CHT
Centre for Health Technologies
University of Pavia

UNIVERSITÀ DI PAVIA

Seminar:

Molecularly and Cellularly Imprinted, Intelligent Scaffolds for Regenerative Medicine and Tissue Engineering

Speaker :

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Abstract:

The development of molecularly imprinted polymers using biocompatible production methods enables the possibility to further exploit this technology for biomedical applications. Tissue engineering (TE) approaches use the knowledge of the wound healing process to design scaffolds capable of modulating cell behavior and promote tissue regeneration. Biomacromolecules bear great interest for TE, together with the established recognition of the extracellular matrix, as an important source of signals to cells, both promoting cell-cell and cell-matrix interactions during the healing process. This review focuses on exploring the potential of protein molecular imprinting to create bioactive scaffolds with molecular recognition for TE applications based on the most recent approaches in the field of molecular imprinting of macromolecules. Considerations regarding essential components of molecular imprinting technology will be addressed for TE purposes. Molecular imprinting of biocompatible hydrogels, namely based on natural polymers, is also reviewed here. Hydrogel scaffolds with molecular memory show great promise for regenerative therapies. The first molecular imprinting studies analyzing cell adhesion report promising results with potential applications for cell culture systems, or biomaterials for implantation with the capability for cell recruitment by selectively adsorbing desired molecules.

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Registrazioni presso
https://is.gd/Peppas2017

Per Maggiori Informazioni
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