

Preparation, Characterization and Prophylactic Study of New Microsphere Containing Doxycycline against Diseases of Shrimp

Abstract

Therapeutically and prophylactically using Microspheres containing doxycycline isolated from shell of shrimp. Low molecule weight poly lactic acid was prepared. In this study, Poly lactic acid (PLA)/ poly vinyl alcohol (PVA)/poly ethyleneglycol(PEG) loading doxycycline blend solutions was prepared. Also Poly lactic acid (PLA)-Tannin blend via solvent evaporation method was prepared. Microspheres of chitosan/gelatin microsphere loading doxycycline was prepared by emulsion crosslinking technique. Both microsphere and blends were characterized by Fourier transform infrared (FTIR) spectrophotometer. The FTIR spectra were shown distinguish bands. The in vitro release of doxycycline from its matrix at pH 7 was studied. The prophylactic against white spot (Ich) disease of shrimp (*Macrobrachium nipponense*) was studied. The results were shown increase of percentage of survival of shrimp in both microsphere and blend compared with control. The highly percentage of survival was shown in the microsphere compare with blends.

Keywords: Chitosan, Microsphere, Polymer blend, Shrimp, Prophylactic.