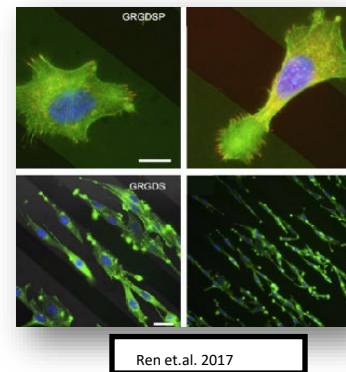


Cell culture on surface-engineered planar hydrogel substrates and investigation of cell-interface interactions to develop a biomaterial for cardiovascular research



Background:

Cardiovascular diseases are the first cause of death around the world. To treat them, new medical devices must be developed and investigated in vitro before clinical usage. Therefore preparation of biomaterials as test environments is a hot topic in biomedical engineering. Gelatin hydrogels due to their suitable mechanical properties and biocompatibility are a great candidate to be used in vitro experiments. Endothelial cell, which is sensitive to their surrounding microenvironment is a crucial factor in the preparation of biologized biomaterials. Therefore, understanding and optimizing the most suitable condition for the improvement of cell attachment and proliferation is vital.



Aim of the project:

In this project, various nano/microstructures will be replicated on the surface of Gelatin hydrogel scaffolds. In the next stage, Human Umbilical Endothelial Cells (HUVECs) will be seeded on the scaffolds that are surface modified with grooves-like structures. The interaction of endothelial cells with the biomaterial and cells' adhesion, proliferation, and viability will be studied to compare and introduce the best surface structures that improve the efficacy of endothelialization.

For more information contact us!

Start:

Immediately!

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