**Supplementary Table 1. A Summary of CRISPR Use In Pathogenic *Candida* spp.**

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| **Organism** | **Relevance** | **Gene** | **Technique** | **Discovery** | **Reference** |
| *C. albicans* | Pathobiology | *SNF1* | HDR K81R mutation | Hyphal formation inhibited | [(Vyas et al., 2015)](https://paperpile.com/c/CEBw8c/pfPm) |
| *C. albicans* | Pathobiology | *UME6* | HDR to insert premature STOP codons | Hyphal formation inhibited  Virulence in a larvae model reduced | [(Evans et al., 2018)](https://paperpile.com/c/CEBw8c/CkGo) |
| *C. albicans* | Pathobiology | *HXL1/HXL2*  *HXK1/GLK1/GLK4* | HDR-coupled with CRISPR recycling to knockout multiple genes | Biofilm formation impaired  Virulence in a murine model reduced | [(Wijnants et al., 2020)](https://paperpile.com/c/CEBw8c/D3ij7) |
| *C. albicans* | Pathobiology | *HXK2/GLK1/GLK4* | HDR-coupled with CRISPR recycling to knockout multiple genes | Adhesion reduced  Avirulent in a murine model | [(Wijnants et al., 2020)](https://paperpile.com/c/CEBw8c/D3ij7) |
| *C. albicans* | Pathobiology | *HXK1/HXK2/GLK1/GLK4* | HDR-coupled with CRISPR recycling to knockout multiple genes | Adhesion reduced    Biofilm formation impaired    Avirulent in a murine model | [(Wijnants et al., 2020)](https://paperpile.com/c/CEBw8c/D3ij7) |
| *C. albicans* | Pathobiology | *BRG1/UME6/CAK1-*DX | HDR-guided *NAT* cassette replacement of the gene | Retained biofilm competency  Retained hyphal formation competency | [(Woolford et al., 2016)](https://paperpile.com/c/CEBw8c/Oi42K) |
| *C. albicans* | Pathobiology | 12 adhesin genes multiplexed to generate 144 mutants | HDR-guided gene-drive array replacement | Biofilm formation on a variety of medical-grade material reduced overall | [(Shapiro et al., 2018)](https://paperpile.com/c/CEBw8c/800lv) |
| *C. albicans* | Pathobiology | *RIM101* | HDR-guided *NAT* cassette replacement of the gene | Elucidated genes under the pH-dependent control of *Rim101*  Validated that the cAMP pathway can also respond to pH change despite the absence of *Rim101* | [(Hollomon et al., 2016)](https://paperpile.com/c/CEBw8c/vD3UV) |
| *C. albicans* | Pathobiology | *UME6* | HDR S436A mutation | Identified a critical phosphorylation site required for hyphal growth under hypoxia | [(Lu et al., 2019)](https://paperpile.com/c/CEBw8c/KOkyz) |
| *C. albicans* | Pathobiology | *RAD23* | HDR-guided *HIS3* cassette replacement of the gene | Biofilm formation increased  Virulence in murine model reduced  Survival in macrophages reduced  Virulence associated genes *CEF3*, *RBT4*, and *SUN41* were downregulated | [(Feng et al., 2020b)](https://paperpile.com/c/CEBw8c/cY81u) |
| *C. albicans* | Pathobiology | *RAD4* | HDR-guided *HIS3* cassette replacement of the gene | Biofilm formation increased  Virulence associated genes *CEF3* and *RBT4* were downregulated  Virulence associated gene *SUN41* was upregulated | [(Feng et al., 2020b)](https://paperpile.com/c/CEBw8c/cY81u) |
| *C. albicans* | Pathobiology | *NGS1/HXK1* | HDR-guided *NAT* cassette replacement of the gene | Hyphal formation inhibited | [(Naseem et al., 2017)](https://paperpile.com/c/CEBw8c/VUTou) |
| *C. albicans* | Pathobiology | *MIG1* | HDR-guided *NAT* cassette replacement of the gene | Hyphal formation slightly inhibited | [(Lagree et al., 2020)](https://paperpile.com/c/CEBw8c/SDkdo) |
| *C. albicans* | Pathobiology | *MIG1/MIG2* | HDR-guided *NAT* cassette replacement of the gene | Hyphal formation inhibited  Biofilm formation reduced | [(Lagree et al., 2020)](https://paperpile.com/c/CEBw8c/SDkdo) |
| *C. albicans* | Pathobiology | *NDT80* | HDR-coupled with CRISPR recycling to knockout multiple genes | Hyphal formation and cell separation when grown on serum and GlcNAc were defective | [(Min et al., 2018)](https://paperpile.com/c/CEBw8c/FSuug) |
| *C. albicans* | Pathobiology | *RON1* | HDR-coupled with CRISPR recycling to knockout multiple genes | Hyphal formation unimpacted | [(Min et al., 2018)](https://paperpile.com/c/CEBw8c/FSuug) |
| *C. albicans* | Pathobiology | *NDT80/RON1* | HDR-coupled with CRISPR recycling to knockout multiple genes | Hyphal formation and cell separation when grown on serum were defective  Hyphal formation on GlcNAc was slightly defective | [(Min et al., 2018)](https://paperpile.com/c/CEBw8c/FSuug) |
| *C. albicans* | Pathobiology | *NDT80/RON1/REP1* | HDR-coupled with CRISPR recycling to knockout multiple genes | Hyphal formation and cell separation when grown on serum and GlcNAc were defective | [(Min et al., 2018)](https://paperpile.com/c/CEBw8c/FSuug) |
| *C. albicans* | Pathobiology | *HGC1* | HDR-guided *NAT* cassette replacement of the gene | *UME6* was degraded at a slower rate  *UME6* expression was reduced | [(Mendelsohn et al., 2017)](https://paperpile.com/c/CEBw8c/uGOew) |
| *C. albicans* | Pathobiology | *PUT1*  *PUT2*  *PUT3*  *PUT1/PUT2* | HDR-guided *NAT* cassette replacement of the gene | Hyphal formation inhibited | [(Silao et al., 2019)](https://paperpile.com/c/CEBw8c/rGNi1) |
| *C. albicans* | Pathobiology | *BRG1/EFG1* | HDR with CRISPR and *NAT* marker recycling | Biofilm formation inhibited across multiple *Candida albicans* clinical isolates  Hyphal formation inhibited | [(Huang et al., 2019b)](https://paperpile.com/c/CEBw8c/Ftksw) |
| *C. albicans* | Pathobiology | *UME6/BCR1* | HDR-coupled with CRISPR and NAT marker recycling | Various degrees of biofilm and hyphal inhibition across multiple *Candida albicans* clinical isolates | [(Huang et al., 2019b)](https://paperpile.com/c/CEBw8c/Ftksw) |
| *C. albicans* | Pathobiology | *HSF1* | HDR-guided TetO cassette replacement of the promoter  This is to cause overexpression when not Tet is added or repression when Tet is added | In both cases, filamentation occurred in the absence of any inducing cues | [(Veri et al., 2018)](https://paperpile.com/c/CEBw8c/sZCqc) |
| *C. albicans* | Pathobiology | *HHT2/HHT21* | HDR-guided *NAT* cassette replacement of the gene | Viable however, doubling time significantly increased  Cell morphology elongated | [(Rai et al., 2019)](https://paperpile.com/c/CEBw8c/zzRF5) |
| *C. albicans* | Pathobiology | *Combinatorial deletion of STP2, JEN1, JEN2, HXK1, NAG1, and DAC1* | HDR-guided *SAT* cassette replacement of the gene | Cell wall morphology altered  Filamentation slightly inhibited    Survival in macrophages decreased  Virulence in murine model reduced | [(Williams and Lorenz, 2020)](https://paperpile.com/c/CEBw8c/hixrN) |
| *C. glabrata* | Pathobiology | *YPS11* | NHEJ to create premature STOP codons | Cell wall composition unaffected  Doubling time increased  Virulence in Drosophila model reduced | [(Enkler et al., 2016)](https://paperpile.com/c/CEBw8c/iZ4XV) |
| *C. glabrata* | Pathobiology | *VPK1* | NHEJ to create premature STOP codons and HDR to insert a *HIS3* cassette | Cell wall composition unaffected  Virulence in Drosophila model reduced | [(Enkler et al., 2016)](https://paperpile.com/c/CEBw8c/iZ4XV) |
| *C. parapsilosis* | Pathobiology | *ALS4770* | HDR-guided repair that introduces a premature STOP codon | Biofilm formation reduced  Adherence to human cells reduced  Colonization in vaginal murine model reduced | [(Zoppo et al., 2020)](https://paperpile.com/c/CEBw8c/rYBkW) |
| *C. parapsilosis* | Pathobiology | *ALS4780* | HDR-guided repair that introduces a premature STOP codon | Colonization in vaginal murine model reduced | [(Zoppo et al., 2020)](https://paperpile.com/c/CEBw8c/rYBkW) |
| *C. parapsilosis* | Pathobiology | *ALS4770/ALS4780* | HDR-guided repair that introduces premature STOP codons | Morphology is elongated despite the absence of inducing cues  Biofilm formation enhanced  Adherence to human cells increased  Colonization in vaginal murine model reduced | [(Zoppo et al., 2020)](https://paperpile.com/c/CEBw8c/rYBkW) |
| *C. orthopsilosis* | Pathobiology | *ALS4210* | HDR-guided NAT cassette replacement of the gene | Reduced adherence to human cells | [(Zoppo et al., 2018)](https://paperpile.com/c/CEBw8c/HKQir) |
| *C. orthopsilosis* | Pathobiology | *ALS800/ALS4210/ALS4220* | HDR-guided repair that introduces premature STOP codons | Filamentation inhibited  Reduced adherence to human cells | [(Zoppo et al., 2019)](https://paperpile.com/c/CEBw8c/R9XLS) |
| *C. auris* | Pathobiology | *ALS3* homologues*:*  *PIS50650.1*  *PIS50263.1*  *XP\_018167572.2* | HDR-guided *NAT* cassette replacement of the gene | Binding to anti-Als3p IgG antibodies reduced | [(Singh et al., 2019)](https://paperpile.com/c/CEBw8c/ISUbc) |
| *C. auris* | Pathobiology | *HSP90* | HDR-guided TetO cassette replacement of the promoter  This is to cause overexpression when not Tet is added or repression when Tet is added | Filamentous growth when gene is repressed | [(Kim et al., 2019)](https://paperpile.com/c/CEBw8c/tvbMO) |

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| **Organism** | **Relevance** | **Gene** | **Technique** | **Discovery** | **Reference** |
| *C. albicans* | Drug Response | *CDR1/CDR2* | HDR-guided repair that introduces a premature STOP codon | Increased fluconazole sensitivity | [(Vyas et al., 2015)](https://paperpile.com/c/CEBw8c/pfPm) |
| *C. albicans* | Drug Response | *MIG1* | HDR-guided *NAT* cassette replacement of the gene | Increased caspofungin sensitivity | [(Lagree et al., 2020)](https://paperpile.com/c/CEBw8c/SDkdo) |
| *C. albicans* | Drug Response | *MIG1/MIG2* | HDR-guided *NAT* cassette replacement of the gene | Caspofungin hypersensitivity | [(Lagree et al., 2020)](https://paperpile.com/c/CEBw8c/SDkdo) |
| *C. albicans* | Drug Response | *NDT80/RON1/REP1* | HDR with CRISPR recycling to knockout multiple genes | Increased amphotericin B sensitivity  Fungal tolerance to fluconazole abolished | [(Min et al., 2018)](https://paperpile.com/c/CEBw8c/FSuug) |
| *C. albicans* | Drug Response | 10 efflux genes multiplexed to generate 100 mutants | HDR-guided gene-drive array replacement | Overall increased susceptibility to a variety of antifungal agents | [(Shapiro et al., 2018)](https://paperpile.com/c/CEBw8c/800lv) |
| *C. albicans* | Drug Response | *PAA11* | HDR-guided repair that introduces a premature STOP codon | Increased fluconazole and posaconazole sensitivity | [(Chen et al., 2018)](https://paperpile.com/c/CEBw8c/cwxQo) |
| *C. albicans* | Drug Response | *CDR1* | HDR-guided *SAT* cassette replacement of the gene | Increased fluconazole sensitivity  *CDR2* and *RTA3* contributed to fluconazole resistance independently of the *Tac1*-Mediator Tail complex | [(Liu and Myers, 2017b)](https://paperpile.com/c/CEBw8c/kZEWx) |
| *C. albicans* | Drug Response | *MDR1* | HDR-guided *SAT* cassette replacement of the gene | Increased fluconazole sensitivity  *MRR1* increased fluconazole resistance by acting on factors other than *MDR1*  Fluconazole resistance emerged independently of the kinase, *SSN3*, and the chromatin remodeler *SNF2* | [(Liu and Myers, 2017a)](https://paperpile.com/c/CEBw8c/tBaI4) |
| *C. albicans* | Drug Response | *MRR2* | DSB at the *ADH1* locus to allow for HDR for gene insertion of *MRR2* variants | The variable contribution of different *MRR2* mutations from clinical isolates as they contribute to azole resistance | [(Nishimoto et al., 2019)](https://paperpile.com/c/CEBw8c/1FAUz) |
| *C. albicans* | Drug Response | *FKS1* | HDR guided repair to generate S645P mutations | Increased susceptibility to caspofungin  Decreased susceptibility to poacic acid | [(Lee et al., 2018)](https://paperpile.com/c/CEBw8c/Hgp4A) |
| *C. albicans* | Drug Response | *CDC8* | HDR resulting in the 36 bp deletion of the Ca-loop | Increased susceptibility to fluoropyrimidines  Increased susceptibility to amphotericin B | [(Huang et al., 2019a)](https://paperpile.com/c/CEBw8c/a46dk) |
| *C. albicans* | Drug Response | *RHO1* | HDR-guided repair to generate L198A mutation | Increased susceptibility to caspofungin | [(Sun et al., 2020)](https://paperpile.com/c/CEBw8c/69R8G) |
| *C. albicans* | Drug Response | *FKS1* | HDR-guided repair to generate F641S/S645F mutation | Decreased susceptibility to caspofungin, which is restored when treated with L-269289  Increased survival of murine models when treated with caspofungin and L-269289 | [(Sun et al., 2020)](https://paperpile.com/c/CEBw8c/69R8G) |
| *C. orthopsilosis* | Drug Response | *ZCF29* | HDR-guided repair that introduces a premature STOP codon | Increased susceptibility to caffeine  Increased susceptibility to ketoconazole | [(de San Vicente et al., 2019)](https://paperpile.com/c/CEBw8c/1plUg) |
| *C. orthopsilosis* | Drug Response | *ERG11* | HDR-guided repair to generate G458S mutation | Decreased susceptibility to fluconazole in a previously azole-sensitive isolate  Decreased susceptibility to voriconazole in a previously azole-sensitive isolate | [(Morio et al., 2019)](https://paperpile.com/c/CEBw8c/Cf31l) |
| *C. auris* | Drug Response | *CDR1* | HDR-guided *SAT* cassette replacement of the gene | Increased susceptibility to a variety of azoles | [(Rybak et al., 2019)](https://paperpile.com/c/CEBw8c/EEWfV) |
| *C. auris* | Drug Response | *MDR1* | HDR-guided *SAT* cassette replacement of the gene | Slight increased susceptibility to a variety of azoles | [(Rybak et al., 2019)](https://paperpile.com/c/CEBw8c/EEWfV) |
| *C. auris* | Drug Response | *TAC1B* | HDR-guided repair to generate A640V mutation | Increased resistance to fluconazole, mediated by an overexpression of *CDR1* | [(Rybak et al., 2020)](https://paperpile.com/c/CEBw8c/yjoBR) |
| *C. auris* | Drug Response | *HSP90* | HDR-guided TetO cassette replacement of the promoter  This is to cause overexpression when not Tet is added or repression when Tet is added | Increased susceptibility to fluconazole when *HSP90* is repressed | [(Kim et al., 2019)](https://paperpile.com/c/CEBw8c/tvbMO) |
| *C, glabrata* | Drug Response | *FKS2* | HDR-guided repair to generate E665K mutation | Reduced susceptibility to echinocandins | [(Hou et al., 2019)](https://paperpile.com/c/CEBw8c/PBeEM) |
| *C, glabrata* | Drug Response | *GWT1* | HDR-guided repair to generate V163A mutation | Reduced susceptibility to Manogepix | [(Kapoor et al., 2019)](https://paperpile.com/c/CEBw8c/DYaC0) |
| *C lusitaniae* | Drug Response | *MRR1* | HDR-guided *SAT* cassette replacement of the gene | Increased fluconazole susceptibility in drug-resistant isolate  Increased 5-fluorocytosine susceptibility in drug-resistant isolate  Decreased transcript levels of *MFS7* indicate involvement in gene regulation | [(Kannan et al., 2019)](https://paperpile.com/c/CEBw8c/6wvKE) |
| *C lusitaniae* | Drug Response | *MRR1* | HDR-guided repair to generate V668G mutation | Increased fluconazole resistance in fluconazole-susceptible strain  Increased 5-fluorocytosine resistance in 5-fluorocytosine-susceptible strain | [(Kannan et al., 2019)](https://paperpile.com/c/CEBw8c/6wvKE) |
| *C lusitaniae* | Drug Response | *MFS7* | HDR-guided *SAT* cassette replacement of the gene | Increased fluconazole susceptibility in drug-resistant isolate  Increased 5-fluorocytosine susceptibility in drug-resistant isolate | [(Kannan et al., 2019)](https://paperpile.com/c/CEBw8c/6wvKE) |
| *C lusitaniae* | Drug Response | *ERG3* | HDR-guided *ERG3* restoration | Restored amphotericin B susceptibility to wild-type levels | [(Kannan et al., 2019)](https://paperpile.com/c/CEBw8c/6wvKE) |
| *C lusitaniae* | Drug Response | *ERG4* | HDR-guided *ERG4* restoration | Restored amphotericin B susceptibility to wild-type levels | [(Kannan et al., 2019)](https://paperpile.com/c/CEBw8c/6wvKE) |
| *C. tropicalis* | Drug Response | *CDC43* | HDR-guided repair that introduces a premature STOP codon | Increased susceptibility to caspofungin | [(Sun et al., 2020)](https://paperpile.com/c/CEBw8c/69R8G) |
| *C. parapsilosis* | Drug Response | *CDC43* | HDR-guided repair that introduces a premature STOP codon | Increased susceptibility to caspofungin | [(Sun et al., 2020)](https://paperpile.com/c/CEBw8c/69R8G) |

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| **Organism** | **Relevance** | **Gene** | **Technique** | **Discovery** | **Reference** |
| *C. albicans* | General Biology | *SNF1* | HDR K81R mutation | Colonies presented wrinkled morphology  Growth on maltose inhibited  Increased cold sensitivity | [(Vyas et al., 2015)](https://paperpile.com/c/CEBw8c/pfPm) |
| *C. albicans* | General Biology | *SNF1* | HDR-guided *MAL2* cassette insertion of the promoter  This causes expression of the gene only on maltose media | Verified that *SNF1* is an essential gene | [(Vyas et al., 2015)](https://paperpile.com/c/CEBw8c/pfPm) |
| *C. albicans* | General Biology | *DCR1* | HDR-guided repair that introduces a premature STOP codon | Growth at 16°C inhibited | [(Vyas et al., 2015)](https://paperpile.com/c/CEBw8c/pfPm) |
| *C. albicans* | General Biology | *HXL1/HXL2* | HDR with CRISPR recycling to knockout multiple genes | Glucose phosphorylation reduced  Growth on fructose media inhibited  Growth in glucose media slightly reduced | [(Wijnants et al., 2020)](https://paperpile.com/c/CEBw8c/D3ij7) |
| *C. albicans* | General Biology | *HXK2*  *GLK1*  *GLK4* | HDR with CRISPR recycling to knockout multiple genes | Glucose phosphorylation reduced  Growth in glucose media reduced | [(Wijnants et al., 2020)](https://paperpile.com/c/CEBw8c/D3ij7) |
| *C. albicans* | General Biology | *HXK2/GLK1/GLK4*  *HXK1/HXK2/GLK1/GLK4* | HDR with CRISPR recycling to knockout multiple genes | Glucose phosphorylation inhibited  Growth on glucose media inhibited | [(Wijnants et al., 2020)](https://paperpile.com/c/CEBw8c/D3ij7) |
| *C. albicans* | General Biology | *RAD23* | HDR-guided *HIS3* cassette replacement of the genes | Nuclear segregation decreased  Genome stability reduced  Sensitivity to UV increased | [(Feng et al., 2020b)](https://paperpile.com/c/CEBw8c/cY81u) |
| *C. albicans* | General Biology | *RAD23* | HDR-guided *MET3* cassette replacement of the promoter  This causes gene overexpression | Sensitivity to UV increased | [(Feng et al., 2020b)](https://paperpile.com/c/CEBw8c/cY81u) |
| *C. albicans* | General Biology | *NGS1/HXK1* | HDR-guided *NAT* cassette replacement of the gene | Growth on GlcNAc permitted | [(Naseem et al., 2017)](https://paperpile.com/c/CEBw8c/VUTou) |
| *C. albicans* | General Biology | *MIG1/MIG2* | HDR-guided *NAT* cassette replacement of the gene | Validated gene function downstream of the *SNF1* pathway | [(Lagree et al., 2020)](https://paperpile.com/c/CEBw8c/SDkdo) |
| *C. albicans* | General Biology | *HHT2/HHT21* | HDR-guided *NAT* cassette replacement of the gene | Cell morphology elongated  Validated that the novel histone variant *HHT1* can partially fulfill *HHT2* and *HHT21*’s function | [(Rai et al., 2019)](https://paperpile.com/c/CEBw8c/zzRF5) |
| *C. albicans* | General Biology | *SSY1* | HDR-guided *NAT* cassette replacement of the gene | Cellular uptake of ornithine increased | [(Silao et al., 2019)](https://paperpile.com/c/CEBw8c/rGNi1) |
| *C. albicans* | General Biology | *CDC8* | HDR resulting in the 36 bp deletion of the Ca-loop | Doubling time increased | [(Huang et al., 2019a)](https://paperpile.com/c/CEBw8c/a46dk) |
| *C. albicans* | General Biology | *ASD* | HDR-guided *NAT* cassette replacement of the gene | Inability to create mutants indicates gene essentiality | [(Dahal et al., 2020)](https://paperpile.com/c/CEBw8c/uQibj) |
| *C. albicans* | General Biology | *HOF1* | HDR-guided *HIS1* cassette replacement of the gene | Sensitivity to MMS increased  Genome stability decreased | [(Feng et al., 2020a)](https://paperpile.com/c/CEBw8c/b6lF9) |
| *C. albicans* | General Biology | *DOT6* | HDR-guidedrepair that introduces a premature STOP codon | Growth on non-fermentable carbon sources reduced  *DBP7* and *KRE33* expression, decreased when grown on glycerol or lactate | [(Chaillot et al., 2019)](https://paperpile.com/c/CEBw8c/QKiU5) |
| *C. auris* | General Biology | *HSP90* | HDR-guidedTetO cassette replacement of the promoter  This is to cause overexpression when not Tet is added or repression when Tet is added | Cell viability reduced when gene is repressed | [(Kim et al., 2019)](https://paperpile.com/c/CEBw8c/tvbMO) |
| *C. glabrata* | General Biology | *CDC43* | HDR-guidedrepair that introduces a premature STOP codon | Inability to create mutants indicate gene essentiality | [(Sun et al., 2020)](https://paperpile.com/c/CEBw8c/69R8G) |
| *C. glabrata* | General Biology | *MSH2* | HDR-guidedrepair inserted a *NAT*-*yGFP* cassette | Genome mutation rate increased as indicated by GFP expression | [(Shor et al., 2019)](https://paperpile.com/c/CEBw8c/aTy14) |
| *C. lusitaniae*    *C. glabrata*  *C. auris* | General Biology | *clCAT1*  *cgCAT1*  *caCAT1* | RNP-HDR-guided *SAT* cassette replacement of the gene | Sensitivity to hydrogen peroxide increased | [(Grahl et al., 2017)](https://paperpile.com/c/CEBw8c/XjxeL) |
| *C. parapsilosis* | General Biology | *DAL81* | HDR-guidedrepair that introduces a premature STOP codon | Growth rate unaffected  *ARG* genes upregulated | [(Turner et al., 2018)](https://paperpile.com/c/CEBw8c/Q85V7) |
| *C. albicans* | Immune System | *RAD23* | HDR-guided *HIS3* cassette replacement of the gene | Survival in macrophages reduced | [(Feng et al., 2020b)](https://paperpile.com/c/CEBw8c/cY81u) |
| *C. albicans* | Immune System | *MIG1/MIG2* | HDR-guided *NAT* cassette replacement of the gene | Virulence in macrophages decreased | [(Lagree et al., 2020)](https://paperpile.com/c/CEBw8c/SDkdo) |
| *C. albicans* | Immune System | *PUT1*  *PUT2*  *PUT3*  *PUT1/PUT2* | HDR-guided *NAT* cassette replacement of the gene | Virulence in macrophages decreased | [(Silao et al., 2019)](https://paperpile.com/c/CEBw8c/rGNi1) |
| *C. albicans* | Immune System | *CHO1* (as a single-gene deletion in wild type and secondary mutation in *sur7*Δ strain) | HDR-guided *SAT* cassette with transient CRISPR-Cas9 system | Copper-mediated killing of cells involves interactions of Cu with phosphatidylserine on plasma membrane | [(Douglas and Konopka, 2019)](https://paperpile.com/c/CEBw8c/6W0eP) |
| *C. albicans* | Immune System | *RAC1*, *MKC1* in both wild-type and *cho1*Δ/Δ strains, | HDR-guided *NAT* cassette replacement of the gene | ß-glucan unmasking occurs with upregulation of Cdc42-Cek1  pathway, not Rho1-Mkc1 pathway | [(Chen et al., 2019)](https://paperpile.com/c/CEBw8c/Ntc9R) |
| *C. albicans* | Immune System | *MNN4*-like gene family (single and octuple mutant) | HDR-guided *NAT* cassette replacement of the gene | Macrophage uptake of octuple mutant reduced | [(González-Hernández et al., 2017)](https://paperpile.com/c/CEBw8c/NiEe9) |
| *C. auris* | Immune System | *Als3* homologues*:*  *PIS50650.1*  *PIS50263.1*  *XP\_018167572.2* | HDR-guided *SAT* cassette replacement of the gene using RNP | Pathogen recognition to adhesin-specific antibodies reduced | [(Singh et al., 2019)](https://paperpile.com/c/CEBw8c/ISUbc) |

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