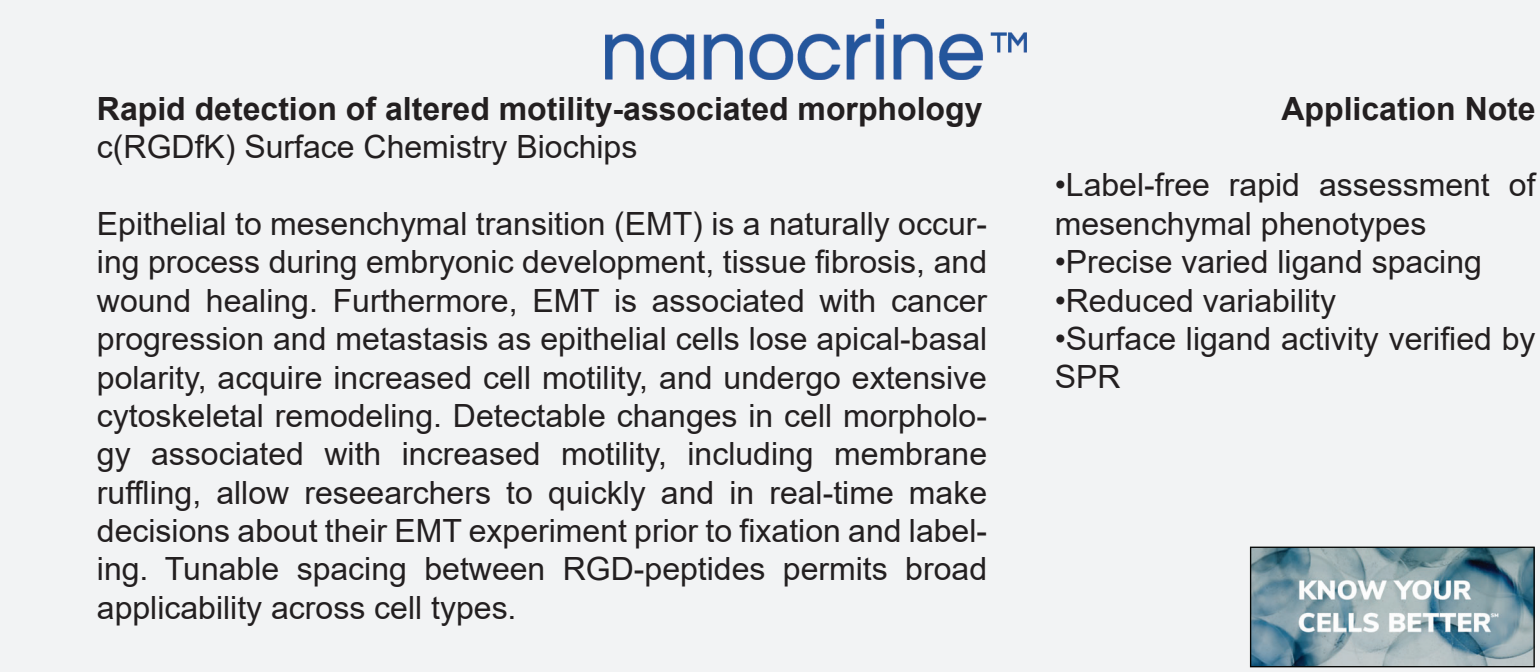
nanocrine™

Rapid detection of altered motility-associated morphology
c(RGDfK) Surface Chemistry Biochips

Application Note

Epithelial to mesenchymal transition (EMT) is a naturally occuring process during embryonic development, tissue fibrosis, and wound healing. Furthermore, EMT is associated with cancer progression and metastasis as epithelial cells lose apical-basal polarity, acquire increased cell motility, and undergo extensive cytoskeletal remodeling. Detectable changes in cell morphology associated with increased motility, including membrane ruffling, allow reseearchers to quickly and in real-time make decisions about their EMT experiment prior to fixation and labeling. Tunable spacing between RGD-peptides permits broad applicability across cell types.

- Label-free rapid assessment of mesenchymal phenotypes
- Precise varied ligand spacing
- Reduced variability
- Surface ligand activity verified by SPR



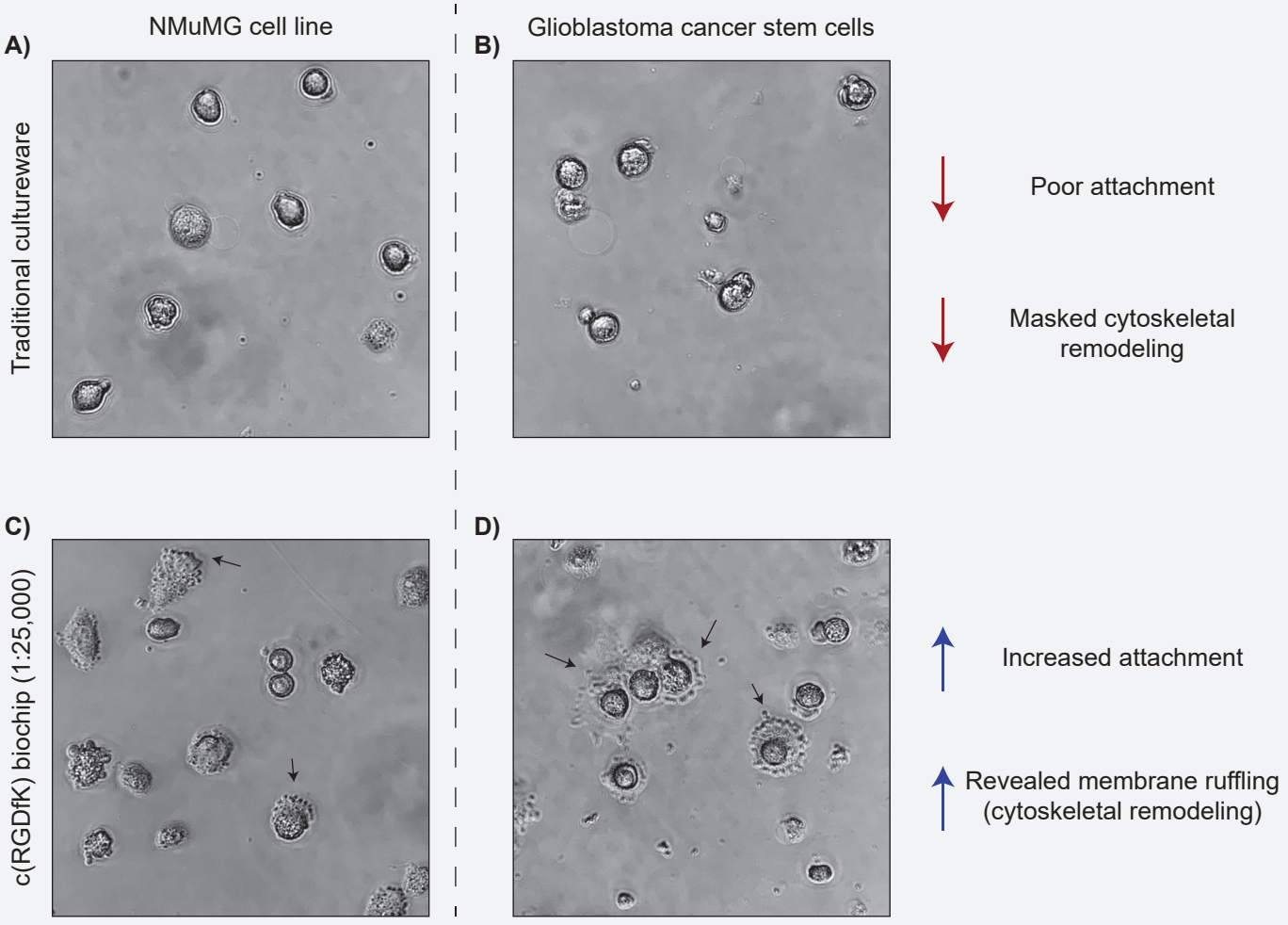


Figure 1) Increased motility-associated phenotypes detected on Nanocrine c(RGDfK) Surface Chemistry Biochips. NMuMG cells were treated with TGF-ß and human glioblastoma cancer stem cells were treated with FBS for 48 hours prior to being plated on traditional multiwell cultureware or c(RGDfK) surface chemistry biochips. Cells were imaged 3 hours after plating. **A, B)** Cells plated on traditional cultureware. **C, D)** Cells plated on 1:25,000 molecular density c(RGDfK) Surface Chemistry Biochips (Cat. #N1-SRG4-4).

Images courtesy of S. Lamouille (Fralin Biomedical Research Institute at Virginia Tech Carilion)