

Preparation and Characterization of Liposomes by Heating Method

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Abstract: Several methods of liposome preparation have been reported [1, 2]. In our experiments we used the heating method for preparing liposomes. First the constituents' phospholipids (1,2-distearoyl-sn-glycero-3-phospho-(1'-rac-glycerol) (sodium salt) and 1,2-distearoyl-sn-glycero-3-phospho-(1'-rac-glycerol) (sodium salt)) along with glycerol (1,2-dipalmitoyl-sn-glycerol) were hydrated in aqueous medium containing PBS as buffer. Then the solution was heated in boiling water bath at 98°C for one hour to produce liposomes. After preparation the solution containing liposomes was stored in freezer at -10°C.

The characterization will be done (size and size distribution) using Scanning Electron Microscope and/or Transmission Electron Microscope.

Future Work: Our future plan is to prepare liposomes adding Cholesterol and then compare and measure the membrane permeability using nanoparticles and/or membrane dyes. Also a model for membrane permeability will be developed

References:

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2. M. Reza Mozafari. Liposomes: An Overview of Manufacturing Techniques. *Cellular & Molecular Biology Letters*. 2005, Vol.10, pp. 711-719