NSAID CONTROLLED RELEASE OF CHITOSAN NANOPARTICLES

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Abstract.

Chitosan nanoparticles have potential applications for several therapeutical drugs administration. Acetylsalicylic acid (ASA) and ibuprofen (IBU) are two non-steroidal antiinflamatories (NSAIDs) widely used in common medical practice. Different NSAIDs controlled release methods have been described by means of chitosan (CHI) membranes or CHI/hydroxyapatite composite usage (A. Larena, D.A. Cáceres, C. Vicario, A. Fuentes 2004). The objective of present work consists in these NSAIDs kinetic research of chitosan nanoparticles and the polyethyleneglycol (PEG) influence in its composition. To check the nanoparticles size and morphology, Transmission Electron microscopy (TEM) and Scanning Electron Microscopy (SEM) observations are realised. In vitro release profiles of ASA and IBU are monitorized by a UV-VIS CARY 13E spectrophotometer according to procedures described previously. Differential Scanning Calorimetry (DSC) allows to observe changes in thermal properties.

Keywords: chitosan, nanoparticles, acetylsalicylic acid, ibuprofen