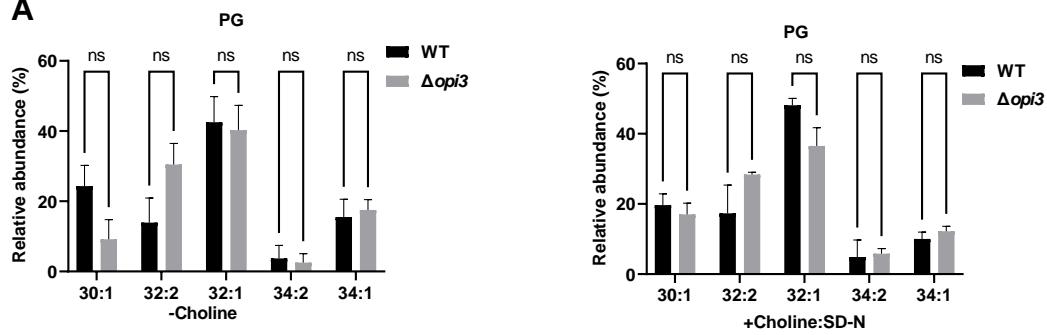
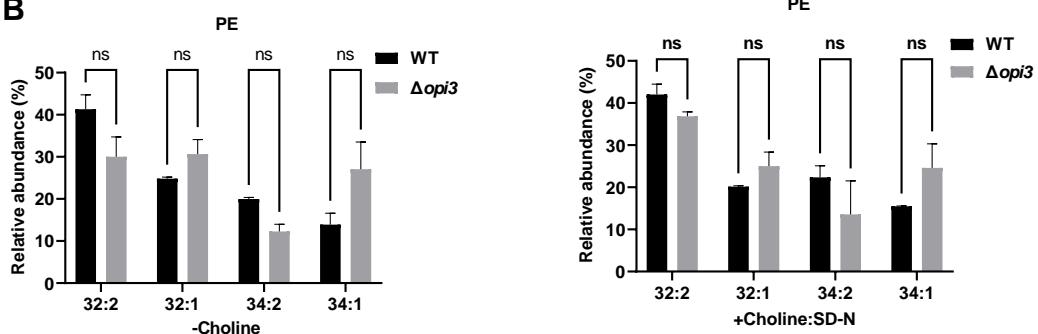
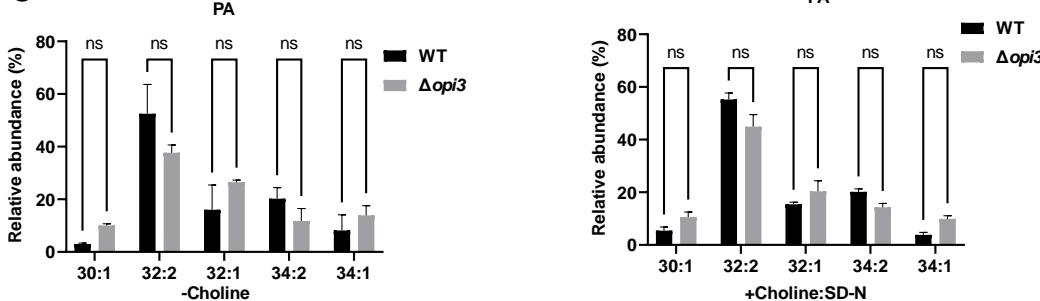
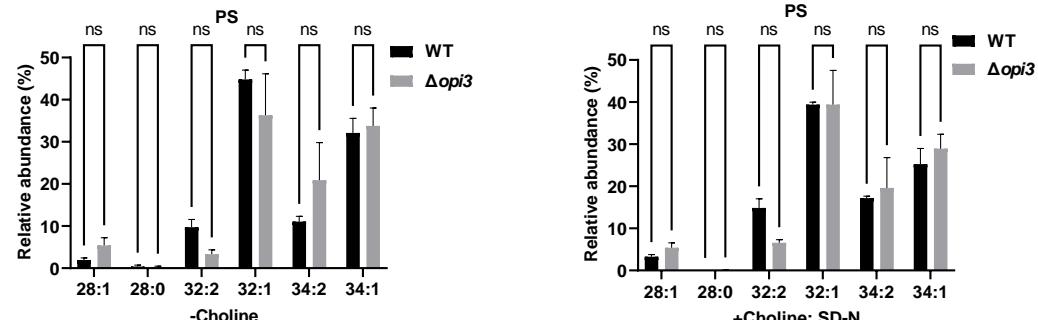
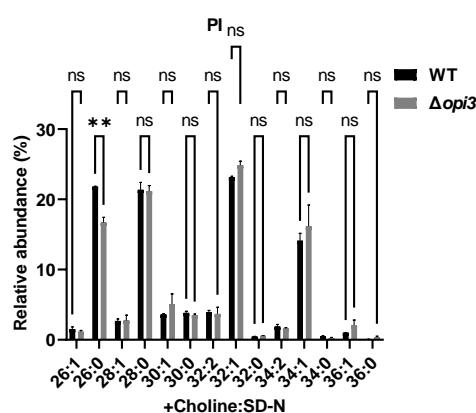
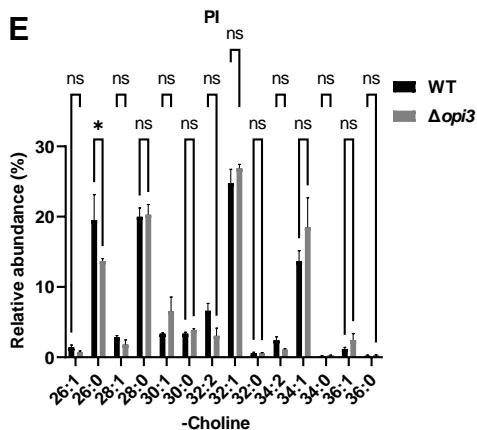
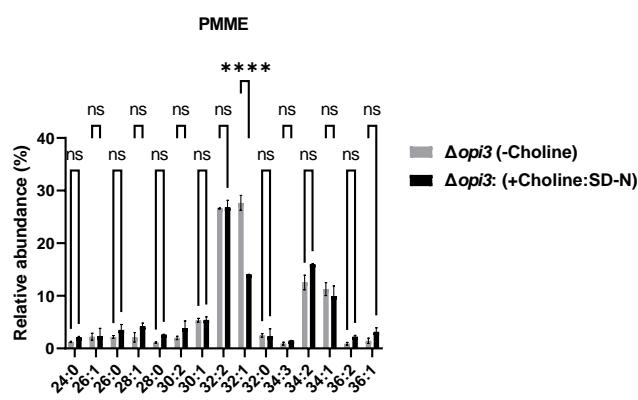
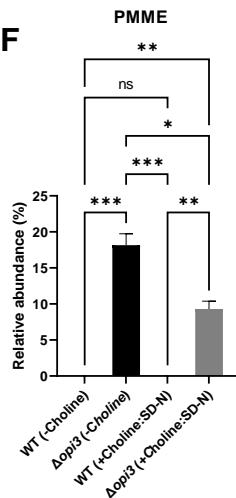
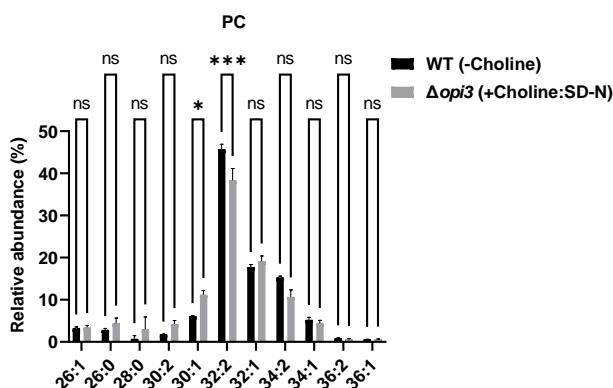


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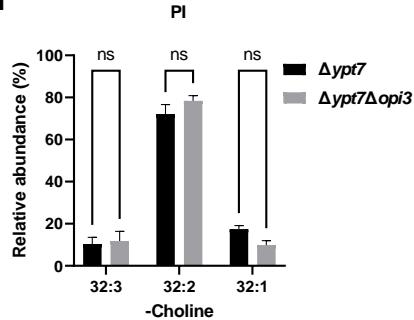
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B- Acyl-chain length and composition of PE of WT and $\Delta opi3$ cells.....	2
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**A****B****C****D**

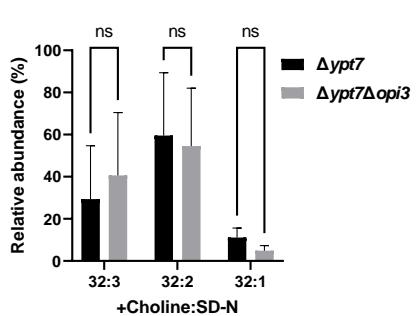
**E****F****G**

**H** Yeast cells → Lysis → Pellet → IP GFP magnetic beads → Lipidomics of Atg8 membranes

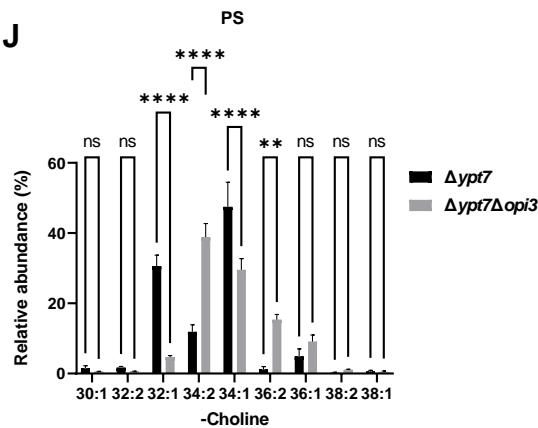
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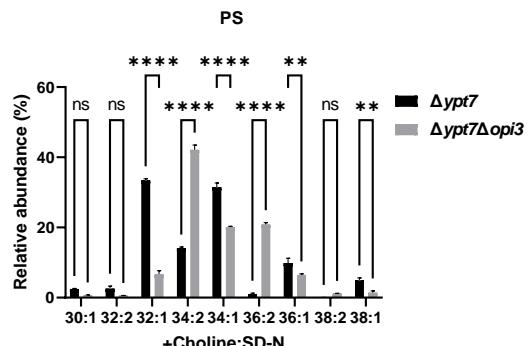
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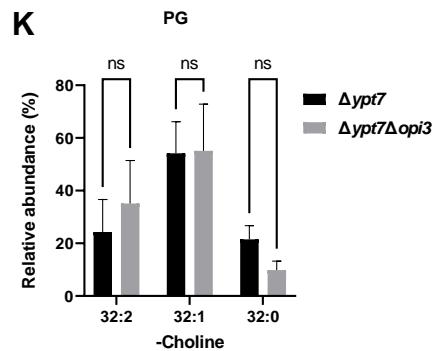
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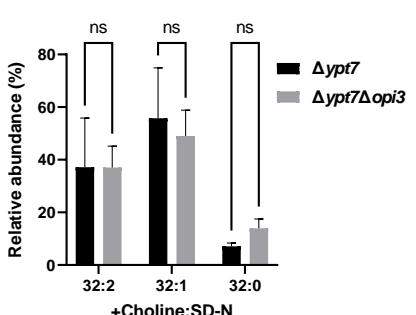
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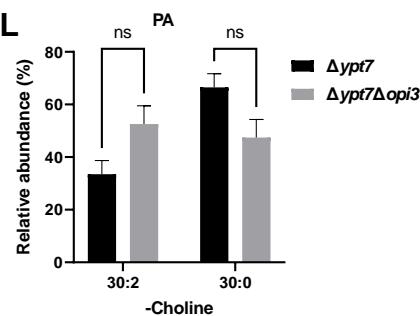
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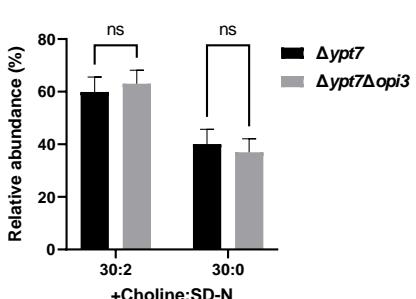
**PG**



**L**



**PA**



### **Appendix figure S1: Addition of choline to $\Delta opi3$ cells specifically restores PC levels**

A-G. Phospholipids species of WT and  $\Delta opi3$  cells. Shown are acyl-chain length and composition of PG (A), PE (B), PA (C), PS (D), PI (E), PMME (F), and PC (G). Cells were grown in SD-URA, and starved for 4 h in SD-N, with choline (1 mM) supplementation excluded (-choline) or during starvation (+choline: SD-N) as indicated, harvested and analyzed by shotgun lipidomics. Statistical analysis was done by Anova multiple comparisons test- Sidak's (\*\*\*\*,  $p \leq 0.0001$ , \*\*,  $p \leq 0.005$ , \*,  $p \leq 0.01$ , ns- not significant), error bars represent SEM ( $n=3$ , except for PE, PMME and WT with choline,  $n=2$ ). For PMME (F- left panel)- Tucky's multiple comparison test.

H. Schematics of the procedure for lipidomic analysis of autophagic membranes. GFP-Atg8 expressing cells were lysed, Atg8-positive membranes were isolated from membrane fraction by GFP magnetic beads, and analyzed by shotgun lipidomics for lipid composition.

I-L: Phospholipids species of  $\Delta ypt7$  and  $\Delta ypt7\Delta opi3$  cells. Shown are acyl chain length and composition of PI (I), PS (J), PG (K), PA (L). Cells expressing GFP-Atg8 were grown to log phase in SD-URA, and shifted to starvation medium. Cells were harvested after 3 h of starvation, lysed and membrane fraction was immunoprecipitated with GFP-magnetic beads. Atg8 enriched membranes were eluted and analyzed by shotgun lipidomics. Statistical analysis was done by Anova multiple comparisons test- Sidak's (\*\*\*\*,  $p \leq 0.0001$ , \*\*,  $p \leq 0.005$ , ns- not significant), error bars represent SEM of 3 independent experiments.