

**Preparation and characterization of silk/diopside composite nanofibers via electrospinning for tissue engineering applications****Abbas Teimouri and Iren Dabirian**  
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Silk fibroin (SF) is a kind of natural polymers with a great potential in biomedical application. Due to its good biocompatibility, biodegradability, high tensile strength, hemostatic properties, non-cytotoxicity, low antigenicity and minimal inflammatory reaction, SF is an excellent candidate for generating tissue engineering scaffolds. Based on previous findings, diopside ( $\text{CaMgSi}_2\text{O}_6$ ) is advised as an excellent bioactive material for artificial bone and dental root, since it shows more potential of apatite formation ability and higher mechanical strength than hydroxyapatite. Moreover, it has been confirmed that the diopside has a fairly high mechanical strength, good bioactivity, excellent bending strength and a good biocompatibility. Electrospinning is a new technique to fabricate nanofibrous scaffolds for tissue engineering due to the large surface area to volume ratio that influences the adhesion, migration, and growth of cells. In the past few years, there has been significant growth in research on exploring electrospun nanofibrous scaffold for tissue engineering applications. In this report we extend our recent study on silk composites. Silk fibroin/nanodiopside were fabricated via electrospinning. Herein, the effect of nanodiopside on the surface morphology of electrospun silk fibroin/nanodiopside nanofibers were investigated. Finally, the cytocompatibility of the silk fibroin/nanodiopside composite nanofibrous scaffold was studied by using MTT test.

**Biography**

Abbas Teimouri has completed his PhD from Isfahan University of Technology, Isfahan, Iran. He is the Associate Professor of Organic Chemistry in Payame Noor University (PNU), Isfahan, Iran. He has published more than 75 papers in reputed journals.

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