

The effects of nanofiber organization On in vitro Adipose Stem Cell culture

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Basic Research Method

Fabrication of aligned & random nanofibrous scaffolds
— Electrospinning technology

The effects of nanofiber organization (aligned vs random) on:

1. Cell Morphology—Immunostaining of cytoskeleton proteins
2. Cell proliferation—Cell Count Kit 8;
3. Cell attachment and migration—Gene expression

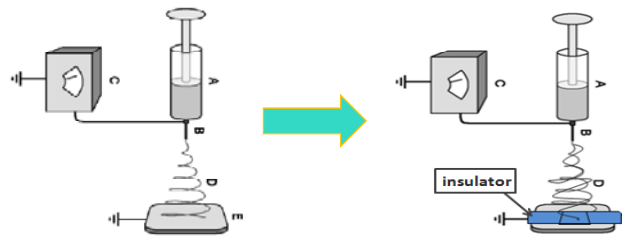
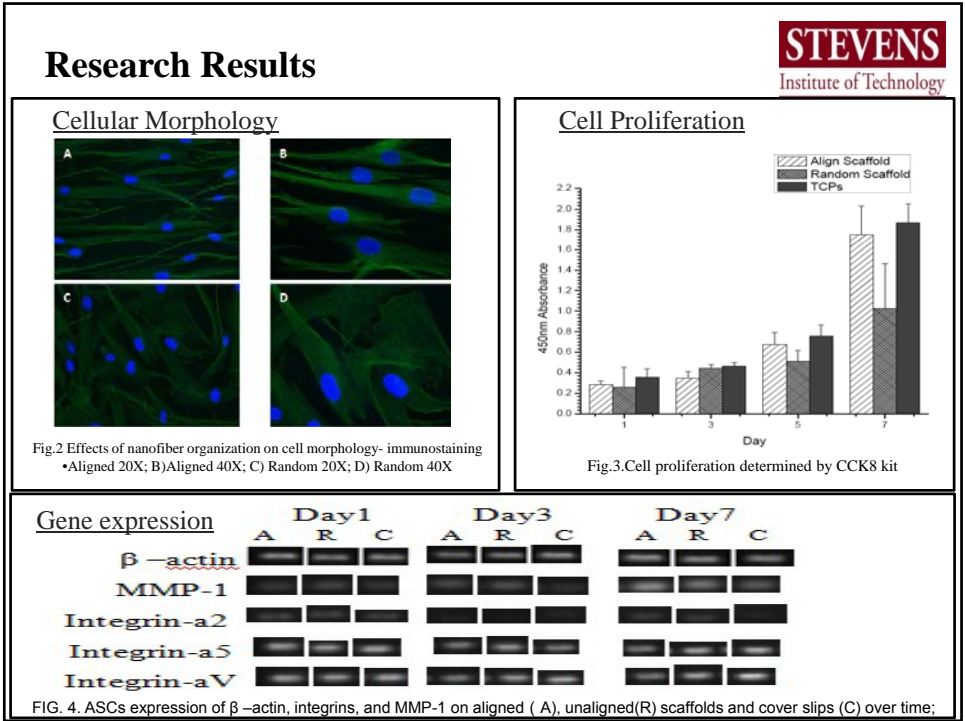



Fig. 1. Schematic diagram of electrospinning apparatus





Next Steps of Research

Our primary result showed that nanofiber organization was the primary factor guiding the attachment morphology and growth of ASCs. Based on these observations, it was apparent that nanofiber organization exerted significant control over cell response and was a critical scaffold design parameter for skin tissue engineering.

But more work need to be done ...

1. Repeat gene expression lab;
2. Zymgraphy MMP2/MMP9;
3. Immunostaining FAK and vinculin;
4. Western Blot

Expected Paper:
 Invited book chapter of Nanofiber Enabled Tissue Engineering
 Composite nanofibers enable rapid creation of full- thickness skin graft