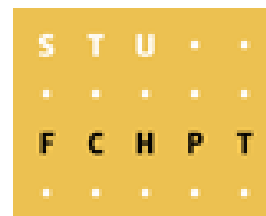




Katedry biochémie a genetiky
Prírodovedeckej fakulty Univerzity Komenského,
Oddelenie biochemickej technológie
Fakulty chemickej a potravinárskej technológie STU
a občianske združenie *NATURA*
v spolupráci so

Slovenskou spoločnosťou pre biochémiu a molekulárnu biológiu



Vás pozývajú na 63. prednášku v rámci Kuželových seminárov:

Prof. Guenther Daum
Institute of Biochemistry
University of Technology, Graz, Austria

Lipid biogenesis in yeasts

Phosphatidylethanolamine, a key yeast lipid

19. apríla 2007 (ŠTVRTOK) o 16:00

**V PREZENTAČNOM CENTRE J.A. KOMENSKÉHO (u Amosa)
PRÍRODOVEDECKEJ FAKULTY UK (B1 – 313)**

<http://www.fns.uniba.sk/~kbi/kuzela>

Pre prípadných záujemcov sa bude konať aj druhá prednáška s podobnou problematikou:

Neutral lipid storage and mobilization in the yeast

20. apríla 2007 (PIATOK) o 10:00

**V ZASADACEJ MIESTNOSTI VEDECKEJ RADY (č. 154)
FAKULTY CHEMICKEJ A POTRAVINÁRSKEJ TECHNOLÓGIE STU**

Prof. Guenther Daum

<http://dk.uni-graz.at/groups/guenther.html>

1970-1975 Studies of Technical Chemistry at the Technical University of Graz (TUG)

1975-1978 Diploma and PhD Thesis at the Institute of Biochemistry, TUG, (Prof. F. Paltauf)

1975-1980 Assistant at the Institute of Biochemistry at the TUG

1980-1981 Post-Doc at the Biocenter Basel (Prof. G. Schatz), EMBO Fellowship

1982-1986 Assistant at the Institute of Biochemistry at the TUG

1985 "Habilitation" in Biochemistry and appointment as Docent

1986-1987 Sabbatical at the University of California, Berkeley (Prof. R. Schekman)

1987 Assistant Professor and tenure at the Institute of Biochemistry at the TUG

1995 Associate Professor at the Institute of Biochemistry at the TUG

2001-2003 Head of the Institute of Biochemistry at the TUG



Phosphatidylethanolamine, a key lipid of the yeast

Phosphatidylethanolamine (PtdEtn) is a major phospholipid of organelle membranes from the yeast *Saccharomyces cerevisiae*. PtdEtn can be synthesized by three different pathways which are coordinated to guarantee efficient supply of this lipid to the different subcellular membranes. During the last few years we focused our research on the traffic routes of PtdEtn from its sites of synthesis to mitochondria, the endoplasmic reticulum, the plasma membrane and peroxisomes. Making use of molecular biological methods we also studied consequences of PtdEtn depletion for yeast physiology. These studies demonstrated that PtdEtn is involved in various cellular processes underlining the importance of this lipid in membrane biology.

Neutral lipid storage and mobilization in the yeast

Biosynthesis and degradation of the yeast neutral lipids, triacylglycerols (TAG) and steryl esters (STE), were investigated in some detail during the last few years. Our laboratory together with a number of other groups contributed to these studies by the identification of TAG synthases and the STE synthases, as well as TAG lipases and the STE hydrolases. Recently, our work has been focused on the individual contribution of the acyltransferases to the formation of neutral lipid depots in lipid particles. Moreover, the structure of lipid particles in general and especially in strains bearing defects in neutral lipid metabolism has gained our interest. Among these studies, topology of lipid particle components is under investigation.

Recent publications:

Czabany, T., Athenstaedt, K. and **Daum, G.** Synthesis, storage and degradation of neutral lipids in yeast *Biochim. Biophys. Acta* 1771 (2007) 299-309

Athenstaedt, K. and **Daum, G.** The life cycle of neutral lipids: synthesis, storage and degradation. *Cell. Mol. Life Sci.* 63 (2006) 1355-1369

Athenstaedt, K. and **Daum, G.** Tgl4p and Tgl5p, two triacylglycerol lipases of the yeast *Saccharomyces cerevisiae* are localized to lipid particles. *J. Biol. Chem.* 280 (2005) 37301-37109

Ott, R. G., Athenstaedt, K., Hrastnik, C., Leitner, E., Bergler, H. and **Daum, G.** Flux of sterol intermediates in a yeast strain deleted of the lanosterol C-14 demethylase Erg11p *Biochim. Biophys. Acta* 1735 (2005) 111-118

Müllner, H., Deutsch, G., Leitner, E., Ingolic, E. and **Daum, G.** *YEH2/YLR020c* encodes a novel steryl ester hydrolase of the yeast *Saccharomyces cerevisiae* *J. Biol. Chem.* 280 (2005) 13321-13328

Bürgermeister, M., Birner, R., Nebauer R. and **Daum G.** Contribution of different pathways to the supply of phosphatidylethanolamine and phosphatidylcholine to mitochondrial membranes of the yeast *Saccharomyces cerevisiae* *Biochim. Biophys. Acta* 1686 (2004) 161-168

Sorger, D., Athenstaedt, K., Hrastnik, C. and **Daum, G.** A yeast strain lacking lipid particles bears a defect in ergosterol formation. *J. Biol. Chem.* 279 (2004) 31190-31196