

Sustained Release of Antibiotics from PCL-gelatin multi Scaffolds

박희경, 백승호, 이동현[†]
중앙대학교
(dhlee@cau.ac.kr[†])

Because Postoperative infections cause various complications, efficient delivery of antibiotics is necessary to prevent infection. Therefore, drug release type scaffolds using various methods have been developed, and among them, researches on sustained release scaffolds that control drug release are active. In this experiment, a multi layered sustained-release scaffold was made based on poly (ϵ -caprolactone) (PCL) and gelatin using Air Jet Spinning (AJS) technique. 5 wt% gelatin scaffolds were prepared by freeze drying method and wrapped with 5 wt%, 7 wt%, and 8 wt% PCL, respectively, using air jet spinning. SEM and FTIR were used to characterize the double scaffolds and *S. epidermidis* and *K. pneumoniae* bacteria were used to evaluate the effect of antibiotic epocelin. We made a scaffold containing 5 wt% gelatin and a multi layered scaffold containing 5 wt% gelatin with 7 wt% PCL and we found that the scaffold effectively released the drug for a longer period of time. The results were based on the study, we developed a sustained drug release gelatin-PCL double scaffold basis of air jet spinning which applied to the medical and pharmaceutical industry.