CORRECTION

Correction: Analysis of Osteoblast Differentiation on Polymer Thin Films Embedded with Carbon Nanotubes

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Portions of Figs 1, 3 and 5 are illegible due to their black backgrounds. Please see the corrected figures here.
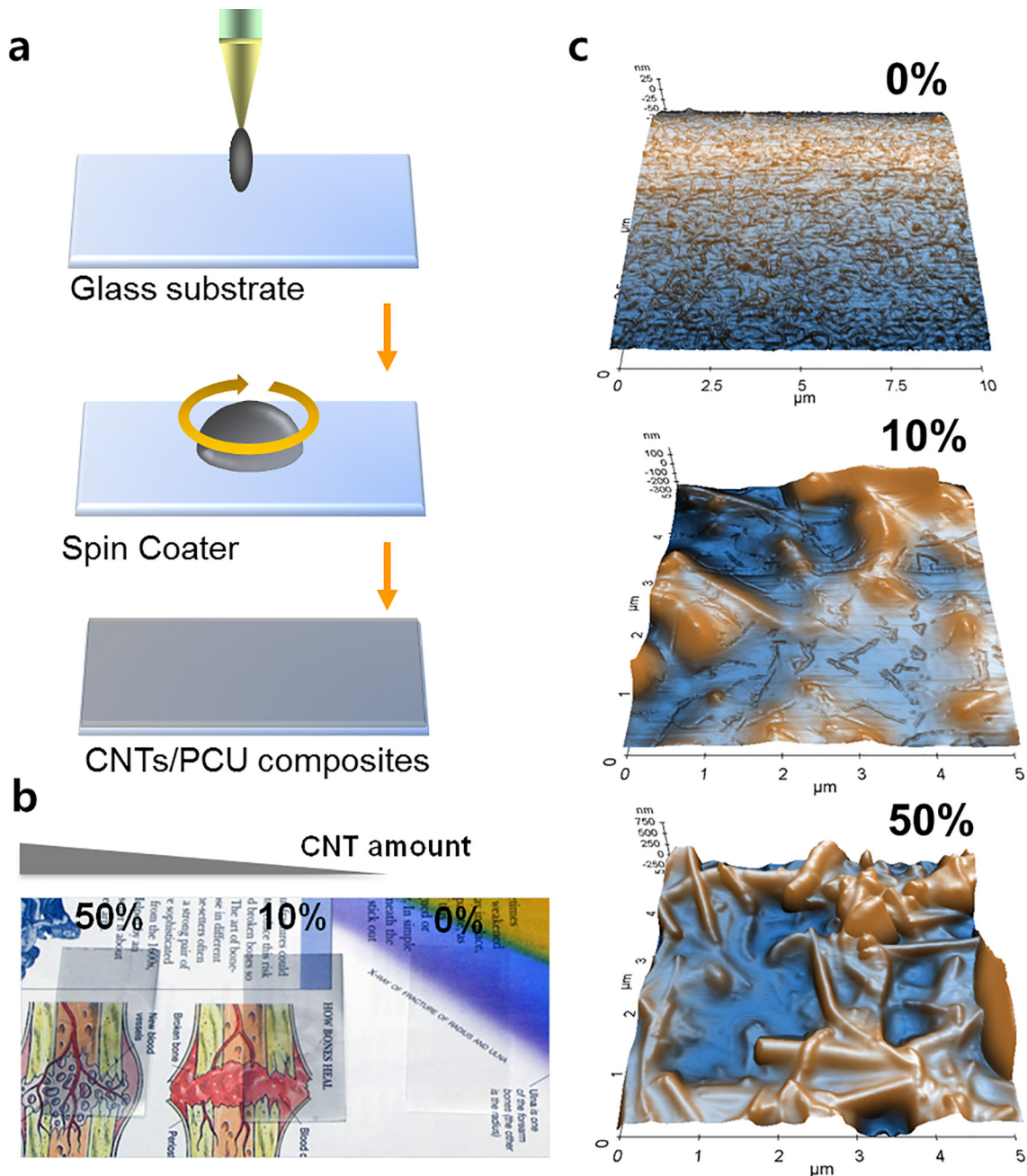
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Fig 1. Fabrication, surface transparency, and surface morphology of CNT/PCU composite thin film. (a) A schematic showing the fabrication of a CNT/PCU composite thin film using spin casting techniques. (b) Transparency of PCU, 10% CNT/PCU, and 50% CNT/PCU. The CNT/PCU composites were made transparent under visible and optical microscopy. (c). Nanoscale surface topography of PCU, 10% CNT/PCU, and 50% CNT/PCU, as determined by AFM. An increase in the presence of nanostructures corresponded with increasing levels of CNTs embedded in PCU.

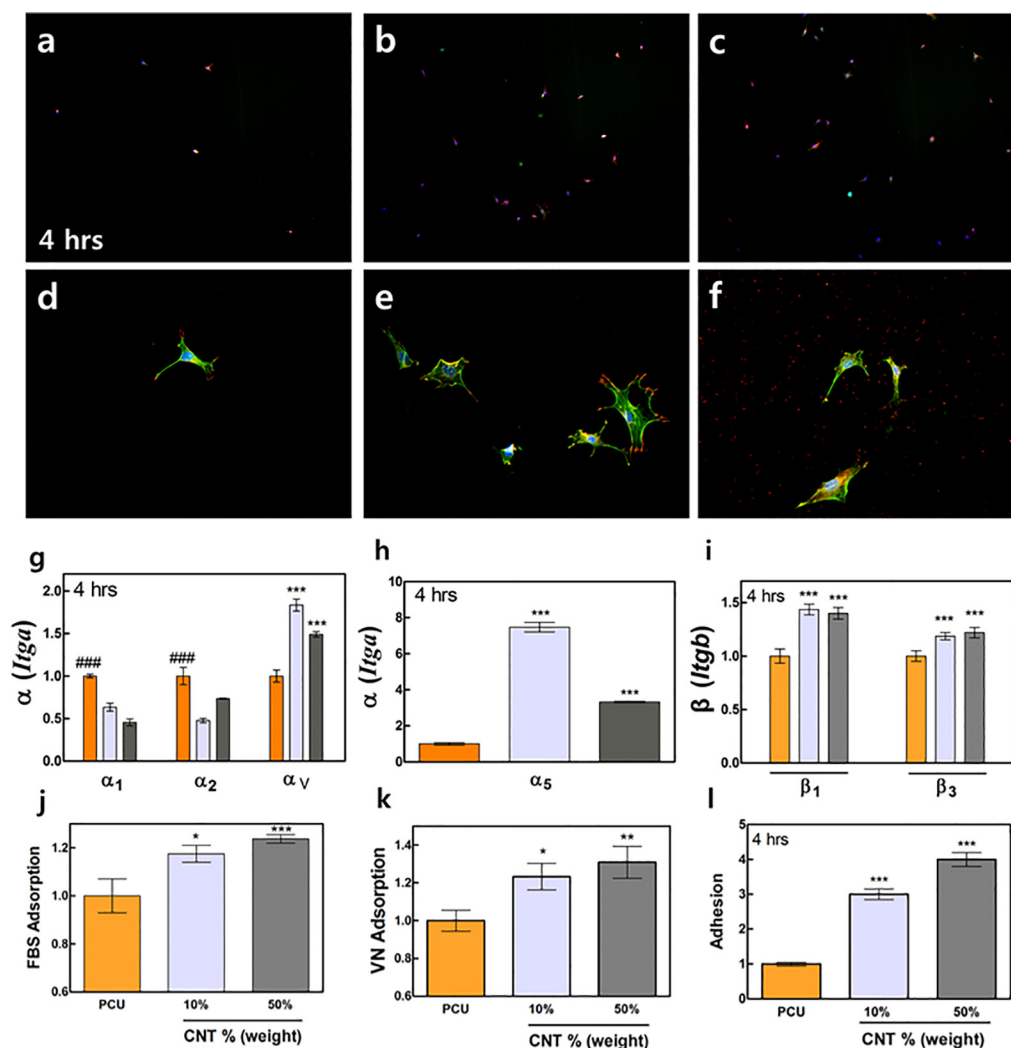doi:10.1371/journal.pone.0132874.g001

Fig 3. Pre-osteoblast adhesion, cytoskeletal organization, and focal adhesion on PCU and CNT/PCU composites. (a) The actin cytoskeleton (green) and focal adhesions (red) of pre-osteoblasts grown on the PCU (a, d), 10% CNT/PCU (b, e), and 50% CNT/PCU (c, f) surfaces after incubation for 4 hrs. (g-i) Relative mRNA expression levels of fold change of the integrin subunits α_1, α_2, α_5, α_v, β_1, and β_3. Pre-osteoblasts were grown on the pure PCU (orange) surface and the two CNT/PCU composite surfaces (gray for 10% CNT and dark gray for 50% of CNT in PCU). mRNA expression levels were determined using qPCR assays after 4-h culture. (j-k) Fold change of FBS and VN adsorption. (l) Fold change of pre-osteoblast cell adhesion levels on the CNT/PCU surfaces compared with that on the PCU surface after 4 hrs. All data represent the mean ± SEM ($n = 3$). $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$ vs. control (PCU) and $^{###}p < 0.001$ vs. CNT/PCU composites.

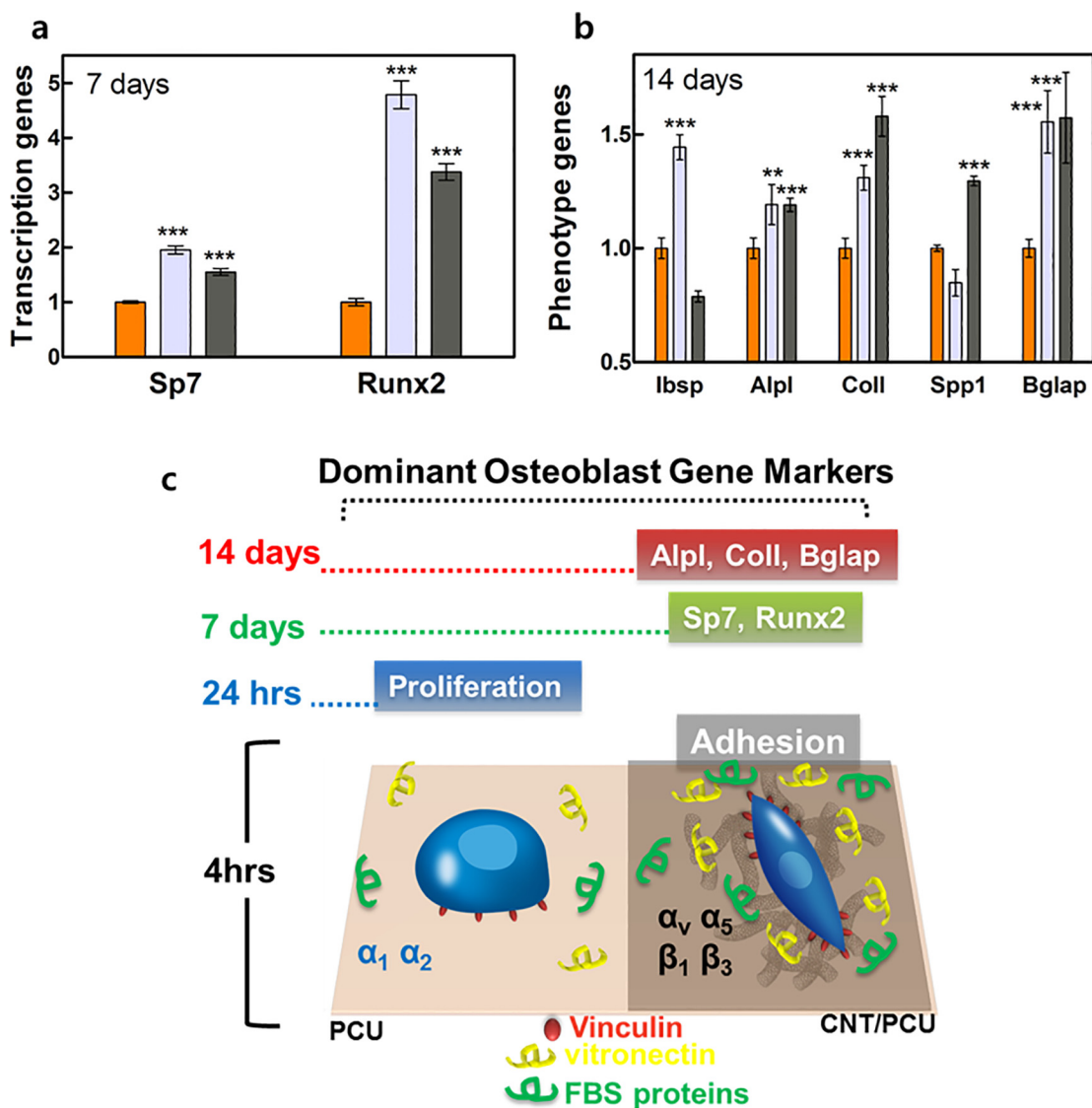doi:10.1371/journal.pone.0132874.g002

Fig 5. Transcriptional and phenotype gene expression of osteoblasts on PCU and CNT/PCU composites. The mRNA levels of (a) *Sp7* and *Runx2* at 7 days and (b) *Ibsp*, *Alpl*, *Col1*, *Spp1*, and *Bglap* after 14 days in osteoblasts grown on the PCU (orange) and CNT/PCU composite surfaces (gray for 10% CNT and dark gray for 50% of CNT in PCU) were determined by qPCR. (c) Dominant biomarkers of osteoblast responses (short and long term). All data represent the mean ± SEM ($n = 3$). $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$ *vs*. control (PCU).

Reference

1. Lee JW, Park J-W, Khang D (2015) Analysis of Osteoblast Differentiation on Polymer Thin Films Embedded with Carbon Nanotubes. PLoS ONE 10(6): e0129856. doi: 10.1371/journal.pone.0129856 PMID: 26076355