

Characterization of prepared PLGA-alginate particles by using electrospinning

황태원, 최성욱, 김중현*

연세대학교

(jayhkim@yonsei.ac.kr*)

Poly(D,L-lactide-co-glycolide) (PLGA) and alginate have been extensively investigated biocompatible polymer for various applications. We prepared PLGA-alginate (core-shell) particles (PAP) by using dual needle of electrospinning. The dual needle was composed of inner needle and outer needle, PLGA in ethyl acetate was injected inner needle and alginate in DI water was injected outer needle. PAP sizes and shell thickness could be controlled by various voltages, solution flow rates and solution weight percent. Morphologies and sizes of PAP were confirmed by scanning electron microscope (SEM). The core-shell structures were investigated by using transmission electron microscopy (TEM) and observed pyrene-loaded PLGA (core) and rhodamine-loaded alginate (shell) by using confocal microscopy. Controlled release could be modulated shell thickness of PAP. Therefore, PAP may be potent carriers to control sustained release hydrophobic drugs.