



Društvo biofizikov Slovenije
in
Laboratorij za biofiziko (IJS)
Vas vabita na
biofizikalni seminar:



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THE STRUCTURAL PROPERTIES OF FLAVONOIDS IN RELATION TO STRUCTURAL CHANGES IN MODEL MEMBRANES UNDER OXIDATIVE STRESS CONDITIONS

Nano-delivery systems and the use of nanoparticles (NPs) both for diagnostic and therapeutic purposes are among the most active research fields today. Therapeutically interesting compounds are flavonoids due to the multitude of their actions, such as anti-inflammatory, antibacterial, antioxidant etc., in all kinds of cells and tissues. The difficulty that must be circumvented is the poor flavonoid solubility in water. The necessity to locally increase the flavonoid concentration could be realized by means of flavonoid encapsulation or adsorption into/onto nanocarriers. Lipids, a class of amphiphilic molecules capable of forming bilayers, provide a membrane scaffold for hosting proteins and other molecules. Lipid bilayers can be therefore used as simplified model systems to study various properties of the membranes, in particular their interactions with different molecular species. The investigation of interactions using atomic force microscopy (AFM), attenuated total reflection Fourier transform infrared spectroscopy (ATR-FTIR) and fluorescence microspectroscopy (FMS) will ensure the explanation of the correlation between structural properties of flavonoids and structural changes in model membranes. Our activities are aimed to ensure the necessary prerequisite for future studies of the inhibition of lipid peroxidation of liposomes and supported lipid bilayers (SLBs) by free and encapsulated flavonoids.

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Vljudno vabljeni!

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