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Technology Transfer

3D MATRICES OF HUMAN ELASTIN-LIKE POLYPEPTIDES AND METHODS OF PREPARATION THEREOF

Innovative applications of human elastin-like and methods of preparation for the realization of innovative medical systems for skin injuries



Category:

Life Sciences

Patent Ownership:

UNIVERSITA' DI TRIESTE

Inventor:

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Available

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Brief description

The present invention relates to hydrogels or 3D matrices obtained from human elastin-like polypeptides suitably cross-linked by means of enzymatic cross-linking, and to preparation and use in the biomedical field thereof. The appropriate macromolecules consisting of elastin-like polypeptides derive from the human tropoelastin sequence, comprising the repeated sequence VAPGVG and sequences comprising amino acids capable of forming, under appropriate conditions, mutual and stable covalent bonds, thereby creating 3D matrices.

Innovative aspects and main advantages

The biomimetic polymeric components increasingly play great attention in the field due to their reproducibility and standardization of the origin material and from the elimination of biologic risk of the pathogenic agents. The hydrogel structure that the biomaterial may assume is perfectly suitable to maintain humid the microenvironment. Such environment fosters the development of the tissue granulation appropriate for favorable support to the injury rehabilitation. The main

innovative aspect concerns the possibility of the bioactive functionalization of the biomimetic polymer with known components for the adjuvant biopolymer in the field of difficult curing skin injuries.

Applications

The invention can be employed in the preparation of innovative medical systems suitable for the extracellular matrix and epithelization processes. These matrixes foster the formation of a temporary structure for tissue remodeling.

Potential market

Our potential target market refers to companies that produce medical, biomedical and health care systems. The invention may be strongly interesting for companies in the area of non-invasive therapy and rehabilitation.

Development status

Technology proven in pertinent environment.

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