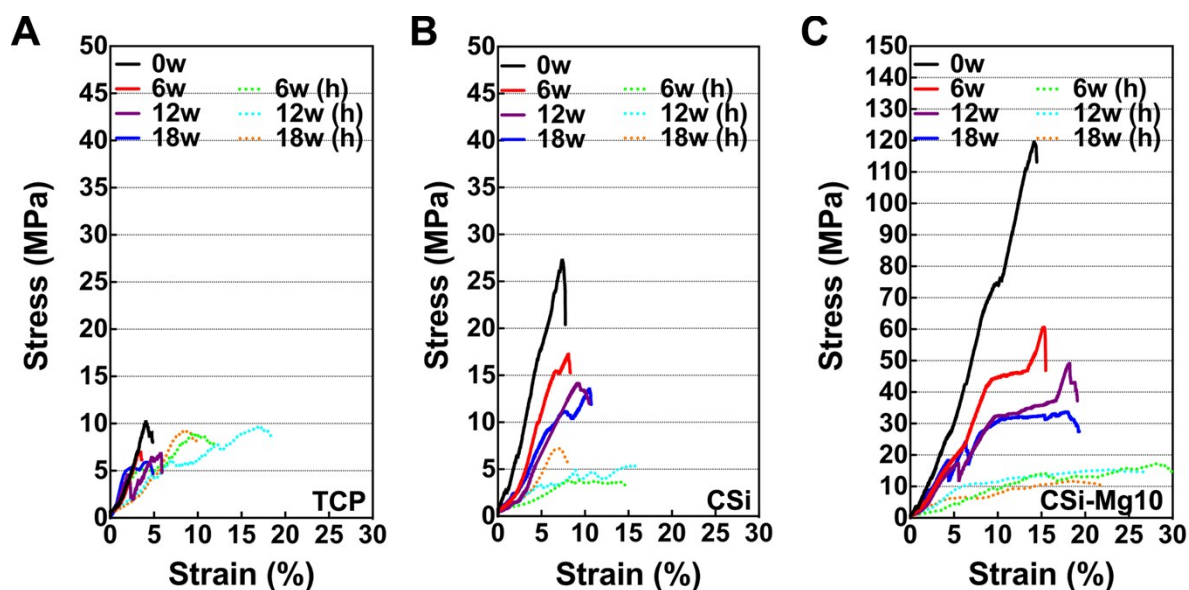


**Figure S1.** The animal operation procedure. (A) The prepared femur defect ( $\text{Ø}6 \times 6 \text{ mm}$ ). (B) The ceramic scaffold was prepared for implantation. (C) The ceramic scaffold after implanted in the femur of rabbits. (D) The implanted ceramic scaffold by micro-CT reconstruction.



**Figure S2.** The representative stress-strain curves of the compression test compared ceramic for TCP (A), CSi (B), and CSi-Mg10 (C) during immersion in SBF in vitro (solid line) and implantation in femoral bone defect in vivo (dot line). w: week(s); h: histological.