

Local Remodeling of the ER Membrane during its Selective Degradation by Autophagy

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In selective autophagy of the ER (ER-phagy), parts of the ER are morphologically rearranged, separated, and loaded into autophagosomes. The molecular mechanism of this local ER remodeling remains elusive. We recently discovered the reticulon-like protein Atg40 as an ER-phagy receptor, which localizes to the ER, binds Atg8 on forming autophagosomal membranes, and thereby mediates sequestration of ER fragments into autophagosomes in the budding yeast *Saccharomyces cerevisiae*. In this symposium, I will show that folding and fission of the ER occurs in conjunction with autophagosome formation during ER-phagy, and that Atg40 forms a super-assembly in association with Atg8 at contact sites between the ER and forming autophagosomal membranes to cause ER folding and fission for its efficient packing.