

Publications

Chalo DM, Franke K, Nchiozem-Ngnitedem VA, Kakudidi E, Origa-Oryem H, Namukobe J, Kloss F, Yenesew A, Wessjohann LA (2023) Prenylated isoflavanones with antimicrobial potential from the root bark of *Dalbergia melanoxylon*. *Metabolites* 13(6), 678.

Eckhardt E, Li Y, Mamerow S, Schinköthe J, Sehl-Ewert J, Dreisbach J, Corleis B, Dorhoi A, Teifke J, Menge C, Kloss F, Bastian M (2023) Pharmacokinetics and efficacy of the Benzothiazinone BTZ-043 against *Tuberculous Mycobacteria* inside granulomas in the Guinea pig model. *Antimicrob Agents Chemother* 67(4), e0143822.

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.

Joch M, Wojtas KP, Torres-Gómez H, Li Y, Meyer F, Straßburger M, Kerndl V, Dahse HM, Hertweck C, Hoffmann H, Görls H, Walter K, Hölscher C, Kloss F (2023) Whole cell hydride Meisenheimer complex biotransformation guided optimization of antimycobacterial benzothiazinones. *Eur J Med Chem* 264, 116023.

Keiff F, Jacques dit Lapierre TJW, Bernal F, Kloss F (2023) Design and synthesis of benzofuran- and naphthalene-fused thiazinones as antimycobacterial agents. *Arch Pharm (Weinheim)* 356(11), e2300356.

Alt S, Haggstrom D, Kessmann H, Kloss F, Schneider CE, Jäger T, Schwede T, Brakhage A, Dehio C (2022) INCATE: a partnership to boost the antibiotic pipeline. *Nat Rev Drug Discov* 21(9), 621-622. (Review)

Bernal FA, Hammann P, Kloss F (2022) Natural products in antibiotic development: is the success story over? *Curr Opin Biotechnol* 78, 102783. (Review)

Bitar L, Uphaus T, Thalman C, Muthuraman M, Gyr L, Ji H, Domingues M, Endle H, Groppa S, Steffen F, Koirala N, Fan W, Ibanez L, Heitsch L, Cruchaga C, Lee JM, Kloss F, Bittner S, Nitsch R, Zipp F, Vogt J (2022) Inhibition of the enzyme autotaxin reduces cortical excitability and ameliorates the outcome in stroke. *Sci Transl Med* 14(641), eabk0135.

Endle H, Horta G, Stutz B, Muthuraman M, Tegeder I, Schreiber Y, Snodgrass IF, Gurke R, Liu ZW, Sestan-Pesa M, Radyushkin K, Streu N, Fan W, Baumgart J, Li Y, Kloss F, Groppa S, Opel N, Dannlowski U, Grabe HJ, Zipp F, Rácz B, Horvath TL, Nitsch R, Vogt J (2022) AgRP neurons control feeding behaviour at cortical synapses via peripherally derived lysophospholipids. *Nat Metab* 4(6), 683-692.

Haensch V, Neuwirth T, Bergner A, Bruhnke J, Kloss F, Hertweck C (2022) Sustainable and highly controlled aryl couplings revealed by systematic assessment of photoactivatable linkers. *Chem Sci* 13(19), 5680-5686.

Riabova O, Egorova A, Lepioshkin A, Li Y, Voigt K, Kloss F, Makarov V (2022) Thienol[2,3-d]pyrimidine-core compounds show activity against clinically relevant gram-positive bacteria. *ChemMedChem* 17(17), e202200207.

Schieferdecker S, Bernal FA, Wojtas KP, Keiff F, Li Y, Dahse HM, Kloss F (2022) Development of predictive classification models for whole cell antimycobacterial activity of benzothiazinones. *J Med Chem* 65(9), 6748-6763.

Stein J, Schlosser N, Bardl B, Peschel G, Meyer F, Kloss F, Rosenbaum MA, Regestein L (2022) Scalable downstream method for the cyclic lipopeptidejagaricin. *Eng Life Sci* 22(12), 811-817.

Böttcher S, Hartung S, Meyer F, Rummeler S, Voigt K, Walther G, Hochhaus A, von Lilienfeld-Toal M, Jahreis S (2021) Human mucosal-associated invariant T cells respond to Mucorales species in a MR1-dependent manner. *Med Mycol* 59(5), 505-509.

Brantl V, Boysen JM, Yap A, Golubtsov E, Ruf D, Heinekamp T, Straßburger M, Dichtl K, Haas H, Hillmann F, Wagener J (2021) Peroxiredoxin Asp f3 is essential for *Aspergillus fumigatus* to overcome iron limitation during infection. *mBio* 12(4), e0097621.

Schlosser N, Espino-Martínez J, Kloss F, Meyer F, Bardl B, Rosenbaum MA, Regestein L (2021) Host nutrition-based approach for biotechnological production of the antifungal cyclic lipopeptide jagaricin. *J Biotechnol* 336, 1-9.

Blei F, Dörner S, Fricke J, Baldeweg F, Trottmann F, Komor AJ, Meyer F, Hertweck C, Hoffmeister D (2020) Simultaneous production of psilocybin and a cocktail of β -carboline monoamine oxidase inhibitors in 'magic' mushrooms. *Chem Eur J* 26(3), 729-734.

Frawley D, Stroe MC, Oakley BR, Heinekamp T, Straßburger M, Fleming AB, Brakhage AA, Bayram Ö (2020) The pheromone module SteC-MkkB-MpkB-SteD-HamE regulates development, stress responses and secondary metabolism in *Aspergillus fumigatus*. *Front Microbiol* 11, 811.

Ishida K, Shabuer G, Schieferdecker S, Pidot SJ, Stinear TP, Knuepfer U, Cyrulies M, Hertweck C (2020) Oak-associated negativicute equipped with ancestral aromatic polyketide synthase produces antimycobacterial dendrubins. *Chem Eur J* 26(58), 13147-13151.

Roman D, Raguž L, Keiff F, Meyer F, Barthels F, Schirmeister T, Kloss F, Beemelmans C (2020) Modular solid-phase synthesis of antiprotozoal barnesin derivatives. *Org Lett* 22(10), 3744-3748.

Sester A, Stürer-Patowsky K, Hiller W, Kloss F, Lütz S, Nett M (2020) Biosynthetic plasticity enables production of fluorinated aurachins. *Chembiochem* 21(16), 2268-2273.

Zukovskaja O, Ryabchykov O, Straßburger M, Heinekamp T, Brakhage AA, Hennings CJ, Hübner CA, Wegmann M, Cialla-May D, Bocklitz TW, Weber K, Popp J (2020) Towards Raman spectroscopy of urine as screening tool. *J Biophotonics* 13(1), e201900143.

Dunbar KL, Dell M, Molloy EM, Kloss F, Hertweck C (2019) Reconstitution of iterative thioamidation in clostioamide biosynthesis reveals a novel nonribosomal peptide backbone-tailoring strategy. *Angew Chem Int Ed* 58(37), 13014-13018.

Fischer D, Gessner G, Fill TP, Barnett R, Tron K, Dornblut K, Kloss F, Stallforth P, Hube B, Heinemann SH, Hertweck C, Scherlach K, Brunke S (2019) Disruption of membrane integrity by the bacteria-derived antifungal jagaricin. *Antimicrob Agents Chemother* 63(9), e00707-19.

Haensch VG, Neuwirth T, Steinmetzer J, Kloss F, Beckert R, Gräfe S, Kupfer S, Hertweck C (2019) Metal-free aryl cross-coupling directed by traceless linkers. *Chem Eur J* 25(70), 16068-16073.

König S, Pace S, Pein H, Heinekamp T, Kramer J, Romp E, Straßburger M, Troisi F, Proschak A, Dworschak J, Scherlach K, Rossi A, Sautebin L, Haeggström JZ, Hertweck C, Brakhage AA, Gerstmeier J, Proschak E, Werz O (2019) Gliotoxin from *Aspergillus fumigatus* abrogates leukotriene B4 formation through inhibition of leukotriene A4 hydrolase. *Cell Chem Biol* 26(4), 524-534.

Manfiolli AO, Siqueira FS, Dos Reis TF, Van Dijck P, Schrevens S, Hoefgen S, Föge M, Straßburger M, de Assis LJ, Heinekamp T, Rocha MC, Janevska S, Brakhage AA, Malavazi I, Goldman GH, Valiante V (2019) Mitogen-activated protein kinase cross-talk interaction modulates the production of melanins in *Aspergillus fumigatus*. *mBio* 10(2), e00215-19.

Schieferdecker S, Shabuer G, Knuepfer U, Hertweck C (2019) Clostrindolin is an antimycobacterial pyrone alkaloid from *Clostridium beijerinckii*. *Org Biomol Chem* 17(25), 6119-6121.

Schieferdecker S, Shabuer G, Letztel AC, Urbansky B, Ishida-Ito M, Ishida K, Cyrulies M, Dahse HM, Pidot S, Hertweck C (2019) Biosynthesis of diverse antimicrobial and antiproliferative acyloins in anaerobic bacteria. *ACS Chem Biol* 14(7), 1490-1497.

Kloss F, Gerbach S (2018) Hürden und Aussichten neuer antimikrobieller Konzepte in Forschung und Entwicklung. [Obstacles and perspectives of new antimicrobial concepts within research and development]. *Bundesgesundheitsblatt Gesundheitsforschung Gesundheitsschutz* 61(5), 595-605. (Review)

Kloss F, Neuwirth T, Haensch VG, Hertweck C (2018) Metal-free synthesis of pharmaceutically important biaryls by photosplicing. *Angew Chem Int Ed* 57(44), 14476-14481.

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, Lothe 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.

Kloss F, Krchnak V, Krchnakova A, Schieferdecker S, Dreisbach J, Krone V, Möllmann U, Hoelscher M, Miller MJ (2017) *In Vivo* Dearomatization of the Potent Antituberculosis Agent BTZ043 via Meisenheimer Complex Formation. *Angew Chem Int Ed* 56(8), 2187-2191.

Hillmann F, Bagramyan K, Straßburger M, Heinekamp T, Hong TB, Bzymek KP, Williams JC, Brakhage AA, Kalkum M (2016) The crystal structure of peroxiredoxin Asp f3 provides mechanistic insight into oxidative stress resistance and virulence of *Aspergillus fumigatus*. *Sci Rep* 6, 33396.

Kniemeyer O, Ebel F, Krüger T, Bacher P, Scheffold A, Luo T, Strassburger M, Brakhage AA (2016) Immunoproteomics of *Aspergillus* for the development of biomarkers and immunotherapies. *Proteomics Clin Appl* 10(9-10), 910-921. (Review)

Schieferdecker S, Nett M (2016) A fast and efficient method for the preparation of the

5-lipoxygenase inhibitor myxochelin A. *Tetrahedron Lett* 57, 1359-1360.

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.

Bauer JS, Ghequire MG, Nett M, Josten M, Sahl HG, De Mot R, Gross H (2015) Biosynthetic origin of the antibiotic pseudopyronines A and B in *Pseudomonas putida* BW11M1. *ChemBioChem* 16, 2491-2497.

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