

Date : 7 March 2014 , 17:30-18:30 (including discussion)

Place: Nagasaki International University, Faculty of Pharmaceutical Sciences.

Lecture: Dr. Amiya Kumar PANDA

Abstract:

Effect of ion pair amphiphile (IPA, made from C₁₆TABr and SDS) on soy lecithin vesicle was investigated by different techniques in order to formulate stable dispersion. Small unilamellar vesicles (SUV) were prepared by conventional thin film rehydration technique having different mole fraction of SLC and IPA with 30 wt% cholesterol in a buffer solution of pH 7.4. Dynamic light scattering studies on the different vesicles were carried out at 25⁰C as function of time and composition. Stable dispersion for a period of more than 150 days could have been achieved for some formulations. Zeta potential measurements of vesicles of different combinations were also carried out. Chain melting temperature and heat capacity of bilayer were evaluated by using differential scanning calorimetric (DSC) studies. Distribution of chain melting curves reveal the packing of bilayer. Micro viscosity of bilayer were investigated by fluorescence anisotropy technique using diphenylhexatriene (DPH) as the hydrophobic probe. Solvatochromic probe 7-hydroxy coumarin (7-HC) was used to study the overall polarity of the membrane. TEM measurements were carried out to find the morphology of the vesicles. Membrane properties were correlated by considering the different physicochemical data as mentioned above.