

P016 Accumulation of short acyl chains in the end products of phospholipid biosynthesis in *Saccharomyces cerevisiae*
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Phospholipids are the main structural components of biomembranes. Each membrane compartment contains a unique phospholipid composition contributing to its function. The specific phospholipid compositions are the outcome of phospholipid biosynthesis, turnover, acyl chain remodeling, and intracellular transport processes that must be coordinately regulated to maintain lipid homeostasis.

In our research on phospholipid acyl chain remodeling in yeast we have addressed the possible role of the acyl-CoA binding protein encoded by the non-essential *ACB1* gene. Acb1p is most likely involved in intracellular trafficking of acyl-CoAs. Acb1p is also known to affect fatty acid synthesis, as deletion of the gene results in a decrease in length and saturation of the cellular acyl chain content, including a 2- to 3-fold increase in the relative cellular content of C14 acyl chains.

Analysis by mass spectrometry of the species compositions of the phospholipid classes in *acb1* strains revealed that the short acyl chains accumulate in PI, PC, and, remarkably, in the mitochondrial phospholipid CL. The aim of the research to be presented is to elucidate the mechanism(s) responsible for this selective accumulation.