

Supplemental Materials

Molecular Biology of the Cell

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Supplemental Figure Legends

Figure S1. LD-deficient mutant in BY4742 background strain displays cytokinesis defects. (A) The percentage of large-budded cells during release from nocodazole arrest. The graph represents mean \pm SD from three experiments ($n > 150$). (B) Electron micrographs of the bud neck region in WT and the quadruple mutant cells at 1 hr after release from M phase. White arrowhead, asymmetric ingression of the primary septum; red arrowhead, inclusion of cytoplasmic materials; yellow arrowhead, aberrant septa; white arrow, inward growth of the cell wall. Bar, 500 nm. The table shows quantification of structural abnormality in large-budded cells from the electron micrographs.

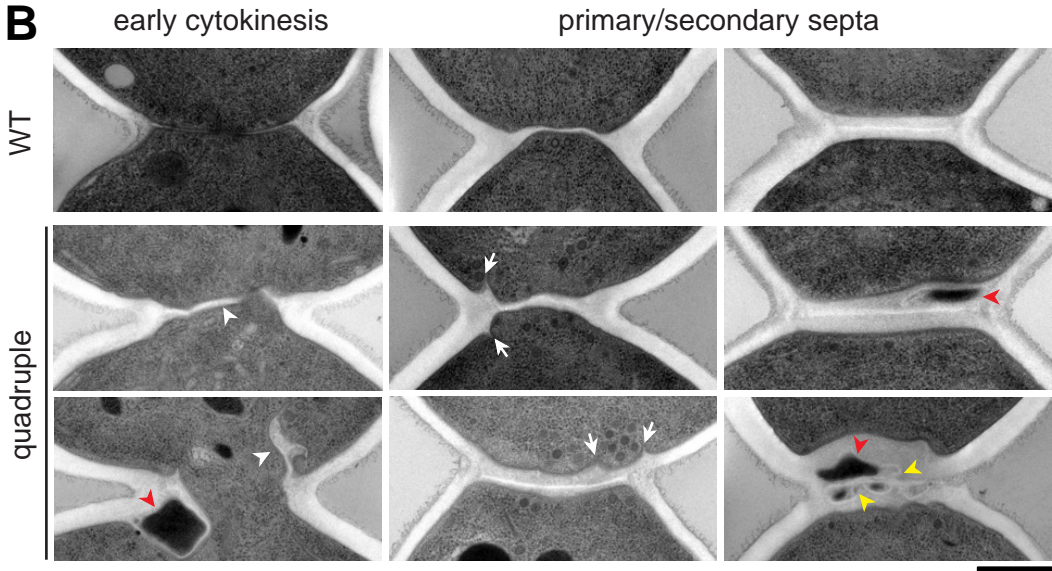
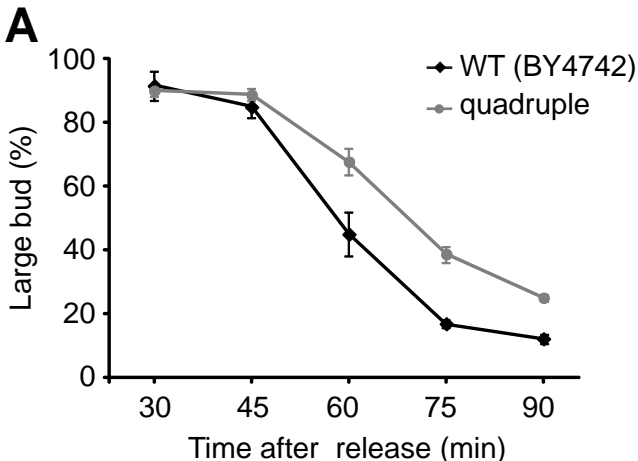
Figure S2. The septin assembly is less stable in LD-deficient BY4742 background strain during cytokinesis. (A) Localization of Cdc10-GFP in cells released from M phase at indicated times. The merged images of DIC and Cdc10-GFP are shown. Bar, 5 μ m. (B) Montage images of Cdc10-GFP from representative cells corresponding to the time points in the plot. The signal intensity of Cdc10-GFP at the bud neck was plotted covering 7 min before and 8 min after the signal declines during release from M phase.

Figure S3. Localization of Chs1 to cell periphery is not affected by LD deficiency. Chs1-3GFP was visualized in WT and the quadruple mutant released from mitotic arrest at indicated times. Bar, 5 μ m.

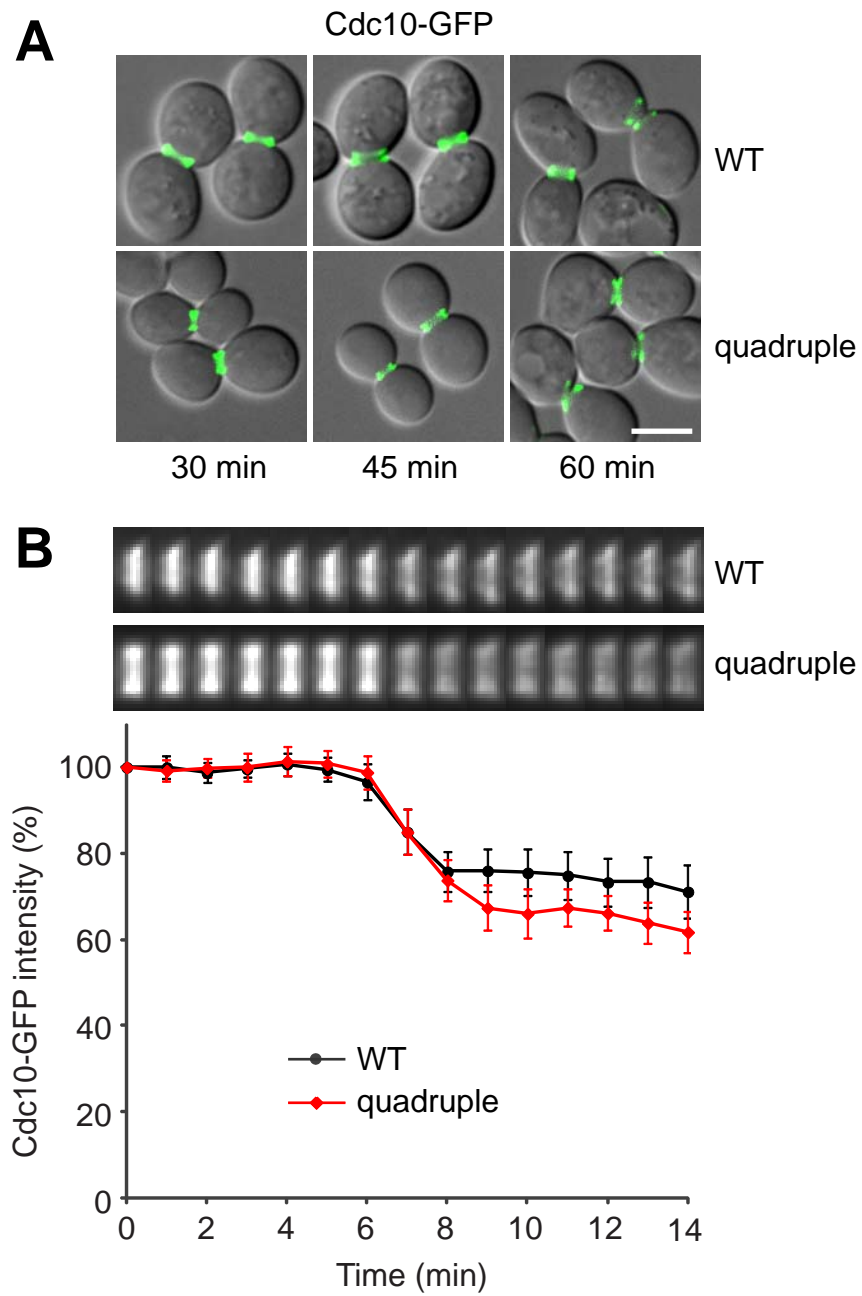
Figure S4. Bni1 persists at the bud neck. WT and the LD-deficient quadruple mutant expressing Bni1-3GFP was released from mitotic arrest for indicated times. The arrowheads point to Bni1-3GFP at the new buds. Bar, 5 μ m. The percentage of cells with Bni1-3GFP at the bud neck was plotted as mean \pm SD from three independent experiments.

Figure S5. TAG levels are elevated during mitotic exit. Comparison of TAG species as indicated in WT under various growth conditions. Data (mean \pm -SD) from three technical repeats of three independent experiments are shown.

Figure S6. The LD-deficient mutant has altered lipidome. Levels of various DAG, PA, PC, PI, and PE species in WT and the quadruple mutant cells grown exponentially (log phase), arrested at mitosis with nocodazole (M phase), or released from the arrest for 1 hr (M release). The data from three technical repeats of three independent experiments were plotted as mean \pm SD.



	abnormal/total	
	early cytokinesis	complete septa
WT (N=92)	2/8	10/84
quadruple (N=124)	4/8	52/116



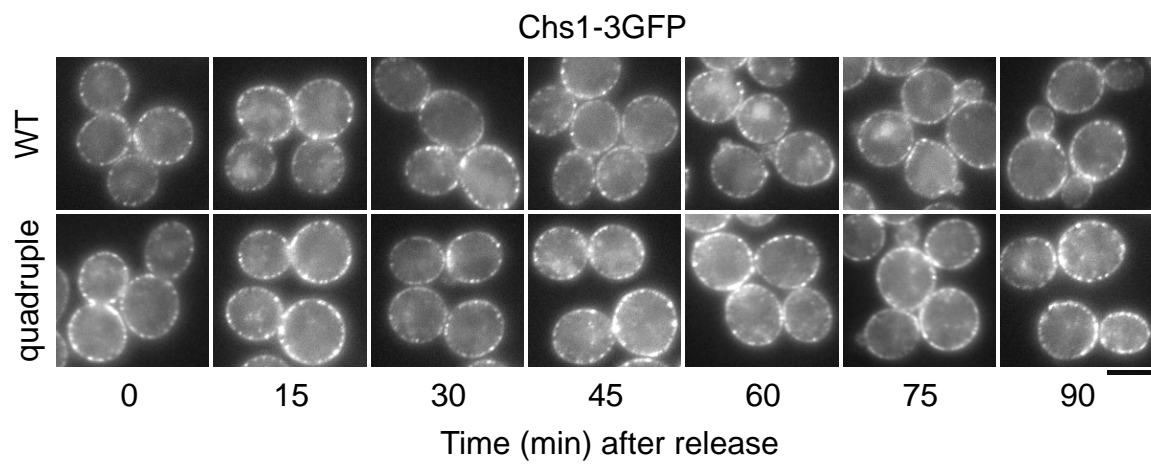


Figure S4

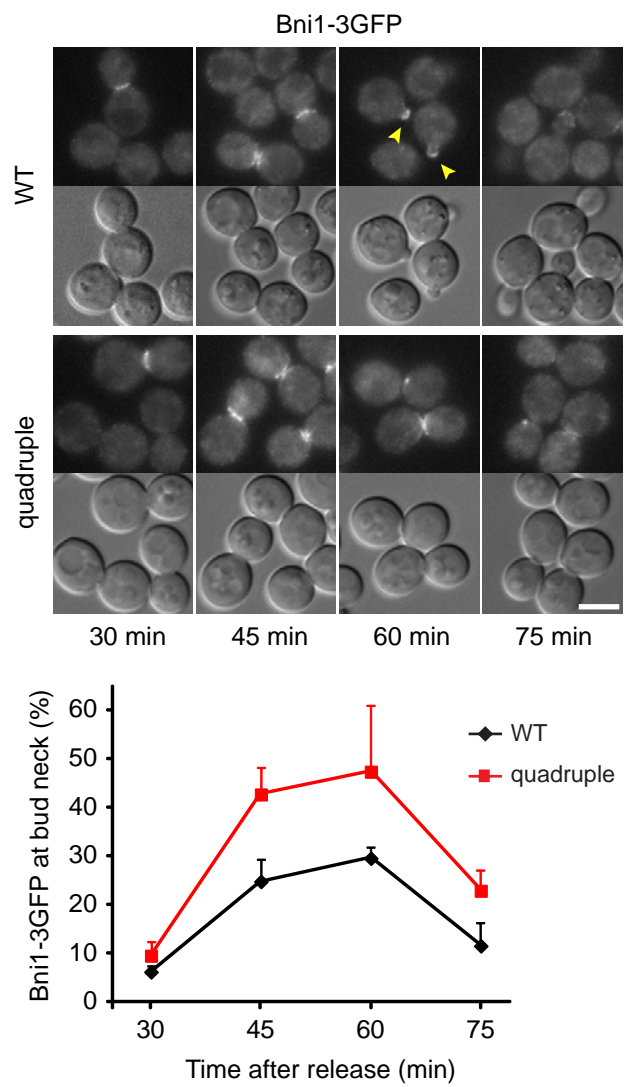
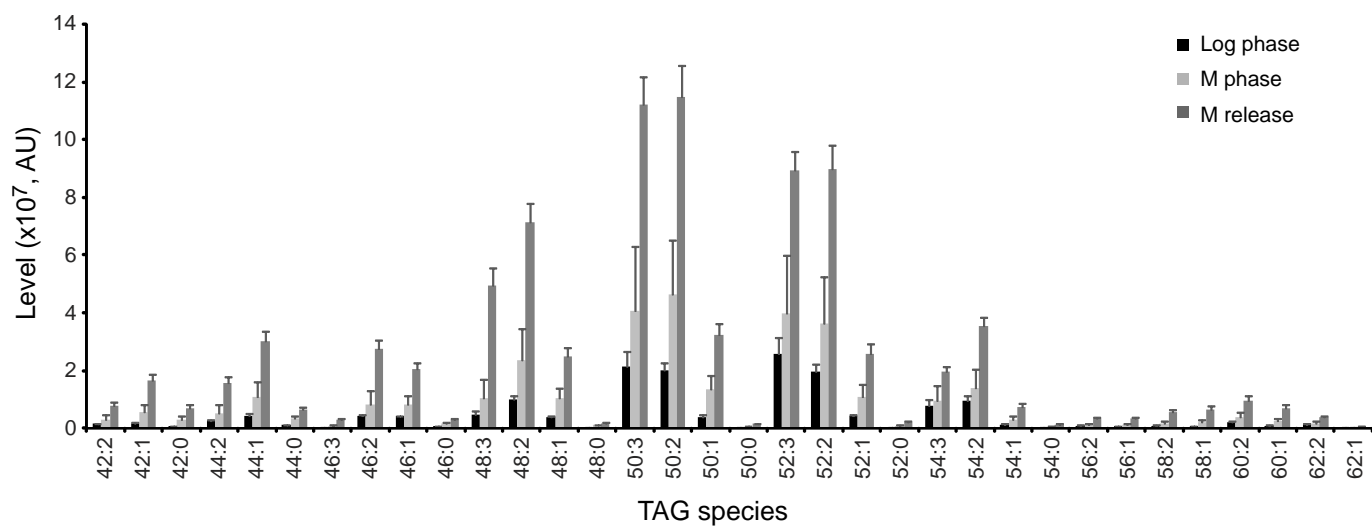
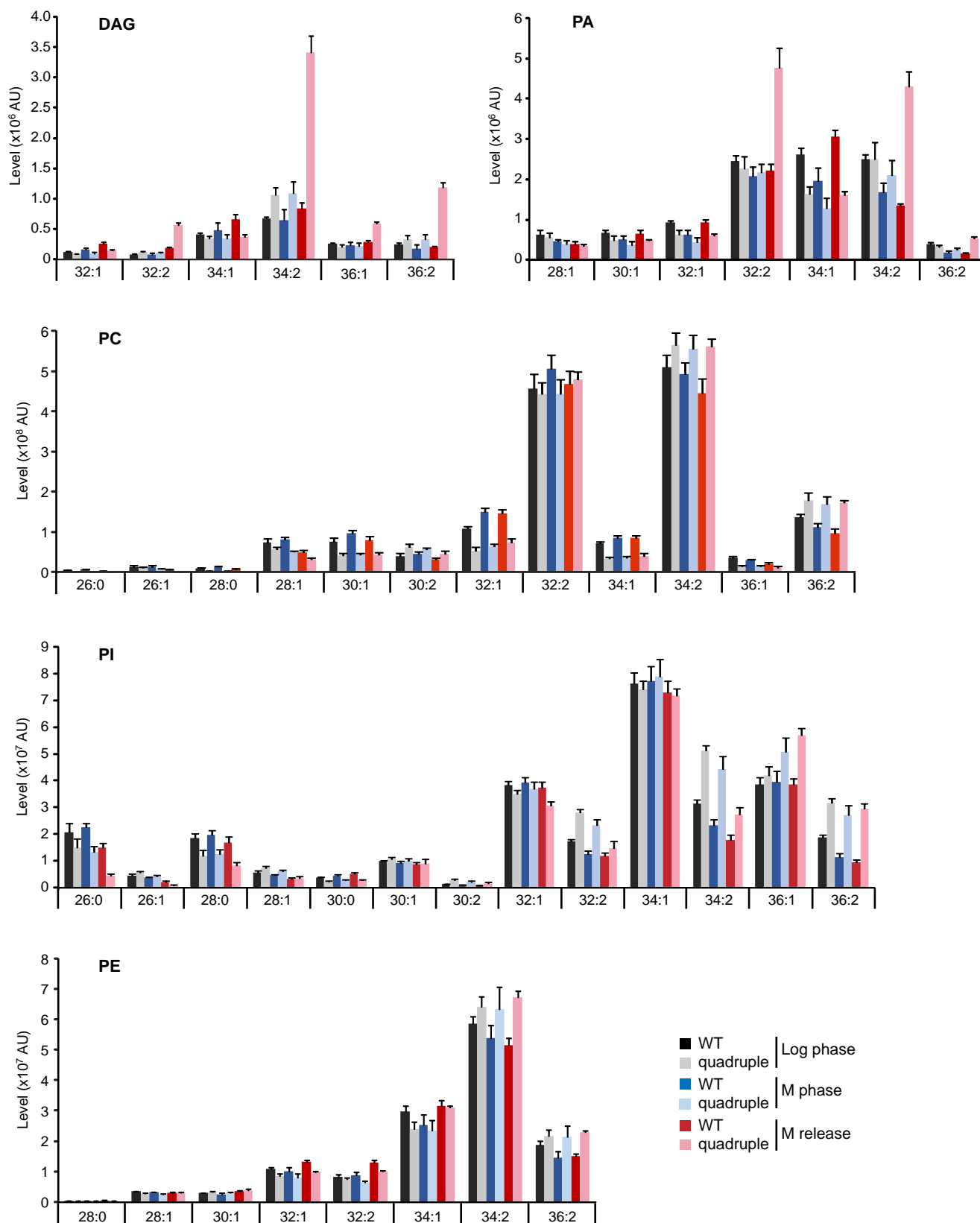


Figure S5





Supplemental Table 1. Yeast strains used in the study

Strains	Genotypes
W303	<i>MATa leu2-3,112 trp1-1 can1-100 ura3-1 ade2-1 his3-11,15 bar1Δ</i>
RHC4428	W303 <i>are1Δ::TRP1 are2Δ::URA3 dga1Δ::hphMX6 lro1Δ::natMX6</i>
RHC747	W303 <i>leu2::PDS1-8myc::LEU2</i>
RHC4643	W303 <i>leu2::PDS1-8myc::LEU2 are1Δ::TRP1 are2Δ::URA3 dga1Δ:: hphMX6 lro1Δ::natMX6</i>
RHC4367	W303 <i>dga1Δ:: hphMX6 lro1Δ::natMX6</i>
RHC4642	W303 <i>are1Δ::TRP1 are2Δ::URA3</i>
RHC4655	W303 <i>exo84::EXO84-GFP::kanMX6</i>
RHC4654	W303 <i>exo84::EXO84-GFP::kanMX6 are1Δ::TRP1 are2Δ::URA3 dga1Δ:: hphMX6 lro1Δ::natMX6</i>
RHC4663	W303 <i>myo1::MYO1-GFP::His3MX6</i>
RHC4664	W303 <i>myo1::MYO1-GFP::His3MX6 are1Δ::TRP1 are2Δ::URA3 dga1Δ:: hphMX6 lro1Δ::natMX6</i>
RHC4707	W303 <i>chs2::CHS2-GFP::His3MX6</i>
RHC4703	W303 <i>chs2::CHS2-GFP::His3MX6 are1Δ::TRP1 are2Δ::URA3 dga1Δ:: hphMX6 lro1Δ::natMX6</i>
RHC4728	W303 <i>cdc10::CDC10-GFP:: kanMX6</i>
RHC4727	W303 <i>cdc10::CDC10-GFP:: kanMX6 are1Δ::TRP1 are2Δ::URA3 dga1Δ:: hphMX6 lro1Δ::natMX6</i>
BY4742	<i>MATα his3Δ1 leu2Δ0 lys2Δ0 ura3Δ0</i>
RHC2055	BY4742 <i>are1Δ::LEU2 are2Δ::His3MX6 dga1Δ::kanMX6 lro1Δ:: hphMX6</i>
RHC4759	BY4742 <i>cdc10::CDC10-GFP::URA3</i>
RHC4760	BY4742 <i>cdc10::CDC10-GFP::URA3 are1Δ::LEU2 are2Δ::His3MX6 dga1Δ::kanMX6 lro1Δ:: hphMX6</i>
RHC4747	W303 <i>bni1::BN11-3GFP:: His3MX6</i>
RHC4748	W303 <i>bni1::BN11-3GFP:: His3MX6 are1Δ::TRP1 are2Δ::URA3 dga1Δ:: hphMX6 lro1Δ::natMX6</i>
RHC4790	W303 <i>chs1::CHS1-3GFP:: His3MX6</i>
RHC4791	W303 <i>chs1::CHS1-3GFP:: His3MX6 are1Δ::TRP1 are2Δ::URA3 dga1Δ:: hphMX6 lro1Δ::natMX6</i>