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Physicochemical characterization of liposomes encapsulating total fraction of Chios mastic gum

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Chios mastic gum derived from the plant *Pistacialentiscus L. var.chiais* traditionally used as a food additive. Evidence has also suggested that mastic gum exhibits hepato protective cardio protective, anti inflammatory/antioxidant, and anti atherogenic properties. A total mastic extract without polymer was prepared after removal of the contained insoluble polymer in order to ameliorate solubility and enhance in vivo activity. In order to combine in a new colloidal dispersionthe bioactive-functional properties of mastic gum total fraction and the advantages of liposomes in food technology,the selection of a suitable carrier is crucial. Three different methods of preparation, thin-film evaporation, freezing thawing, and ethanol injectionwere used for the preparation of liposome's consisting of phosphatidylcholine (PC) and cholesterol (CH). The effect of PC:CH molar ratio on the percentage of total mastic extract encapsulated was investigated. Total mastic gum extract/liposomes interaction was studied using Fourier transform infrared spectroscopy and differential scanning calorimetry. The effects of different preparation methods on the physicochemical properties of colloidal systems were evaluated by means of surface morphology by field emission scanning electron microscopy, and size distribution using a particle size analyser.

Biography

Olga Gortzi graduated BSc in Chemistry on 1994, MSc on 1999 and PhD on 2002. She is an Assistant Professor at Department of Food Technology, TEI of Thessaly, Greece. She has experience on physicochemical characterization of liposome preparations and re-evaluation of the bioactivity of encapsulated substances in model systems. She has participated in 21 research and education programs, 38 publications in international scientific journals, 41 work presentations in National and International Conferences and more than 450 citations. She was also a supervisor of 8 MSc theses and 6 PhD theses and a reviewer in 15 international scientific journals.