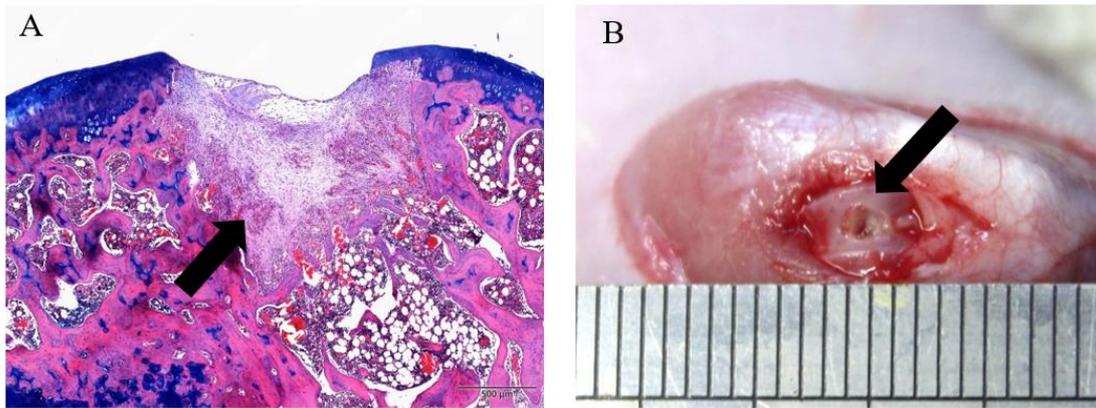
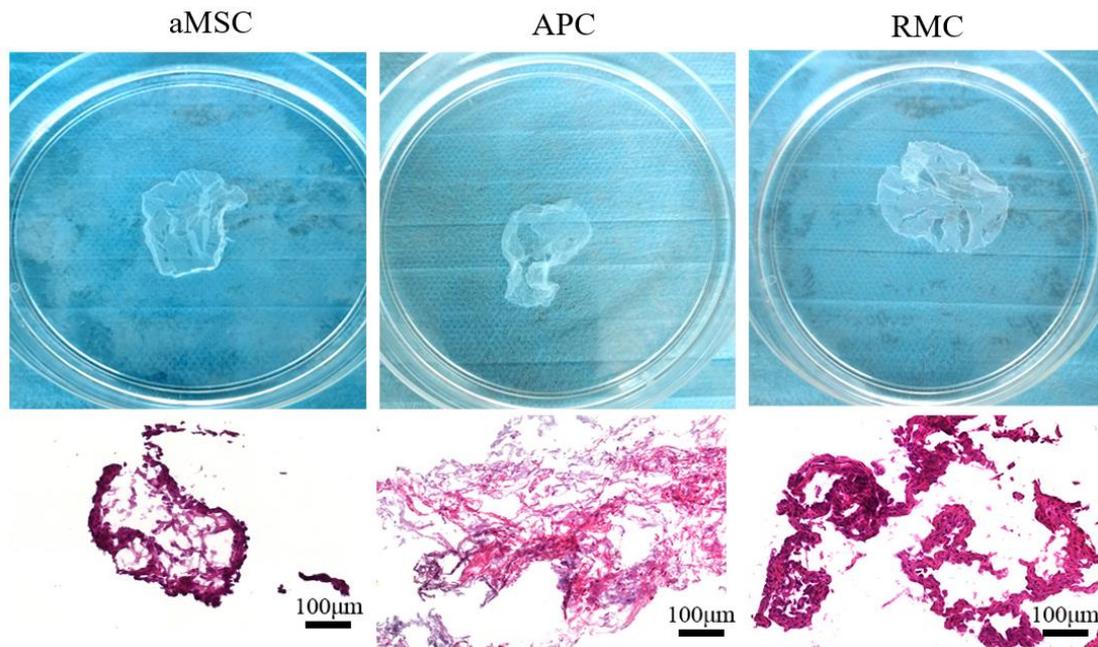


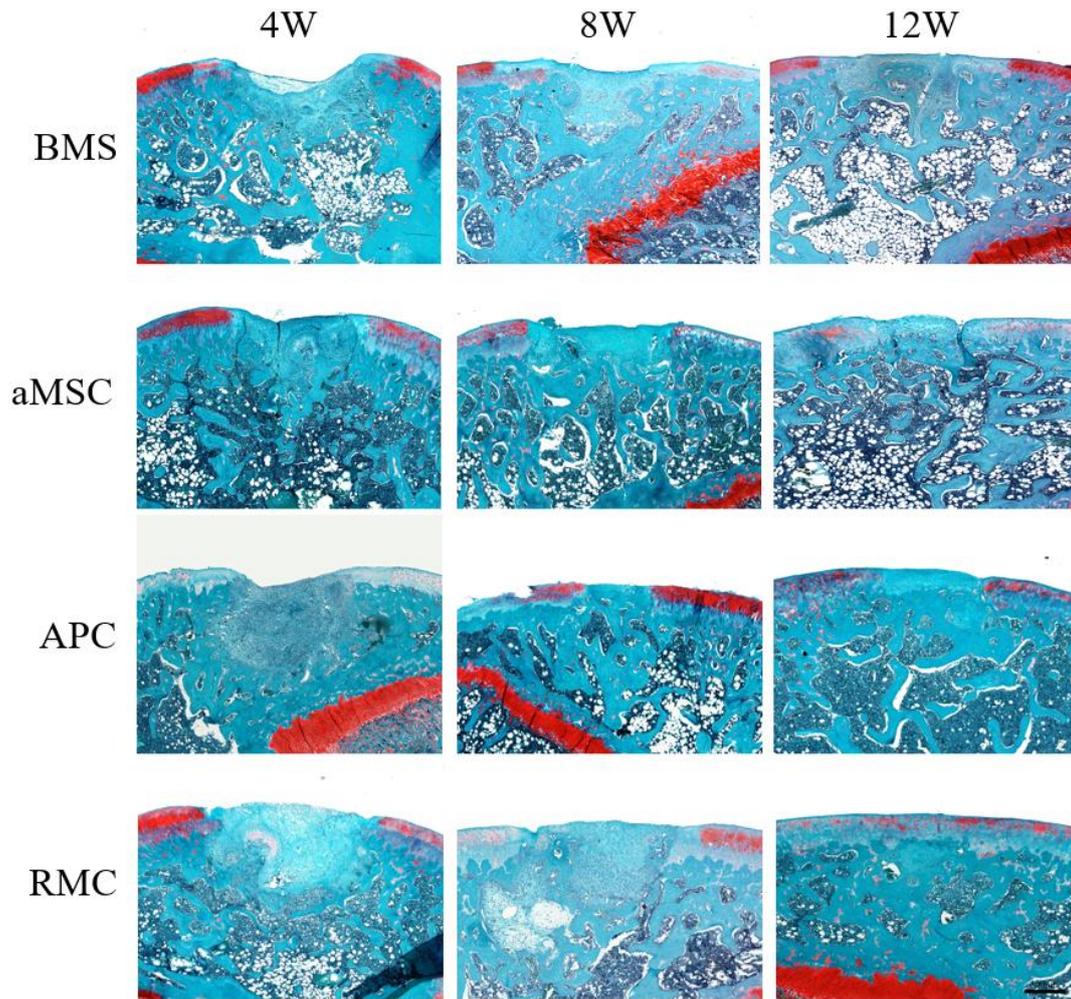
Supplementary Figures



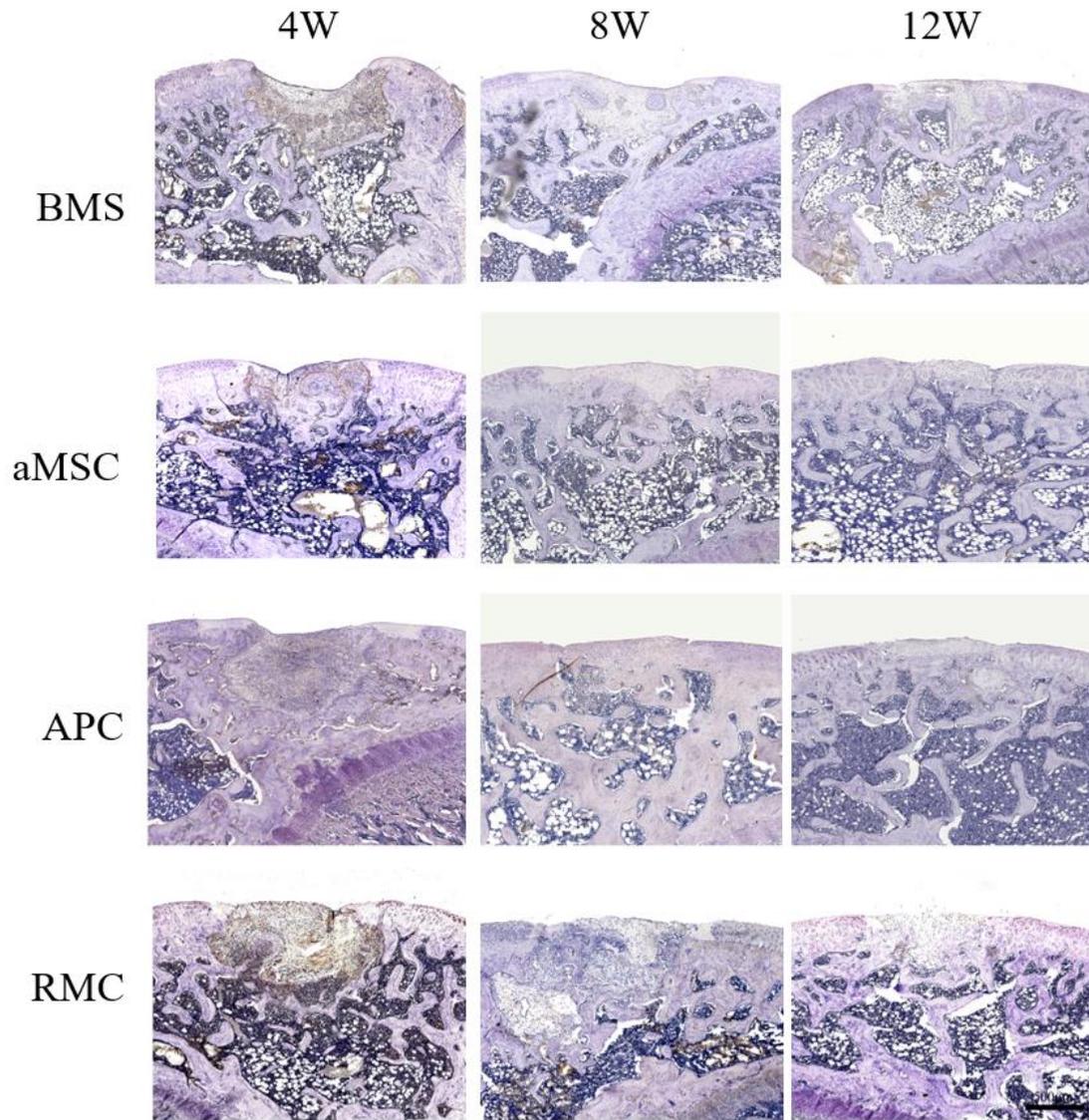
Supplementary Figure 1 Pre-trials: A. A: HE- and AB-stained histological section of rat articular cartilage defect at 1.5 mm in diameter. Note that the repaired tissue in the defect was essentially all fibrous (arrow) in nature; B: A 1.5 mm in diameter hole on the articular cartilage (arrow) of 8-week-old rats. Note that surface area of the cartilage would be really stretched to its limitation for accommodating a defect bigger than 1.5 mm.



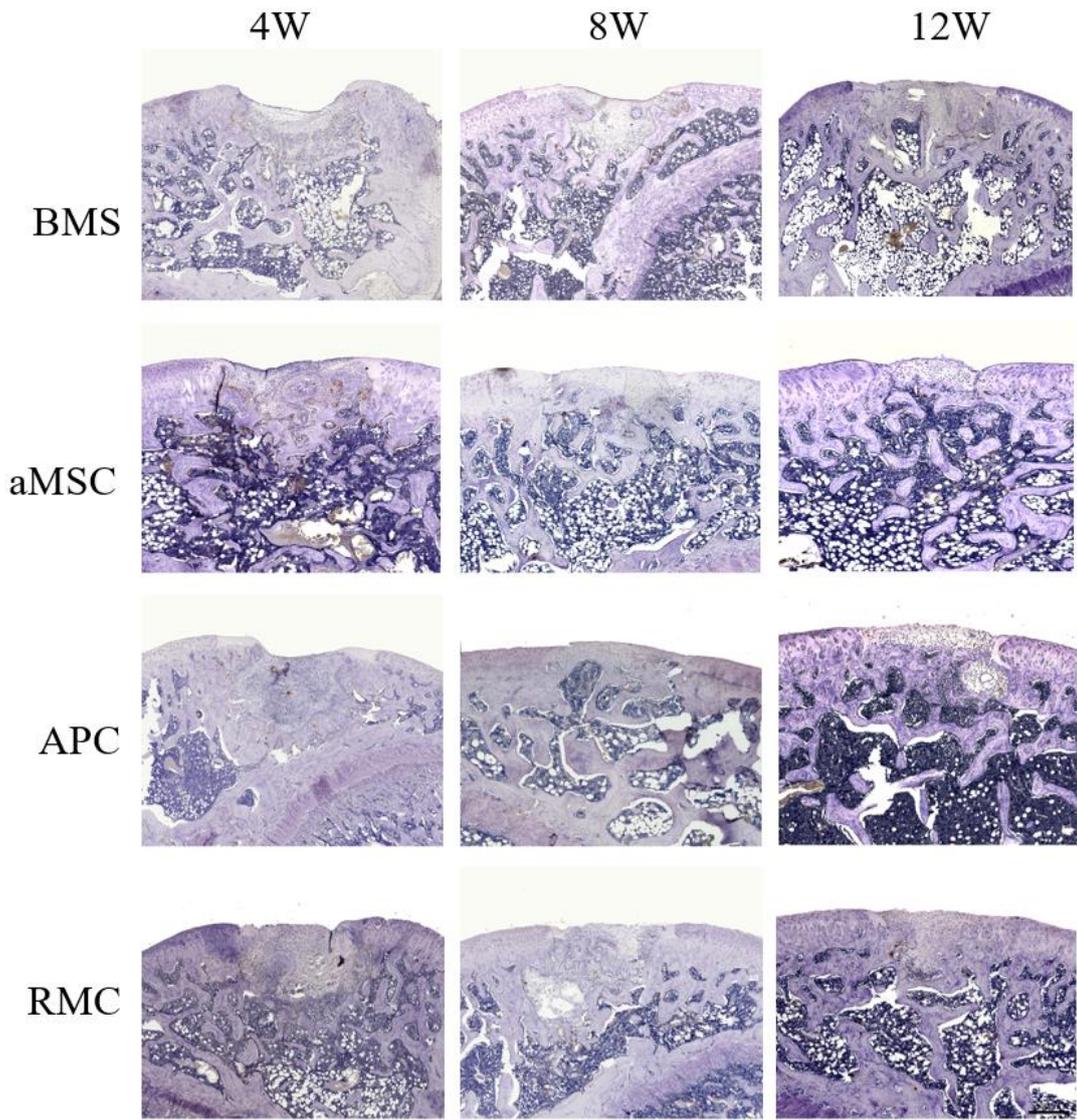
Supplementary Figure 2 Upper panel: appearance of ECM-sheets from three treatment groups (aMSC, APC and RMC) before decellularization. Lower panel: histology of the corresponding sheets, HE staining.



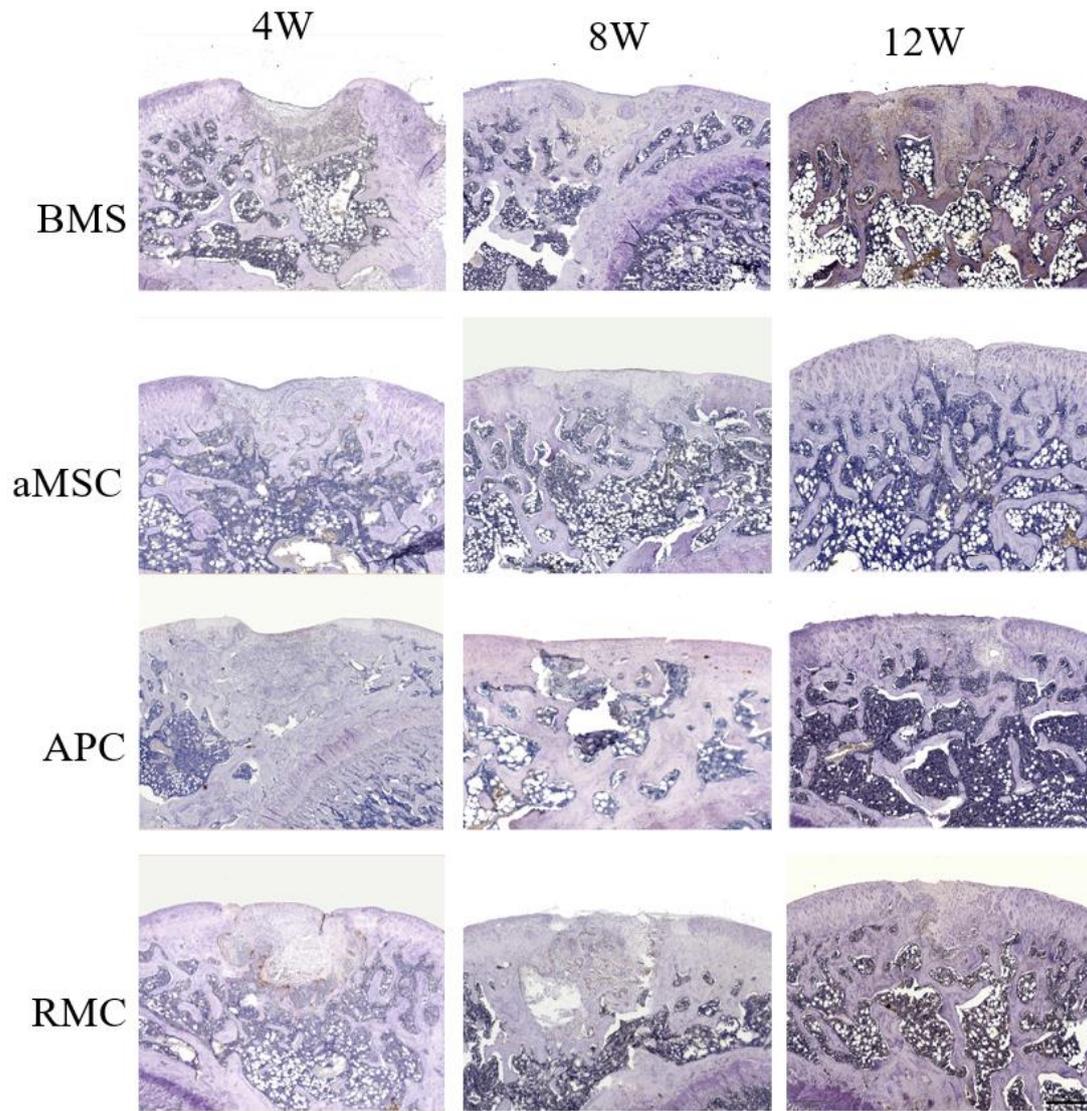
Supplementary Figure 3 Safranin-O staining for histological evaluation of osteochondral defect repair by applying different ECM sheets at 4, 8 and 12 wk. The same corresponding tissue blocks for Figure 4 were used, and the staining results were consistent with those of Figure 4. Therefore, an alternative staining further confirmed the findings from our HE and AB counter-staining.



Supplementary Figure 4 IHC of Ki67 for evaluation of osteochondral defect repair by applying different aMSC-, APC-, and RMC-ECM sheets at 4, 8 and 12 wk.



Supplementary Figure 5 IHC of Col II for evaluation of osteochondral defect repair by applying different aMSC-, APC-, and RMC-ECM sheets at 4, 8 and 12 wk.



Supplementary Figure 6 IHC of Col I for evaluation of osteochondral defect repair by applying different aMSC-, APC-, and RMC-ECM sheets at 4, 8 and 12 wk.