

Author: [ADVANCED](#)

Volume Page

Keyword: [TOP](#) > [Available Issues](#) > [Table of Contents](#) > [Abstract](#)

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[\[PDF \(1235K\)\]](#) [\[References\]](#)**Preparation of Carbon Nanotube-alginate Nanocomposite Gel for Tissue Engineering**

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Abstract:

A novel scaffold material based on an alginate hydrogel which contained carbon nanotubes (CNTs) was prepared, and its mechanical property and biocompatibility evaluated. Soluble CNTs were prepared with acid treatment and dispersed in sodium alginate solution as a cross-linker. After which, the mechanical property (elastic deformation), saline sorption, histological reaction, and cell viability of the resultant nanocomposite gel (CNT-Alg gel) were evaluated. The CNT-Alg gel showed faster gelling and higher mechanical strength than the conventional alginate gel. Saline sorption amount of freeze-dried CNT-Alg gel was equal to that of the alginate gel. In terms of histological evaluation and cell viability assay, CNT-Alg gel exhibited a mild inflammatory response and non-cytotoxicity. These results thus suggested that CNT-Alg gel could be useful as a scaffold material in tissue engineering with the sidewalls of CNTs acting as active sites for chemical functionalization.

Key words:

[Carbon nanotube](#), [Alginate](#), [Scaffold material](#)



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