

Control of Release Kinetics according to Porosity of Electrospun Fiber made of Poly (Vinylpyrrolidone) and Polycaprolactone

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Many people develop it to benefit the living body by changing the properties of various scaffolds. The initial release rate of blending the prepared scaffold and cells/drugs into tissues is fast. To compensate for this, we have been able to control the release kinetics of cells and drugs that scaffold contains. During fabrication, the solution was prepared by dissolving Poly(Vinylpyrrolidone) in EtOH solvent to include cells/drugs in the core. The shell uses Polycaprolactone, a biocompatible polymer that is commonly used. The shape of the scaffold is 2D mat, and the characteristics of the scaffold are studied according to the presence or absence of pores. In this study, we studied the effects of loading cells/drugs on the fiber received by the single nozzle and the fiber received by the core-shell nozzle, respectively, and how the release kinetics changes when pores are formed in the fibers. In this article, we examined the application possibility to control the release kinetics according to the situation.