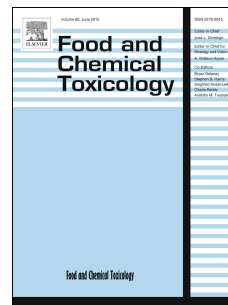


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Cholesterol modulates the liposome membrane fluidity and permeability for a hydrophilic molecule

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ABSTRACT

The effect of cholesterol (CHOL) content on the permeability and fluidity of dipalmitoylphosphatidylcholine (DPPC) liposome membrane was investigated. Liposomes encapsulating sulforhodamine B (SRB), a fluorescent dye, were prepared by reverse phase evaporation technique (REV) at various DPPC:CHOL molar ratios (from 100:0 to 100:100). The release kinetics of SRB was studied during 48 h in buffer (pH 7.4) containing NaCl at 37  C. The DPPC:CHOL formulations were also characterized for their size, polydispersity index and morphology. Increasing CHOL concentration induced an increase in the mean liposomes size accompanying with a shape transition from irregular to nanosized, regular and spherical vesicles.

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