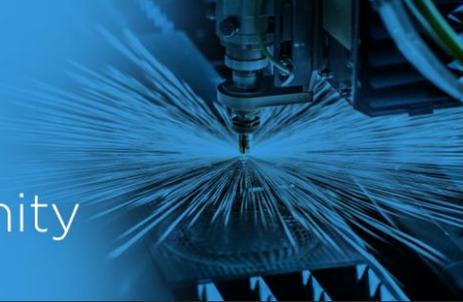




NovaUCD

Technology Licensing Opportunity



Engineered tissue fabrication for rapid collagen matrix formation

Accelerates tissue matrix formation to resemble native tissue for a variety of regenerative medicine and medical applications.



Value Proposition:

An accelerated method to create tissue engineered substitutes using macromolecular crowding.

Markets:

- Rapid tissue regeneration
- Regenerative tissue scaffolds
- Medical device coatings
- In vitro drug screening
- Tissue adhesive substitutes

Lead Inventors:

Prof Dimitrios Zeugolis

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Opportunity

Tissue engineering has emerged as a promising field aimed at addressing the growing demand for reliable regenerative therapies. However, several challenges exist that hinder clinical translation. For example, traditional methods require high cell numbers and prolonged culture periods for the development of implantable tissue engineered medicines.

Technology Overview

This technology employs a method for rapidly producing engineered tissue substitutes by culturing eukaryotic cells in a medium enriched with large, poly-dispersed macromolecular crowders such as carrageenan. The crowders recreate the crowded extracellular environment, accelerating the conversion of procollagen to collagen and enhancing extracellular matrix deposition.

Key Features/Advantages:

- Rapid production of tissue substitutes within 48 hours, significantly reducing manufacturing time compared to conventional methods.
- Enhanced and accelerated extracellular matrix deposition, closely imitating native tissue assemblies.
- Flexibility in using various eukaryotic cell types and macromolecular crowders.



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