**Supplementary Material**

**Figure S1.** Scanning electron microscopic characterization of PCL/Col (A) and PCL/Fib (B) nanofiber matrices. Scale bar = 2 μm.

**Figure S2.** Proliferation of human dermal fibroblasts on nanofiber matrices for up to 7 days (n=4) was determined by MTT assay. * Statistically significant, p<0.05.
**Figure S3.** The morphology of fibroblasts on PCL/Col (A) and PCL/Fib (B) nanofiber matrices after culture for 24 h. A-B) Fluorescent images of fibroblasts stained with phalloidin-TRITC for intracellular cytoskeleton protein of F-actin (red) and DAPI for nuclei (blue). Scale bar = 50μm. C) Quantification of the average cell spreading area on PCL/Col and PCL/Fib nanofiber matrices. * Statistically significant, *p*<0.05.

**Figure S4.** Representative immunoblot images in western blotting analysis of integrin α₂, β₁, αᵥ and αᵥβ₃ in fibroblasts on PCL/Col and PCL/Fib nanofiber matrices without TGF-β₁.
**Figure S5.** Morphology and focal adhesion formation of human dermal fibroblasts on PCL/Fib nanofiber matrices with integrin αV inhibitor Cilengitide (10μg/mL). A) Fluorescent staining for F-actin (red) with phalloidin-TRITC. B) Immunofluorescent staining for vinculin (green) with FITC-anti-vinculin antibody. C) Overlay of F-actin and vinculin staining. Cell nuclei stained blue with DAPI.

**Video S1.** Random migration of fibroblasts on PCL/Fib nanofibers cultured either with (A) or without (B) integrin αV inhibitor (Inh) Cilengitide (10μg/mL).