Titolo (provvisorio): Bioactive electrospun scaffolds for tissue engineering of vascular grafts

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Motivazione e campo di applicazione

Design, fabrication and characterization of tubular scaffolds prepared by electrospinning for the replacement or bypass of damaged arteries in various cardiovascular diseases.

Obiettivi generali e principali attività

There is great clinical demand for synthetic vascular grafts with improved long-term efficacy. An ideal vascular conduit should be easily implanted, non-thrombogenic, biocompatible, resistant to aneurysmal dilatation and biodegradable as the patient remodels the graft into tissue resembling native vessel. In this respect, the electrospinning technique will be used to fabricate biocompatible and biodegradable optimized conduits, which will be further bioactivated by their loading with bioactive molecules (e.g. antioxidants) in order to minimize inflammation at the site of implant.

Obiettivi di apprendimento (strumenti tecnici e analitici, metodologie sperimentali)

To gain practical experience in the development, engineerization and characterization of a drug loaded biopolymeric tubular scaffold obtained by electrospinning technique.

Luogo/i in cui si svolgerà il lavoro: DIBRIS, DICCA, University of Genoa

Informazioni aggiuntive

Numero massimo di studenti: 1