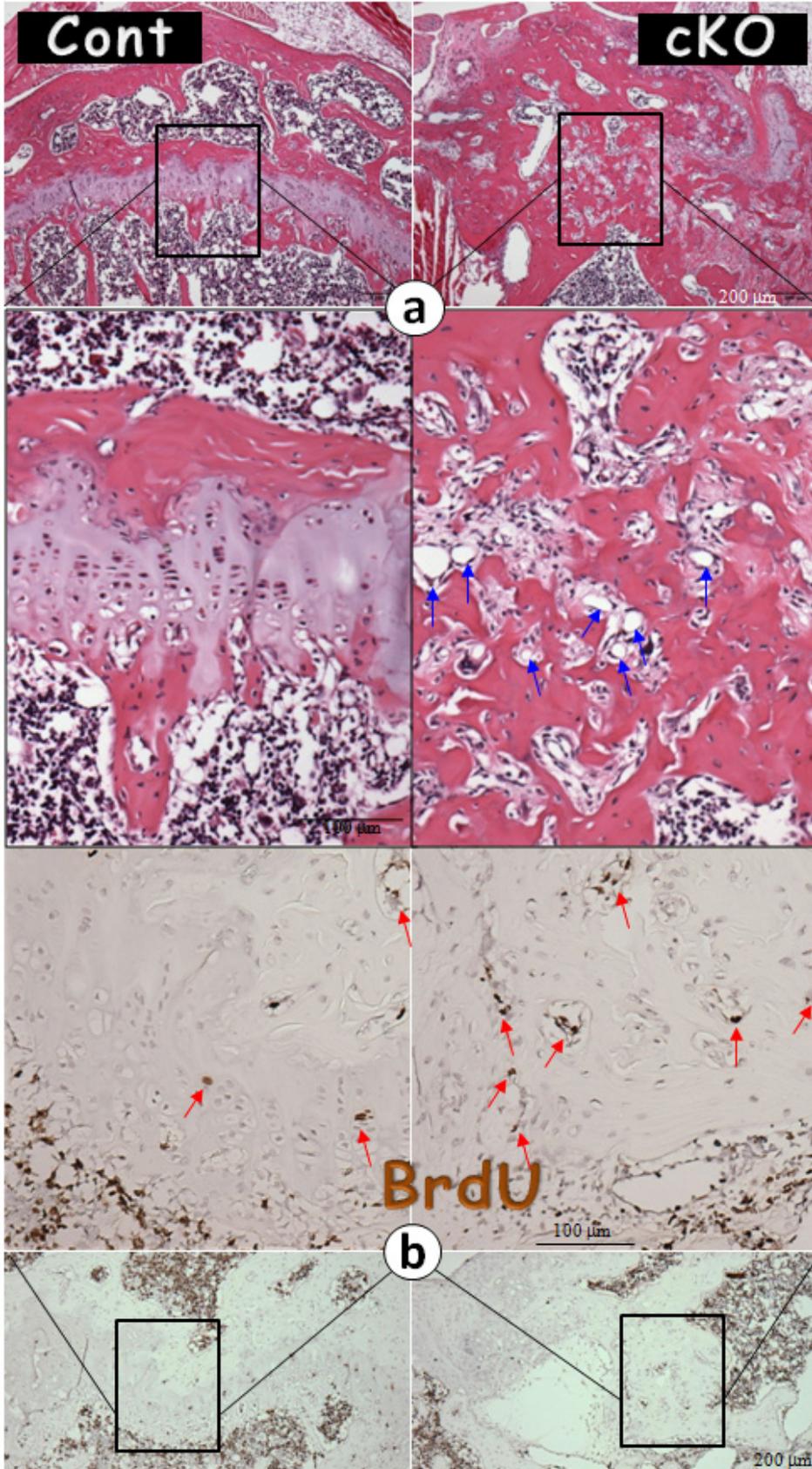


Supplemental Fig S1 Aggrecan-Cre is expressed in progenitor, prehypertrophic and hypertrophic chondrocytes. Femurs were harvested from 16 day-old *Agc1CreERT2;R26R* mice that were injected one-time intraperitoneally with either tamoxifen (1.5 mg tamoxifen/10 g of mouse weight) at 14 and sacrificed 2 days later (a) or at day 7 and sacrificed at day 30 (b). All tissues were gently fixed and bathed in X-gal solution for overnight. Sagittal section view of the knee joints showed positive X-gal signals (blue) in the cells of all zones, including resting, prehypertrophic and hypertrophic zones in the growth plates.



Supplemental Fig S2 Replacement of the 5-month-old *Bmpr1a* null (cKO) growth plate by ectopic bones (a) H&E stain images showed that there was no sign of cartilage in the *Bmpr1a* cKO growth plate that was replaced by an ectopic bone-like structure, in which there were numerous vessels (blue arrows); and (b) The BrdU stain images displayed few positive cells in the control growth plate, whereas there were more positive BrdU stained mesenchymal cells in the cKO (red arrows).