

## Selected publications

### Original articles

Ramírez-Zavala B, Krüger I, Schwanfelder S, Lackner J, Krüger T, Kniemeyer O, **Morschhäuser J** (2026)  
*Inducible gene deletion reveals essentiality of protein kinases and a septation initiation network in Candida albicans*  
**PLoS Genet** 22:e1012118

Agrawal P, Kumar P, Ali B, Nabeela S, Ikeh M, **Morschhäuser J**, Andes DR, Nobile CJ, Prasad R, Uppuluri P, Panwar SL (2026)  
*Lem3, a phospholipid flippase subunit, influences Candida albicans pathogenicity through maintenance of plasma membrane asymmetry*  
**Microbiol Spectr** 14:e0296525

Radakovic N, Plackic N, Djuris J, **Morschhäuser J**, Sovtic A, Basa M, Minic P, Zobi F, Pavic A. (2026)  
*Beyond colonization: Candida albicans exhibits substantial pathogenic potential in cystic fibrosis environments*  
**npj Biofilms Microbiomes** 12:23

Barker KS, Zhang Q, Peters TL, Rybak JM, **Morschhäuser J**, Cuomo CA, Rogers PD (2026)  
*Relative contributions of the ERG11VF125AL and MRR1AN647T mutations to fluconazole resistance in Clade III Candidozyma (Candida) auris clinical isolates*  
**Clin Microbiol Infect** 32:285-291

Freitag A, Günther K, Campillo Prados M, Hochrein SM, Schmitz W, Sinning K, Waldmann H, Zischinsky G, Klebl B, Ohlsen K, **Morschhäuser J**, Werz O, Jordan PM, Vaeth M (2025)  
*Glucose metabolism controls oxidative burst and lipid mediator production in neutrophils upon microbial challenge*  
**µLife** 6:uqaf040

Barker KS, Santana DJ, Zhang Q, Peters TL, Rybak JM, **Morschhäuser J**, Cuomo CA, Rogers PD (2025)  
*Mutations in TAC1B drive increased CDR1 and MDR1 expression and azole resistance in Candida auris*  
*Antimicrob Agents Chemother* 69:e 00300-25

Sharma A, Homayoon A, Weyler M, Frazer C, Ramírez-Zavala B, **Morschhäuser J**, Bennett RJ (2025)  
*Transcriptional control of C. albicans white-opaque switching and modulation by environmental cues and strain background*  
**mBio** 16:e00581-25

Hitzler SUJ, Fernández-Fernández C, Günter K, Dietschmann A, Hovhannisyan H, Möslinger A, Austermeier S, Cristovão B, Vascelli G, Zelante T, Pekmezović M, Ramírez-Zavala B, **Morschhäuser J**, Werz O, Gabaldón T, Jordan PM, Vylkova S, Gresnigt MS (2025)  
*Host albumin redirects Candida albicans metabolism to engage an alternative pathogenicity pathway*  
**Nat Commun** 16:6447

Barker KS, Patterson HP, **Morschhäuser J**, Cuomo CA, Wiederhold NP, Rogers PD (2025)  
*Mutations in transcription factors that confer fluconazole resistance also confer reduced susceptibility to manogepix in Candida auris (Candidozyma auris), Candida albicans, Candida parapsilosis, and Candida glabrata (Nakaseomyces glabratus)*  
**Antimicrob Agents Chemother** 69:e 00680-25

Ramírez-Zavala B, Hoffmann A, Krüger I, Schwanfelder S, Barker KS, Rogers PD, **Morschhäuser J** (2024)  
*Probing gene function in Candida albicans wild-type strains by Cas9-facilitated one-step integration of two dominant selection markers: a systematic analysis of recombination events at the target locus*  
**mSphere** 9:e00388-24

- Ramírez-Zavala B, Krüger I, Schwanfelder S, Barker KS, Rogers PD, **Morschhäuser J** (2024)  
*The zinc cluster transcription factor Znc1 regulates Rta3-dependent miltefosine resistance in Candida albicans*  
**mSphere** 9:e00270-24
- Ramírez-Zavala B, Betsova D, Schwanfelder S, Krüger I, Mottola A, Krüger T, Kniemeyer O, Brakhage AA, **Morschhäuser J** (2023)  
*Multiple phosphorylation sites regulate the activity of the repressor Mig1 in Candida albicans*  
**mSphere** 8:e0054623
- Oneissi M, Cruz MR, Ramírez-Zavala B, Lindemann-Perez E, **Morschhäuser J**, Garsin DA, Perez JC (2023)  
*Host-derived reactive oxygen species trigger activation of the Candida albicans transcription regulator Rtg1/3*  
**PLoS Pathog** 19:e1011692
- Ramírez-Zavala B, Krüger I, Wollner A, Schwanfelder S, **Morschhäuser J** (2023)  
*The Ypk1 protein kinase signaling pathway is rewired and not essential for viability in Candida albicans*  
**PLoS Genet** 19:e1010890
- Doorley LA, Rybak JM, Berkow EL, Zhang Q, **Morschhäuser J**, Rogers PD (2022)  
*Candida parapsilosis Mdr1B and Cdr1B are drivers of Mrr1-mediated clinical fluconazole resistance*  
**Antimicrob Agents Chemother** 66:e0028922
- 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:e1010283
- Omran RP, Ramírez-Zavala B, Tebung WA, Yao S, Feng J, Law C, Dumeaux V, **Morschhäuser J**, Whiteway M (2022)  
*The zinc cluster transcription factor Rha1 is a positive filamentation regulator in Candida albicans*  
**Genetics** 220:iyab155
- Ramírez-Zavala B, Mottola A, Krüger I, **Morschhäuser J** (2021)  
*A suppressor mutation in the  $\beta$ -subunit Kis1 restores functionality of the SNF1 complex in Candida albicans snf4 $\Delta$  mutants*  
**mSphere** 6:e00929-21
- Mottola A, Ramírez-Zavala B, Hünninger K, Kurzai O, **Morschhäuser J** (2021)  
*The zinc cluster transcription factor Czf1 regulates cell wall architecture and integrity in Candida albicans*  
**Mol Microbiol** 116:483-497
- Mottola A, Schwanfelder S, **Morschhäuser J** (2020)  
*Generation of viable Candida albicans mutants lacking the “essential” protein kinase Snf1 by inducible gene deletion*  
**mSphere** 5:e00805-20
- Mayr E-M, Ramírez-Zavala B, Krüger I, **Morschhäuser J** (2020)  
*A zinc cluster transcription factor contributes to the intrinsic fluconazole resistance of Candida auris*  
**mSphere** 5:e00279-20
- 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:e00206-20
- Mottola A, **Morschhäuser J** (2019)  
*An intragenic recombination event generates a Snf4-independent form of the essential protein kinase Snf1 in Candida albicans*  
**mSphere** 4:e00352-19

- Popp C, Ramírez-Zavala B, Schwanfelder S, Krüger I, **Morschhäuser J** (2019)  
*Evolution of fluconazole-resistant Candida albicans strains by drug-induced mating competence and parasexual recombination*  
**mBio** 10:e02740-18
- Ramírez-Zavala B, Manz H, Englert F, Rogers PD, **Morschhäuser J** (2018)  
*A hyperactive form of the zinc cluster transcription factor Stb5 causes YOR1 overexpression and beauvericin resistance in Candida albicans*  
**Antimicrob Agents Chemother** 62:e01655-18
- 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 (2018)  
*Candida albicans-induced epithelial damage mediates translocation through intestinal barriers*  
**mBio** 9:e00915-18
- Hampe IAI, Friedman J, Edgerton M, **Morschhäuser J** (2017)  
*An acquired mechanism of antifungal drug resistance simultaneously enables Candida albicans to escape from intrinsic host defenses*  
**PLoS Pathog** 13:e1006655
- Popp C, Hampe IAI, Hertlein T, Ohlsen K, Rogers PD, **Morschhäuser J** (2017)  
*Competitive fitness of fluconazole-resistant clinical Candida albicans strains*  
**Antimicrob Agents Chemother** 61:e00584-17
- Ramírez-Zavala B, Mottola A, Haubenreißer J, Schneider S, Allert S, Brunke S, Ohlsen K, Hube B, **Morschhäuser J** (2017)  
*The Snf1-activating kinase Sak1 is a key regulator of metabolic adaptation and in vivo fitness of Candida albicans*  
**Mol Microbiol** 104:989-1007
- Ene IV, Lohse MB, Vladu AV, **Morschhäuser J**, Johnson AD, Bennett RJ (2016)  
*Phenotypic profiling reveals that Candida albicans opaque cells represent a metabolically specialized cell state compared to default white cells*  
**mBio** 7:e01269-16
- Lohse MB, Ene IV, Craik VB, Hernday AD, Mancera E, **Morschhäuser J**, Bennett RJ, Johnson AD (2016)  
*Systematic genetic screen for transcriptional regulators of the Candida albicans white-opaque switch*  
**Genetics** 203:1679-1692
- Tebung WA, Choudhury BI, Tebbji F, **Morschhäuser J**, Whiteway M (2016)  
*Rewiring of the Ppr1 zinc cluster transcription factor from purine catabolism to pyrimidine biogenesis in the Saccharomycetaceae*  
**Curr Biol** 26:1677-1687
- Schneider S, **Morschhäuser J** (2015)  
*Induction of Candida albicans drug resistance genes by hybrid zinc cluster transcription factors*  
**Antimicrob Agents Chemother** 59:558-569
- Ramírez-Zavala B, Mogavero S, Schöller E, Sasse C, Rogers PD, **Morschhäuser J** (2014)  
*SAGA/ADA complex subunit Ada2 is required for Cap1-, but not Mrr1-mediated upregulation of the Candida albicans multidrug efflux pump MDR1*  
**Antimicrob Agents Chemother** 58:5102-5110
- Pannanusorn S, Ramírez-Zavala B, Lünsdorf H, Agerbert B, **Morschhäuser J**, Römmling U (2014)  
*Characterization of biofilm formation and the role of BCR1 in clinical isolates of Candida parapsilosis*  
**Eukaryot Cell** 13:438-451

- Ramírez-Zavala B, Weyler M, Gildor T, Schmauch C, Kornitzer D, Arkowitz R, **Morschhäuser J** (2013)  
*Activation of the Cph1-dependent MAP kinase signaling pathway induces white-opaque switching in Candida albicans*  
**PLoS Pathog** 9:e1003696
- Schillig R, **Morschhäuser J** (2013)  
*Analysis of a fungus-specific transcription factor family, the Candida albicans zinc cluster proteins, by artificial activation*  
**Mol Microbiol** 89:1003-1017
- Dunkel N, Hertlein T, Franz R, Reuß O, Sasse C, Schäfer T, Ohlsen T, **Morschhäuser J** (2013)  
*Role of different peptide transporters in nutrient acquisition in Candida albicans*  
**Eukaryot Cell** 12:520-528
- Sasse C, Hasenberg M, Weyler M, Gunzer M, **Morschhäuser J** (2013)  
*White-opaque switching of Candida albicans allows immune evasion in an environment-dependent fashion*  
**Eukaryot Cell** 12:50-58
- Sasse C, Dunkel N, Schäfer T, Schneider S, Dierolf F, Ohlsen K, **Morschhäuser J** (2012)  
*The stepwise acquisition of fluconazole resistance mutations causes a gradual loss of fitness in Candida albicans*  
**Mol Microbiol** 86:539-556
- Sasse C, Schillig R, Reimund A, Merk J, **Morschhäuser J** (2012)  
*Inducible and constitutive activation of two polymorphic promoter alleles of the Candida albicans multidrug efflux pump MDR1*  
**Antimicrob Agents Chemother** 56:4490-4494
- Schubert S, Popp C, Rogers PD, **Morschhäuser J** (2011)  
*Functional dissection of a Candida albicans zinc cluster transcription factor, the multidrug resistance regulator Mrr1*  
**Eukaryot Cell** 10:1110-1121
- Schubert S, Barker KS, Znaidi S, Schneider S, Dierolf F, Dunkel N, Aid M, Boucher G, Rogers PD, Raymond M, **Morschhäuser J** (2011)  
*Regulation of efflux pump expression and drug resistance by the transcription factors Mrr1, Upc2, and Cap1 in Candida albicans*  
**Antimicrob Agents Chemother** 55:2212-2223
- Mogavero S, Tavanti A, Senesi S, Rogers PD, **Morschhäuser J** (2011)  
*Differential requirement of the transcription factor Mcm1 for activation of the Candida albicans multidrug efflux pump MDR1 by its regulators Mrr1 and Cap1*  
**Antimicrob Agents Chemother** 55:2061-2066
- Neuhäuser B, Dunkel N, Satheesh SV, **Morschhäuser J** (2011)  
*Role of the Npr1 kinase in ammonium transport and signaling by the ammonium permease Mep2 in Candida albicans*  
**Eukaryot Cell** 10:332-342
- Dunkel N, **Morschhäuser J** (2011)  
*Loss of heterozygosity at an unlinked genomic locus is responsible for the phenotype of a Candida albicans sap4Δ sap5Δ sap6Δ mutant*  
**Eukaryot Cell** 10:54-62
- Heilmann CJ, Schneider S, Barker KS, Rogers PD, **Morschhäuser J** (2010)  
*An A643T mutation in the transcription factor Upc2p causes constitutive ERG11 upregulation and increased fluconazole resistance in Candida albicans*  
**Antimicrob Agents Chemother** 54:353-359

- Dabas N, Schneider S, **Morschhäuser J** (2009)  
*Mutational analysis of the Candida albicans ammonium permease Mep2p reveals residues required for ammonium transport and signaling*  
**Eukaryot Cell** 8:147-160
- Schubert S, Rogers PD, **Morschhäuser J** (2008)  
*Gain-of-function mutations in the transcription factor MRR1 are responsible for overexpression of the MDR1 efflux pump in fluconazole-resistant Candida dubliniensis strains*  
**Antimicrob Agents Chemother** 52:4274-4280
- Dunkel N, Blass J, Rogers PD, **Morschhäuser J** (2008)  
*Mutations in the multi-drug resistance regulator MRR1, followed by loss of heterozygosity, are the main cause of MDR1 overexpression in fluconazole-resistant Candida albicans strains*  
**Mol Microbiol** 69:827-840
- Dabas N, **Morschhäuser J** (2008)  
*A transcription factor regulatory cascade controls secreted aspartic protease expression in Candida albicans*  
**Mol Microbiol** 69:586-602
- Dunkel N, Liu TT, Barker KS, Homayouni R, **Morschhäuser J**, Rogers PD (2008)  
*A gain-of-function mutation in the transcription factor Upc2p causes upregulation of ergosterol biosynthesis genes and increased fluconazole resistance in a clinical Candida albicans isolate*  
**Eukaryot Cell** 7:1180-1190
- Ramírez-Zavala B, Reuß O, Park Y-N, Ohlsen K, **Morschhäuser J** (2008)  
*Environmental induction of white-opaque switching in Candida albicans*  
**PLoS Pathog** 4:e1000089
- Staib P, Lermann U, Blaß-Warmuth J, Degel B, Würzner R, Monod M, Schirmeister T, **Morschhäuser J** (2008)  
*Tetracycline-inducible expression of individual secreted aspartic proteases in Candida albicans allows isoenzyme-specific inhibitor screening*  
**Antimicrob Agents Chemother** 52:146-156
- Morschhäuser J**, Barker KS, Liu TT, Blaß-Warmuth J, Homayouni R, Rogers PD (2007)  
*The transcription factor Mrr1p controls expression of the MDR1 efflux pump and mediates multidrug resistance in Candida albicans*  
**PLoS Pathog** 3:e164
- Dabas N, **Morschhäuser J** (2007)  
*Control of ammonium permease expression and filamentous growth by the GATA transcription factors GLN3 and GAT1 in Candida albicans*  
**Eukaryot Cell** 6:875-888
- Hiller D, Stahl S, **Morschhäuser J** (2006)  
*Multiple cis-acting sequences mediate upregulation of the MDR1 efflux pump in a fluconazole-resistant clinical Candida albicans isolate*  
**Antimicrob Agents Chemother** 50:2300-2308
- Bader T, Schröppel K, Bentink S, Agabian N, Köhler G, **Morschhäuser J** (2006)  
*Role of calcineurin in stress resistance, morphogenesis, and virulence of a Candida albicans wild-type strain*  
**Infect Immun** 74:4366-4369
- Reuß O, **Morschhäuser J** (2006)  
*A family of oligopeptide transporters is required for growth of Candida albicans on proteins*  
**Mol Microbiol** 60:795-812

- Hiller D, Sanglard D, **Morschhäuser J** (2006)  
*Overexpression of the MDR1 gene is sufficient to confer increased resistance to toxic compounds in Candida albicans*  
**Antimicrob Agents Chemother** 50:1365-1371
- Park Y-N, **Morschhäuser J** (2005)  
*Candida albicans MTL $\alpha$  tup1 $\Delta$  mutants can reversibly switch to mating-competent, filamentous growth forms*  
**Mol Microbiol** 58:1288-1302
- Park Y-N, **Morschhäuser J** (2005)  
*Tetracycline-inducible gene expression and gene deletion in Candida albicans*  
**Eukaryot Cell** 4:1328-1342
- Biswas K, **Morschhäuser J** (2005)  
*The Mep2p ammonium permease controls nitrogen starvation-induced filamentous growth in Candida albicans*  
**Mol Microbiol** 56:649-669
- Staib P, **Morschhäuser J** (2005)  
*Differential expression of the NRG1 repressor controls species-specific regulation of chlamydospore development in Candida albicans and Candida dubliniensis*  
**Mol Microbiol** 55:637-652
- Reuß O, Vik Å, Kolter R, **Morschhäuser J** (2004)  
*The SAT1 flipper, an optimized tool for gene disruption in Candida albicans*  
**Gene** 341:119-127
- Staib P, Binder A, Kretschmar M, Nichterlein T, Schröppel K, **Morschhäuser J** (2004)  
*Tec1p-independent activation of a hypha-associated Candida albicans virulence gene during infection*  
**Infect Immun** 72:2386-2389
- Bader T, Bodendorfer B, Schröppel K, **Morschhäuser J** (2003)  
*Calcineurin is essential for virulence in Candida albicans*  
**Infect Immun** 71:5344-5354
- Michel S, Ushinsky S, Klebl B, Leberer E, Thomas D, Whiteway M, **Morschhäuser J** (2002)  
*Generation of conditional lethal Candida albicans mutants by inducible deletion of essential genes*  
**Mol Microbiol** 46:269-280
- Staib P, Kretschmar M, Nichterlein T, Hof H, **Morschhäuser J** (2002)  
*Host versus in vitro signals and intrastrain allelic differences in the expression of a Candida albicans virulence gene*  
**Mol Microbiol** 44:1351-1366
- Staib P, Kretschmar M, Nichterlein T, Hof H, **Morschhäuser J** (2002)  
*Transcriptional regulators Cph1p and Efg1p mediate activation of the Candida albicans virulence gene SAP5 during infection*  
**Infect Immun** 70:921-927
- Wirsching S, Moran GP, Sullivan DJ, Coleman DC, **Morschhäuser J** (2001)  
*MDR1-mediated drug resistance in Candida dubliniensis*  
**Antimicrob Agents Chemother** 45:3416-3421
- Strauß A, Michel S, **Morschhäuser J** (2001)  
*Analysis of phase-specific gene expression at the single-cell level in the white-opaque switching system of Candida albicans*  
**J Bacteriol** 183:3761-3769

Staib P, Moran GP, Sullivan DJ, Coleman DC, **Morschhäuser J** (2001)  
*Isogenic strain construction and gene targeting in Candida dubliniensis*  
**J Bacteriol** 183:2859-2865

Wirsching S, Michel S, **Morschhäuser J** (2000)  
*Targeted gene disruption in Candida albicans wild-type strains: the role of the MDR1 gene in fluconazole resistance of clinical Candida albicans isolates*  
**Mol Microbiol** 36:856-865

Staib P, Kretschmar M, Nichterlein T, Hof H, **Morschhäuser J** (2000)  
*Differential activation of a Candida albicans virulence gene family during infection*  
**Proc Natl Acad Sci U S A** 97:6102-6107

Wirsching S, Michel S, Köhler G, **Morschhäuser J** (2000)  
*Activation of the multiple drug resistance gene MDR1 in fluconazole-resistant, clinical Candida albicans strains is caused by mutations in a trans-regulatory factor*  
**J Bacteriol** 182:400-404

**Morschhäuser J**, Michel S, Staib P (1999)  
*Sequential gene disruption in Candida albicans by FLP-mediated site-specific recombination*  
**Mol Microbiol** 32:547-556

Staib P, Kretschmar M, Nichterlein T, Köhler G, Michel S, Hof H, Hacker J, **Morschhäuser J** (1999)  
*Host-induced, stage-specific virulence gene activation in Candida albicans during infection*  
**Mol Microbiol** 32:533-546

Franz R, Kelly SL, Lamb DC, Kelly DE, Ruhnke M, **Morschhäuser J** (1998)  
*Multiple molecular mechanisms contribute to a stepwise development of fluconazole resistance in clinical Candida albicans strains*  
**Antimicrob Agents Chemother** 42:3065-3072

## Review articles

**Morschhäuser J** (2024)

*Adaptation of Candida albicans to specific host environments by gain-of-function mutations in transcription factors.*  
**PLoS Pathog** 20:e1012643.

**Morschhäuser J** (2016)

*The development of fluconazole resistance in Candida albicans - an example of microevolution of a fungal pathogen*  
**J Microbiol** 54:192-201

**Morschhäuser J** (2010)

*Regulation of white-opaque switching in Candida albicans*  
**Med Microbiol Immunol** 199:165-172

**Morschhäuser J** (2010)

*Regulation of multidrug resistance in pathogenic fungi*  
**Fungal Genet Biol** 47:94-106