

**Table S1. Yeast strains used in this study**

Strain	Relevant Genotype <sup>a</sup>	Source/Comments
HPY210 <sup>#</sup>	<i>MATa his3-Δ200 leu2-Δ1 lys2-801 trp1Δ63 ura3-52</i>	(SINGH <i>et al.</i> 2008)
BY4741 <sup>@</sup>	<i>MATa his3-Δ1 leu2-Δ0 met15-Δ0 ura3-Δ0</i>	Resgen Deletion Collection (GE Dharmacon)
YSC1053 <sup>@</sup>	<i>MATa his3Δ1 leu2Δ0 met15Δ0 ura3Δ0 yfg::kanMX4</i> (Yeast <i>MATa</i> collection for 5154 nonessential genes)	Resgen Deletion Collection (GE Dharmacon)
HY-VNL <sup>@</sup>	<i>MATa his3Δ1 leu2Δ0 met15Δ0 ura3Δ0 'X'-VN::URA3</i> (Yeast haploid VN fusion library)	(SUNG <i>et al.</i> 2013)
EGY48	<i>MATa his3 trp1 ura3 LexA<sub>op(x6)</sub>-LEU2</i>	(GYURIS <i>et al.</i> 1993)
HPY657 <sup>@</sup>	<i>MATα his3-Δ1 leu2-Δ0 ura3-Δ0 lys2Δ0 rho5Δ::kanMX4</i>	Resgen Deletion Collection (GE Dharmacon)
HPY720 <sup>#</sup>	<i>MATa rho5Δ::kanMX4</i>	(SINGH <i>et al.</i> 2008)
HPY999 <sup>#</sup>	<i>MATa rho5<sup>G12V</sup>::URA3::rho5Δ::kanMX4</i>	(SINGH <i>et al.</i> 2008)
HPY1690 <sup>#</sup>	<i>MATa aim27Δ::kanMX4</i>	This study <sup>b</sup>
HPY1691 <sup>#</sup>	<i>MATa isu1Δ::kanMX4</i>	This study <sup>b</sup>
HPY1692 <sup>#</sup>	<i>MATa aim19Δ::kanMX4</i>	This study <sup>b</sup>
HPY1693 <sup>#</sup>	<i>MATa atg21Δ::kanMX4</i>	This study <sup>b</sup>
HPY1694 <sup>#</sup>	<i>MATa mss1Δ::kanMX4</i>	This study <sup>b</sup>
HPY1695 <sup>#</sup>	<i>MATa msp1Δ::kanMX4</i>	This study <sup>b</sup>
HPY1696 <sup>#</sup>	<i>MATa mso1Δ::kanMX4</i>	This study <sup>b</sup>
HPY1697 <sup>#</sup>	<i>MATa cwp1Δ::kanMX4</i>	This study <sup>b</sup>
HPY1698 <sup>#</sup>	<i>MATa paf1Δ::kanMX4</i>	This study <sup>b</sup>
HPY1699 <sup>#</sup>	<i>MATa kin3Δ::kanMX4</i>	This study <sup>b</sup>
HPY1700 <sup>#</sup>	<i>MATa cnb1Δ::kanMX4</i>	This study <sup>b</sup>
HPY1706 <sup>#</sup>	<i>MATa oca1Δ::kanMX4</i>	This study <sup>b</sup>
HPY1707 <sup>#</sup>	<i>MATa yor378wΔ::kanMX4</i>	This study <sup>b</sup>
HPY1708 <sup>#</sup>	<i>MATa oye3Δ::kanMX4</i>	This study <sup>b</sup>
HPY1709 <sup>#</sup>	<i>MATa ras1Δ::kanMX4</i>	This study <sup>b</sup>
HPY1742 <sup>#</sup>	<i>MATa tma19Δ::kanMX4</i>	This study <sup>b</sup>
HPY1778 <sup>#</sup>	<i>MATa ste24Δ::kanMX4</i>	This study <sup>b</sup>
HPY1830 <sup>#</sup>	<i>MATa lsp1Δ::kanMX4</i>	This study <sup>b</sup>
HPY1831 <sup>#</sup>	<i>MATa nce102Δ::kanMX4</i>	This study <sup>b</sup>
HPY1841 <sup>#</sup>	<i>MATa dse1Δ::kanMX4</i>	This study <sup>b</sup>
HPY1842 <sup>#</sup>	<i>MATa dse2Δ::kanMX4</i>	This study <sup>b</sup>

HPY1843 <sup>#</sup>	<i>MATa ktr1Δ::kanMX4</i>	This study <sup>b</sup>
HPY1909 <sup>#</sup>	<i>MATa glo2Δ::kanMX4</i>	This study <sup>b</sup>
HPY1910 <sup>#</sup>	<i>MATa hxx2Δ::kanMX4</i>	This study <sup>b</sup>
HPY1911 <sup>#</sup>	<i>MATa hxt3Δ::kanMX4</i>	This study <sup>b</sup>
HPY1912 <sup>#</sup>	<i>MATa hxt1Δ::kanMX4</i>	This study <sup>b</sup>
HPY1913 <sup>#</sup>	<i>MATa sur7Δ::kanMX4</i>	This study <sup>b</sup>
HPY1914 <sup>#</sup>	<i>MATa rpl8aΔ::kanMX4</i>	This study <sup>b</sup>
HPY1915 <sup>#</sup>	<i>MATa him1Δ::kanMX4</i>	This study <sup>b</sup>
HPY1929 <sup>#</sup>	<i>MATa yor227wΔ::kanMX4</i>	This study <sup>b</sup>
HPY1930 <sup>#</sup>	<i>MATa hxt5Δ::kanMX4</i>	This study <sup>b</sup>
HPY1931 <sup>#</sup>	<i>MATa rgt1Δ::kanMX4</i>	This study <sup>b</sup>
HPY1934 <sup>#</sup>	<i>MATa vph1Δ::kanMX4</i>	This study <sup>b</sup>
HPY2024 <sup>#</sup>	<i>MATa eds1Δ::kanMX4</i>	This study <sup>b</sup>
HPY2025 <sup>#</sup>	<i>MATa bna1Δ::kanMX4</i>	This study <sup>b</sup>
HPY2026 <sup>#</sup>	<i>MATa ybl095wΔ::kanMX4</i>	This study <sup>b</sup>
HPY2027 <sup>#</sup>	<i>MATa ynl134cΔ::kanMX4</i>	This study <sup>b</sup>
HPY2028 <sup>#</sup>	<i>MATa rtn1Δ::kanMX4</i>	This study <sup>b</sup>
HPY2029 <sup>#</sup>	<i>MATa yox1Δ::kanMX4</i>	This study <sup>b</sup>
HPY2030 <sup>#</sup>	<i>MATa gal7Δ::kanMX4</i>	This study <sup>b</sup>
HPY2031 <sup>#</sup>	<i>MATa mf(α)2Δ::kanMX4</i>	This study <sup>b</sup>
HPY2033 <sup>#</sup>	<i>MATa arf1Δ::kanMX4</i>	This study <sup>b</sup>
HPY2034 <sup>#</sup>	<i>MATa ygl159wΔ::kanMX4</i>	This study <sup>b</sup>
HPY2035 <sup>#</sup>	<i>MATa pml1Δ::kanMX4</i>	This study <sup>b</sup>
HPY2037 <sup>#</sup>	<i>MATa ylr001cΔ::kanMX4</i>	This study <sup>b</sup>
HPY2041 <sup>#</sup>	<i>MATa dbf20Δ::kanMX4</i>	This study <sup>b</sup>
HPY2042 <sup>#</sup>	<i>MATa cat2Δ::kanMX4</i>	This study <sup>b</sup>
HPY2044 <sup>#</sup>	<i>MATa sli1Δ::kanMX4</i>	This study <sup>b</sup>
HPY2045 <sup>#</sup>	<i>MATa mei4Δ::kanMX4</i>	This study <sup>b</sup>
HPY2048 <sup>#</sup>	<i>MATa spo1Δ::kanMX4</i>	This study <sup>b</sup>
HPY2049 <sup>#</sup>	<i>MATa tom70Δ::kanMX4</i>	This study <sup>b</sup>
HPY2050 <sup>#</sup>	<i>MATa smi1Δ::kanMX4</i>	This study <sup>b</sup>
HPY2051 <sup>#</sup>	<i>MATa rma1Δ::kanMX4</i>	This study <sup>b</sup>
HPY2052 <sup>#</sup>	<i>MATa suc2Δ::kanMX4</i>	This study <sup>b</sup>
HPY2068 <sup>#</sup>	<i>MATa uip3Δ::kanMX4</i>	This study <sup>b</sup>
HPY2069 <sup>#</sup>	<i>MATa msl1Δ::kanMX4</i>	This study <sup>b</sup>
HPY2071 <sup>#</sup>	<i>MATa yjr056cΔ::kanMX4</i>	This study <sup>b</sup>
HPY2072 <sup>#</sup>	<i>MATa rpl41bΔ::kanMX4</i>	This study <sup>b</sup>

HPY2073 <sup>#</sup>	<i>MATa nmd2Δ::kanMX4</i>	This study <sup>b</sup>
HPY2074 <sup>#</sup>	<i>MATa yor036cΔ::kanMX4</i>	This study <sup>b</sup>
HPY2076 <sup>#</sup>	<i>MATa rpl16AΔ::kanMX4</i>	This study <sup>b</sup>
HPY2084 <sup>#</sup>	<i>MATa she2Δ::kanMX4</i>	This study <sup>b</sup>
HPY2085 <sup>#</sup>	<i>MATa met1Δ::kanMX4</i>	This study <sup>b</sup>
HPY2086 <sup>#</sup>	<i>MATa imp2Δ::kanMX4</i>	This study <sup>b</sup>
HPY2087 <sup>#</sup>	<i>MATa cdc10Δ::kanMX4</i>	This study <sup>b</sup>
HPY2110 <sup>#</sup>	<i>MATa kgd1Δ::kanMX4</i>	This study <sup>b</sup>
HPY2043 <sup>#</sup>	<i>MATa mns1Δ::kanMX4</i>	This study <sup>b</sup>
KY151 <sup>#</sup>	<i>MATa yca1Δ::kanMX4</i>	This study <sup>b</sup>
KY152 <sup>#</sup>	<i>MATa aif1Δ::kanMX4</i>	This study <sup>b</sup>
KY153 <sup>#</sup>	<i>MATa ste20Δ::kanMX4</i>	This study <sup>b</sup>
KY154 <sup>#</sup>	<i>MATa nuc1Δ::kanMX4</i>	This study <sup>b</sup>
HY1029 <sup>@</sup>	<i>MATα his3Δ1 leu2Δ0 lys2Δ0 ura3Δ0 His3MX6::pRPL7B-VC-RHO5</i>	This study <sup>c</sup>
HPY1631 <sup>@</sup>	<i>MATα his3Δ1 leu2Δ0 lys2Δ0 ura3Δ0 rho5Δ::kanMX4:RHO5-YFP<sup>C</sup>-URA3</i>	This study <sup>d</sup>
HPY1630 <sup>@</sup>	<i>MATα his3Δ1 leu2Δ0 lys2Δ0 ura3Δ0 rho5Δ::kanMX4:rho5<sup>G12V</sup>-YFP<sup>C</sup>-URA3</i>	This study <sup>d</sup>
HPY1637 <sup>@</sup>	<i>MATα his3Δ1 leu2Δ0 lys2Δ0 ura3Δ0 rho5Δ::kanMX4:rho5<sup>K16N</sup>-YFP<sup>C</sup>-URA3</i>	This study <sup>d</sup>
HPY3309 <sup>@</sup>	<i>MATa/MATα his3Δ1/his3Δ1 leu2Δ0/leu2Δ0 LYS2/lys2Δ0 ura3Δ0/ura3Δ0 met15Δ0/MET15 RHO5/rho5Δ::kanMX4:rho5<sup>K16N</sup>-YFP<sup>C</sup>-URA3 ATG21-VN::URA3/ATG21</i>	This study <sup>e</sup>
HPY3310 <sup>@</sup>	<i>MATa/MATα his3Δ1/his3Δ1 leu2Δ0/leu2Δ0 LYS2/lys2Δ0 ura3Δ0/ura3Δ0 met15Δ0/MET15 RHO5/rho5Δ::kanMX4:RHO5-YFP<sup>C</sup>-URA3 ATG21-VN::URA3/ATG21</i>	This study <sup>e</sup>
HPY3338 <sup>@</sup>	<i>MATa/MATα his3Δ1/his3Δ1 leu2Δ0/leu2Δ0 LYS2/lys2Δ0 ura3Δ0/ura3Δ0 met15Δ0/MET15 RHO5/rho5Δ::kanMX4:rho5<sup>G12V</sup>-YFP<sup>C</sup>-URA3 ATG21-VN::URA3/ATG21</i>	This study <sup>e</sup>

<sup>a</sup> Strains marked with <sup>#</sup> are isogenic to HPY210, which was derived from YEF473 (BI AND PRINGLE 1996; SINGH *et al.* 2008), except indicated; and the background of the strains marked with <sup>@</sup> is S288C.

<sup>b</sup> Each yfg::kanMX4 from YSC1053<sup>@</sup> (that has been confirmed by genomic PCR) was amplified by PCR using genomic DNA from each strain. The PCR product was used to delete each gene in HPY210 background by one-step gene disruption (ROTHSTEIN 1991). The resulting deletion strains were confirmed by genomic PCR.

<sup>c</sup> *RHO5* was tagged with VC by a PCR-based N-terminal-targeting method (SUNG AND HUH 2007).

<sup>d</sup> Plasmid pRS306-YFP<sup>C</sup>-RHO5 (pHP1501), pRS306-YFP<sup>C</sup>-rho5<sup>G12V</sup> (pHP1506), and pRS306-YFP<sup>C</sup>-rho5<sup>K16N</sup> (pHP1511) (SINGH *et al.* 2008) were digested with *Bsi*WI, and each linearized plasmid was integrated into the *RHO5* locus in HPY657.

<sup>e</sup> The *ATG21-VN* strain (from the VN library) was mated with each *YFP<sup>C</sup>-RHO5* strain.

**Table S2. Plasmids used in this study**

Plasmid Name	Description	Source/Comments
pHP1280	pRS426-RHO5 (2μ, <i>URA3</i> )	(SINGH <i>et al.</i> 2008)
pHP1281	pRS426-rho5 <sup>G12V</sup> (2μ, <i>URA3</i> )	(SINGH <i>et al.</i> 2008)
pHP1282	pRS426-rho5 <sup>K16N</sup> (2μ, <i>URA3</i> )	(SINGH <i>et al.</i> 2008)
pEG202	<i>ADHI</i> promoter-LexA DNA binding domain (2μ, <i>HIS3</i> )	(GYURIS <i>et al.</i> 1993)
pHP1382	pEG202-RHO5 <sup>C328S</sup>	(SINGH <i>et al.</i> 2008)
pHP1386	pEG202-rho5 <sup>G12V, C328S</sup>	(SINGH <i>et al.</i> 2008)
pHP1387	pEG202-rho5 <sup>K16N, C328S</sup>	(SINGH <i>et al.</i> 2008)
pJG4-5	<i>GALI</i> promoter-activation domain (2μ, <i>TRP1</i> )	(GYURIS <i>et al.</i> 1993)
pHP2256	pJG4-5-ATG21	This study <sup>a</sup>

<sup>a</sup> pJG4-5-ATG21 was constructed by gap repair as follows: The *ATG21*-encoding DNA sequence plus 40 bp upstream of *Eco*RI site and 40 bp downstream of *Xho*I site in pJG4-5 vector sequence was amplified using a primer pair of oATG214 (CTACCCTTATGATGTGCCAGATTATGCCTCTCCCGAATTC ATGAAAGTATTACAATTCAATC; *Eco*RI recognition site underlined) and oATG215 (TTGACCAAA CCTCTGGCGAAGAAGTCCAAAGCTTCTCGAGTTATGTAAATTTATT ATTTTATAG; *Xho*I recognition site underlined). *Eco*RI/*Xho*I-digested pJG4-5 vector DNA and the PCR product were used for yeast transformation. Plasmid DNAs were recovered from the TRP<sup>+</sup> transformants and verified.

## References

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