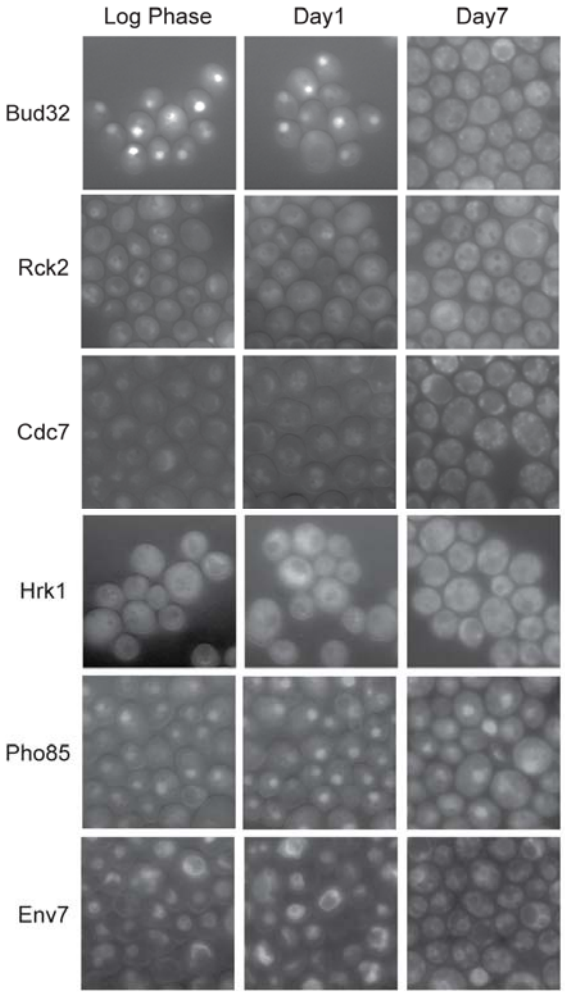

Figure S1 Protein kinases that did not localize to cytoplasmic foci in stationary phase cells. Cells expressing the indicated protein kinase-GFP fusions were examined by fluorescence microscopy during log phase and after one or seven days of growth in rich medium. Images for six representative enzymes are shown.

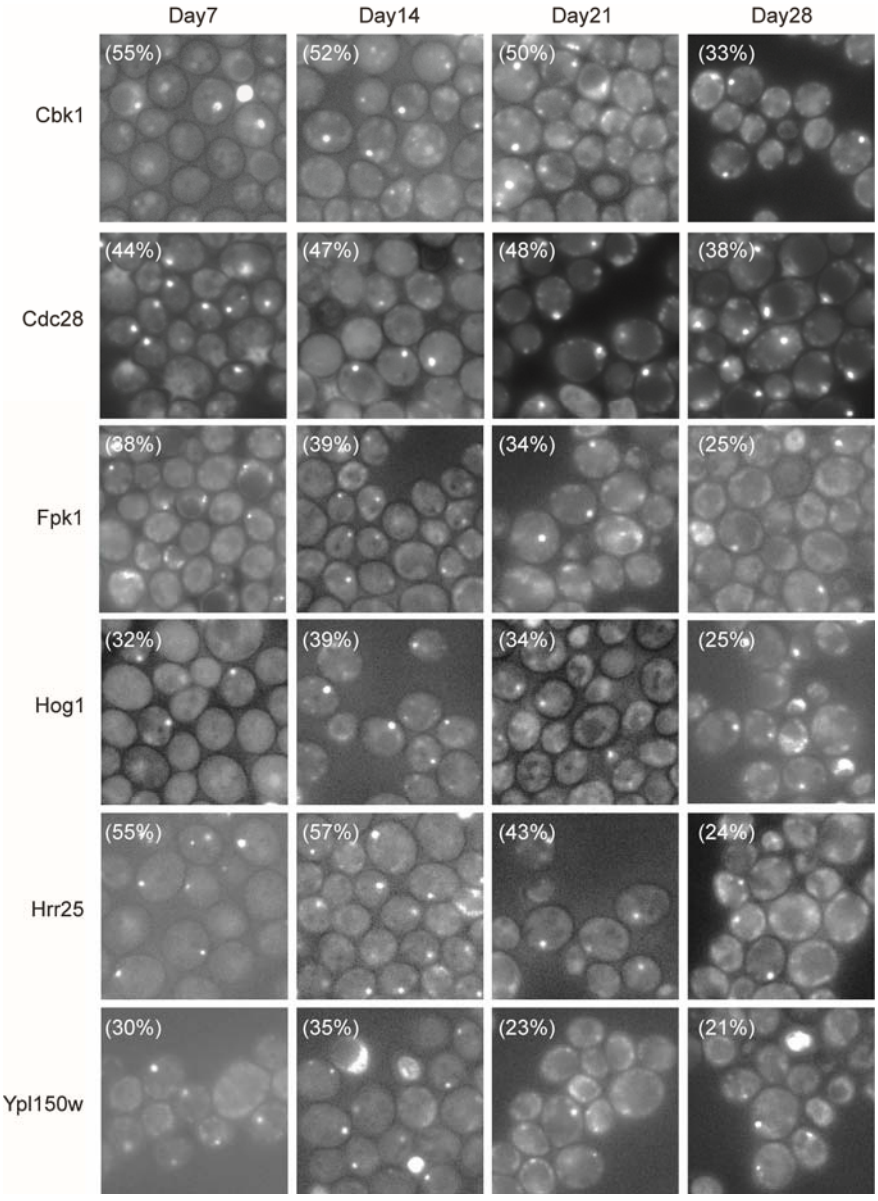

Figure S2 The protein kinase foci persisted throughout the stationary phase of growth. Cells expressing six representative protein kinase-GFP fusions were examined by fluorescence microscopy at the indicated days of growth in rich medium.

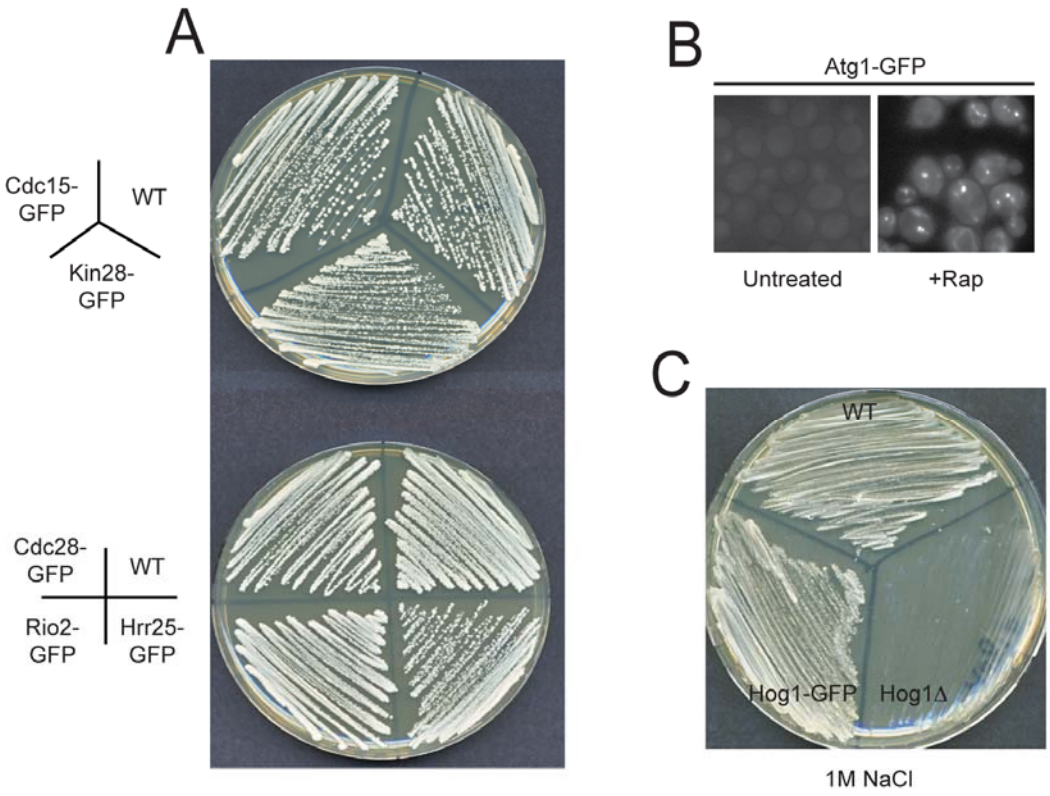

Figure S3 The protein kinase fusions appeared to retain the normal functions of the endogenous proteins. A) The relative growth rates of cells containing GFP fusions to six essential protein kinases are shown with a plate assay. The indicated strains were plated to YPAD, incubated for 2-3 days at 30°C and then photographed. B) Cells expressing the Atg1-GFP fusion protein were examined by fluorescence microscopy before (Untreated) and after a 2 hr exposure to rapamycin (+Rap). This treatment induces macroautophagy and leads to Atg1 recruitment to the PAS. The formation of the observed foci is an indication that the Atg1-GFP fusion protein is functional. C) The presence of the Hog1-GFP fusion allowed cells to grow on medium containing 1M NaCl. Strains expressing the indicated Hog1 proteins were plated to medium containing 1M NaCl and incubated for 3-4 days at 30°C.

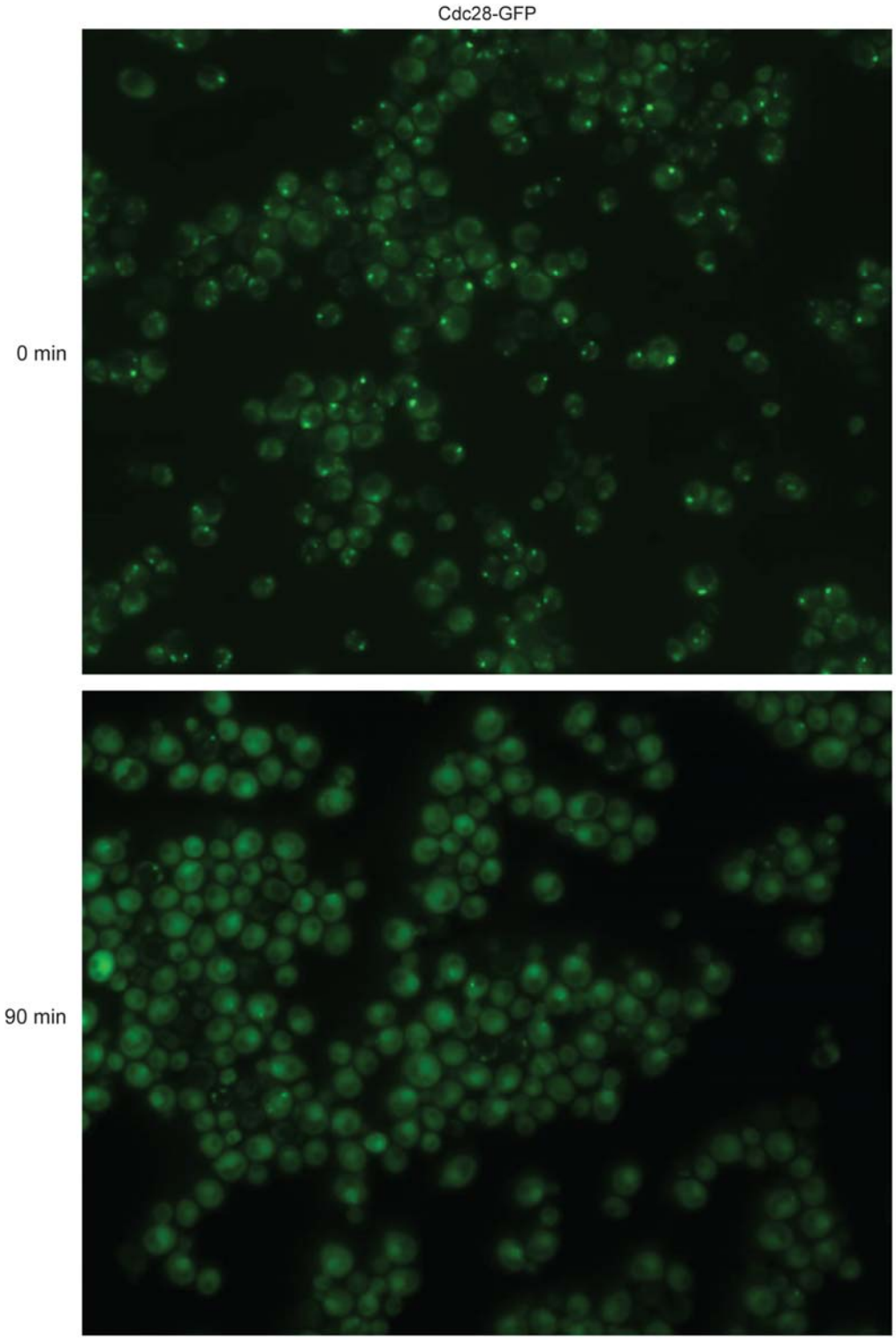

Figure S4 A larger field of view showing the disassembly of Cdc28-GFP foci that occurs in cells following the addition of fresh medium. The cells expressing the Cdc28-GFP fusion were treated for the indicated times with fresh medium as described in Figure 2.

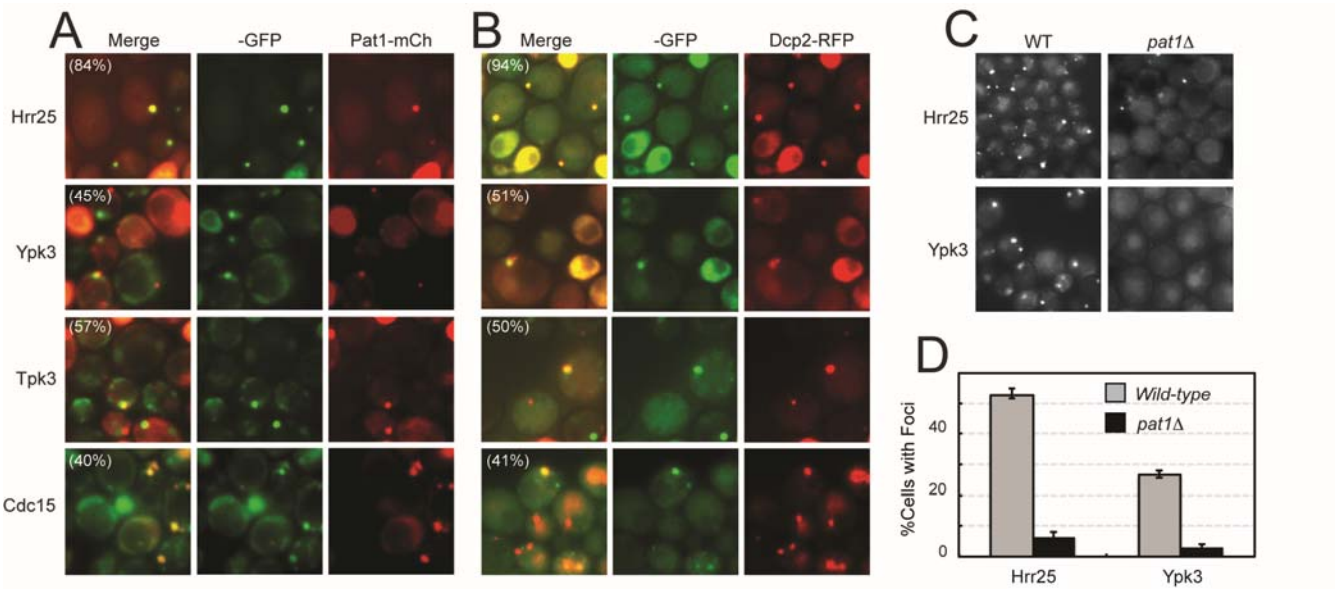

Figure S5 Protein kinases associated with P-bodies. A, B) The co-localization of the four GFP-tagged protein kinases, Hrr25, Ypk3, Tpk3 and Cdc15, with two additional reporters for P-bodies, Pat1-mCh (A) and Dcp2-RFP (B), is shown. C, D) The numbers of protein kinase foci were diminished in cells lacking the Pat1 protein. Stationary phase wild-type and *pat1Δ* cells expressing the indicated protein kinase-GFP fusions were examined by fluorescence microscopy. The values shown for the graph in panel D represent the average of at least two independent experiments (n=100).

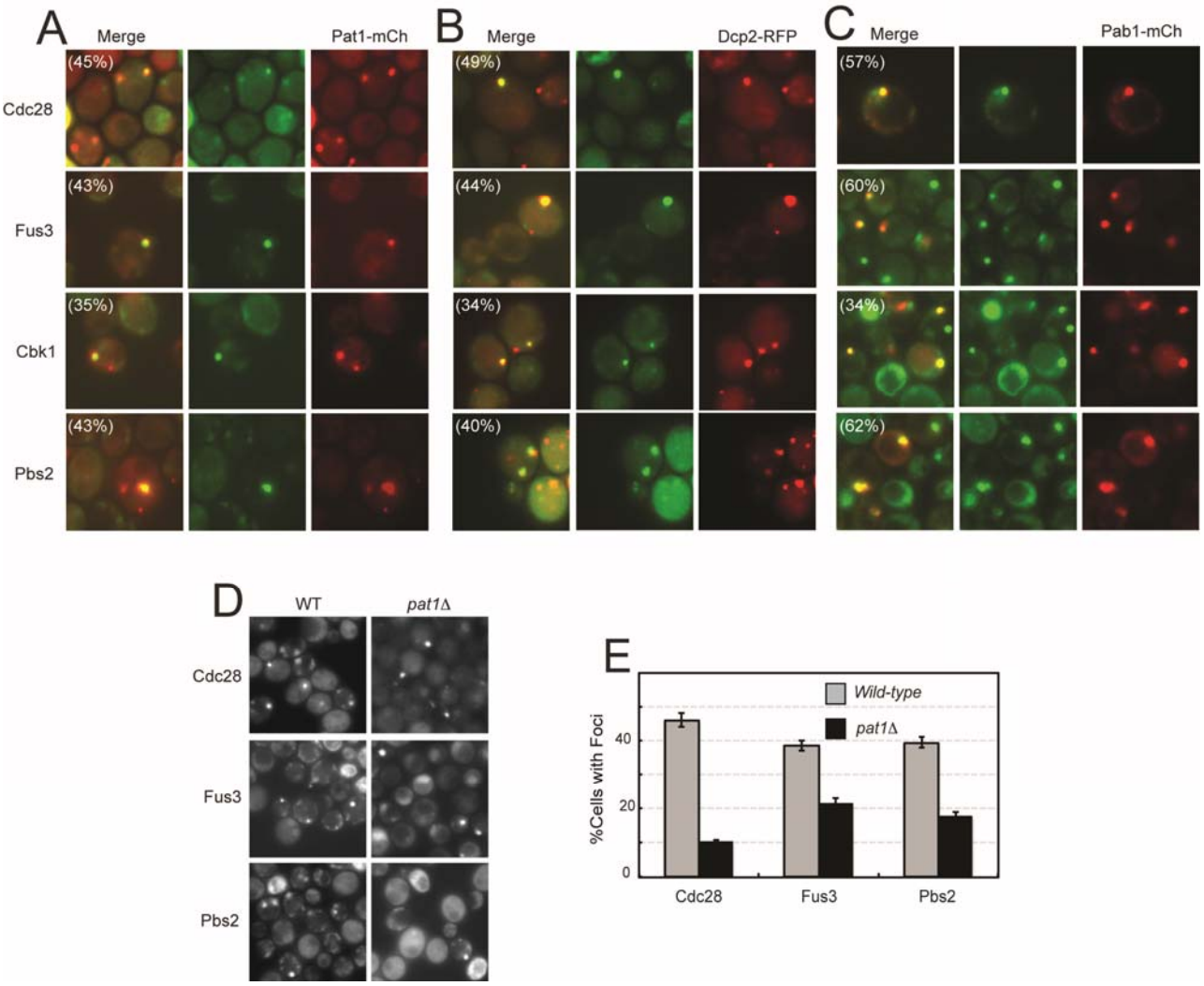

Figure S6 Protein kinases associated with both P-bodies and stress granules in stationary phase cells. A-C) The co-localization of the four GFP-tagged protein kinases, Cdc28, Fus3, Cbk1 and Pbs2, with reporters for either P-bodies (A, Pat1-mCh; B, Dcp2-RFP) or stress granules (C, Pab1-mCh) is shown. D, E) The frequency of protein kinase foci formation was diminished in *pat1Δ* cells.

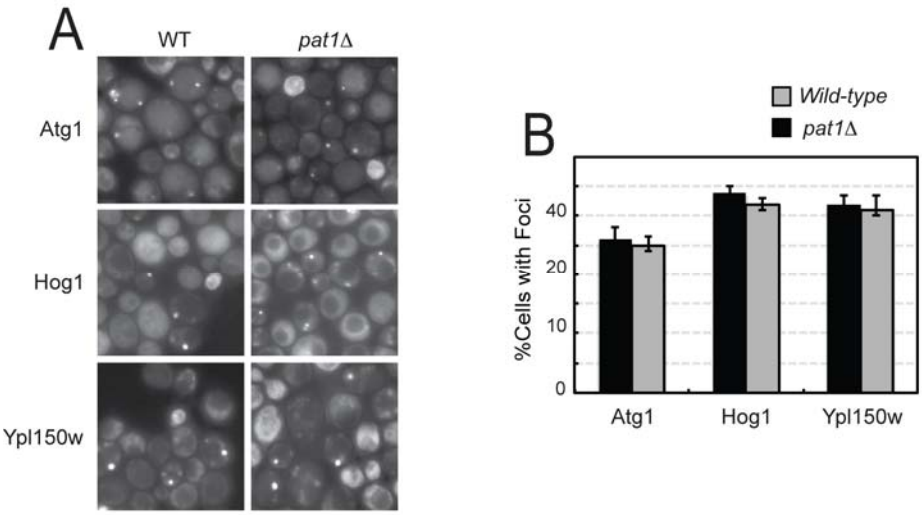

Figure S7 The loss of Pat1 did not have a significant effect on the frequency of foci formation for the protein kinases, Atg1, Hog1 and Ypl150w.

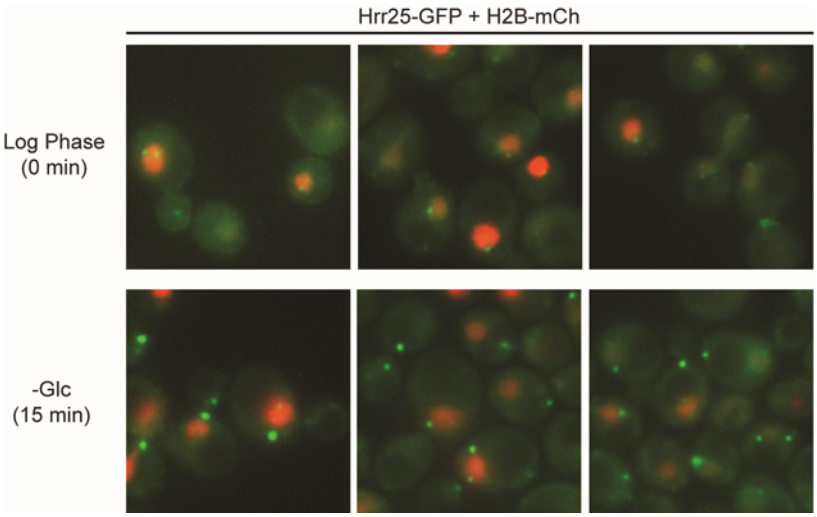

Figure S8 Hrr25 recruitment to P-bodies following an acute starvation for glucose. Cells expressing the Hrr25-GFP and histone H2B-mCh fusion proteins were grown to log phase and then transferred for 15 min to a medium that lacks glucose. Three representative fluorescence microscopy images of cells before (0 min) and after the glucose starvation (15 min) are shown. The histone H2B reporter is a marker for the nucleus. Note that the Hrr25-GFP foci that form after the glucose starvation do not co-localize with the H2B-mCh reporter. In this experiment, 56% of the cells contained a cytoplasmic Hrr25 focus after the 15 min glucose starvation.

Table S1 Plasmids used in this study.

PHY Name	Original Name	Relevant details	Source
pPHY795		*MET3$_{pro}$-RAS2^{val19}* in pRS415 *(CEN, LEU2)*	Lab collection
pPHY796		*MET3$_{pro}$-RAS2^{val19}* in pRS416 *(CEN, URA3)*	Lab collection
pPHY921		*RAS2^{val19}* in pRS316 *(CEN, URA3)*	Lab collection
pPHY3660	pRP1574	*EDC3-mCherry (CEN, URA3)*	Dr. Roy Parker
pPHY3702	pOE79	*ADH2$_{pro}$-HTB1-mCherry* (*LEU2*)	Dr. James Hopper
pPHY3703	pHYC49	*ARG3$_{pro}$-GFP* in pRS416 *(CEN, URA3)*	Dr. Anita Hopper
pPHY3704	pHYC56	*CYS4$_{pro}$-GFP* in pRS416 *(CEN, URA3)*	Dr. Anita Hopper
pPHY3714		*DCP2-RFP-PGK1$_{term}$* in pPRS415 *(CEN, LEU2)*	Dr. Claudio de Virgilio
pPHY3754		*CDC28-GFP-ADH1$_{term}$* in pRS413 *(CEN, HIS3)*	This study
pPHY3765		*CDC28-mCherry-ADH1$_{term}$* in pRS413 *(CEN, HIS3)*	This study
pPHY3769		*CDC28-GFP-ADH1$_{term}$* in pRS416 *(CEN, URA3)*	This study
pPHY3782		*PBP1-mCherry-ADH1$_{term}$* in pRS416 *(CEN, URA3)*	This study
pPHY3785		*PAT1-mCherry-ADH1$_{term}$* in pRS416 *(CEN, URA3)*	This study
pPHY3909		*PAB1-mCherry-ADH1$_{ter}$* in pRS416 *(CEN, URA3)*	This study
pPHY3963		*ABP1-mCherry-ADH1$_{term}$* in pRS416 *(CEN, URA3)*	This study
pPHY3964		*SCL1-mCherry-ADH1$_{term}$* in pRS416 *(CEN, URA3)*	This study
pPHY4067		*FPK1-mCherry-ADH1$_{term}$* in pRS416 *(CEN, URA3)*	This study
pPHY4081		*KIN28-mCherry-ADH1$_{term}$* in pRS416 *(CEN, URA3)*	This study
pPHY4083		*KSS1-mCherry-ADH1$_{term}$* in pRS416 *(CEN, URA3)*	This study

Table S2 is available for download as an Excel file at http://www.genetics.org/lookup/suppl/doi:10.1534/genetics.114.172031/-/DC1