

SUPPLEMENTAL DATA

Table S1 : MICs determined by the EUCAST reference technique

Strain		Mean MIC ₅₀ (mg/L)			
		Fluconazole	Posaconazole	Anidulafungin	Micafungin
DAY286	Control strain	0.1875	0.007875	≤0.0078125	0.03125
DAY5	<i>rim101</i> -/-	0.125	0.007875	0.01575	0.03125
DAY23	<i>rim20</i> -/-	0.125	0.007875	NA	0.03125
DAY61	<i>rim8</i> -/-	0.1875	0.007875	0.01575	0.03125
GKO88	<i>rim13</i> -/-	0.125	0.007875	0.01575	0.03125
MC21	<i>rim21</i> -/-	0.1875	0.007875	0.01575	0.03125
MC23	<i>rim9</i> -/-	0.125	0.01575	0.01575	0.03125

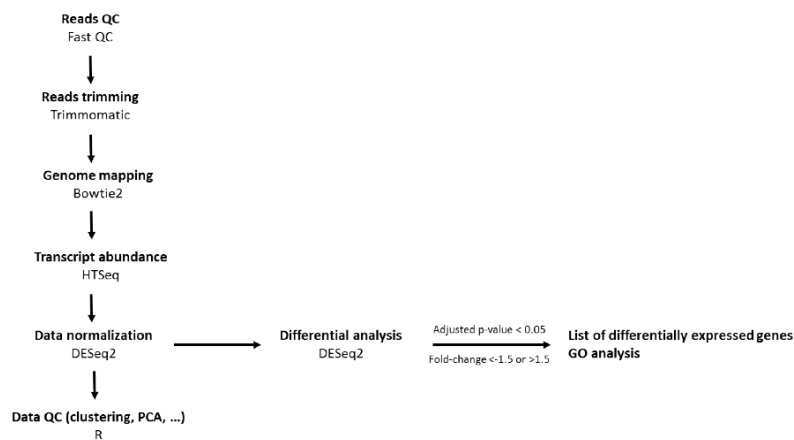
Tables S2, S3, S4 and S5: xlsx files

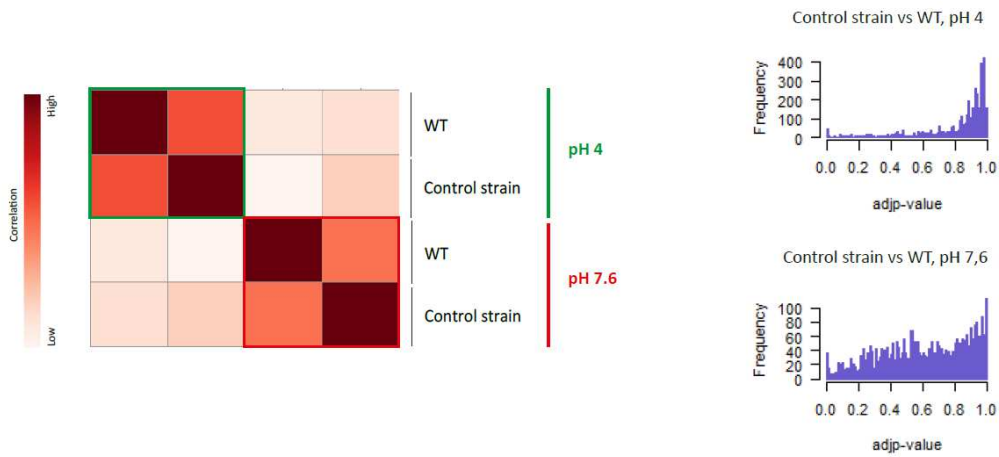
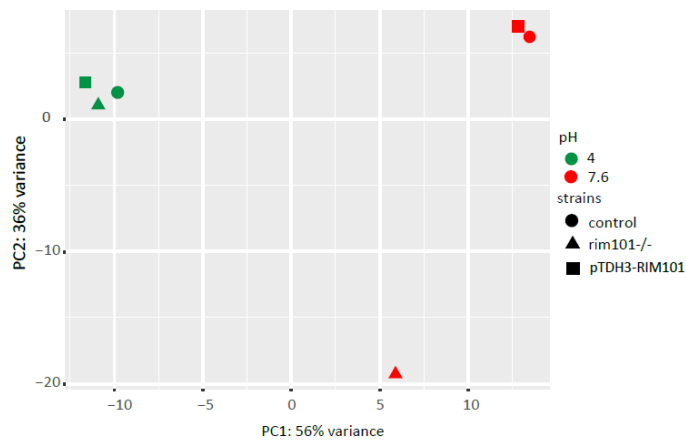
Table S6: Primers and probes used for RT-qPCR

Gene	Primers and probes	Reference
<i>ACT1</i>	F-ACT1 : TTGGTGATGAAGCCCAATCC R-ACT1 : CATATCGTCCCAGTTGGAAACA S-ACT1 : FAM-TTGACCTTGAGATACCCAATTGAACACGGTA-Tamra	(1)
<i>HSP90</i>	F-HSP90 : GCTGACGTTTCTATGATTG R-HSP90 : CATCCAAAGTAACAGTGAAC S-HSP90 : FAM-TCTACTCCTTGTTCTTGGTTGCTGAT-Tamra	This study
<i>IPT1</i>	F-IPT1 : TGGAGAGAATGCTAATGC R-IPT1 : CCATCTTGAATAATATCCAACA S-IPT1 : FAM-ATTATGATACTCCAGTTATGCCGCT-Tamra	This study
<i>RIM101</i>	F-RIM101 : CCCAATCACCTCACATTA R-RIM101 : GCATCAGTGATAGGAGAA S-RIM101 : FAM-CCATTCCTCATTCACTTCTCAATCTGC-Tamra	This study

SUPPLEMENTAL FIGURES

A



B**C****Figure S1: Transcriptomic analysis**

(A) Schematic representation of the bioinformatic pipeline used for RNA-SEQ data analysis, **(B)** Left panel: unsupervised hierarchical clustering of the distance between SC5314 (WT) and DAY185 (control strain) samples at acidic and alkaline pH. All replicates are collapsed. Right panel: results of the differential analysis of DAY185 versus SC5314 transcriptomic programs at pH 4 and 7.6 expressed based on the adjusted p-value. No statistically significant difference was evidenced between these two strains. **(C)** Principal Component Analysis applied on the normalized counts of each sample. Replicates are collapsed. Principal components are represented on the x- and y-axis. Data obtained at acidic pH are shown in green; data obtained at alkaline pH are shown in red, strains are identified by the following shapes: wild-type (SC5314), round; *rim101Δ*-disrupted strain (DAY 25), triangle; *RIM101*-overexpressed strain (CGY1), square.

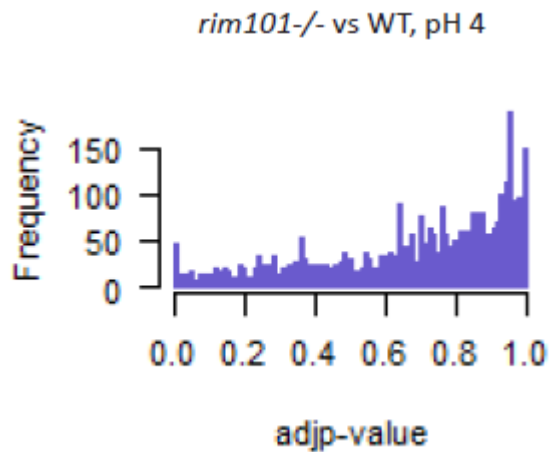


Figure S2: Results of the differential analysis of the *rim101Δ*-disrupted strain (DAY25) versus the SC5314 reference strain transcriptomic programs at pH 4 expressed based on the adjusted p-value

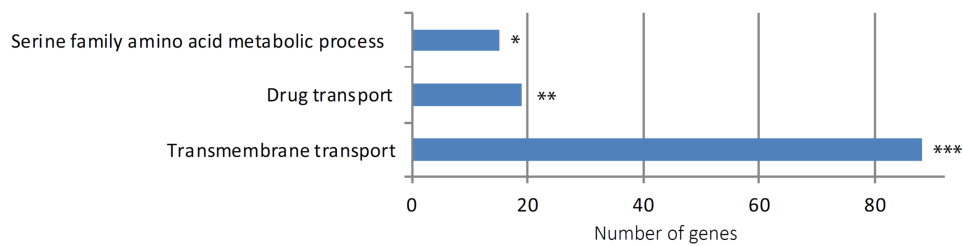


Figure S3: GO-term enrichment analysis at acidic pH

GO-term enrichment analysis of biological processes among genes differentially expressed at acidic pH between the RMI101-overexpressed strain (CGY1) and the SC5314 reference strain. The number of genes is expressed on the x-axis. The symbols *, ** and *** respectively indicate p-values < 0.05, p-values < 0.01 and p-values < 0.001.

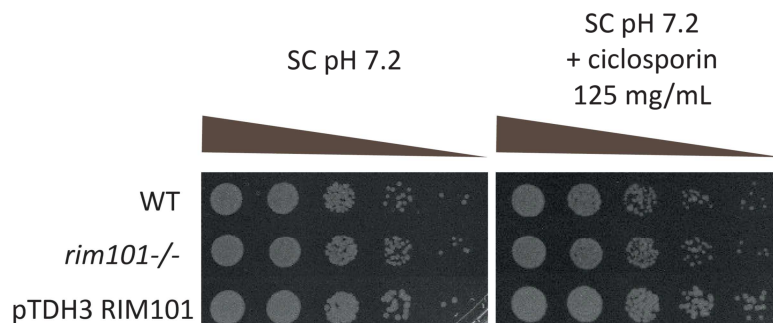
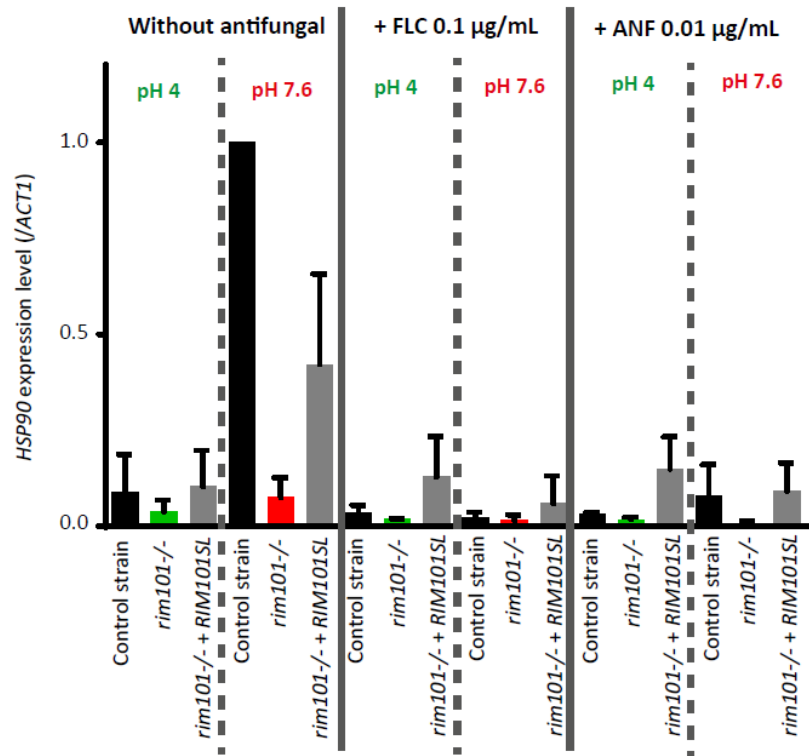


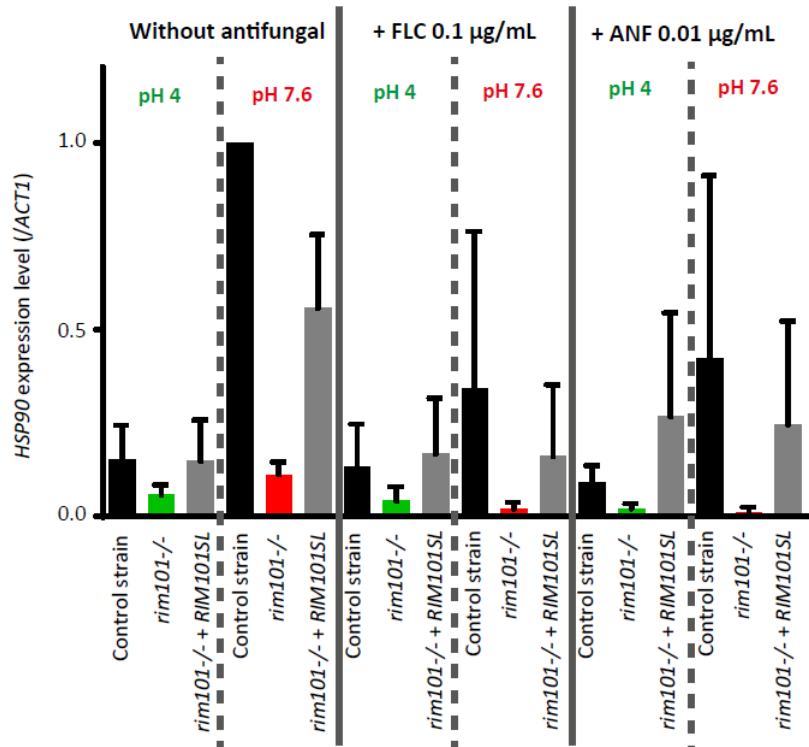
Figure S4: Pharmacological inhibition of calcineurin

Colony forming assays in presence of cyclosporin A, a pharmacological inhibitor of calcineurin. Cells were plated in ten-fold dilutions in presence of cyclosporin A (125 mg/mL) in SC-medium buffered at pH 7.2. No specific phenotype was observed.

A. RIM101



B. IPT1



C. HSP90

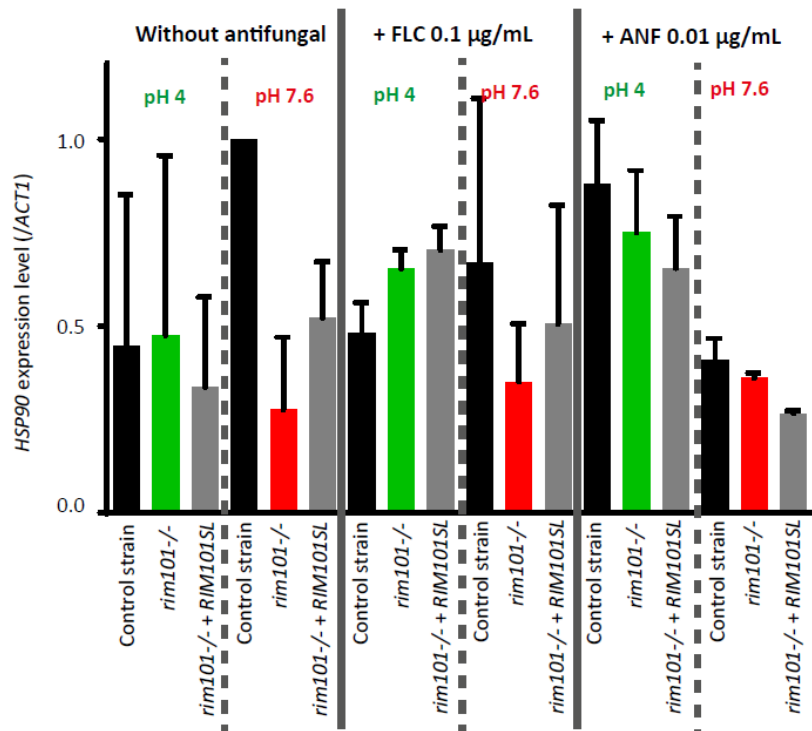


Figure S5: *RIM101*, *IPT1* and *HSP90* expression levels normalized to *ACT1* obtained in RT-qPCR at acidic and alkaline pH, under drug-stress conditions or not, in the DAY25 *rim101Δ*-disrupted strain, the DAY5SL complemented strain and the DAY185 control strain.

Each strain (DAY185, DAY25 and DAY5SL (Table 1)) was pre-cultured overnight in liquid YPD medium at 30°C under agitation, then diluted to an OD600 of 0.1 in SC medium buffered at pH 7.6 or pH 4 respectively with HEPES or citrate buffer, in presence or absence of fluconazole (0.1 µg/mL) or anidulafungin (0.001 µg/mL). Cells were then incubated at 30°C (to be consistent with the other experiments of the study and avoid intense yeast-to-hyphae transition), under agitation until an OD600 of 0.6-0.8 was reached, and collected by centrifugation. RNA extraction was performed on the pellet using the MasterPure™ Yeast RNA Purification Kit (Epicentre), according to manufacturer's instructions. Two biological replicates were performed for each strain and condition.

RT-QPCR was performed using the KAPA Probe Fast qPCR Master Mix (Clinisciences). Primers and probes are listed in Table S6. Gene expression levels were normalized to the *ACT1* ones.

REFERENCES

1. Morio F, Pagniez F, Lacroix C, Miegerville M, Le Pape P. 2012. Amino acid substitutions in the *Candida albicans* sterol $\Delta 5,6$ -desaturase (Erg3p) confer azole resistance: characterization of two novel mutants with impaired virulence. *J Antimicrob Chemother* 67(9):2131–8.