Supplemental Figure S1. Examples of fluorescence microscopy and Om45-GFP processing from the mitophagy screen. (A) Wild-type (WT; BY4742) and knockout strains expressing Om45-GFP were cultured in YPL medium for three days to allow growth to the post-log phase, and were then observed for vacuolar GFP fluorescence. The wild-type strain showed a clear level of vacuolar GFP, *egd1*Δ showed a very weak vacuolar GFP signal and *atg32*Δ showed no vacuolar GFP signal. (B) Wild-type and *sti1*Δ strains expressing Om45-GFP were cultured in YPL medium for 12 h and then starved in SD-N for 6 h. The cell lysates equivalent to A_{600} = 0.2 units of cells were subjected to immunoblot analysis with anti-YFP antibody. Although no processed GFP was observed in the *sti1*Δ strain after 6 h starvation, we cannot conclude whether it is the result of a defect in mitophagy or a low level of Om45-GFP expression.

Supplemental Figure S2. Screen for defects in macroautophagy and the Cvt pathway. (A) Wild-type (WT; BY4742) and the indicated mutant strains expressing Pho8Δ60 were grown in YPD and shifted to SD-N for 4 h. Samples were collected and protein extracts assayed for Pho8Δ60 activity. The value for the wild-type strain was set to 100% and the other values were normalized. (B) Wild-type and the indicated mutant strains were cultured in YPD medium and analyzed for prApe1 maturation by immunoblotting to monitor the Cvt

pathway during vegetative growth. The positions of precursor and mature Ape1 are indicated.

Supplemental Figure S3. Idh1-GFP processing analysis for novel mutants. Wild-type (WT; BY4742) and the indicated mutant strains expressing Idh1-GFP were cultured in YPL medium for 12 h and then starved in SD-N for 6 h. The cell lysates equivalent to A_{600} = 0.2 units of cells were subjected to immunoblot analysis with anti-YFP antibody and anti-Pgk1 antiserum as a loading control. The asterisks indicate non-specific bands that result from repeated use of the anti-YFP antibody.

Supplemental Figure S4. GFP-Atg8 processing analysis for novel mutants. Wild-type (WT, BY4742) and the indicated mutant strains expressing GFP-Atg8 were cultured in YPD medium to mid-log phase and then starved in SD-N for 2 and 4 h. The cell lysates equivalent to A_{600} = 0.2 units of cells were subjected to immunoblot analysis with anti-YFP antibody.

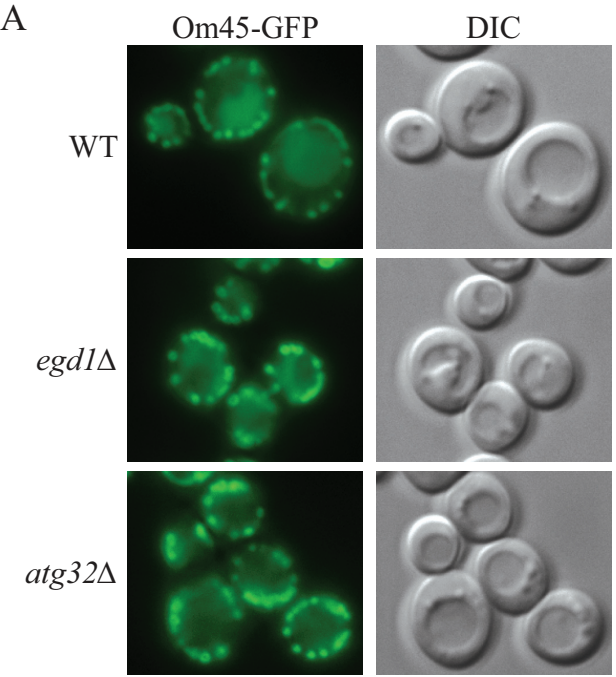
Supplemental Figure S5. Subcellular localization of the mitophagy-related proteins identified from the screen. Each protein was chromosomally tagged with GFP and observed

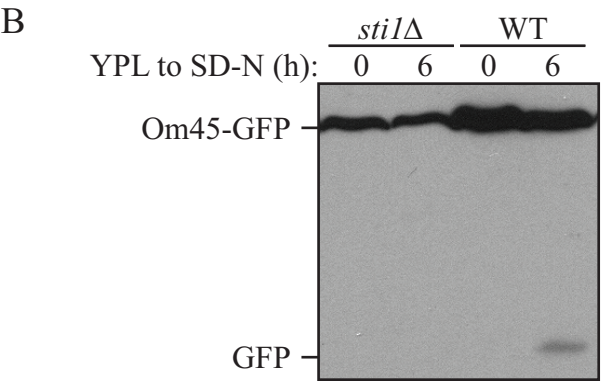
with fluorescence microscopy as described in Materials and Methods. DIC, differential interference contrast.

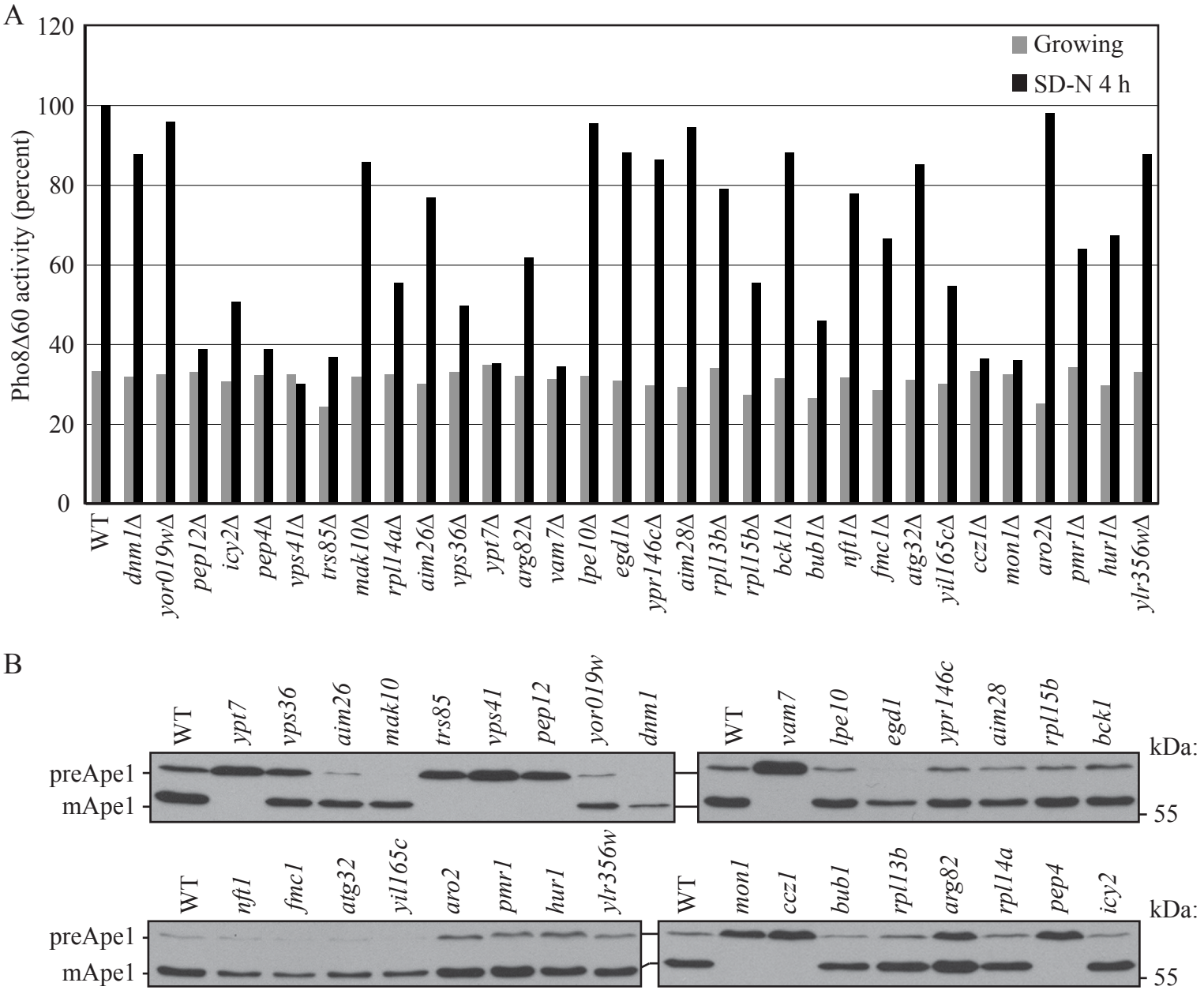
Supplemental Figure S6. The Cvt pathway, pexophagy and cell growth are normal in the *ylr356w*Δ strain. (A) Wild-type (WT; SEY6210), *atg1*Δ, and *ylr356w*Δ strains were cultured in YPD medium and analyzed for prApe1 maturation by immunoblotting to monitor the Cvt pathway during vegetative growth. The positions of precursor and mature Ape1 are indicated. (B) GFP was integrated at the *PEX14* locus in wild-type (SEY6210), *atg1*Δ, and *ylr356w*Δ strains. Cells were grown in oleic acid-containing medium (YTO) for 19 h, then shifted to SD-N for the indicated times. Samples were collected and analyzed by immunoblot with antibody to YFP. (C) Wild-type (SEY6210) and *ylr356w*Δ strains expressing Om45-GFP were cultured in YPL medium for three days. The localization of GFP was visualized by fluorescence microscopy. DIC, differential interference contrast. (D) Wild-type (WT; SEY6210), *ylr356w*Δ and *icy2*Δ strains were cultured in YPD medium to mid-log phase and washed in sterile water. Equal numbers of cells suspended in sterile water were inoculated on YPD and YPL plates. Cells were diluted 1:5 in each step from left to right.

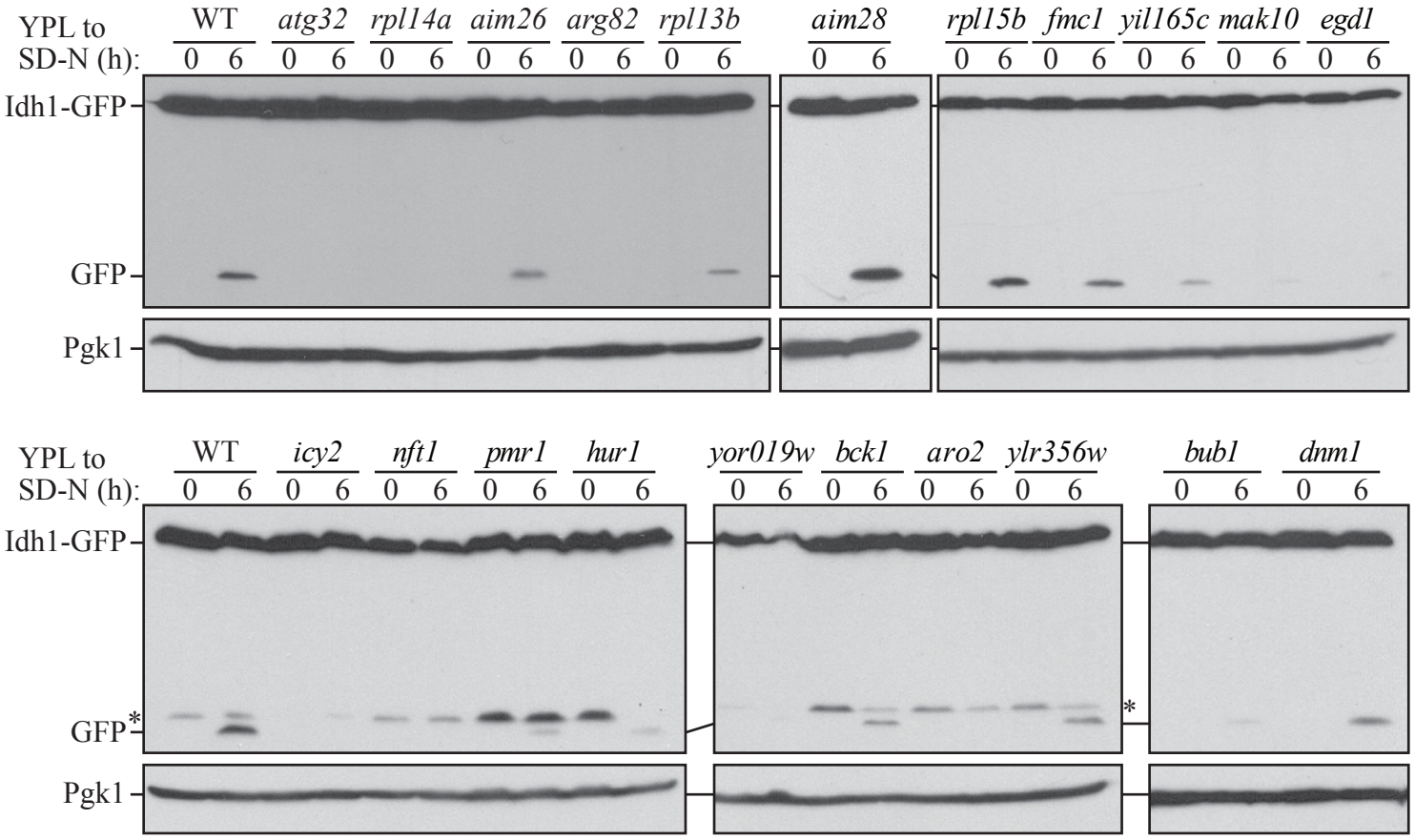
Supplemental Figure S7. Analysis of mitophagy in the *atg* mutant strains. The wild type (WT; TKYM22) and the indicated *atg* mutant strains expressing Om45-GFP were cultured in YPL medium for 12 h and then starved in SD-N for 6 h. The cell lysates equivalent to A_{600} = 0.2 units of cells were subjected to immunoblot analysis with anti-YFP antibodies.

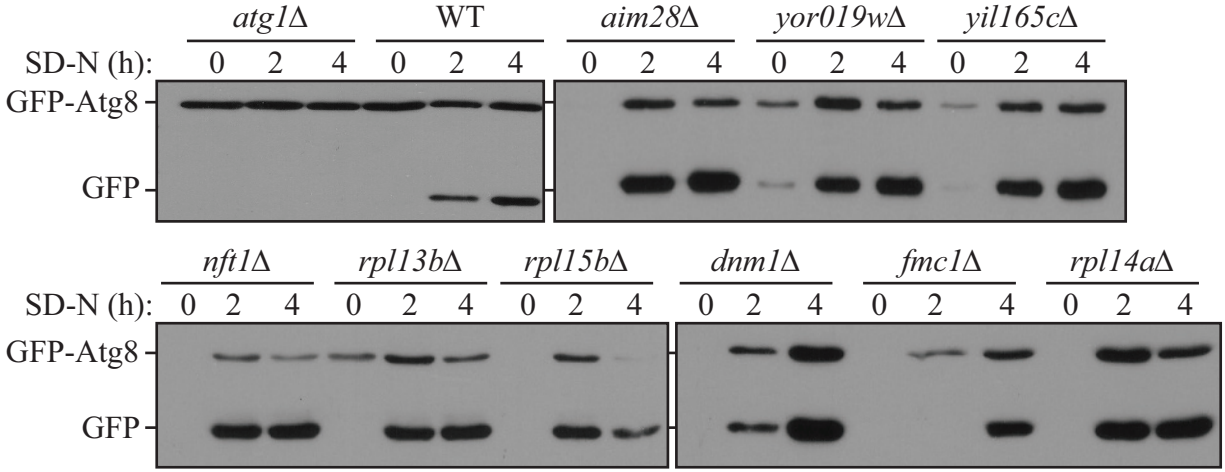
Supplemental Figure S8. EM. Electron microscopy of mitophagy during starvation and at post-log phase. The *pep4*Δ strain was cultured in YPL medium to growing phase, then shifted to SD-N and cultured for 6 h (A and B) or was cultured in YPL medium to stationary phase (for 50 h; C and D). Cells were prepared for electron microscopy using freeze substitution. The arrow marks an example of autophagosome containing a mitochondria and cytosolic components. AB, autophagic body including cytosolic components; M, autophagic body including mitochondria only; M+C, autophagic body including mitochondria and cytosolic components; Mit, mitochondria in cytosol; V, vacuole; N, nucleus. Scale bar, 500 nm.

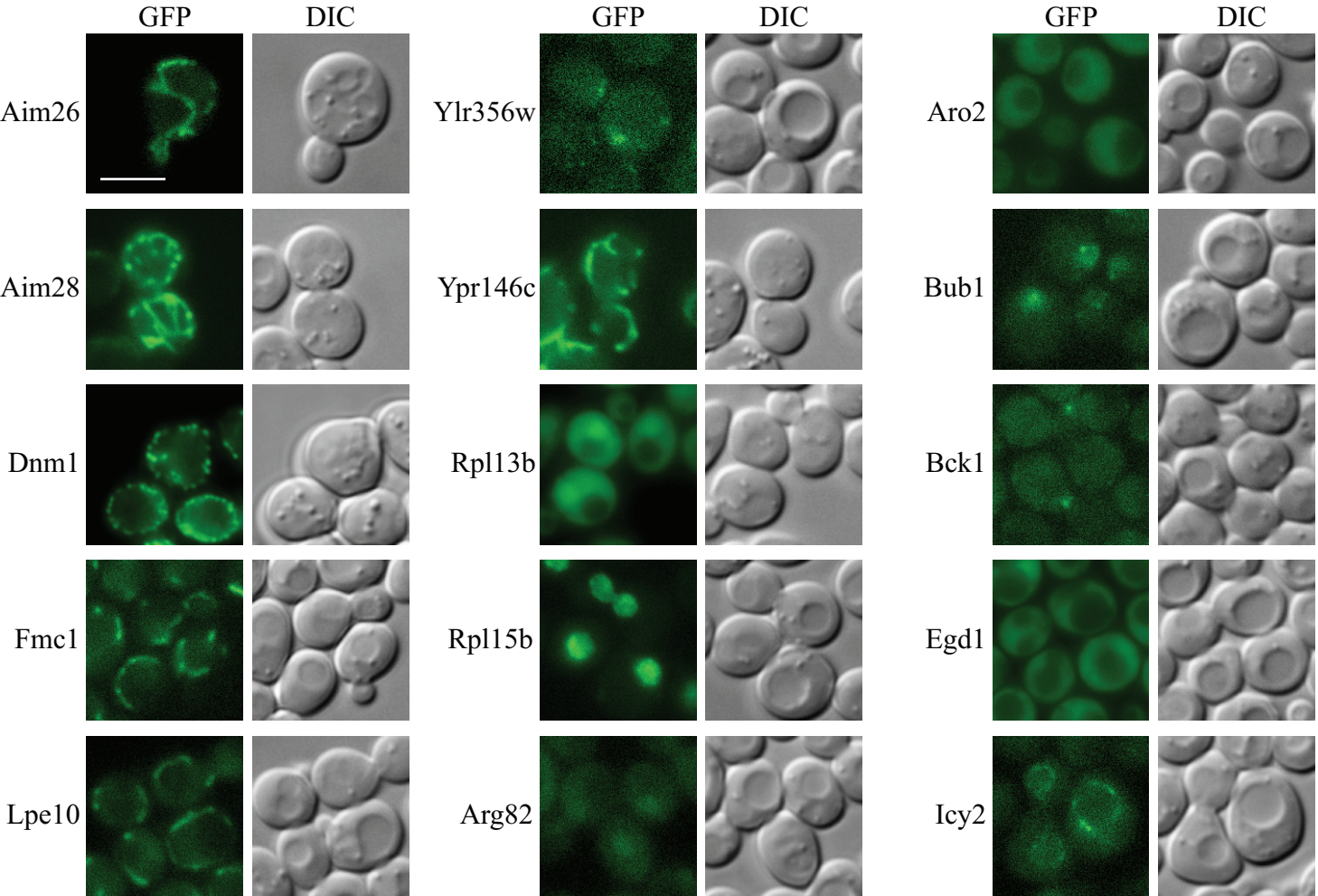

A
Om45-GFP
DIC
WT
egd1Δ
atg32Δ


B
sti1Δ
WT
YPL to SD-N (h):
0
6
0
6
Om45-GFP
GFP


A
Pho8Δ60 activity (percent)
120
100
80
60
40
20
0
Growing
SD-N 4 h
WT
dnm1Δ
yor019wΔ
pep12Δ
icy2Δ
pep4Δ
vps41Δ
trs85Δ
mak10Δ
rpl14aΔ
aim26Δ
vps36Δ
ypt7Δ
arg82Δ
vam7Δ
lpe10Δ
egd1Δ
ypr146cΔ
aim28Δ
rpl13bΔ
rpl15bΔ
bck1Δ
bub1Δ
nft1Δ
fmc1Δ
atg32Δ
yil165cΔ
ccz1Δ
mon1Δ
aro2Δ
pmr1Δ
hur1Δ
ylr356wΔ
B
WT
ypt7
vps36
aim26
mak10
trs85
vps41
pep12
yor019w
dnm1
WT
vam7
lpe10
egd1
ypr146c
aim28
rpl15b
bck1
kDa:
preApe1
mApe1
55
WT
nft1
fmc1
atg32
yil165c
aro2
pmr1
hur1
ylr356w
WT
mon1
ccz1
bub1
rpl13b
arg82
rpl14a
pep4
icy2
kDa:
preApe1
mApe1
55


YPL to
SD-N (h):
WT
atg32
rpl14a
aim26
arg82
rpl13b
aim28
rpl15b
fmc1
yil165c
mak10
egd1
0 6
Idh1-GFP
GFP
Pgk1
YPL to
SD-N (h):
WT
icy2
nft1
pmr1
hur1
yor019w
bck1
aro2
ylr356w
bub1
dnm1
0 6
Idh1-GFP
GFP*
*
Pgk1


atg1Δ
WT
aim28Δ
yor019wΔ
yil165cΔ
SD-N (h):
0 2 4 0 2 4 0 2 4 0 2 4 0 2 4
GFP-Atg8
GFP
nft1Δ
rpl13bΔ
rpl15bΔ
dnm1Δ
fmc1Δ
rpl14aΔ
SD-N (h):
0 2 4 0 2 4 0 2 4 0 2 4 0 2 4 0 2 4
GFP-Atg8
GFP


GFP
DIC
GFP
DIC
GFP
DIC
Aim26
Ylr356w
Aro2
Aim28
Ypr146c
Bub1
Dnm1
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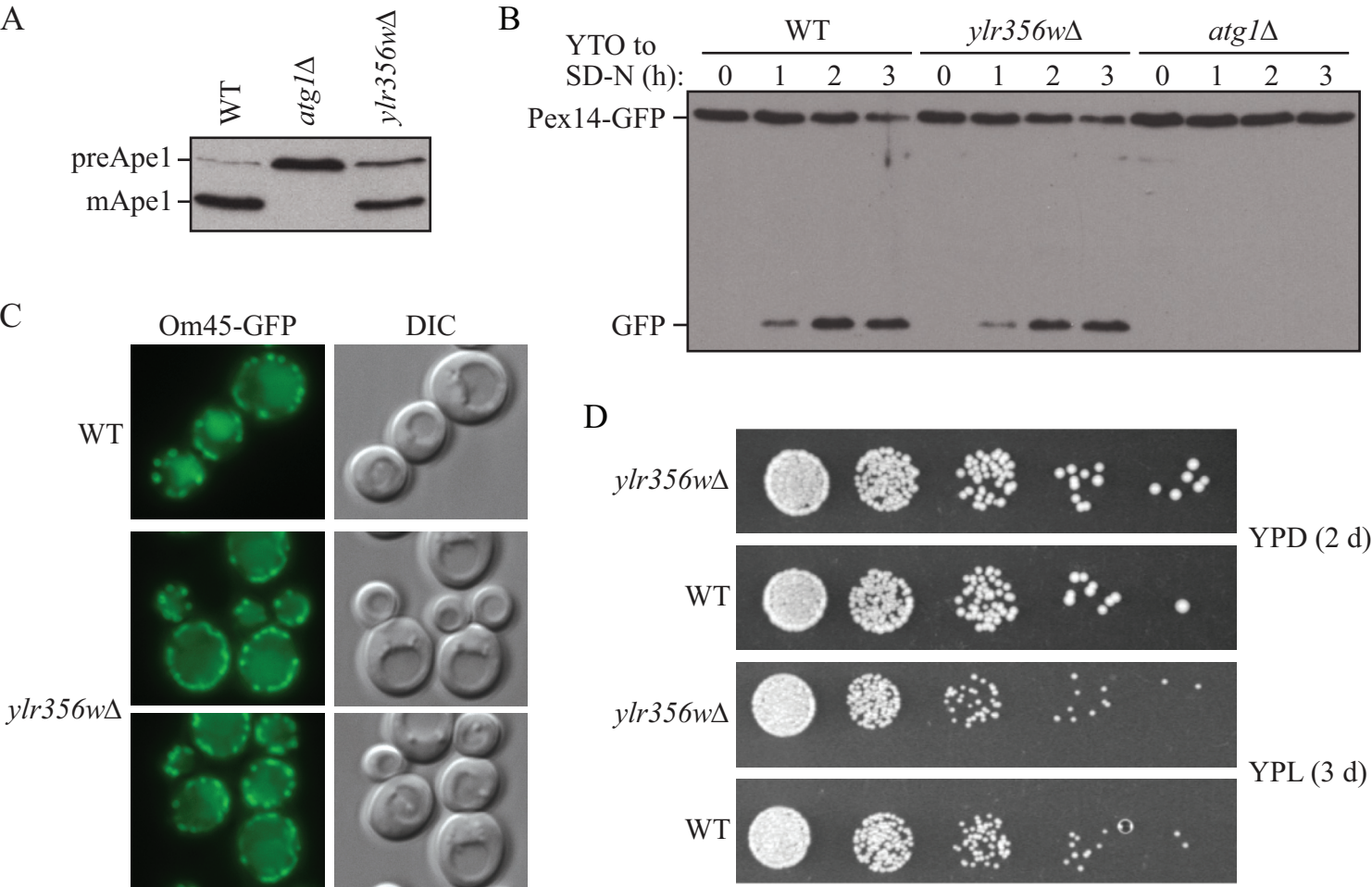
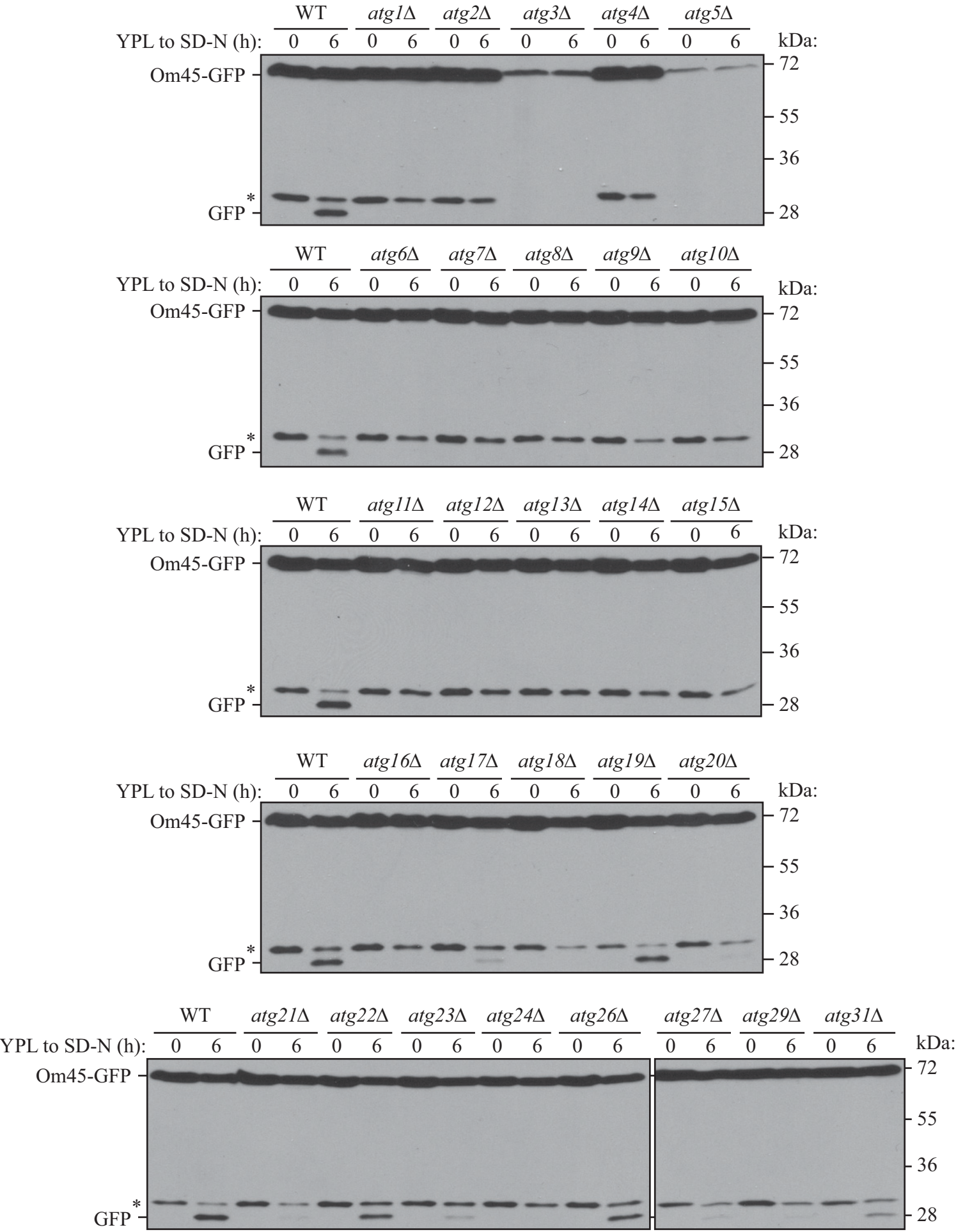
Fmc1
Rpl15b
Egd1
Lpe10
Arg82
Icy2


A
WT
atg1Δ
ylr356wΔ
preApe1
mApe1
B
YTO to
SD-N (h):
WT
ylr356wΔ
atg1Δ
0 1 2 3 0 1 2 3 0 1 2 3
Pex14-GFP
GFP
C
Om45-GFP
DIC
WT
ylr356wΔ
D
ylr356wΔ
WT
ylr356wΔ
WT
YPD (2 d)
YPL (3 d)


WT
atg1Δ
atg2Δ
atg3Δ
atg4Δ
atg5Δ
YPL to SD-N (h): 0 6 0 6 0 6 0 6 0 6 0 6
kDa:
Om45-GFP
GFP *
72
55
36
28
WT
atg6Δ
atg7Δ
atg8Δ
atg9Δ
atg10Δ
YPL to SD-N (h): 0 6 0 6 0 6 0 6 0 6 0 6
kDa:
Om45-GFP
GFP *
72
55
36
28
WT
atg11Δ
atg12Δ
atg13Δ
atg14Δ
atg15Δ
YPL to SD-N (h): 0 6 0 6 0 6 0 6 0 6 0 6
kDa:
Om45-GFP
GFP *
72
55
36
28
WT
atg16Δ
atg17Δ
atg18Δ
atg19Δ
atg20Δ
YPL to SD-N (h): 0 6 0 6 0 6 0 6 0 6 0 6
kDa:
Om45-GFP
GFP *
72
55
36
28
WT
atg21Δ
atg22Δ
atg23Δ
atg24Δ
atg26Δ
atg27Δ
atg29Δ
atg31Δ
YPL to SD-N (h): 0 6 0 6 0 6 0 6 0 6 0 6 0 6 0 6 0 6
kDa:
Om45-GFP
GFP *
72
55
36
28

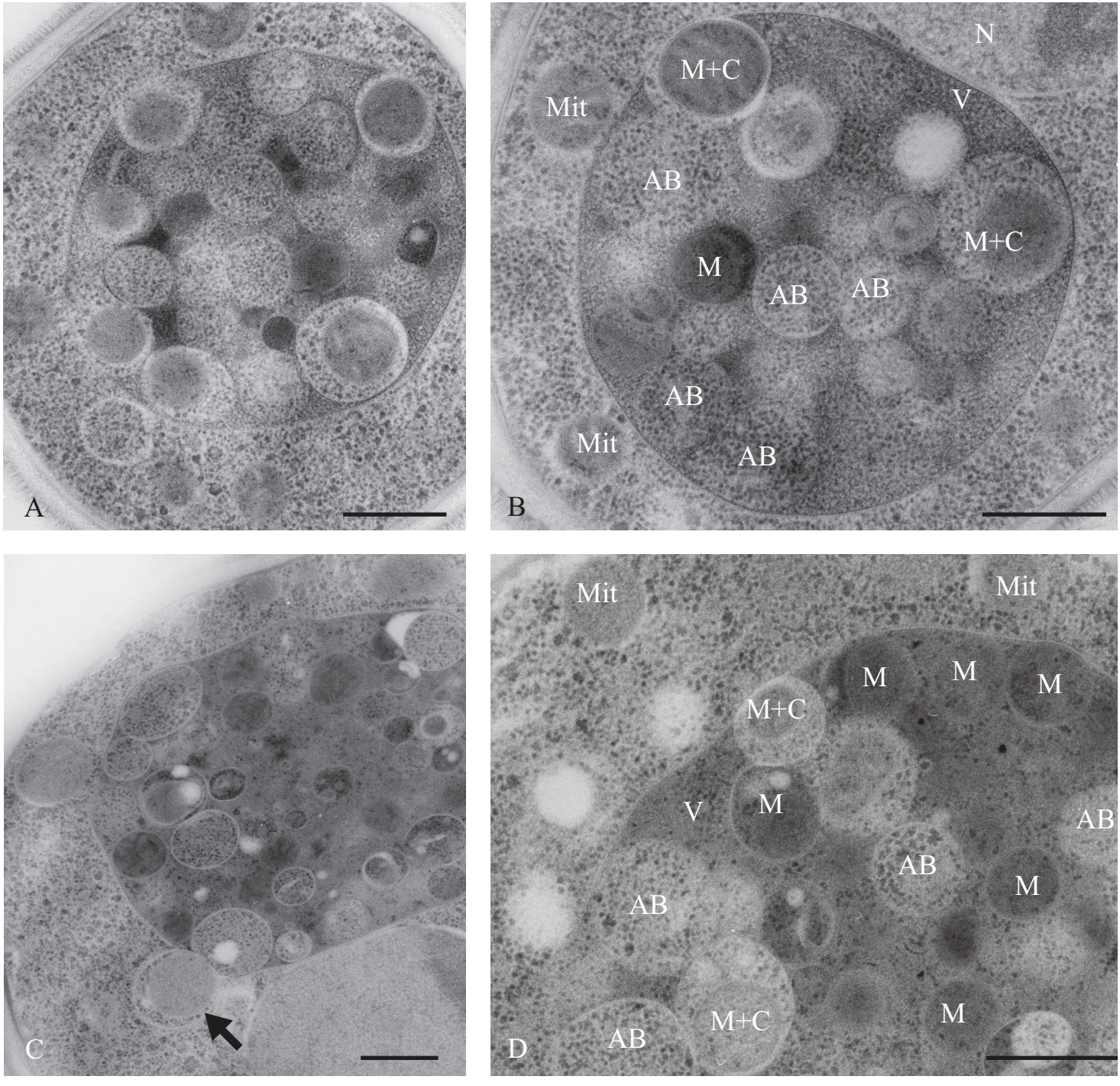

SD-N
6 h
YPL
50 h
A
B
C
D
N
M+C
Mit
V
AB
M
M+C
AB
AB
AB
Mit
AB
Mit
Mit
M
M
M
M+C
V
M
AB
AB
M
AB
M+C
AB
M

Table S1. Yeast strains used in this study.

Strain	Genotype	Source
KWY20	SEY6210 *pho8*Δ*::TRP1 pho13*Δ*::LEU2* pRS406-*ADH1-COX4-pho8*Δ*60*	This study
KWY21	SEY6210 *pho8*Δ*::TRP1 pho13*Δ*::LEU2* pRS406-*ADH1-COX4-pho8*Δ*60 atg1*Δ*::ble*	This study
KWY22	SEY6210 *pho8*Δ*::TRP1 pho13*Δ*::LEU2* pRS406-*ADH1-COX4-pho8*Δ*60 atg32*Δ*::KAN*	This study
KWY23	SEY6210 *pho8*Δ*::TRP1 pho13*Δ*::LEU2* pRS406-*ADH1-COX4-pho8*Δ*60 aim26*Δ*::KAN*	This study
KWY24	SEY6210 *pho8*Δ*::TRP1 pho13*Δ*::LEU2* pRS406-*ADH1-COX4-pho8*Δ*60 aim28*Δ*::KAN*	This study
KWY25	SEY6210 *pho8*Δ*::TRP1 pho13*Δ*::LEU2* pRS406-*ADH1-COX4-pho8*Δ*60 dnm1*Δ*::KAN*	This study
KWY26	SEY6210 *pho8*Δ*::TRP1 pho13*Δ*::LEU2* pRS406-*ADH1-COX4-pho8*Δ*60 fmc1*Δ*::KAN*	This study
KWY27	SEY6210 *pho8*Δ*::TRP1 pho13*Δ*::LEU2*	This study

	pRS406-*ADH1-COX4-pho8*Δ*60 lpe10*Δ*::KAN*	
KWY28	SEY6210 *pho8*Δ*::TRP1 pho13*Δ*::LEU2*	This study
	pRS406-*ADH1-COX4-pho8*Δ*60 ypr146c*Δ*::KAN*	
KWY29	SEY6210 *pho8*Δ*::TRP1 pho13*Δ*::LEU2*	This study
	pRS406-*ADH1-COX4-pho8*Δ*60 ylr356w*Δ*::KAN*	
KWY30	SEY6210 *pho8*Δ*::TRP1 pho13*Δ*::LEU2*	This study
	pRS406-*ADH1-COX4-pho8*Δ*60 rpl13b*Δ*::KAN*	
KWY31	SEY6210 *pho8*Δ*::TRP1 pho13*Δ*::LEU2*	This study
	pRS406-*ADH1-COX4-pho8*Δ*60 rpl15b*Δ*::KAN*	
KWY32	SEY6210 *pho8*Δ*::TRP1 pho13*Δ*::LEU2*	This study
	pRS406-*ADH1-COX4-pho8*Δ*60 aro2*Δ*::KAN*	
KWY33	SEY6210 *pho8*Δ*::TRP1 pho13*Δ*::LEU2*	This study
	pRS406-*ADH1-COX4-pho8*Δ*60 bck1*Δ*::KAN*	
KWY34	SEY6210 *pho8*Δ*::TRP1 pho13*Δ*::LEU2*	This study
	pRS406-*ADH1-COX4-pho8*Δ*60 bub1*Δ*::KAN*	
KWY35	SEY6210 *pho8*Δ*::TRP1 pho13*Δ*::LEU2*	This study
	pRS406-*ADH1-COX4-pho8*Δ*60 egd1*Δ*::KAN*	

KWY36	SEY6210 *pho8*Δ*::TRP1 pho13*Δ*::LEU2* pRS406-*ADH1-COX4-pho8*Δ*60 icy2*Δ*::HIS5*	This study
KWY37	SEY6210 *pho8*Δ*::TRP1 pho13*Δ*::LEU2* pRS406-*ADH1-COX4-pho8*Δ*60 mak10*Δ*::KAN*	This study
KWY38	SEY6210 *pho8*Δ*::TRP1 pho13*Δ*::LEU2* pRS406-*ADH1-COX4-pho8*Δ*60 nft1*Δ*::KAN*	This study
KWY39	SEY6210 *pho8*Δ*::TRP1 pho13*Δ*::LEU2* pRS406-*ADH1-COX4-pho8*Δ*60 yil165c*Δ*::KAN*	This study
KWY40	SEY6210 *pho8*Δ*::TRP1 pho13*Δ*::LEU2* pRS406-*ADH1-COX4-pho8*Δ*60 yor019w*Δ*::KAN*	This study
KWY41	SEY6210 *OM45-GFP::TRP1 aim26*Δ*::KAN*	This study
KWY42	SEY6210 *OM45-GFP::TRP1 aim28*Δ*::KAN*	This study
KWY43	SEY6210 *OM45-GFP::TRP1 dnm1*Δ*::KAN*	This study
KWY44	SEY6210 *OM45-GFP::TRP1 fmc1*Δ*::KAN*	This study
KWY45	SEY6210 *OM45-GFP::TRP1 lpe10*Δ*::KAN*	This study
KWY46	SEY6210 *OM45-GFP::TRP1 ypr146c*Δ*::KAN*	This study
KWY47	SEY6210 *OM45-GFP::TRP1 ylr356w*Δ*::KAN*	This study

KWY48	SEY6210 *OM45-GFP::TRP1 rpl13b*Δ*::KAN*	This study
KWY49	SEY6210 *OM45-GFP::TRP1 rpl15b*Δ*::KAN*	This study
KWY50	SEY6210 *OM45-GFP::TRP1 aro2*Δ*::KAN*	This study
KWY51	SEY6210 *OM45-GFP::TRP1 bck1*ΔΔ*::KAN*	This study
KWY52	SEY6210 *OM45-GFP::TRP1 bub1*Δ*::KAN*	This study
KWY53	SEY6210 *OM45-GFP::TRP1 egd1*Δ*::KAN*	This study
KWY54	SEY6210 *OM45-GFP::TRP1 icy2*Δ*::KAN*	This study
KWY55	SEY6210 *OM45-GFP::TRP1 mak10*Δ*::KAN*	This study
KWY56	SEY6210 *OM45-GFP::TRP1 nft1*Δ*::KAN*	This study
KWY57	SEY6210 *OM45-GFP::TRP1 pmr1*Δ*::KAN*	This study
KWY58	SEY6210 *OM45-GFP::TRP1 hur1*Δ*::KAN*	This study
KWY59	SEY6210 *OM45-GFP::TRP1 yil165c*Δ*::KAN*	This study
KWY60	SEY6210 *OM45-GFP::TRP1 yor019w*Δ*::KAN*	This study
KWY61	SEY6210 *AIM26-GFP::TRP1*	This study
KWY62	SEY6210 *AIM28-GFP::TRP1*	This study
KWY63	SEY6210 *DNM1-GFP::TRP1*	This study
KWY64	SEY6210 *FMC1-GFP::TRP1*	This study

KWY65	SEY6210 *LPE10-GFP::TRP1*	This study
KWY66	SEY6210 *YPR146C-GFP::TRP1*	This study
KWY67	SEY6210 *RPL13B-GFP::TRP1*	This study
KWY68	SEY6210 *RPL15B-GFP::TRP1*	This study
KWY69	SEY6210 *ARG82-GFP::TRP1*	This study
KWY70	SEY6210 *ARO2-GFP::TRP1*	This study
KWY71	SEY6210 *BCK1-GFP::TRP1*	This study
KWY72	SEY6210 *BUB1-GFP::TRP1*	This study
KWY73	SEY6210 *EGD1-GFP::TRP1*	This study
SEY6210	MATα *his3-Δ200 leu2-3,112 lys2-801*	(Robinson et al., 1988)
	trp1-Δ901 ura3-52 suc2-Δ9 GAL	
TKY28	SEY6210 *pep4Δ::LEU2*	This study
TKYM22	SEY6210 *OM45-GFP::TRP1*	(Kanki and Klionsky, 2008)
TKYM25	SEY6210 *atg1Δ::KanMX6 OM45-GFP::TRP1*	This study
TKYM36	SEY6210 *atg8Δ::HIS5 S.p. OM45-GFP::TRP1*	This study
TKYM37	SEY6210 *atg5Δ::LEU2 OM45-GFP::HIS3MX6*	This study
TKYM38	SEY6210 *atg9Δ::HIS5 S.p. OM45-GFP::TRP1*	This study

TKYM39	SEY6210 *atg11*Δ*::LEU2 OM45-GFP::TRP1*	This study
TKYM44	SEY6210 *atg27*Δ*::TRP1 OM45-GFP::HIS3MX6*	This study
TKYM45	SEY6210 *atg31*Δ*::HIS5 S.p.* *OM45-GFP::KanMX6*	This study
TKYM47	SEY6210 *atg17*Δ*::KanMX6* *OM45-GFP::HIS3MX6*	This study
TKYM49	SEY6210 *atg29*Δ*::KanMX6* *OM45-GFP::HIS3MX6*	This study
TKYM50	SEY6210 *IDH1-GFP::KanMX6*	(Kanki and Klionsky, 2008)
TKYM53	SEY6210 *atg20*Δ*::HIS5 S.p.* *OM45-GFP::KanMX6*	This study
TKYM54	SEY6210 *atg24*Δ*::HIS5 S.p.* *OM45-GFP::KanMX6*	This study
TKYM57	SEY6210 *atg23*Δ*::KanMX6 OM45-GFP::TRP1*	This study
TKYM62	SEY6210 *atg19*Δ*::HIS5 S.p. OM45-GFP::TRP1*	This study
TKYM67	SEY6210 *PEX14-GFP::KanMX6*	(Kanki and Klionsky, 2008)
TKYM72	SEY6210 *atg1*Δ*::HIS5 S.p.*	(Kanki and Klionsky, 2008)

	PEX14-GFP::KanMX6	
TKYM80	SEY6210 *atg1*Δ*::HIS5 S.p. IDH1-GFP::TRP1*	This study
TKYM167	SEY6210 *ylr356w*Δ*::HIS5 S.p.*	This study
	OM45-GFP::TRP1	
TKYM170	SEY6210 *atg2*Δ*::HIS5 S.p. OM45-GFP::TRP1*	This study
TKYM171	SEY6210 *atg3*Δ*::HIS5 S.p.*	This study
	OM45-GFP::KanMX6	
TKYM172	SEY6210 *atg4*Δ*::LEU2*	This study
	OM45-GFP::HIS3MX6	
TKYM173	SEY6210 *atg6*Δ*::LEU2 OM45-GFP::HIS3MX6*	This study
TKYM174	SEY6210 *atg7*Δ*::HIS5 S.p. OM45-GFP::TRP1*	This study
TKYM175	SEY6210 *atg10*Δ*::HIS5 S.p. OM45-GFP::TRP1*	This study
TKYM176	SEY6210 *atg12*Δ*::KanMX6*	This study
	OM45-GFP::HIS3MX6	
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	OM45-GFP::HIS3MX6	
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TKYM179	SEY6210 *atg15*Δ*::KanMX6* *OM45-GFP::HIS3MX6*	This study
TKYM180	SEY6210 *atg16*Δ*::KanMX6 OM45-GFP::URA3*	This study
TKYM181	SEY6210 *atg18*Δ*::KanMX6* *OM45-GFP::HIS3MX6*	This study
TKYM182	SEY6210 *atg21*Δ*::HIS5 S.p. OM45-GFP::TRP1*	This study
TKYM183	SEY6210 *atg22*Δ*::TRP1 OM45-GFP::HIS3MX6*	This study
TKYM184	SEY6210 *atg26*Δ*::URA3 OM45-GFP::HIS3MX6*	This study
TKYM186	SEY6210 *icy2*Δ*::HIS5 S.p. OM45-GFP::TRP1*	This study
TKYM187	SEY6210 *icy2*Δ*::HIS5 S.p. PEX14-GFP::TRP1*	This study
TKYM188	SEY6210 *ylr356w*Δ*::HIS5 S.p.* *PEX14-GFP:: TRP1*	This study
TKYM194	SEY6210 *ylr356w*Δ*::HIS5 S.p. IDH1-GFP::TRP1*	This study
TKYM195	SEY6210 *icy2*Δ*::HIS5 S.p. IDH1-GFP::TRP1*	This study
KWY007	SEY6210 *atg1*Δ*::HIS5 S.p. ICY2-GFP::TRP1*	This study
TKYM196	SEY6210 *ylr356w*Δ*::HIS5 S.p.*	This study
TKYM197	SEY6210 *icy2*Δ*::HIS5 S.p.*	This study

TKYM199	TN124 *ylr356wΔ::URA3*	This study
TKYM200	TN124 *icy2Δ::URA3*	This study
TKYM201	SEY6210 *KanMX6::GAL-YLR356W-GFP::TRP1*	This study
TKYM205	SEY6210 *YLR356W-PA:: TRP1* *OM45-GFP::URA3*	This study
TKYM206	SEY6210 *YLR356W-PA:: TRP1* *TIM23-13myc:: HIS5 S.p.*	This study
TN124	MATa *leu2-3,112 ura3-52 trp1* *pho8::pho8Δ60 pho13Δ::LEU2*	(Noda et al., 1995)
WLY176	SEY6210 *pho13Δ pho8Δ60::HIS3*	This study
WLY192	SEY6210 *pho13Δ::KAN pho8Δ60::URA3 atg1Δ::HIS5*	This study
WLY233	SEY6210 *pho13Δ pho8Δ60::HIS3 arg82Δ::KAN*	This study
WLY234	SEY6210 *pho13Δ pho8Δ60::HIS3 aim28Δ::KAN*	This study
WLY235	SEY6210 *pho13Δ pho8Δ60::HIS3 rpl14aΔ::KAN*	This study
WLY236	SEY6210 *pho13Δ pho8Δ60::HIS3 yor019wΔ::KAN*	This study
WLY237	SEY6210 *pho13Δ pho8Δ60::HIS3 icy2Δ::KAN*	This study
WLY238	SEY6210 *pho13Δ pho8Δ60::HIS3 hur1Δ::LEU2*	This study

WLY239	SEY6210 *pho13*Δ *pho8*Δ*60::HIS3 fmc1*Δ*::KAN*	This study
WLY240	SEY6210 *pho13*Δ *pho8*Δ*60::HIS3 yil165c*Δ*::KAN*	This study
WLY241	SEY6210 *pho13*Δ *pho8*Δ*60::HIS3 rpl15b*Δ*::KAN*	This study
WLY242	SEY6210 *pho13*Δ *pho8*Δ*60::HIS3 ylr356w*Δ*::KAN*	This study
WLY243	SEY6210 *pho13*Δ *pho8*Δ*60::HIS3 atg32*Δ*::KAN*	This study
WLY244	SEY6210 *pho13*Δ *pho8*Δ*60::HIS3 bck1*Δ*::KAN*	This study
WLY245	SEY6210 *pho13*Δ *pho8*Δ*60::HIS3 aim26*Δ*::KAN*	This study
WLY246	SEY6210 *pho13*Δ *pho8*Δ*60::HIS3 nft1*Δ*::KAN*	This study
WLY247	SEY6210 *pho13*Δ *pho8*Δ*60::HIS3 ypr146c*Δ*::KAN*	This study
WLY248	SEY6210 *pho13*Δ *pho8*Δ*60::HIS3 mak10*Δ*::KAN*	This study
WLY249	SEY6210 *pho13*Δ *pho8*Δ*60::HIS3 egd1*Δ*::KAN*	This study
WLY250	SEY6210 *pho13*Δ *pho8*Δ*60::HIS3 dnm1*Δ*::KAN*	This study
WLY251	SEY6210 *pho13*Δ *pho8*Δ*60::HIS3 aro2*Δ*::KAN*	This study
WLY252	SEY6210 *pho13*Δ *pho8*Δ*60::HIS3 bub1*Δ*::KAN*	This study
WLY253	SEY6210 *pho13*Δ *pho8*Δ*60::HIS3 lpe10*Δ*::KAN*	This study
WLY254	SEY6210 *pho13*Δ *pho8*Δ*60::HIS3 pmr1*Δ*::KAN*	This study

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Table S3. Summary of autophagy analyses.

		Mitophagy			
		Om45-GFP	Om45-GFP	mitoPho8Δ60	Idh1-GFP
Systematic		BY4742	SEY6210	SEY6210	BY4742
Name	**Gene**	Fig. 2	Fig. 3	Fig. 4	Fig. S3
YKL037W	*AIM26*	++	+	+	++
YKR016W	*AIM28*	-	-	No defect	No defect
YLL001W	*DNM1*	-	++	++	+
YIL146C	*ATG32*	-	-	-	-
YIL098C	*FMC1*	-	-	-	++
YPL060W	*LPE10*	+	++	No defect	N.D.
YLR356W	*YLR356W/ATG33*	++	-	++	+
YPR146C	*YPR146C*	+	-	No defect	N.D.
YMR142C	*RPL13B*	++	++	+	+
YKL006W	*RPL14A*	-	N.D.	N.D.	-
YMR121C	*RPL15B*	-	No defect	No defect	No defect
YDR173C	*ARG82*	+	N.D.	N.D.	-
YGL148W	*ARO2*	-	-	-	-
YJL095W	*BCK1*	+	-	-	+
YGR188C	*BUB1*	+	+	++	-
YPL037C	*EGD1*	+	-	No defect	-
YPL250C	*ICY2*	-	-	No defect	-
YEL053C	*MAK10*	++	+	+	-
YKR103W	*NFT1*	+	-	No defect	-
*YGL167C**	*PMR1*	-	+	N.D.	+
*YGL168W**	*HUR1*	+	++	N.D.	+
YIL165C	*YIL165C*	-	No defect	No defect	+
YOR019W	*YOR019W*	+	++	++	-
YOR036W	*PEP12*	-	N.D.	N.D.	N.D.
YPL154C	*PEP4*	-	N.D.	N.D.	N.D.
YDR080W	*VPS41*	-	N.D.	N.D.	N.D.
YDR108W	*TRS85/GSG1*	-	N.D.	N.D.	N.D.
YLR417W	*VPS36*	+	N.D.	N.D.	N.D.
YML001W	*YPT7*	-	N.D.	N.D.	N.D.
YGL212W	*VAM7*	-	N.D.	N.D.	N.D.
YBR131W	*CCZ1*	-	N.D.	N.D.	N.D.
YGL124C	*MON1*	-	N.D.	N.D.	N.D.

++: slight defect
+: severe defect
-: complete defect
N.D.: not determined

**YGL167C* and *YGL168W* partially overlap

Table S3. Summary of autophagy analyses (cont).

	Macroautophagy Cvt			
	Pho8Δ60	Pho8Δ60	GFP-Atg8	Ape1
	SEY6210	BY4742	BY4742	BY4742
Gene	Fig. 5	Fig. S2	Fig. S4	Fig. S2
AIM26	++	++	No defect	No defect
AIM28	No defect	No defect	No defect	No defect
DNM1	No defect	No defect	No defect	No defect
ATG32	No defect	No defect	No defect	No defect
FMC1	++	++	No defect	No defect
LPE10	No defect	No defect	No defect	No defect
YLR356W/ATG33	No defect	No defect	No defect	No defect
YPR146C	No defect	No defect	No defect	No defect
RPL13B	N.D.	No defect	No defect	No defect
RPL14A	+	++	No defect	No defect
RPL15B	No defect	++	No defect	No defect
ARG82	No defect	++	N.D.	No defect
ARO2	No defect	No defect	N.D.	No defect
BCK1	++	No defect	No defect	No defect
BUB1	++	+	No defect	No defect
EGD1	++	No defect	No defect	No defect
ICY2	+	+	No defect	No defect
MAK10	No defect	No defect	No defect	No defect
NFT1	++	No defect	No defect	No defect
PMR1	No defect	++	No defect	No defect
HUR1	No defect	++	No defect	No defect
YIL165C	++	++	No defect	No defect
YOR019W	No defect	No defect	N.D.	No defect
PEP12	N.D.	-	N.D.	-
PEP4	N.D.	-	N.D.	-
VPS41	N.D.	-	N.D.	-
TRS85/GSG1	N.D.	-	N.D.	-
VPS36	N.D.	+	N.D.	+
YPT7	N.D.	-	N.D.	-
VAM7	N.D.	-	N.D.	-
CCZ1	N.D.	-	N.D.	-
MON1	N.D.	-	N.D.	-