Carboxymethylated Glucan Inhibits Lipid Peroxidation in Liposomes

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Z. Naturforsch. **54c,** 1084–1088 (1999); received July 5/July 27, 1999

Liposomes, (1→3)-β-D-glucan, Microwave Radiation, Lipid Peroxidation, Membrane Destabilization

Protective capabilities were studied of carboxymethylated (1→3)-β-D-glucan from *Saccharomyces cerevisiae* cell wall against lipid peroxidation in phosphatidylcholine liposomes induced by $OH^{\cdot}$ radicals produced with Fenton's reagent (H_2O_2/Fe^{2+}) and also by microwave radiation using absorption UV-VIS spectrophotometry. A significant decrease in the conjugated diene production, quantified as Klein oxidation index, was observed in the presence of a moderate amount of added glucan. Increase of the oxidation index was accompanied with enhanced carboxyfluorescein leakage as a result of liposome membrane destabilization. This process was markedly suppressed with glucan present in the liposome suspension. Therefore, glucan may be considered as a potent protector against microwave radiation-induced cell damage.