nanocrine™

Culture cardiomyocytes with precision-defined surfaces **Application Note**

c(RGDfK) Surface Chemistry Biochips

To culture cells, many researchers utilize a coating method by which they adsorb a reagent that supports protein-protein or electrostatic interaction with cells such as poly-D-lysine, collagen, or vitronectin, to name a few. This process can be expensive, time consuming, and introduces lab to lab variability as different laboratories have developed methods that work best for the cells they are culturing. The Nanocrine c(RGDfK) Surface Chemistry Biochips are an “out of the box” solution that requires no additional coating for culturing human induced pluripotent stem cell derived-cardiomyocytes (hiPSC-CMs) or primary mouse adult cardiomyocytes through precise spacing of RGD-motif ligands with surface activity (spacing) verified by surface plasmon resonance.

- “Plug and play” solution for culturing hiPSC-CMs and primary CMs
- Precise varied ligand spacing
- Reduced variability
- Reduced experimental time
- Surface ligand activity verified by SPR

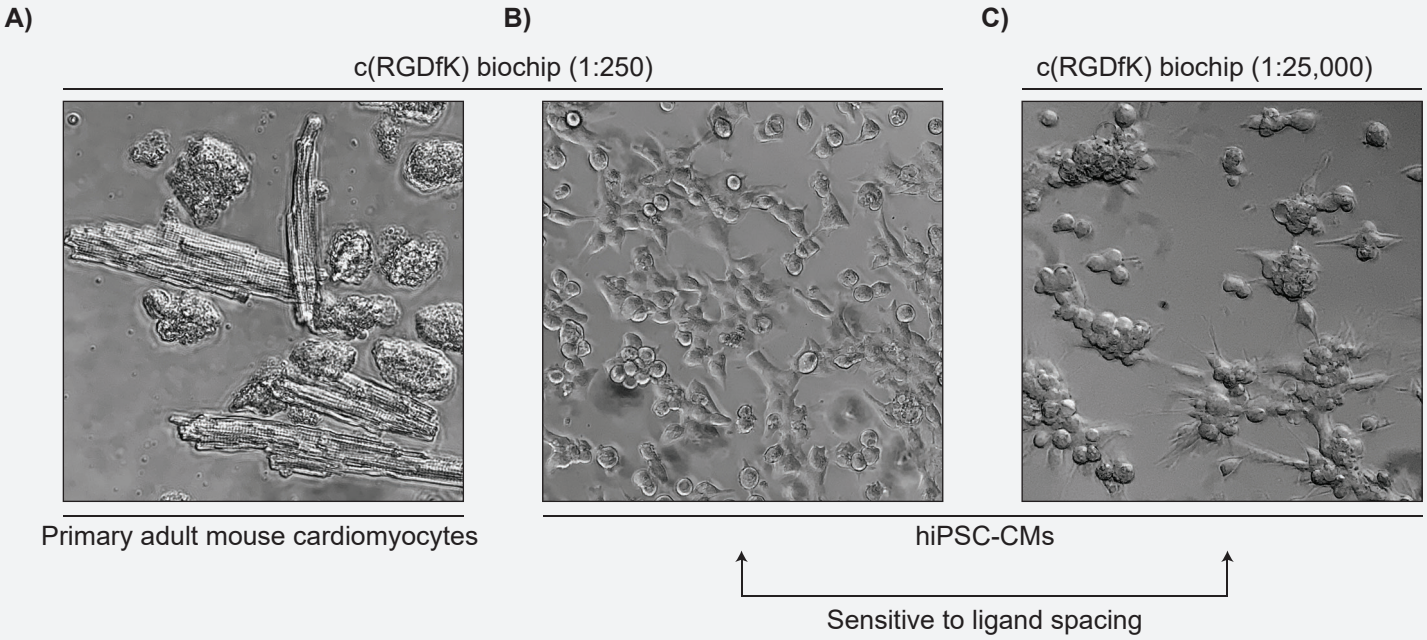

Figure 1) Cardiomyocytes cultured on “uncoated” Nanocrine c(RGDfK) Surface Chemistry Biochips. Recently isolated primary adult mouse cardiomyocytes and hiPSC-CMs were cultured on c(RGDfK) surface chemistry biochips. **A)** Primary adult mouse cardiomyocytes on 1:250 molecular density (6 nm spacing) c(RGDfK) Surface Chemistry Biochip (Cat. #N1-SRG2-4). Adult mouse cardiomyocytes were imaged 3 hours after plating. **B, C)** hiPSC-CMs plated on 1:250 molecular density (6 nm spacing) c(RGDfK) Surface Chemistry Biochip (Cat. #N1-SRG2-4) and 1:25,000 molecular density (59 nm spacing) c(RGDfK) Surface Chemistry Biochips (Cat. #N1-SRG4-4). hiPSC-CMs were imaged 48 hours after plating.

Images courtesy of J.W. Smyth (Fralin Biomedical Research Institute at Virginia Tech Carilion)