

عنوان مقاله:

Electrospun Nanofibrous Scaffolds Based on Alginate for Skin Tissue Engineering

محل انتشار:

یازدهمین سمینار بین المللی علوم و تکنولوژی پلیمر (سال: 1393)

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خلاصه مقاله:

Sodium Alginate (SA) could not be electrospun from its aqueous solution due to its rigid chain conformation and lack of chain entanglements. To overcome these difficulties, usage of polyethylene oxide (PEO) would be helpful. Aqueous alginate/PEO solutions with different concentrations were prepared. Surface tension and conductivity and viscosity of the prepared solutions were measured. Results revealed that 5 wt.% total polymer content led to the best nanofiber morphology and bead free. The morphology of the electrospun mats have been investigated by scanning electron microscopy (SEM). Uniform, smooth, and ultra fine nanofibers with diameters of ~100–120 nm were obtained. To retain mats integrity in aqueous medium, the electrospun nanofibers were stabilized. Cell attachment and proliferation on the fabricated fibrous mats showed promising results indicating the potential of the scaffolds for wound healing and skin tissue engineering applications

کلمات کلیدی:

Alginate, polyethylene oxide, nanofibers, electrospinning, skin tissue engineering

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