress resistance, and efficient nutrient acquisition are crucial for intracellular survival of *Candida glabrata* within macrophages. *Eukaryot Cell* 13(1), 170-183.

Miramón P, Kasper L, Hube B (2013) Thriving within the host: *Candida* spp. interactions with phagocytic cells. *Med Microbiol Immunol* 202(3), 183-195. (Review)

Pietrella D, Pandey N, Gabrielli E, Pericolini E, Perito S, Kasper L, Bistoni F, Cassone A, Hube B, Vecchiarelli A (2013) Secreted aspartic proteases of *Candida albicans* activate the NLRP3 inflammasome. *Eur J Immunol* 43(3), 679-692.

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.

Schild L, Heyken A, de Groot PW, Hiller E, Mock M, de Koster C, Horn U, Rupp S, Hube B (2011) Proteolytic cleavage of covalently linked cell wall proteins by *Candida albicans* Sap9 and Sap10. *Eukaryot Cell* 10(1), 98-9109.

Seider K, Brunke S, Schild L, Jablonowski N, Wilson D, Majer O, Barz D, Haas A, Kuchler K, Schaller M, Hube B (2011) The facultative intracellular pathogen *Candida glabrata* subverts macrophage cytokine production and phagolysosome maturation. *J Immunol* 187(6), 3072-3086.

Pietrella D, Rachini A, Pandey N, Schild L, Netea M, Bistoni F, Hube B, Vecchiarelli A (2010) The Inflammatory response induced by aspartic proteases of *Candida albicans* is independent of proteolytic activity. *Infect Immun* 78(11), 4754-4762.

Gropp K, Schild L, Schindler S, Hube B, Zipfel PF, Skerka C (2009) The yeast *Candida albicans* evades human complement attack by secretion of aspartic proteases. *Mol Immunol* 47(2-3), 465-475.

Hornbach A, Heyken A, Schild L, Hube B, Löffler J, Kurzai O (2009) The glycosylphosphatidylinositol-anchored protease Sap9 modulates the interaction of *Candida albicans* with human neutrophils. *Infect Immun* 77(12), 5216-5224.

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)

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