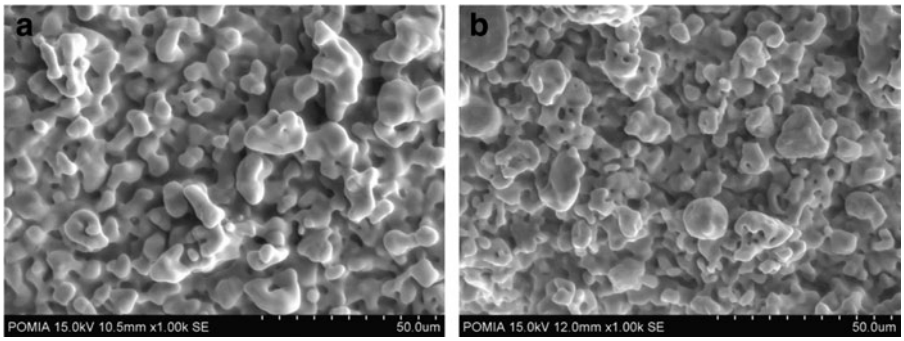
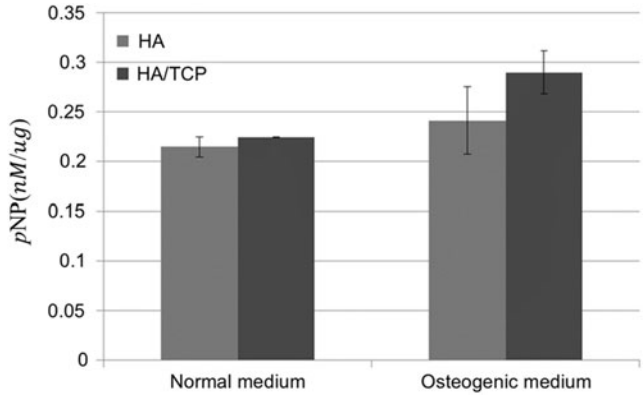
Supplementary Data

Alkaline Phosphatase Activity

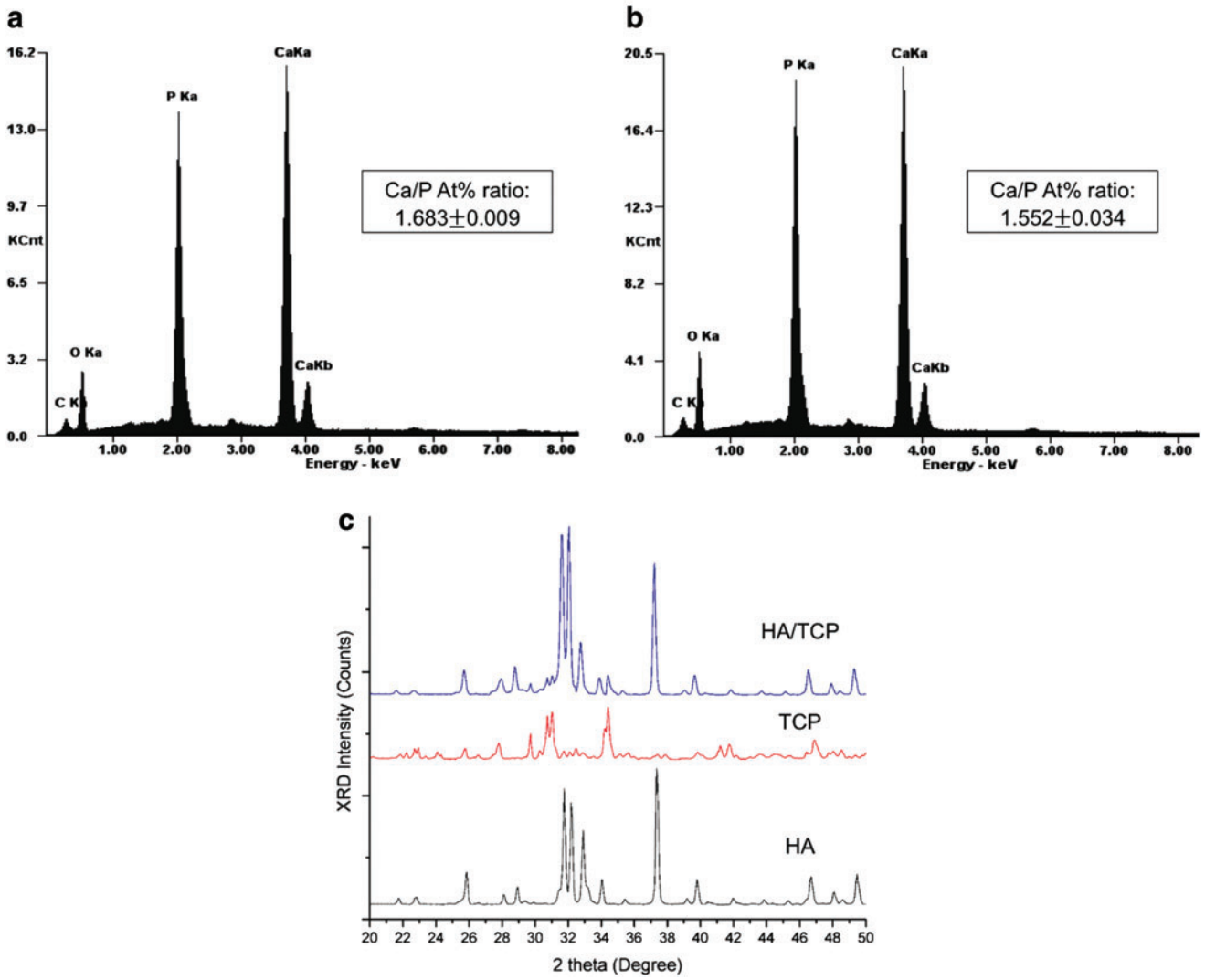
The osteogenic differentiation capacity of cells on ceramic scaffolds was analyzed by measuring the expression of alkaline phosphatase (ALP) activity, which is regarded as an early marker of osteogenic differentiation. Human turbinate mesenchymal stromal cells in the ceramic scaffolds were cultured under normal and osteogenic medium conditions for 7 days. The normal medium was the same as the cell culture medium described in the '*in vitro* experiments' section. The osteogenic medium was prepared by adding 10 nM dexamethasone, 10 mM β-glycerophosphate, and 50 μg/mL ascorbic acid to the normal medium. The cell-scaffold constructs were washed thrice with phosphate-buffered saline, followed by the addition of ALP. This is a colorimetric assay, and ALP catalyzes the hydrolysis of the colorless *p*-nitrophenylphosphate (*p*NPP) to *p*-nitrophenol (*p*NP), which is a yellow product. The level of *p*NP production was determined from the absorbance at 405 nm using a microplate reader.



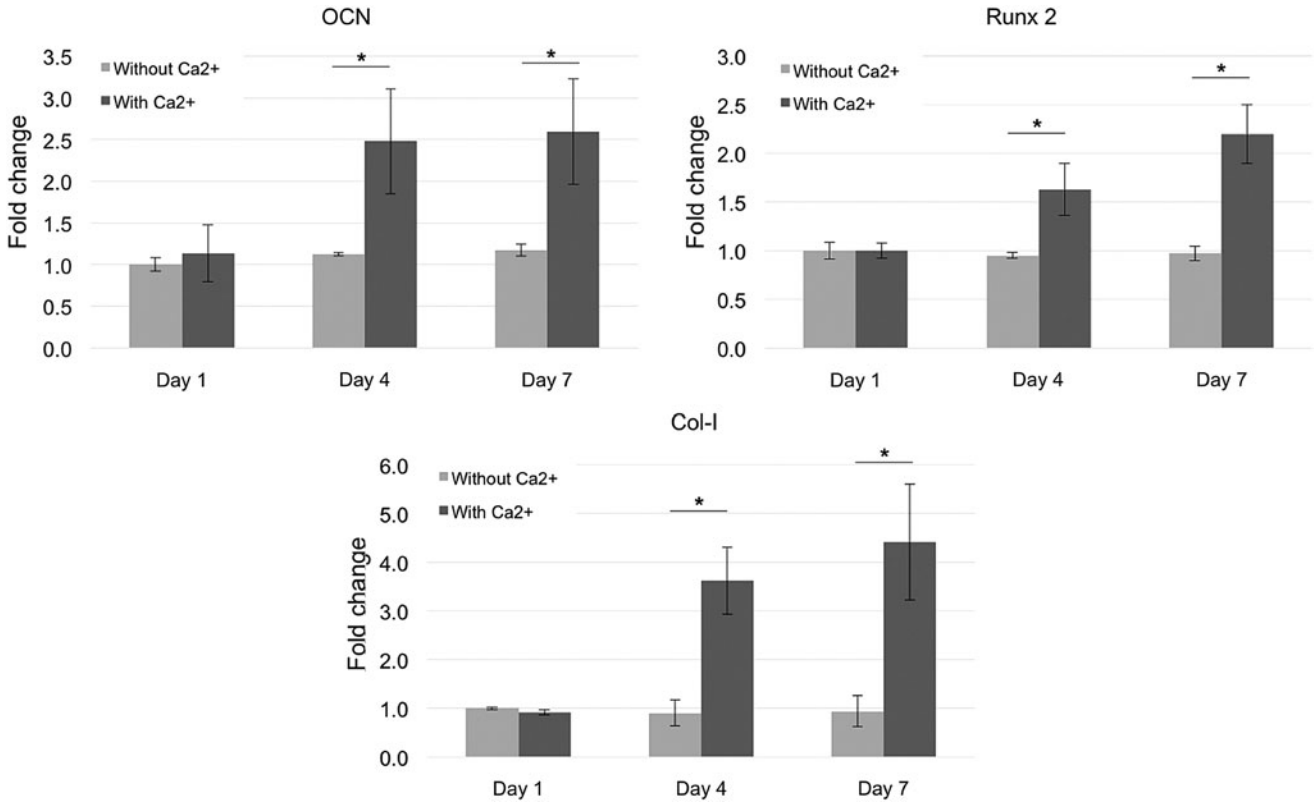
SUPPLEMENTARY FIG. S1. Scanning electron microscope images of scaffold surface **(a)** HA scaffold and **(b)** HA/TCP scaffold. HA, hydroxyapatite; TCP, tricalcium phosphate.



SUPPLEMENTARY FIG. S2. Alkaline phosphatase activity on ceramic scaffolds.



SUPPLEMENTARY FIG. S3. Energy dispersive X-ray spectrum **(a)** HA scaffold and **(b)** HA/TCP scaffold, and **(c)** X-ray diffraction spectrum of ceramic scaffolds.



SUPPLEMENTARY FIG. S4. Quantitative real-time reverse transcription–polymerase chain reaction gene expression analysis of osteogenic markers. $*p < 0.05$.