

Supplementary Materials for

Multivalent Integrin-Specific Ligands Enhance Tissue Healing and Biomaterial Integration

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Materials and Methods

Fig. S1. Surface density for constructs tethered onto polymeric brushes as a function of coating concentration.

Fig. S2. Cell-adhesive responses to surfaces presenting high density of multivalent ligands at equimolar average density (680 fmol/cm^2) of FNIII₇₋₁₀ domains.

References

Supplementary Material

Supplementary Materials and Methods

For biomaterials coated with adsorbed constructs, Ti samples were coated with a solution of purified multimer and adsorbed densities were measured by SPR (S1). Soluble integrin binding to coated surfaces was measured as described in the main text. Adhesion strength measurements were performed using a spinning disk device (S2).

Supplementary Figures

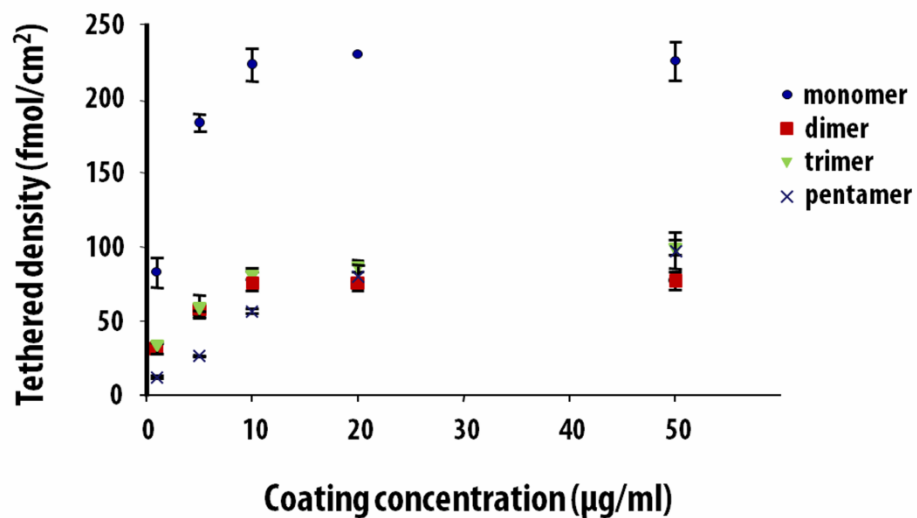


Fig. S1. Surface density for constructs tethered onto polymeric brushes as a function of coating concentration. Surface densities were quantified by SPR (N=3 per construct/condition). Values for density of FNIII₇₋₁₀ domains were calculated by multiplying construct density and valency.

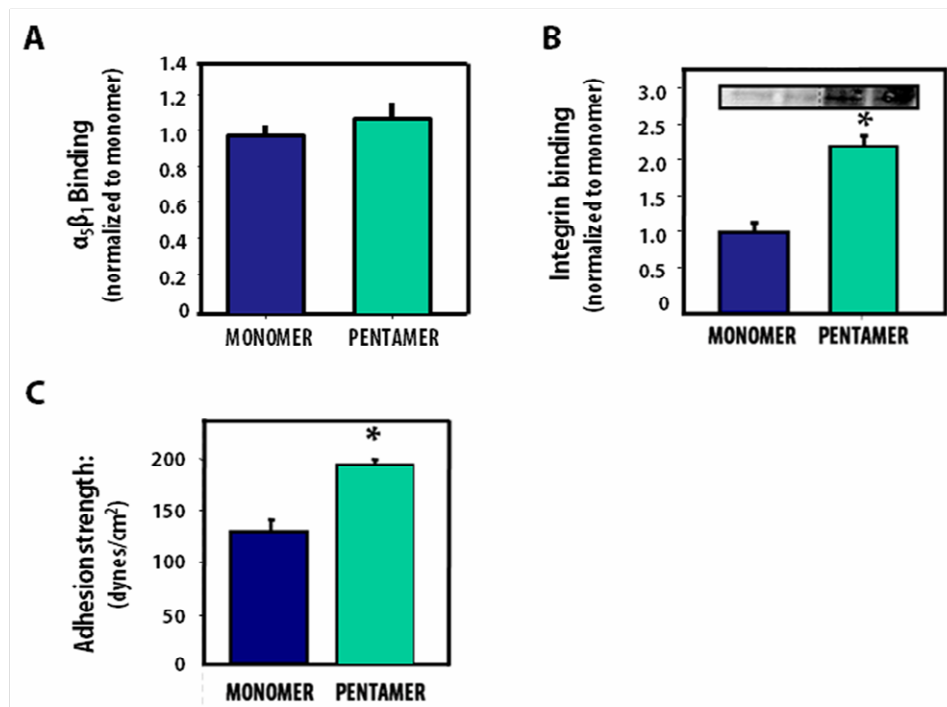


Fig. S2. Cell-adhesive responses to surfaces presenting high density of multivalent ligands at equimolar average density (680 fmol/cm²) of FNIII₇₋₁₀ domains. (A) Binding of soluble human $\alpha_5\beta_1$ integrin to adsorbed multimers showing no differences in ligand accessibility. (B) Integrin binding to adsorbed constructs in whole cells (1 hr, 37 °C), showing enhanced binding for pentamer (*P<0.005, N=4). (C) Pentamer-coated substrates enhance cell adhesive strength (2 h) over monomer-coated surfaces (*P<0.002, N=7).

Supplementary References

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