

Table S1: Strains and plasmids used in this study

Strain	Lab #	Species	Parent	Relevant Characteristics or Genotype	Source
Fungal Strains					
U04 (A04)	DH2949	<i>C. lusitaniae</i>		Clinical isolate, FLZ-resistant, <i>MRR1</i> ^{Y813C}	(1, 2)
U04 <i>mrr1</i> Δ	DH3306	<i>C. lusitaniae</i>	U04	<i>mrr1</i> Δ:: <i>NAT1</i>	(2)
U04 <i>mrr1</i> Δ + <i>MRR1</i> ^{Y813C} (Y8)	DH3613	<i>C. lusitaniae</i>	U04 <i>mrr1</i> Δ	<i>MRR1</i> ^{Y813C} - <i>HygB</i>	This study
U04 <i>mrr1</i> Δ + <i>MRR1</i> ^{L1191H+Q1197*} (L1Q1*)	DH3628	<i>C. lusitaniae</i>	U04 <i>mrr1</i> Δ	<i>MRR1</i> ^{L1191H+Q1197*} - <i>HygB</i>	This study
U05	DH3087	<i>C. lusitaniae</i>		Clinical isolate, FLZ-susceptible, <i>MRR1</i> ^{L1191H+Q1197*}	(2)
L14	DH3088	<i>C. lusitaniae</i>		Clinical isolate, FLZ-susceptible, <i>MRR1</i> ^{L1191H+Q1197*}	(2)
L17	DH3101	<i>C. lusitaniae</i>		Clinical isolate, FLZ-resistant, <i>MRR1</i> ^{H467L}	(2)
L17 <i>mrr1</i> Δ	DH3110	<i>C. lusitaniae</i>	L17	<i>mrr1</i> Δ:: <i>NAT1</i>	(2)
L17 <i>cap1</i> Δ	DH3720	<i>C. lusitaniae</i>	L17	<i>cap1</i> Δ:: <i>NAT1</i>	This study
L17 <i>mgd1</i> Δ	DH3724	<i>C. lusitaniae</i>	L17	<i>mgd1</i> Δ:: <i>NAT1</i>	This study
L17 <i>mgd2</i> Δ	DH3726	<i>C. lusitaniae</i>	L17	<i>mgd2</i> Δ:: <i>NAT1</i>	This study
S18	DH3102	<i>C. lusitaniae</i>		Clinical isolate, FLZ-resistant, <i>MRR1</i> ^{H467L}	(2)
S18 <i>mrr1</i> Δ	DH3718	<i>C. lusitaniae</i>	S18	<i>mrr1</i> Δ:: <i>NAT1</i>	This study
S18 <i>cap1</i> Δ	DH3719	<i>C. lusitaniae</i>	S18	<i>cap1</i> Δ:: <i>HygB</i>	This study
S18 <i>mrr1</i> Δ/ <i>cap1</i> Δ	DH3721	<i>C. lusitaniae</i>	S18 <i>cap1</i> Δ	<i>cap1</i> Δ:: <i>HygB</i> / <i>mrr1</i> Δ:: <i>NAT1</i>	This study
S18 <i>mdr1</i> Δ	DH3722	<i>C. lusitaniae</i>	S18	<i>mdr1</i> Δ:: <i>HygB</i>	This study
S18 <i>mgd1</i> Δ	DH3723	<i>C. lusitaniae</i>	S18	<i>mgd1</i> Δ:: <i>NAT1</i>	This study
S18 <i>mgd2</i> Δ	DH3725	<i>C. lusitaniae</i>	S18	<i>mgd2</i> Δ:: <i>HygB</i>	This study
S18 <i>mgd1</i> Δ/ <i>mgd2</i> Δ	DH3727	<i>C. lusitaniae</i>	S18 <i>mgd1</i> Δ	<i>mgd1</i> Δ:: <i>NAT1</i> / <i>mgd2</i> Δ:: <i>HygB</i>	This study
S18 <i>glo1</i> Δ	DH3728	<i>C. lusitaniae</i>	S18	<i>glo1</i> Δ:: <i>NAT1</i>	This study
SC5314	DH35	<i>C. albicans</i>		Wild-type <i>C. albicans</i> lab strain	(3)
F2	DH3550	<i>C. albicans</i>		Clinical isolate, FLZ-susceptible	(4)
F5	DH3551	<i>C. albicans</i>		Clinical isolate, FLZ-resistant	(4)
Wü284	DH2178	<i>C. dubliniensis</i>		Clinical isolate	(5)
CM1	DH3575	<i>C. dubliniensis</i>		Clinical isolate, FLZ-susceptible	(6)
CM2	DH3576	<i>C. dubliniensis</i>		Clinical isolate, FLZ-resistant	(6)
RC-601	DH1989	<i>C. parapsilosis</i>		Clinical isolate	(7)
JB6	DH3595	<i>C. parapsilosis</i>		CLIB24 <i>mrr1</i> Δ + <i>MRR1</i> ^{Q1064P}	(8)
JB12	DH3596	<i>C. parapsilosis</i>		CLIB24 <i>mrr1</i> Δ + <i>MRR1</i> ^{K873N}	(8)
ATCC 6260 (RC-401)	DH1984	<i>C. guilliermondii</i>		Clinical isolate	(7)

RC-201	DH1986	<i>C. glabrata</i>	Clinical isolate	(7)
ATCC 2001	DH2788	<i>C. glabrata</i>	Clinical isolate	(9)
CAU-01	DH2768	<i>C. auris</i>	Clinical isolate	(10)
CAU-02	DH2769	<i>C. auris</i>	Clinical isolate	(10)
CAU-03	DH2770	<i>C. auris</i>	Clinical isolate	(10)
CAU-04	DH2771	<i>C. auris</i>	Clinical isolate	(10)
CAU-05	DH2772	<i>C. auris</i>	Clinical isolate	(10)
Y533	DH1981	<i>C. lusitaniae</i>	Clinical isolate	(11)
RC-301	DH1987	<i>C. lusitaniae</i>	Clinical isolate	(7)

UCDFST 80-11	DH3119	<i>C. lusitaniae</i>	Environmental isolate	Phaff Yeast Culture Collection, University of California, Davis*
UCDFST 80-11	DH3120	<i>C. lusitaniae</i>	Environmental isolate	Phaff Yeast Culture Collection, University of California, Davis*

Plasmids in *E. coli* (DH5 α)

pMQ30 ^{MRR1-L1191H+Q1197*}	DH3829	<i>E. coli</i>	<i>MRR1</i> ^{L1191H+Q1197*} - <i>HygB</i> complementation, Gent ^R	This study
pMQ30 ^{MRR1-Y813C}	DH3831	<i>E. coli</i>	<i>MRR1</i> ^{Y813C} - <i>HygB</i> complementation, Gent ^R	This study
pNAT	DH2664	<i>E. coli</i>	TEF1p- <i>NAT1</i> , Amp/Carb ^R	(12)
pYM70	DH3352	<i>E. coli</i>	TEF2p- <i>HygB</i> , Amp/Carb ^R	(13)
pGEM- <i>URA3</i>	DH3316	<i>E. coli</i>	pGEM-T (Promega) containing <i>CaURA3</i> , Gent ^R	(14)
pMQ30	DH2620	<i>E. coli</i>	Plasmid that replicates in <i>S. cerevisiae</i> and <i>E. coli</i> , using uracil or gentamycin selection, respectively	(15)

^aUCDFST, Phaff Yeast Culture Collection, Food Science and Technology, University of California

Davis; ATCC, American Type Culture Collection.

References

1. Grahl N, Demers EG, Crocker AW, Hogan DA. Use of RNA-protein complexes for genome editing in non-albicans *Candida* species. *mSphere*. 2017;2(3).
2. Demers EG, Biermann AR, Masonjones S, Crocker AW, Ashare A, Stajich JE, et al. Evolution of drug resistance in an antifungal-naive chronic *Candida lusitaniae* infection. *Proc Natl Acad Sci U S A*. 2018;115(47):12040-5.
3. Gillum AM, Tsay EYH, Kirsch DR. Isolation of the *Candida-Albicans* gene for orotidine-5'-phosphate decarboxylase by complementation of *S. Cerevisiae* Ura3 and *Escherichia Coli* Pyr^r mutations. *Mol Gen Genet*. 1984;198(1):179-82.

4. Franz R, Kelly SL, Lamb DC, Kelly DE, Ruhnke M, Morschhauser J. Multiple molecular mechanisms contribute to a stepwise development of fluconazole resistance in clinical *Candida albicans* strains. *Antimicrob Agents Chemother.* 1998;42(12):3065-72.
5. Morschhauser J, Ruhnke M, Michel S, Hacker J. Identification of CARE-2-negative *Candida albicans* isolates as *Candida dubliniensis*. *Mycoses.* 1999;42(1-2):29-32.
6. Moran GP, Sullivan DJ, Henman MC, McCreary CE, Harrington BJ, Shanley DB, et al. Antifungal drug susceptibilities of oral *Candida dubliniensis* isolates from human immunodeficiency virus (HIV)-infected and non-HIV-infected subjects and generation of stable fluconazole-resistant derivatives in vitro. *Antimicrob Agents Chemother.* 1997;41(3):617-23.
7. Alex D, Gay-Andrieu F, May J, Thampi L, Dou DF, Mooney A, et al. Amino acid-derived 1,2-benzisothiazolinone derivatives as novel small-molecule antifungal inhibitors: identification of potential genetic targets. *Antimicrob Agents Ch.* 2012;56(9):4630-9.
8. Branco J, Silva AP, Silva RM, Silva-Dias A, Pina-Vaz C, Butler G, et al. Fluconazole and voriconazole resistance in *Candida parapsilosis* is conferred by gain-of-function mutations in *MRR1* transcription factor gene. *Antimicrob Agents Chemother.* 2015;59(10):6629-33.
9. Gregori C, Schueller C, Roetzer A, Schwarzmuller T, Ammerer G, Kuchler K. The high-osmolarity glycerol response pathway in the human fungal pathogen *Candida glabrata* strain ATCC 2001 lacks a signaling branch that operates in baker's yeast. *Eukaryotic Cell.* 2007;6(9):1635-45.
10. Pathirana RU, Friedman J, Norris HL, Salvatori O, McCall AD, Kay J, et al. Fluconazole-resistant *Candida auris* is susceptible to salivary histatin 5 killing and to intrinsic host defenses. *Antimicrob Agents Ch.* 2018;62(2).
11. Rex JH, Cooper CR, Jr., Merz WG, Galgiani JN, Anaissie EJ. Detection of amphotericin B-resistant *Candida* isolates in a broth-based system. *Antimicrob Agents Chemother.* 1995;39(4):906-9.
12. Min K, Ichikawa Y, Woolford CA, Mitchell AP. *Candida albicans* Gene Deletion with a Transient CRISPR-Cas9 System. *mSphere.* 2016;1(3).
13. Basso LR, Jr., Bartiss A, Mao Y, Gast CE, Coelho PS, Snyder M, et al. Transformation of *Candida albicans* with a synthetic hygromycin B resistance gene. *Yeast.* 2010;27(12):1039-48.
14. Wilson RB, Davis D, Mitchell AP. Rapid hypothesis testing with *Candida albicans* through gene disruption with short homology regions. *J Bacteriol.* 1999;181(6):1868-74.
15. Shanks RM, Caiazza NC, Hinsa SM, Toutain CM, O'Toole GA. *Saccharomyces cerevisiae*-based molecular tool kit for manipulation of genes from gram-negative bacteria. *Appl Environ Microbiol.* 2006;72(7):5027-36.

*Available at <https://phaffcollection.ucdavis.edu>