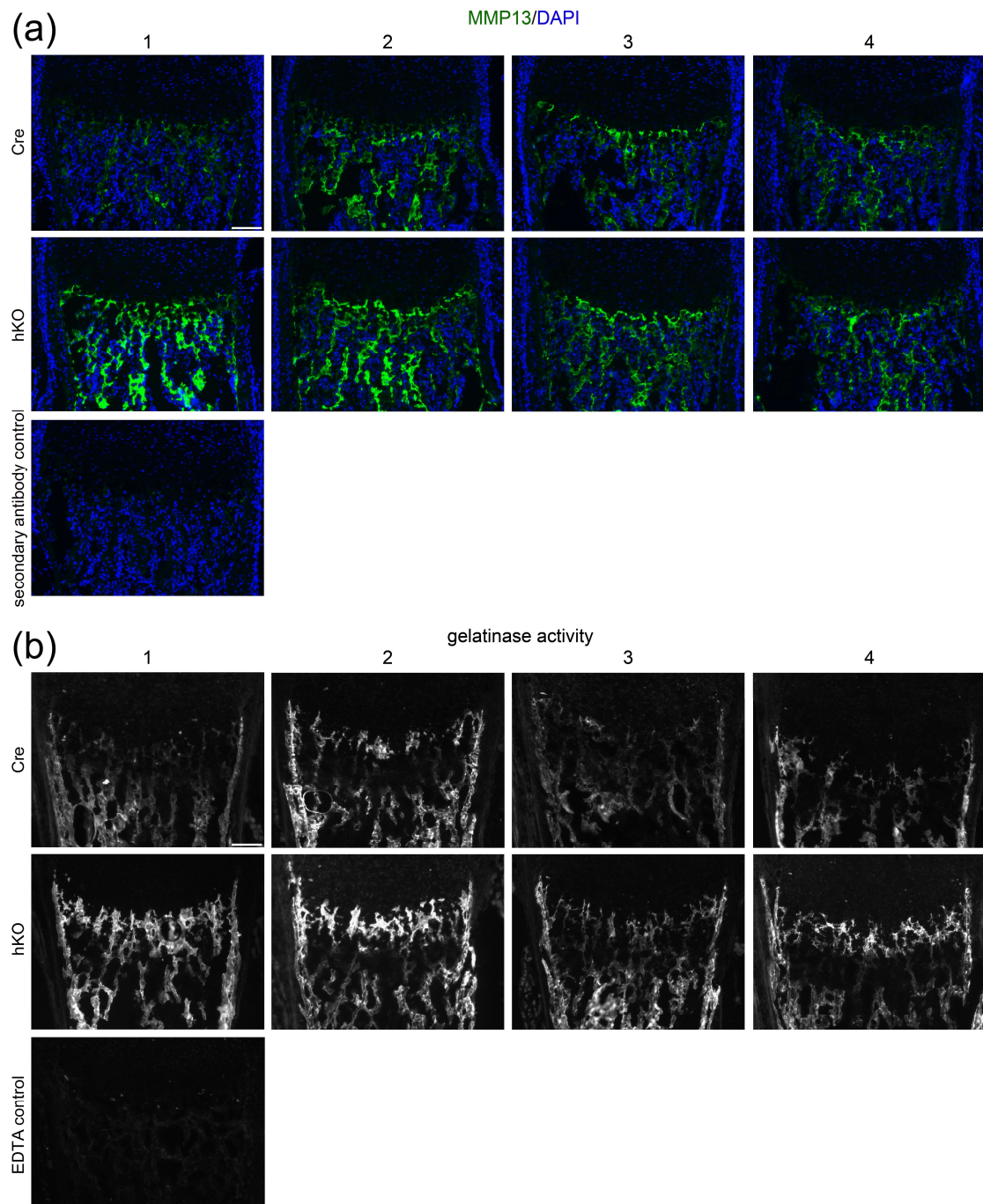
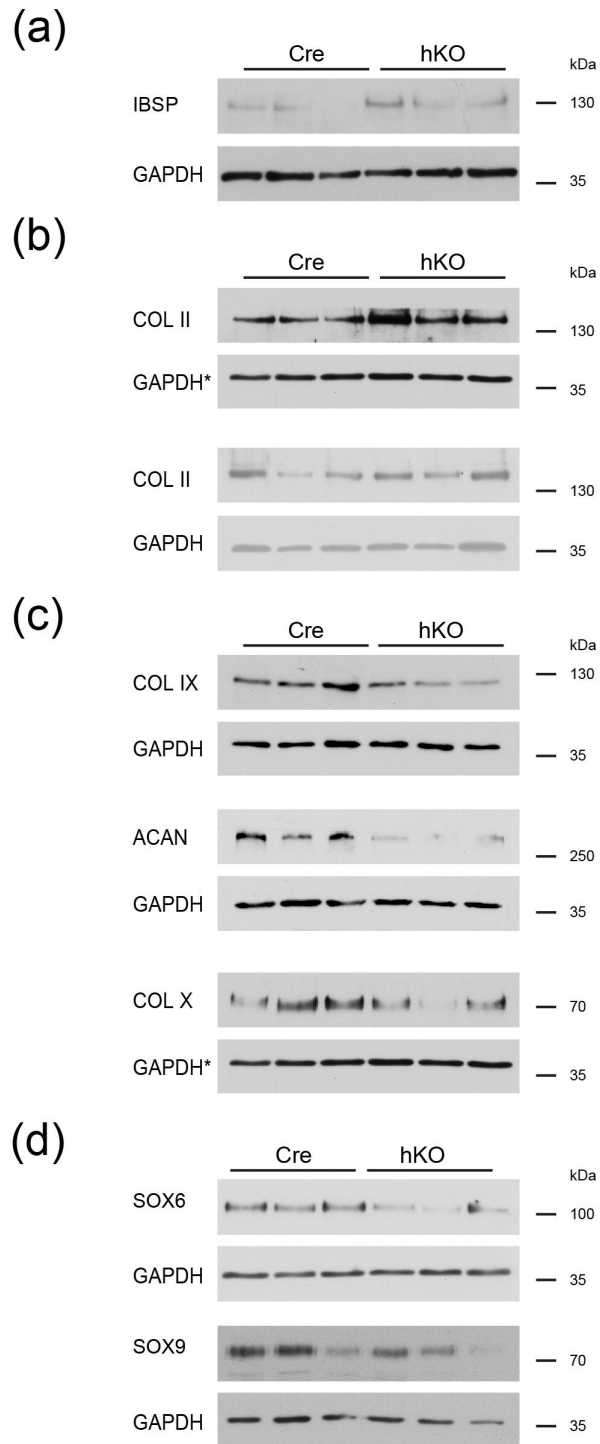


Supplemental Figure 1. *Prg4* mRNA expression in femoral cartilage. (a) Semiquantitative PCR analysis using RNA isolated from newborn cartilage from Col2a1-Cre (Cre) and Col2a1-Cre-Mirc24^{tm1M/Y} (hKO) mice. (b) Fluorescence *in situ* hybridization of the femoral articular surface using *Prg4* specific fluorescence probe. Bar: 100 μ m.



Supplemental Figure 2. Characterization of MMP13 distribution and activity in newborn femora. (a) MMP13 localization was studied by immunofluorescence analysis (DAPI - blue, MMP13 - green, pseudocolored) on sections of newborn femora of Col2a1-Cre (Cre) and Col2a1-Cre-Mirc24^{tm1M/Y} (hKO) mice (n=4 per genotype). Secondary antibody control is shown. Brightness was adjusted for visualization. (b) Gelatinase activity was determined by *in situ* zymography on sections of newborn femora of Col2a1-Cre (Cre) and Col2a1-Cre-Mirc24^{tm1M/Y} (hKO) mice (n=4 per genotype). Control slide treated with EDTA is shown. Scale bar 100 μ m.



Supplemental Figure 3. Immunoblots for the quantification of IBSP, ECM and SOX protein abundance in cartilage in Fig. 4 and Fig. 5. Additional cartilage extracts from Col2a1-Cre (Cre) and Col2a1-Cre-Mirc24^{tm1M/Y} (hKO) mice were analyzed for the presence of (a) IBSP (b) collagen II, (c) collagen IX, aggrecan, and collagen X as well as (d) SOX6 and SOX9 using immunoblots. GAPDH was used as loading control. Molecular weights of Thermo Scientific™ PageRuler™ Plus Prestained 10-250 kDa Protein Ladder bands are given.