



**SUPPLEMENTARY FIG. S1.** The flow chart summarizes details of the experimental design and flow. Dental pulp stem cells (DPSCs) were seeded in four different conditions, tissue culture polystyrene (TCPS), PEG-GelMA patterned (patterned), PEG-GelMA-HA unpatterned (HA unpatterned), and PEG-GelMA-HA patterned (HA patterned). DPSCs formed confluent cell monolayers in all conditions, but only in patterned and HA patterned, DPSCs were able to form spheres on top of monolayer cells. Spheres started to be formed after 24-h cell seeding. After 4-day culture in stem cell media, floating spheres were collected. Half of the floating spheres were collected for RNA to determine epithelial–mesenchymal transition (EMT) gene expression and the other half were replated for 2 and 6 days to observe cell attachment and migration, examining cell survival. The replated cells for 2 days were collected for RNA for further analysis. The monolayer cells and attached spheres in all groups were differentiated in bone morphogenetic protein (BMP)-2 media for 10 and 21 days. Note that the monolayer cells in TCPS and HA unpatterned groups were not aligned, whereas that in patterned and HA patterned were aligned and elongated oriented by the nanopattern. PEG, poly(ethylene glycol); GelMA, methacrylated gelatin; HA, hyaluronic acid.