This is to invite you to participate and present in the bi-annual congress that was originally established 1989 and is linked to the journal AMINO ACIDS (IF 3.877; editor-in-chief G. Lubec), the forum for amino acid, peptide and protein research. The meeting takes place in Beijing, China, August 1-5 (presidents Dacheng He and Jianguo Ji; management Lin Li) and you are cordially invited to submit titles and affiliation of first author until the deadline, March 31st, 2011 to Professor Gert Lubec (gert.lubec@meduniwien.ac.at).

**Topics are:**

**Biological and Medical Sciences:** Food Chemistry; Genetics and Epigenetics; Medicine and Medicinal Chemistry; Metabolism and inborn errors Microbiology; Neuroscience (excitatory / inhibitory amino acids, receptors and transporters in the brain, neuropathobiology, neurodegenerative disease); Nutrition; Pharmacology and Pharmaceutical Chemistry; Physiology; Redox System and free radicals; Sports and Exercise; Systems Biology; Taurine; Toxicology.

**Chemical Sciences:** Amino Acids Transport; Analysis; Basic Chemistry; Bioinformatics; Biosynthesis; Environmental Sciences; Immunochemistry***; Plant Amino Acids; Polyamines; Posttranslational modifications (including phosphorylation etc.); Protein Structure; Proteomics; Synthesis; Others.

E.g. the analysis/immunochemistry*** (new topic) session is focussing on the revision of immunoblotting and immunochemical methods per se that is mainly no longer considered reliable in the present form, because proteins recognised by antibodies in the vast majority are not characterised in chemical terms (as e.g. by mass spectrometry; Heo S, et al. Generation and characterization of a specific polyclonal antibody against the mouse serotonin receptor 1A: A state-of-the-art recommendation on how to characterise antibody specificity. Electrophoresis 2010; DOI:10.1002/elps.201000374). In addition, methodology for in-gel determination of protein bands and spots has to replace simple densitometry with arbitrary units of optical density (Kang SU, et al. Determination of in-gel protein concentration by a ninhydrin-based method. Proteomics 2010; DOI:10.1002/pmic.201000388).

Looking forward to fruitful discussions with you at this conference.

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LAB ANIMAL RESEARCH EQUIPMENT

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MICROCAPNOGRAPH: MEASURES END TIDAL CO2 & N2O IN SMALL AND LARGE ANIMALS (MICE, RATS, DOGS & HORSES UNDER ANESTHESIA). FEATURES A VERY SMALL SAMPLE RATE 0.5ML/MIN@100 BPM TO 20ML/MIN@300 BPM. DATA IS DISPLAYED NUMERICALLY AND GRAPHICALLY ON THE FRONT PANEL.

HUMANE ANIMAL TREADMILL: ACCOMMODATES 3 RATS OR 6 MICE. ELECTRIC STIMULUS COUNTS THE NUMBER OF SHOCKS & STOPS AT A USER DEFINED NUMBER. FEATURES ADJUSTABLE SPEED AND INCLINATION. ENCLOSED MODELS ALSO AVAILABLE FOR VO2/VCO2 MEASUREMENTS.

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Coenzyme Q
(ubiquinone or Q) is a crucial mitochondrial lipid required for respiratory electron transport in eukaryotes. 4-Hydroxy-benzoate (4HB) is an aromatic ring precursor that forms the benzoquinone ring of Q and is used extensively to examine Q biosynthesis. However, the direct precursor compounds and enzymatic steps for synthesis of 4HB in yeast are unknown. Here we show that para-aminobenzoic acid (pABA), a well known precursor of folate, also functions as a precursor for Q biosynthesis. A hexaprenylated form of pABA (prenyl-pABA) is normally present in wild-type yeast crude lipid extracts but is absent in yeast abz1 mutants starved for pABA. A stable (13)C(6)-isotope of pABA (p- amino[aromatic-(13)C(6)]benzoic acid ([(13)C(6)pABA]), is prenylated in either wild-type or abz1 mutant yeast to form prenyl-[(13)C(6)pABA]. We demonstrate by HPLC and mass spectrometry that yeast incubated with either [(13)C(6)pABA or [(13)C(6)4HB generate both (13)C(6)-demethoxy-Q (DMQ), a late stage Q biosynthetic intermediate, as well as the final product (13)C(6)-coenzyme Q. Pulse-labeling analyses show that formation of prenyl-pABA occurs within minutes and precedes the synthesis of Q. Yeast utilizing pABA as a ring precursor produce another nitrogen containing intermediate, 4-imino-DMQ(6). This intermediate is produced in small quantities in wild-type yeast cultured in standard media and in abz1 mutants supplemented with pABA. We suggest a mechanism where Schiff base-mediated deamination forms DMQ(6) quinone, thereby eliminating the nitrogen contributed by pABA. This scheme results in the convergence of the 4HB and pABA pathways in eukaryotic Q biosynthesis and has implications regarding the action of pABA-based antifolates.


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