Supporting Information for

Engineered Cell-Imprinted Substrate Directs Osteogenic Differentiation in Stem Cells

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S1. Additional SEM Images of the Cell-imprinted PDMS Substrates.

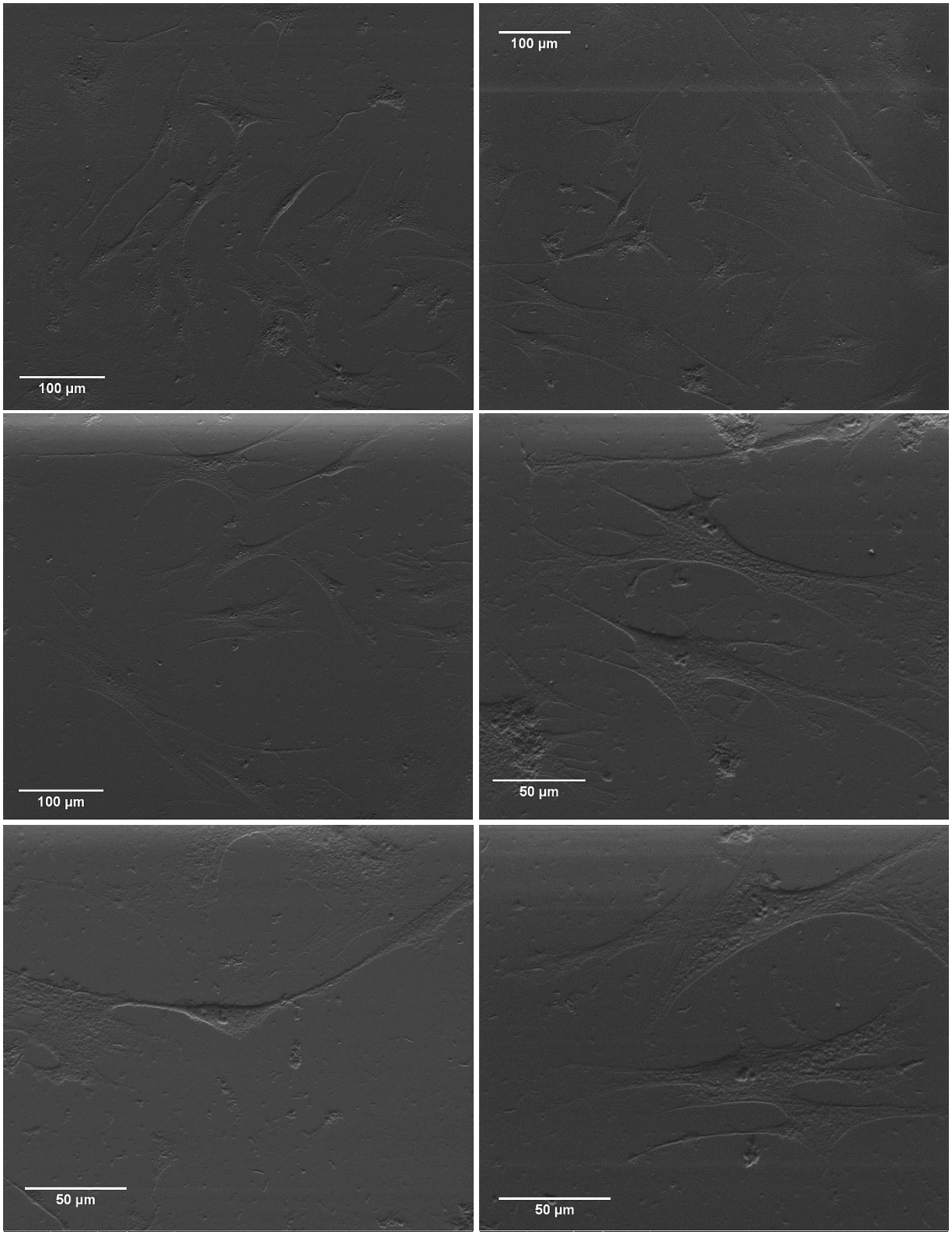

Figure S1. *SEM images of stem cell-imprinted PDMS substrate*

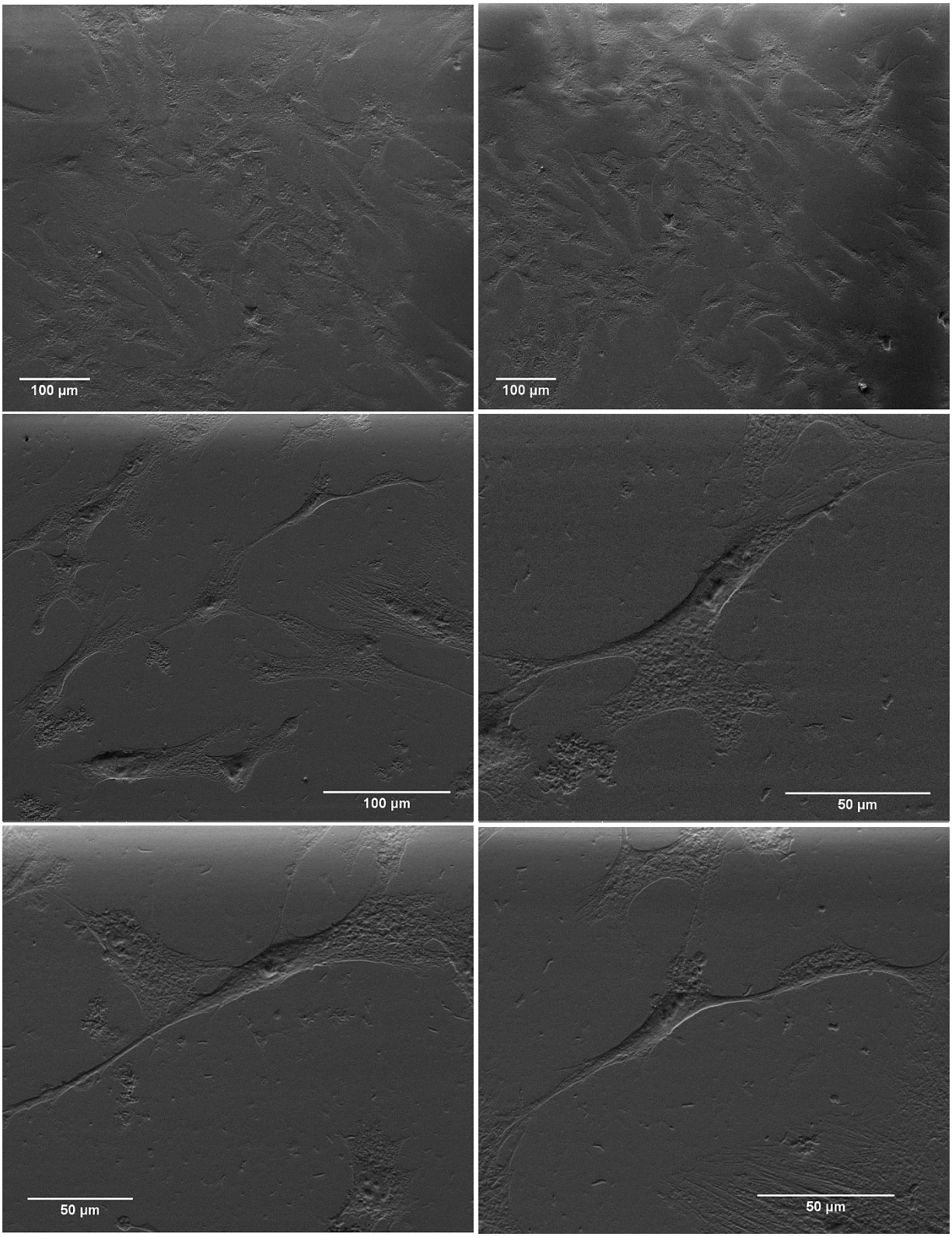

Figure S2. *SEM images of osteoblast-imprinted PDMS substrate*

S2. Additional AFM Images of the Cell-imprinted PDMS Substrates.

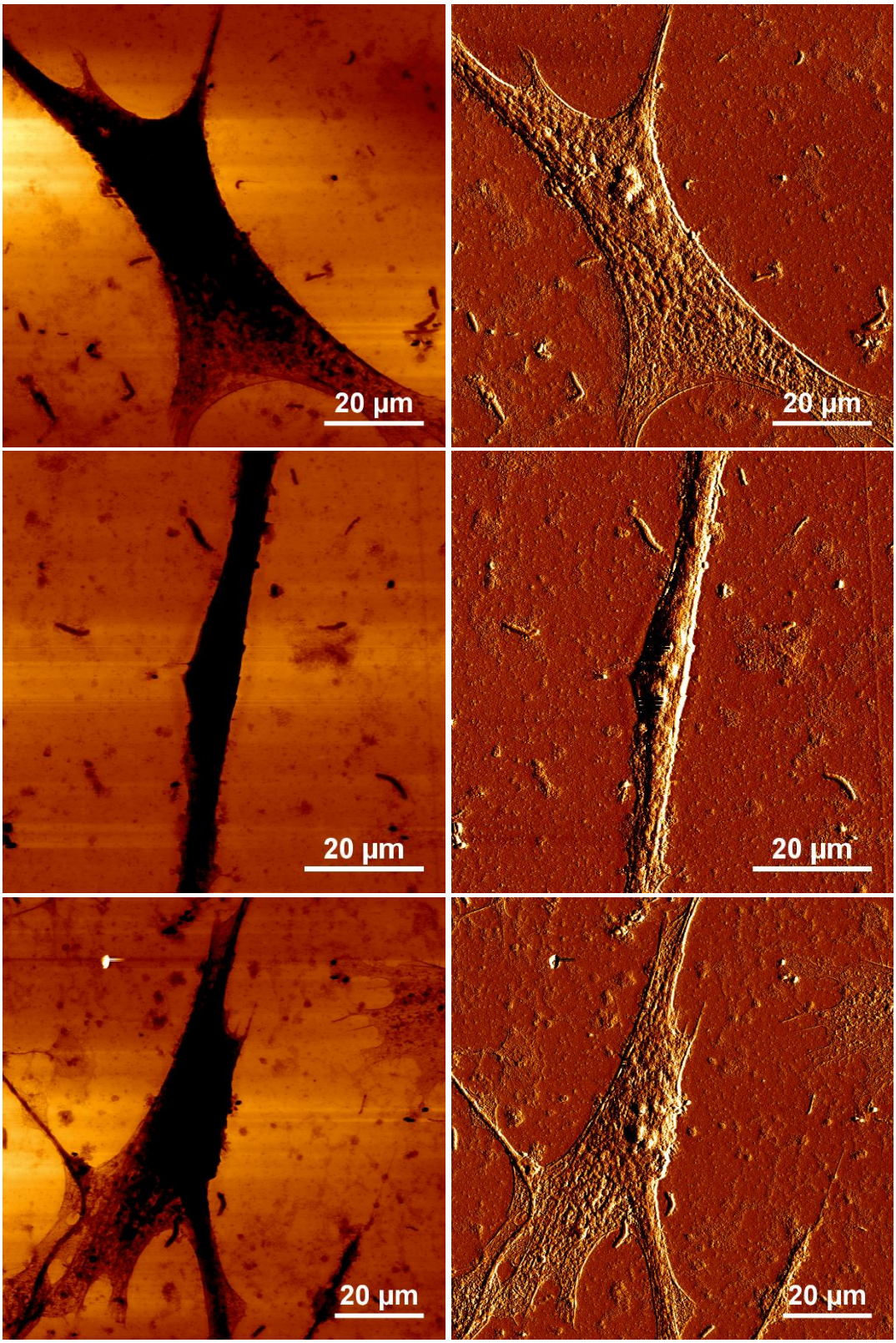

Figure S3. *AFM height (left panel) and vertical deflection (right panel) images of stem cell-imprinted PDMS substrate*

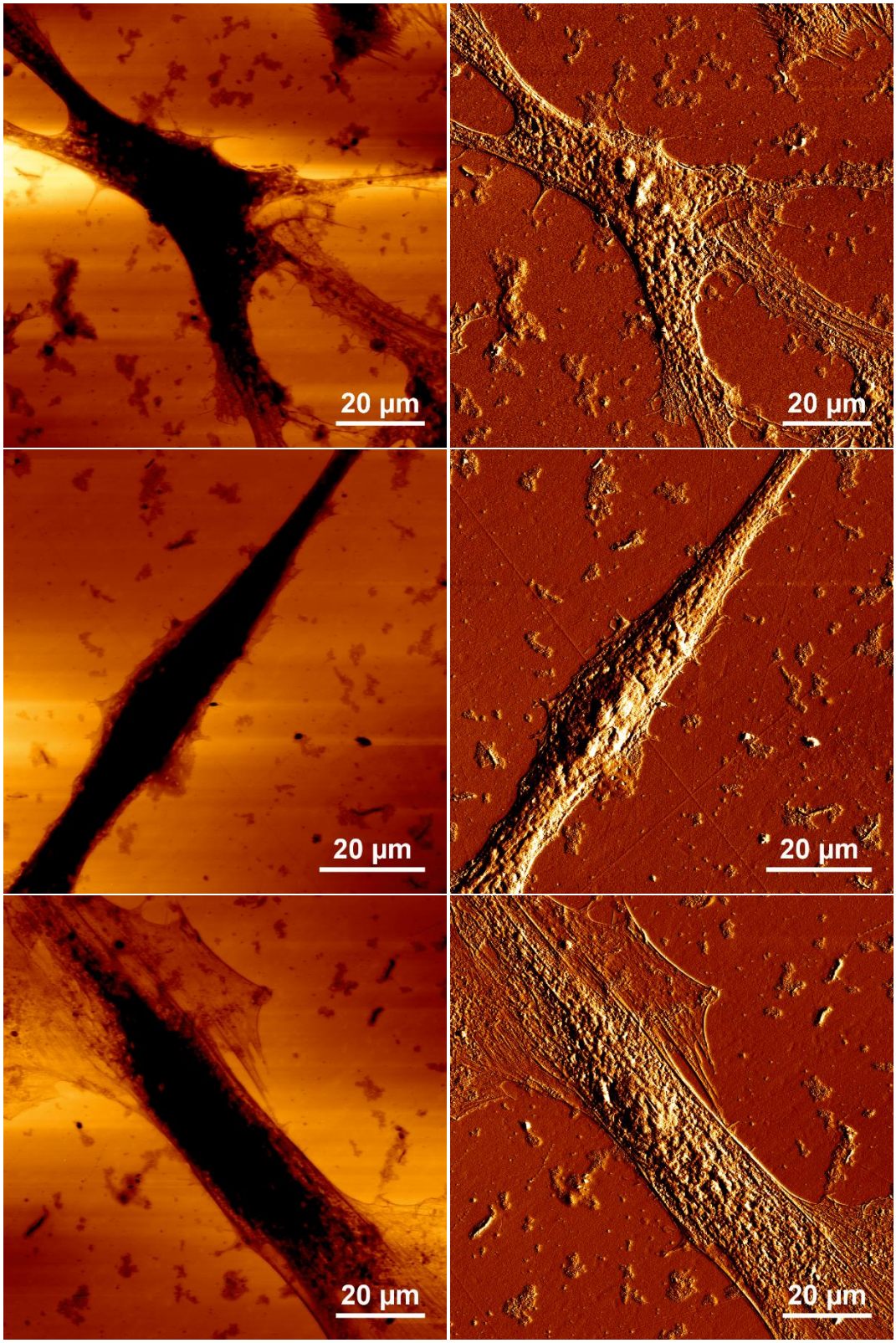

Figure S4. *AFM height (left panel) and vertical deflection (right panel) images of osteoblast-imprinted PDMS substrate*

S3. SEM Images of the Cell-imprinted PDMS/HA Substrates.

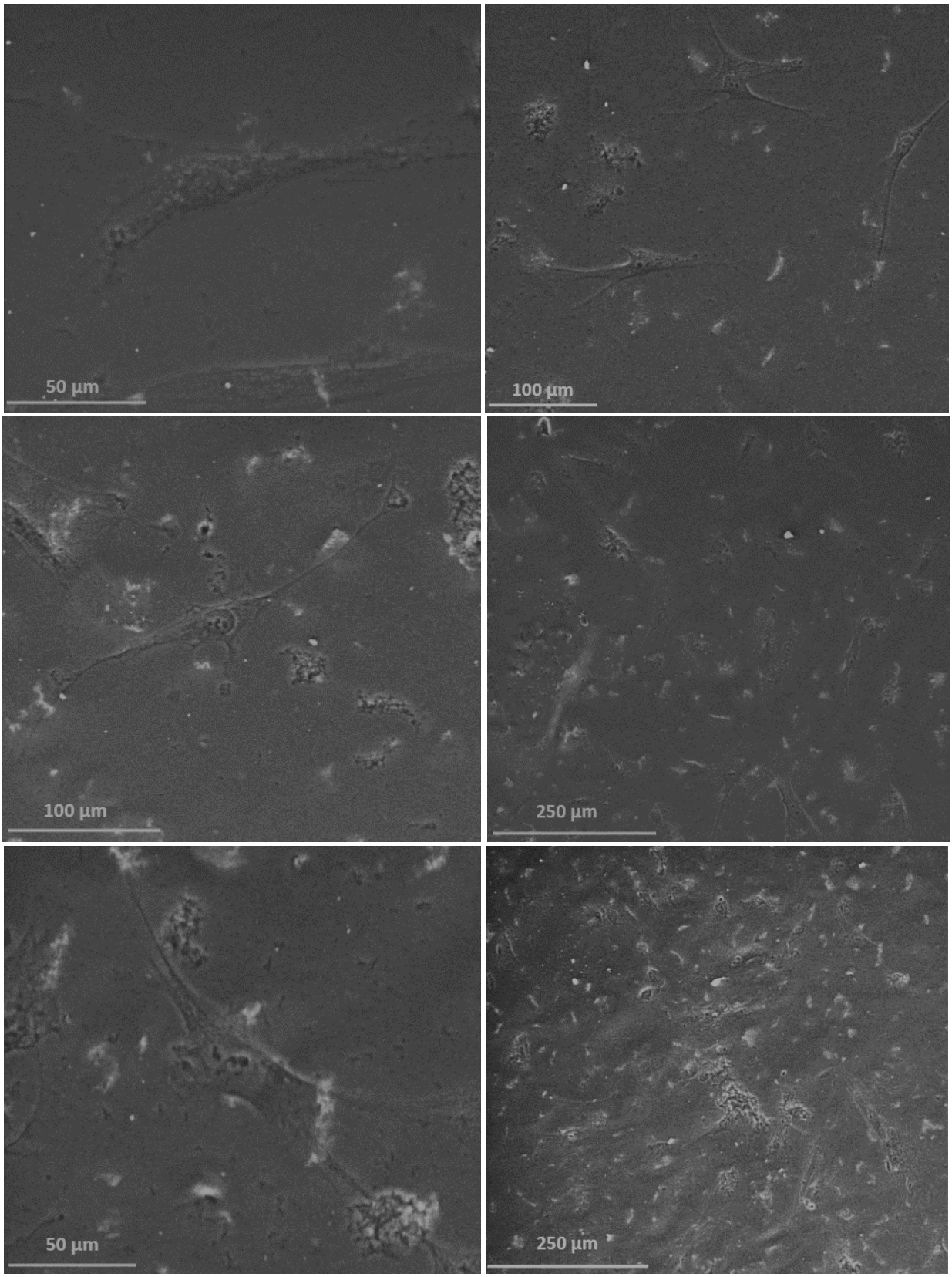

Figure S5. *SEM images of osteoblast-imprinted PDMS/HA substrates. First row, 1 wt% HA. Second row, 2 wt% HA. Third row, 4 wt% HA.*

S4. EDS Surface Mapping of the Surface of PDMS/HA Nanocomposite Substrates.

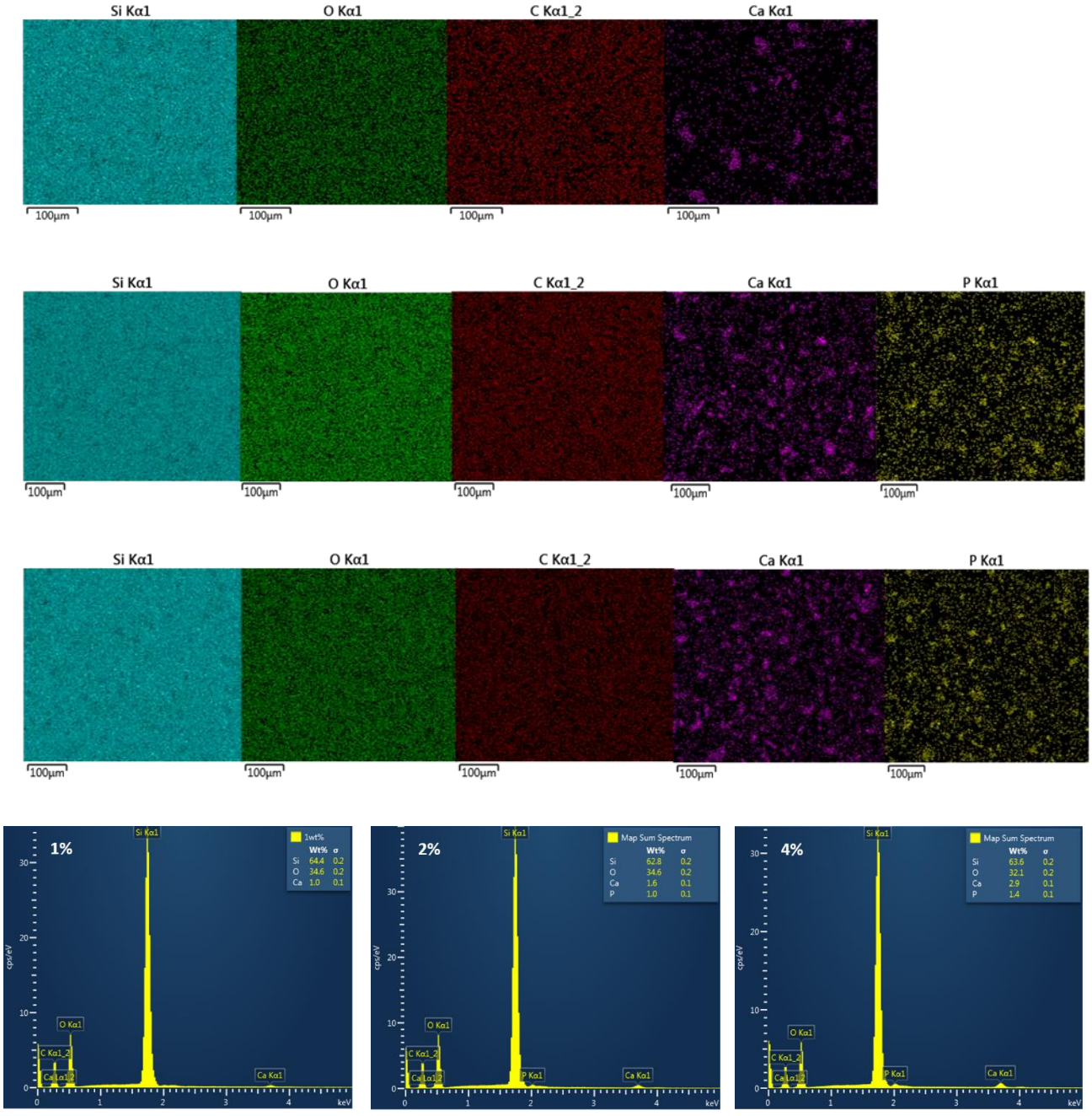

Figure S6. *EDS surface mapping of PDMS/HA substrates comprising 1 wt%, 2 wt% and 4 wt% HA for Si, O, C, Ca and P elements. First row, 1 wt% HA. Second row, 2 wt% HA. Third row, 4 wt% HA.*

S5. Optical Density Data.

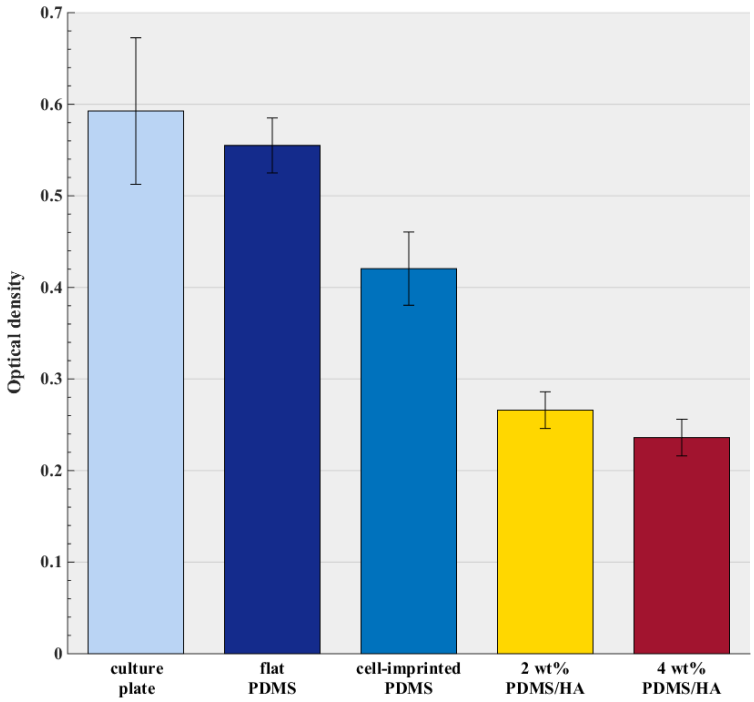

Figure S7. *Optical density of stem cells cultured for 14 days on culture plate, flat PDMS, cell-imprinted PDMS, 2 and 4 wt% cell-imprinted PDMS/HA nanocomposite*

S6. ALP and Serum Osteocalcin Measurements

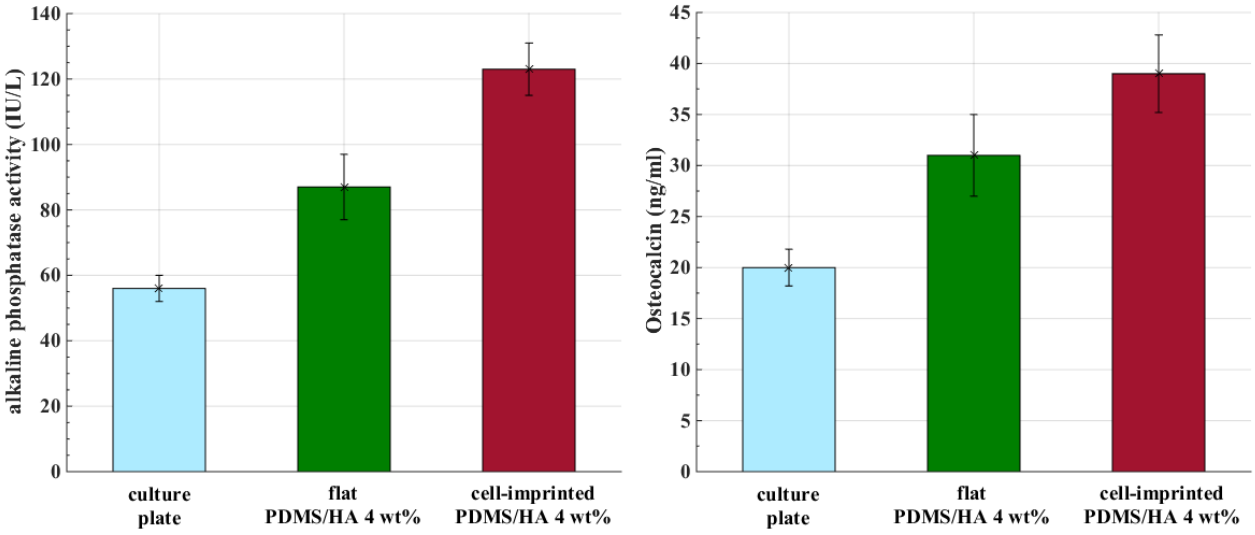

Figure S8. *ALP and Serum Osteocalcin measurements for stem cells cultured on culture plate, flat and osteoblast-imprinted 4 wt% PDMS/HA substrates for 10 days.*