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Title	Phase separation promotes Atg8 lipidation and vesicle condensation for autophagy progression
Author(s)	Fujioka, Yuko; Tsuji, Takuma; Kotani, Tetsuya et al.
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Supplementary Table 1. Yeast strains used in this study.

Strain	Genotype	Source
BJ2168	*MATa leu2 trp1 ura3-52 prb1-1122 pep4-3 prc1-407 gal2*	Y.G.S.C.
W303-1A	*MATa ade2-1 ura3-1 his3-11,15 trp1-1 leu2-3,112 can1-100*	(Thomas & Rothstein, 1989)
ScTK1793	BJ2168, *atg17*Δ::*natNT2*	This study
ScTK1806	BJ2168, *ATG5-3×FLAG-kanMX4 atg17*Δ::*natNT2*	This study
ScTK1852	W303-1A, *ade2-1*::*ADE2 ATG5-EGFP-kanMX4 atg17*Δ::*hphNT1 atg21*Δ::*zeoNT3 ATG17pro*::pRS305-*ATG17-2×mCherry atg12*Δ::*natNT2 his3-11*::*pRS303-ATG12*	This study
ScTK1853	W303-1A, *ade2-1*::*ADE2 ATG5-EGFP-kanMX4 atg17*Δ::*hphNT1 atg21*Δ::*zeoNT3 ATG17pro*::pRS305-*ATG17-2×mCherry atg12*Δ::*natNT2 his3-11*::*pRS303-atg12*^{V43A}	This study
ScTK1854	W303-1A, *ade2-1*::*ADE2 ATG5-EGFP-kanMX4 atg17*Δ::*hphNT1 atg21*Δ::*zeoNT3 ATG17pro*::pRS305-*ATG17-2×mCherry atg12*Δ::*natNT2 his3-11*::*pRS303-atg12*^{L47A}	This study
ScTK1855	W303-1A, *ade2-1*::*ADE2 ATG5-EGFP-kanMX4 atg17*Δ::*hphNT1 atg21*Δ::*zeoNT3 ATG17pro*::pRS305-*ATG17-2×mCherry atg12*Δ::*natNT2 his3-11*::*pRS303-atg12*^{L54A}	This study
ScTK1856	W303-1A, *ade2-1*::*ADE2 ATG5-EGFP-kanMX4 atg17*Δ::*hphNT1 atg21*Δ::*zeoNT3 ATG17pro*::pRS305-*ATG17-2×mCherry atg12*Δ::*natNT2 his3-11*::*pRS303-atg12*^{L57A}	This study
ScTK1765	W303-1A, *ade2-1*::*ADE2 ATG5-EGFP-kanMX4 atg17*Δ::*hphNT1 atg21*Δ::*zeoNT3*	This study
ScTK1814	W303-1A, *ade2-1*::*ADE2 ATG5-EGFP-kanMX4 atg17*Δ::*hphNT1 atg21*Δ::*zeoNT3 ATG17pro*::pRS305-*ATG17-2×mCherry*	This study
ScTK1815	W303-1A, *ade2-1*::*ADE2 ATG5-EGFP-kanMX4 atg17*Δ::*hphNT1 atg21*Δ::*zeoNT3 ATG17pro*::pRS305-*atg17*$^{Q157A\ K167A}$*-2×mCherry*	This study
ScTK1816	W303-1A, *ade2-1*::*ADE2 ATG5-EGFP-kanMX4 atg17*Δ::*hphNT1 atg21*Δ::*zeoNT3 ATG17pro*::pRS305-*atg17*^{I306A}*-2×mCherry*	This study
ScTK566	W303-1A, *ade2-1::ADE2 PGK1-EGFP-kanMX4 atg12*Δ::*natNT2*	This study
ScTK570	W303-1A, *ade2-1*::*ADE2 PGK1-EGFP-kanMX4 atg12*Δ::*natNT2 atg21*Δ::*zeoNT3*	This study
YNH1577	W303-1A, *ade2-1*::*ADE2 PGK1-EGFP-kanMX4*	(Hitomi *et al*. 2023)
ScTK2062	W303-1A, *ade2-1*::*ADE2 PGK1-EGFP-kanMX4 atg2*Δ::*hphNT1*	This study

ScTK2335	W303-1A, *ade2-1*::*ADE2 PGK1-EGFP-kanMX4 ATG2-SNAP-hphNT1*	This study
ScTK2331	W303-1A, *ade2-1*::*ADE2 PGK1-EGFP-kanMX4 atg4*Δ::*hphNT1*	This study
ScTK2336	W303-1A, *ade2-1*::*ADE2 PGK1-EGFP-kanMX4 ATG4-SNAP-hphNT1*	This study
ScTK2332	W303-1A, *ade2-1*::*ADE2 PGK1-EGFP-kanMX4 atg7*Δ::*hphNT1*	This study
ScTK2337	W303-1A, *ade2-1*::*ADE2 PGK1-EGFP-kanMX4 ATG7-SNAP-hphNT1*	This study
ScTK2333	W303-1A, *ade2-1*::*ADE2 PGK1-EGFP-kanMX4 atg18*Δ::*hphNT1*	This study
ScTK2338	W303-1A, *ade2-1*::*ADE2 PGK1-EGFP-kanMX4 ATG18-SNAP-hphNT1*	This study
ScTK568	W303-1A, *ade2-1*::*ADE2 PGK1-EGFP-kanMX4 atg21*Δ::*zeoNT3*	This study
ScTK2339	W303-1A, *ade2-1*::*ADE2 PGK1-EGFP-kanMX4 ATG21-SNAP-hphNT1*	This study
ScTK2318	W303-1A, *ade2-1*::*ADE2 PGK1-EGFP-kanMX4 atg16*Δ::*hphNT1*	This study
ScTK2374	W303-1A, *ade2-1*::*ADE2 PGK1-EGFP-kanMX4 ATG14-mCherry-zeoNT3*	This study
ScTK2375	W303-1A, *ade2-1*::*ADE2 PGK1-EGFP-kanMX4 atg38*Δ::*hphNT1 ATG14-mCherry-zeoNT3*	This study
ScTK2376	W303-1A, *ade2-1*::*ADE2 PGK1-EGFP-kanMX4 ATG38-SNAP-hphNT1 ATG14-mCherry-zeoNT3*	This study

Y.G.S.C. (Yeast Genetic Stock Center)

Supplementary Table 2. NMR experiments in this study.

experiment	pulse program	ref	data point (complex)	spectral width (ppm)	number of scan	option
[^{1}H-^{15}N] HSQC	hsqcetfpf3gpsi2	1-4	2048 x 512	16.0221 x 36	8	
HNCO	hncogp3d	5-7	2048 x 64 x 128	16.0221 x 36 x 22	8	
HN(CO)CA	hncocagp3d	5,7	2048 x 64 x 128	16.0221 x 36 x 32	16	
HNCA	hncocagp3d	5,6	2048 x 64 x 128	16.0221 x 36 x 32	16	
CBCA(CO)NH	cbcaconhgp3d	7,8	2048 x 64 x 128	16.0221 x 36 x 80	16	
HNCACB	hncacbgp3d	8,9	2048 x 64 x 128	16.0221 x 36 x 80	16	
HBHA(CO)NH	hbhaconhgp3d	7,8	2048 x 64 x 128	16.0221 x 36 x 6	16	
^{15}N NOESY	noesyhsqcf3gpwg3d	none	2048 x 64 x 240	16.0221 x 36 x 16.0221	8	mixing time 150 ms

References

1) A.G. Palmer III, J. Cavanagh, P.E. Wright & M. Rance, J. Magn. Reson. 93, 151-170 (1991).
2) L.E. Kay, P. Keifer & T. Saarinen, J. Am. Chem. Soc. 114, 10663-5 (1992)
3) J. Schleucher, M. Schwendinger, M. Sattler, P. Schmidt, O. Schedletzky, S.J. Glaser, O.W. Sorensen & C. Griesinger, J. Biomol. NMR 4, 301-306 (1994)
4) S. Grzesiek & A. Bax, J. Am. Chem. Soc. 115, 12593-12594 (1993)
5) S. Grzesiek & A. Bax, J. Magn. Reson. 96, 432 - 440 (1992)
6) L.E. Kay, G.Y. Xu & T. Yamazaki, J. Magn. Reson. A109, 129-133 (1994)
7) S. Grzesiek & A. Bax, J. Biomol. NMR 3, 185-204 (1993)
8) D.R. Muhandiram & L.E. Kay, J. Magn. Reson. B 103, 203-216 (1994)
9) M. Wittekind & L. Mueller, J. Magn. Reson. B 101, 201-205 (1993)