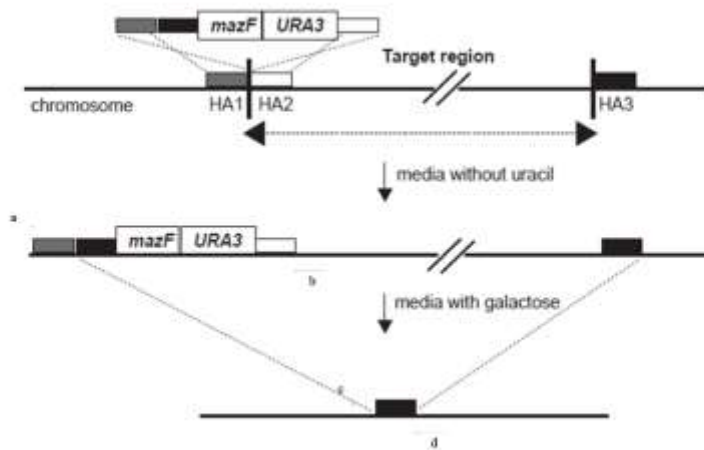
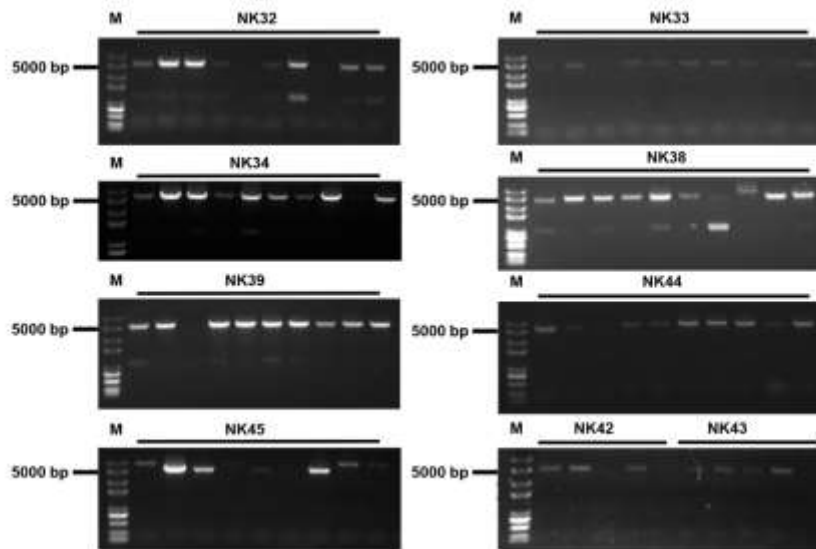


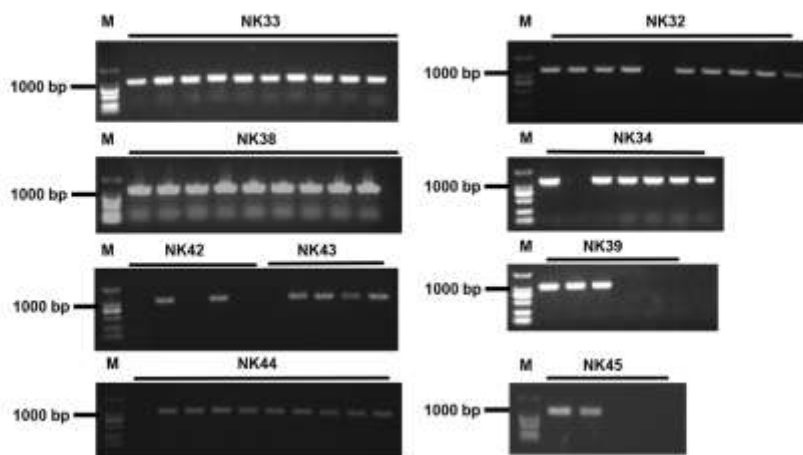
A



B



C



Supplementary Fig. S1 Schematic representation and application of the *mazF*-mediated deletion of *Saccharomyces cerevisiae* genomic region(s). (A) HA1-3 are homologous regions of *S. cerevisiae* genome; *URA3* and *mazF* act as the positive and counter selection marker, respectively. Arrow a and b

showed the primer position for the diagnostic PCR of latent strains. Arrow c and d showed the primer position for the diagnostic PCR of deletion strains. (B) Diagnostic gel from the transformation introducing deletion cassettes. (C). Diagnostic gel of deletion strains.

Supplementary Table S1. The primers used in this study

Number	Name	Sequence 5' → 3'
YKL072W/YKL061W deletion		
B29-F	HR1	CACCGAGTCGAATCCAAGTT
B29-R		TAATCGATCTATCGTTTTTGATAGCTTTTTCCCCCAGCAAATATAT
B30-F	HR3	AATAATATATTTGCTGGGGGAAAAAGCTATCAAAAACGATAGATCGAT
B30-R		GCTTTTGTTCCTTTAGTGAGGGTCCAGAAATCTTGCTGAACAC
B30-F1	mazF	TTTGGTGTTCAGCCAAGATTTCTGGAACCTCACTAAAGGGAACA
B30-R1		CCTGCAGCGTACGAAGCTTCAGCTGTGCTGGTCGCTATACTGCT
B31-F	URA3	ATCGACAGCAGTATAGCGACCAGCACAGCTGAAGCTTCGTACGC
B31-R		TCTGATGAGTGGCTTCCAGTTGCATGCATAGGCCACTAGTGGATCTG
B32-F	HR2	TATCAGATCCACTAGTGGCTATGCATGCAACTGGAAGCCACTC
B32-R		GTTGGAAATCCGACGTTATT
B33-F	deletant	GACAAGACCACCGAGTCGAAT
B33-R		TTGTACGCTGGTGACATCG
YKL224C/YKL215C deletion		
B57-F	HR1	CAATAGACTTGATTCCGCTAG
B57-R		CCTGCAGCGTACGAAGCTTCAGCTGATGCAGAAAGGAAACATAAGAA
B58-F	URA3	CAATTCTTATGTTTCCTTTCTGCATCAGCTGAAGCTTCGTACGC
B58-R		GCTTTTGTTCCTTTAGTGAGGGTTCATAGGCCACTAGTGGATCTG
B59-F	mazF	TATCAGATCCACTAGTGGCTATGCAACCCTCACTAAAGGGAACA
B59-R		AGGGCAGTGCAGTTACGGAGTCATTGCTGGTCGCTATACTGCT
B60-F	HR3	ATCGACAGCAGTATAGCGACCAGCAATGACTCCGTAACCTCGCACT
B60-R		CCTAAATATAACTTCTTGGTATAACAAGACAAACGCCAATTTTACG
B61-F	HR2	CCGTTTCGTAAAATTGGCGTTTGTCTTGTATACCAAGAAGTTATATTTAGGTT
B61-R		ACAGACGGCTCAAGAACACG
B62-F1	Latent	TGGAAAAGTGTATGAGTGTA AAAAT
B62-F2	Deletant	GTTACGGTTACACAAAAACTATC
B62-R		GGACATGAGTTACATAATGCAA

YIL014W/YIL005W deletion

C1-F	HR1	TTTCTGCCTTTAGCTCTGTTG
C1-R		TTTATTTTATAACTACTTAAGCGTGCTTAGGGAAATAGTTTTAGTAGACTG
C2-F	HR3	GTCTACTAAAACATTTCCCTAAGCACGCTTAAGTAGTTATAAAAATAAAAAG
C2-R		CCTGCAGCGTACGAAGCTTCAGCTGAAAGTGAGGAACAGATGGGAG
C3-F	LEU2	ATAGCTCCCATCTGTTCCCTCACTTTCAGCTGAAGCTTCGTACGC
C4-R	mazF	TTCTGGATTTTAATGATTTAAGCATTGCTGGTCGCTATACTGCT
C5-F	HR2	ATCGACAGCAGTATAGCGACCAGCAATGCTTAAATCATTAAAATCCAGA
C5-R		ATTGCAGTAGGATCTAATTGACC
C6-F		TTTCAGAAAAACAGACTGTAAATA
C6-R1	Latent	AAATCATGAGGATTTACGGTTG
C6-R2	Deletant	GCTAGGGAGCACAGATAAATTAGA

YOR124C/YOR134W deletion

C7-F	HR1	CATCATCATCTAACCCGAGAC
C7-R		CTAGCAGATCACAGTGCTTAGGAAGTCTTAGTCAATGAAGAGTTTATGTAAA
C8-F	HR3	TACATAAACTCTTCATTGACTAAGACTTCCTAAGCACTGTGATCTGC
C8-R		CCTGCAGCGTACGAAGCTTCAGCTGCCAAGGTAATTCAGGTTTACA
C9-F	LEU2	TTTTTCTGAACCTGAATTACCTTGGCAGCTGAAGCTTCGTACGC
C10-R	mazF	GCCATTGAAAAGAATTCTAAAGTAGTGCTGGTCGCTATACTGCT
C11-F	HR2	ATCGACAGCAGTATAGCGACCAGCACTACTTTAGAATTCTTTTCAATGGC
C11-R		TCGTGATGATTCAGGGCTTAC
C12-F		TTTCGGGTGTACATGGCTT
C12-R1	Latent	AATGAAAAATAGACAAAGAGAGCTT
C12-R2	Deletant	TTGTTTCGTTCCCGATCTGTAT

YOL020W/YOL011W deletion

C13-F	HR1	AAATACCCTAAAGAAGCTACGG
C13-R		GTATACCGTTATTACGCAAGAGATAATGAGAGTGTGTTGCGTAATTT
C14-F	HR3	AGCAAATTACGCAACACACTCTCATTATCTCTTGCGTAATAACGGTA
C14-R		CCTGCAGCGTACGAAGCTTCAGCTGATGACATTGCTATACTTTTGA
C15-F	LEU2	TCCTCCAAA AGTATAGCAATGTCATCAGCTGAAGCTTCGTACGC
C16-R	mazF	CAGAAGAAATAAAGTCTTCGGTCATTGCTGGTCGCTATACTGCT
C17-F	HR2	ATCGACAGCAGTATAGCGACCAGCAATGACCGAAGACTTTATTTCTT
C17-R		GGTCAATAGACGAGTTCCAGTA
C18-F		TACCCGGAAATAGGGCTTAA

C18-R1	Latent	GCAAATGAGGACAACGCACA
C18-R2	Deletant	CTTGGAAGTGGTGTATTTGGG
<i>RGAI</i> gene knock-out		
D4-F	HR1	AGTTCTTGGTTTCGTATGTGTT
D4-R		CCTGCAGCGTACGAAGCTTCAGCTGTTAATATGCCGCTCTCTCC
D5-F	URA3	GTGGTGGAGAGAGCGGCATATTAACAGCTGAAGCTTCGTACGC
D5-R		GCTCAATGCAGAACCGAGGATAGCGGCATAGGCCACTAGTGGATCTG
D6-F	HR2	TATCAGATCCACTAGTGGCCTATGCCGCTATCCTCGGTTCTGC
D6-R		TTGTGCAAATGCCTAGAGGT
D3-F	DET-F	TCAAAGCCACGAAGGGA
D3-R	DET-R	AAAATCTCTGTCGCTCAAAAGT
<i>ADE2</i> gene knock-out		
D13-F	HR1	AGGGTGTTAAGAGTACTGAGTG
D13-R		CCTGCAGCGTACGAAGCTTCAGCTGTATTTTTTAGGCTTTGTTATGA
D14-F	URA3	TAATCATAACAAAGCCTAAAAAATACAGCTGAAGCTTCGTACGC
D14-R		AACAAGAAAATCGGACAAAACAATCGCATAGGCCACTAGTGGATCTG
D15-F	HR2	TATCAGATCCACTAGTGGCCTATGCGATTGTTTTGTCCGATTTTC
D15-R		CAGTATATCATCTCATTTC
D12-F1	DET-F	AAAAAACATATTGGAAGACCTT
D16-R	DET-R	CCATCTGACATTACTATTTTGC
Construction pNC series		
E1-F	CAT5-F3	TCCCCGCGGGGATATGCCACTTTCTGGTGGTTA
E1-R	CAT5-R3	TCCCCGCGGGGAATTATGTTATCCCGTGTTTCAG
E2-F	ADE2-F3	TCCCCGCGGGGATTGCTGTACAAGTATATCAATAAA
E2-R	ADE2-R1	TCCCCGCGGGGAGACAAAACAATCAAGTATGGA
E3-F	PGK-F1	CAACAACAGCCTGTTCTCAC
E3-R	PGK-R1	CTAACTCCTTCCTTTTCGGT
E4-F	TEF-F	GCAAGGTAGACAAGCCGACAA
E4-R	TEF-R	CACCCAAGCACAGCATACTAAA
<i>RGAI</i> gene complementation		
D4-F	HR1-F	AGTTCTTGGTTTCGTATGTGTT
D7-R	HR1-R1	GTTTATTGGGAGCAGTTGATGCCATTTAATATGCCGCTCTCTCC
D8-F	RGA-F	GTGGTGGAGAGAGCGGCATATTAATAATGGCATCAACTGCTCCC
D8-R	RGA-R	CCTGCAGCGTACGAAGCTTCAGCTGCATAGAAATCAACGCTTACAGG

D6-F	HR2-F	TATCAGATCCACTAGTGGCCTATGCCGCTATCCTCGGTTCTGC
D6-R	HR2-R	TTGTGCAAATGCCTAGAGGT
D9-F	LEU-F1	ACACCTGTAAGCGTTGATTTCTATGCAGCTGAAGCTTCGTACGC
D5-R	URA-R	GCTCAATGCAGAACCGAGGATAGCGGCATAGGCCACTAGTGGATCTG
D1-F	DET-F	CATTTGTTGGAGGAAAAGTTGTC
D1-R	DET-R	AAAATCTCTGTCGCTCAAAAAGT
