

protein as a result of MALDI-TOF mass analysis, several proteins were revealed as novel proteins to be functionally studied.

[PC1-26] [04/18/2003 (Fri) 09:30 - 12:30 / Hall P]

A Study on the Effects of Brassica oleracea L. Fractions on the Membrane Fluidity of the Liposomal Phospholipid Membranes

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This research was designed to investigate the effects of Brassica oleracea L.(BO) fractions on the membrane fluidity of the liposomal phospholipid membranes. The sample BO was extracted and fractionated to six different types, methanol(BOM), hexane(BOMH), ethylether(BOME), ethylacetate(BOMEA), butanol(BOMB) and aqueous(BOMA) fractions. The fluidity of dipalmitoylphosphatidylcholine(DPPC) liposomal membranes incorporated with BO fractions was measured by means of high-sensitivity differential scanning calorimetry(DSC). Compared to the other fractions of Brassica oleracea L., the BOME and BOMEA fractions markedly affected the thermotropic properties of DPPC liposomes, broadened and shifted the thermograms of the transition to lower temperatures. The incorporation of the BOME and BOMEA in DPPC liposomes was preferentially located in the hydrophobic core of DPPC bilayers, where it reduced the lipid packing orderness in the gel state compared to it in the liquid-crystalline state.

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Alteration of Cellular Adhesion Molecules during Aging and Their Modulation by Calorie Restriction

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Expressions of cellular adhesion molecules (CAMs) are closely related to the formation of early atherosclerosis, an age-dependent vascular disorder. However, previous research provided only limited and conflicted reports on age-related alterations of CAMs' expressions and even much less is known the modulation of CAMs by calorie restriction (CR). In this study, expression of vascular cell adhesion molecule-1 (VCAM-1), intercellular adhesion molecule-1 (ICAM-1), E-selectin, P-selectin and platelet/endothelial cell adhesion molecule-1 (PECAM-1) in aorta and kidney were investigated by western blot and immuno-histochemical stain utilizing *ad libitum* (AL) and CR rats. mRNA levels were detected by RT-PCR. Current data demonstrated that expressions of VCAM-1, ICAM-1, E-selectin and P-selectin were significantly increased during aging and suppressed by CR. RT-PCR data showed increased expression of VCAM-1 and P-selectin during aging and blunted by CR, while ICAM-1 mRNA level kept no change. In addition, mechanism of these alteration were investigated. The up-regulated expressions of CAMs stimuli, TNF α and IL-1 β , were found in old AL but not in old CR rats. Our study further explored the effect of aging and CR on common promoter binding sites of CAMs. Result showed that DNA-binding activity of NF κ B, AP-1 and CREB increased during aging which was blunted by CR. In conclusion, our data documented that most of the inflammatory CAMs increased expression