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Qamar Uddin Ahmad

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Editor

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MICROENCAPSULATION OF GENTAMICIN INTO PLGA-CHITOSAN MATRICES

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Poly (lactide-co-glycolide) (PLGA), are the most commonly used biodegradable synthetic polymers as it has extensive clinical applications and has shown to be effective in implantation drug delivery. In this project, chitosan mixed with PLGA were used to encapsulate gentamicin (model drug) to evaluate feasibility of encapsulating highly water soluble drug. A modified single step solvent-evaporation method was employed to synthesize the microspheres. In this study, different types of surfactants (PVA, Tween 20 and Span 80) were used to test the loading efficiency, surface morphology, and particle size of the microspheres. From the results obtained, fabrication of microspheres using the solvent-evaporation method has successfully produced a locally administered drug delivery system for gentamicin. The application of different types of surfactants has yielded different microspheres characteristics with Tween 20 fabricated microspheres produced the smallest particle size, smooth surface morphology and the highest encapsulation efficiency