nanocrine™

Unmask and amplify phenotypes during viral infection
c(RGDfK) Surface Chemistry Biochips

Application Note

Cytopathic effect (CPE) is known to be caused by numerous pathogens including viruses and is commonly assessed through light microscopy techniques to rapidly gain insight into the viral replication cycle status of cells. This information can be leveraged to better understand viral replication kinetics, and is also important in purification strategies. Nanocrine's c(RGDfK) Surface Chemistry Biochips add an additional layer of user-defined complexity to experiments by challenging cells ability to attach to the substrate, which amplifies phenotypic characteristics of CPE. Furthermore, CPE may be detected during viral infection of viruses currently not considered to cause CPE.

- Reveal novel phenotypes during infection not previously possible
- Precise varied ligand spacing
- Reduced variability
- Surface ligand activity verified by SPR
- Amplify infection-induced phenotypes

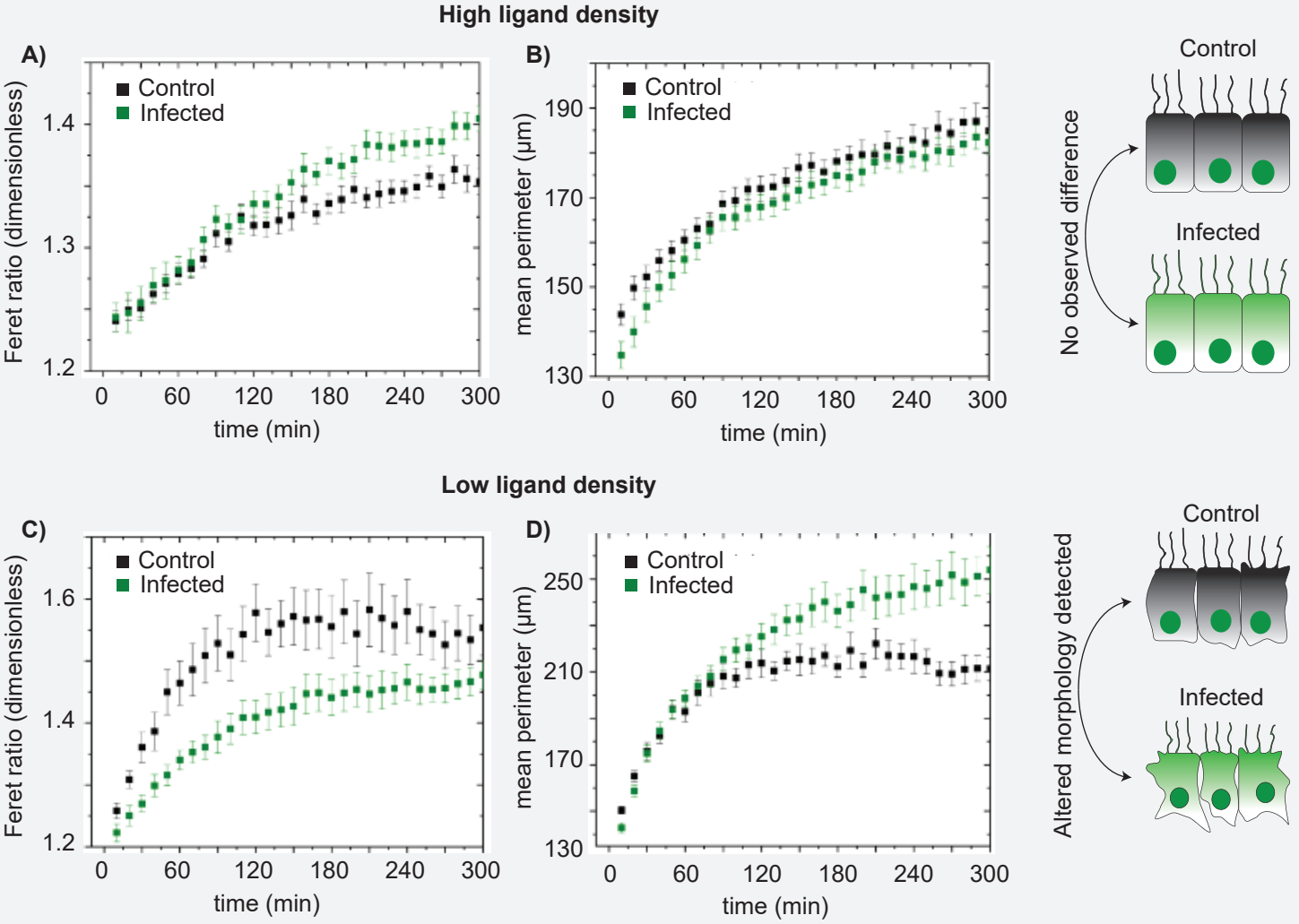

Figure 1) Infected cell morphological biomarkers are detected on low, but not high, cRGD surfaces. Vero cells were infected with Venezuelan Equine Encephalitis Virus TC-83 for 6 hours prior to trypsinization and plating on Nanocrine c(RGDfK) Surface Chemistry Biochips immediately followed by live cell phase contrast microscopy. **A, B)** Cell phenotype parameters on high density c(RGDfK). **C, D)** Cell phenotype parameters on low density c(RGDfK). Multiplicity of Infection = 10. 6 to 11 hours post infection. Black - control. Green - infected.

Data courtesy of M. P. Raphael (Materials Science and Technology Division at the Naval Research Laboratory)