Electronic Supplementary Material (ESI) for Integrative Biology

Supplementary Information

Regulation of morphogenesis and neural differentiation of human mesenchymal stem cells using carbon nanotube sheets

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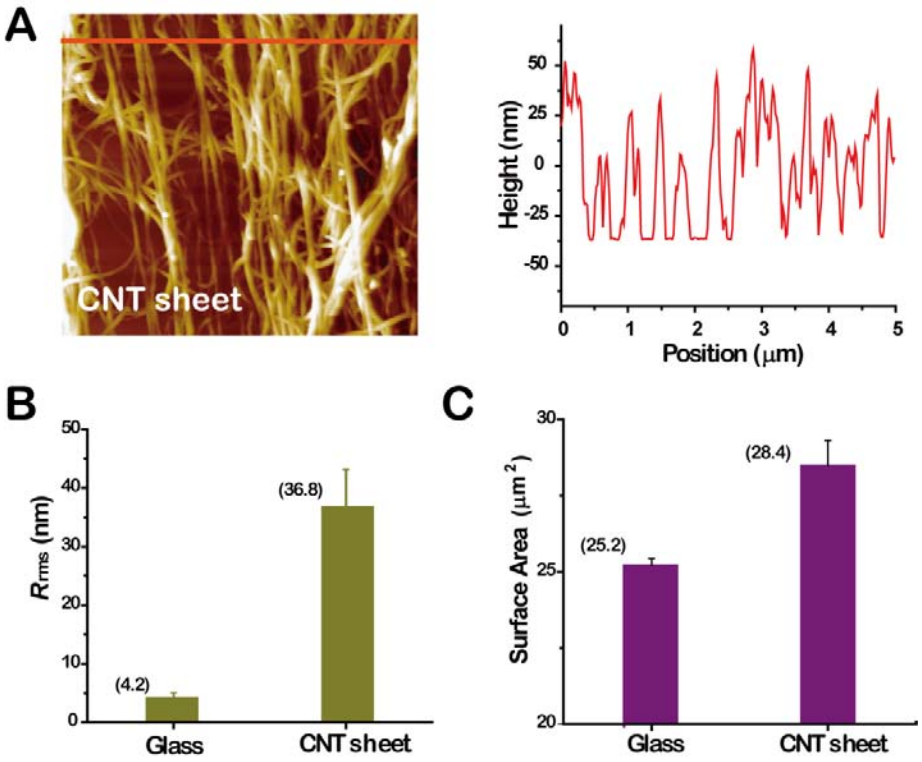

Figure S1. Surface characteristics of glass and CNT sheet using AFM. (A) Representative AFM image (left panel) and its line profile (right panel). A 5 μm × 5 μm area of each substrate was scanned and roughness (B) and surface area (C) were calculated.

Table S1. Primer sequence used in the RT-PCR analysis to determine the level of gene expression for cell adhesion (β1-and α5-integrin) and neural differentiation (β3-tubulin, NSE, GAP43, NFL, MAP1b, and MAP2). GAPDH was used as a standard control.

Marker	**Primer (forward)**	**Primer (reverse)**	**Size (bp)**	**Function**
β1-integrin	5'-CACTTTGCTGGAGATGGG-3'	5'-CCTACTGCTGACTTAGGG-3'	227	Adhesion, binding
α5-integrin	5'-CTGAAGATGCCCTACCGAAT-3'	5'-GGAGGGAGCGTTTGAAGAAT-3'	202	
β3-tubulin	5'-GGAACCATGGACAGTGTC-3'	5'-TTGCTGATGAGCAACGTGC-3'	251	Microtubule element
NSE	5'-TCTGTGGTGGAGCAAGAGAA-3'	5'-TGAGAGCCACCATTGATCAC-3'	217	Neuron-specific marker
GAP43	5'-GATGATGTCCAAGCTGCTGA-3'	5'-TTCTCCTCTGAGGATGCAG-3'	233	Component of axon and presynaps
NFL	5'-TTCCTTCAGCTACGAGCCGT-3'	5'CCAGACTGGGCATCAACGAT-3'	197	Axonal growth
MAP1b	5'-TGTCCTAGCAGCCAGTCAGT-3'	5'-CTCGAGGAGCTAAAATCAGC-3'	215	Microtubule assembly
MAP2	5'-TTCACGCACACCAGGCACT-3'	5'-GACATTCTTCAGGTCTGGCAG-3'	190	Microtubule-associated protein
GAPDH	5'-CCACTGGCGTCTTCACCA-3'	5'GCCAGGGGTGCTAAGCA-3'	190	Standard control