

Phosphatidylcholine traffic in the yeast *Saccharomyces cerevisiae*

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In the yeast *Saccharomyces cerevisiae*, phospholipids can be synthesized via diverse pathways which are also partially connected with each other¹. Phosphatidylcholine (PC) one of the major phospholipids is synthesized *via* two different pathways both located to the endoplasmic reticulum. Synthesis of PC can occur by methylation of phosphatidylserine (PE) by the methyl transferases Cho2p/Pem1p and Opi3p/Pem2p under the donation of methyl groups by S-adenosyl methionine or incorporation of choline *via* CDP-choline branch of the Kennedy pathway. To determine the contribution of these two pathways to the lipid composition of the subcellular organelles, in particular peroxisomes and mitochondria we subjected single and multiple deletion mutants bearing defects in the respective metabolic steps to biochemical and cell biological analyses. Phenotype studies revealed compromised growth of *cho2Δopi3Δ* on oleic acid which is required to induce formation of peroxisomes. Biochemical analyses of organelle membranes showed a special selectivity in interorganelle PC flux between the CDP-choline pathway and methylation pathway.

¹Rosenberger S, Connerth M, Zellnig G and Daum G (2009) Phosphatidylethanolamine synthesized by three different pathways is supplied to the peroxisomes of the yeast *Saccharomyces cerevisiae*. *BBA*, **1791(5)**, 379-387.

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