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Mohammad Hadidi, Ashkan Bigham, Ehsan Saebnoori, S.A. Hassanzadeh-Tabrizi, Shahram Rahmati, Zahra Mohammad Alizadeh, Vahid Nasirian, Mohammad Rafienia



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## Electrophoretic-Deposited Hydroxyapatite-Copper Nanocomposite as an Antibacterial Coating for Biomedical Applications

Mohammad Hadidi <sup>a</sup>, Ashkan Bigham <sup>a</sup>, Ehsan Saebnoori <sup>a</sup>, S.A. Hassanzadeh-Tabrizi <sup>a</sup>,  
Shahram Rahmati <sup>b</sup>, Zahra Mohammad Alizadeh <sup>c</sup>, Vahid nasirian <sup>d</sup>, Mohammad  
Rafienia <sup>e\*</sup>

<sup>a</sup> Advanced Materials Research Center, Department of Materials Engineering, Najafabad  
Branch, Islamic Azad University, Najafabad, Iran

<sup>b</sup> School of Advanced Medical Technologies, Isfahan University of Medical Sciences,  
Isfahan, Iran

<sup>c</sup> Student Research Center, Isfahan University of Medical Sciences, Isfahan,  
Iran

<sup>d</sup> Medical Biology Research Center, Kermanshah University of Medical Sciences,  
Kermanshah, Iran

<sup>e</sup> Biosensor Research Center, Isfahan University of Medical Sciences, Isfahan, Iran

### Abstract

In this study, the preparation of hydroxyapatite–copper (HA-Cu) nanocomposite coatings is based on electrophoretic deposition (EPD) method and their bioactivity, antibacterial behavior, and cytotoxicity are assessed. The HA-Cu nanocomposite coatings with different amounts of Cu (1, 3 and 5 wt.%) deposited on Ti6Al4V substrates. The surface morphology, composition, and microstructure of these coatings are characterized through scanning electron microscopy (SEM) equipped with energy

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\* Corresponding author. Tel.: +98 3137922480; fax: +98 3136688595.  
E-mail address: m\_rafienia@med.mui.ac.ir (M. Rafienia).

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