

Abstract

The protein or peptide substances are not appropriate for oral application. One of the many obstacles, is an aggressive environment of the gastrointestinal tract. One way to protect these substances is the preparation of liposomes. The aim of this work was preparation of liposomes of the different composition, choice of the optimum aqueous media, and stabilization using freeze-drying. All samples consisted of egg phosphatidylcholine(EPC) and cholesterol (Chol), with the addition of one out of the substances: cholylsarcosine (CS), stearylamine (SA) and vitamin E (TPGS), respectively, in various ratio. Liposomes were prepared using a film method and manual extrusion through membrane with pore size 200 nm. The liposome size and polydispersity was measured by photon correlation spectroscopy. After the extrusion, the liposomes underwent freeze-drying in the presence of selected appropriate cryoprotectants: sucrose and trehalose, respectively. Stability has been established by evaluating the visual characteristics of the product (the appearance), solubility in the water and measuring of liposome size and polydispersity.