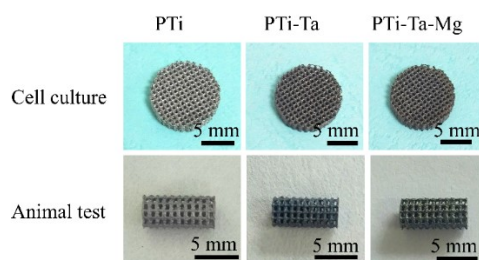
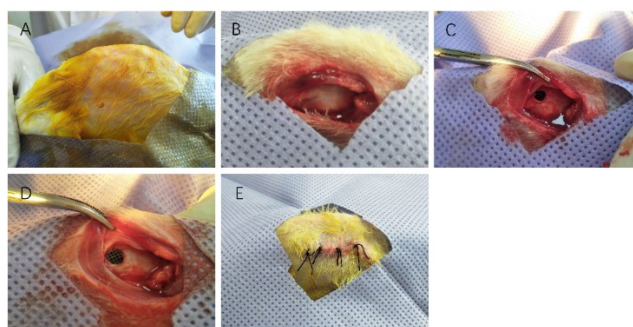


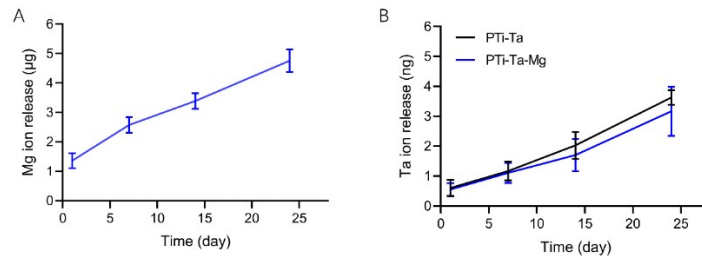
## Supplementary figures



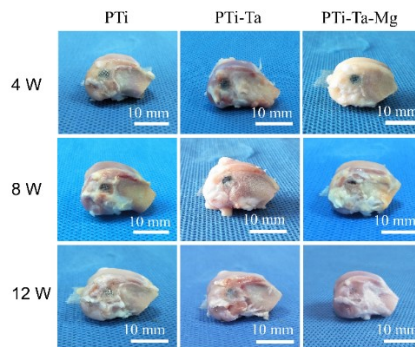
**Supplementary Fig. S1** 3D printing of Ti-based scaffolds



**Supplementary Fig. S2** The process of scaffolds implanted into rabbit femoral condyle: A: Determination of operation area after anesthesia; B: Exposure of the femoral condyle; C: Construction of the femoral condyle bone defect; D: Implantation of Ti-based scaffolds; E: Suture of the incision.



**Supplementary Fig. S3** The cumulative release curves of Mg ions from the sample PTi-Ta-Mg and Ta ions from the samples of PTi-Ta and PTi-Ta-Mg.



**Supplementary Fig. S4** The gross photographs of operated femoral condyle harvested at different times

## Supplementary table

**Supplementary Table S1** Sequences of primers for bone-related genes

<b>Gene</b>	<b>Forward primer (5'-3')</b>	<b>Reverse primer (5'-3')</b>
ALP	G TTCAGTGCGGTTCAGACAA	CTGCAAGGACATCGCTTATCA
OPN	TGGCTTTCAATGGACTTACTCG	CAGCTTTACCACAAACACCC G
OCN	TGATGCAAGCCTGACCTCC	CCATAGCCCACGGCCAAAA
Runx2	CTCCCTGAACTCTGCACCAA	TGCTGGGCTCTGAATCTGAAA
$\beta$ -actin	GCACCACACCTTCTACAATG	TGCTTGCTGATCCACATCTG