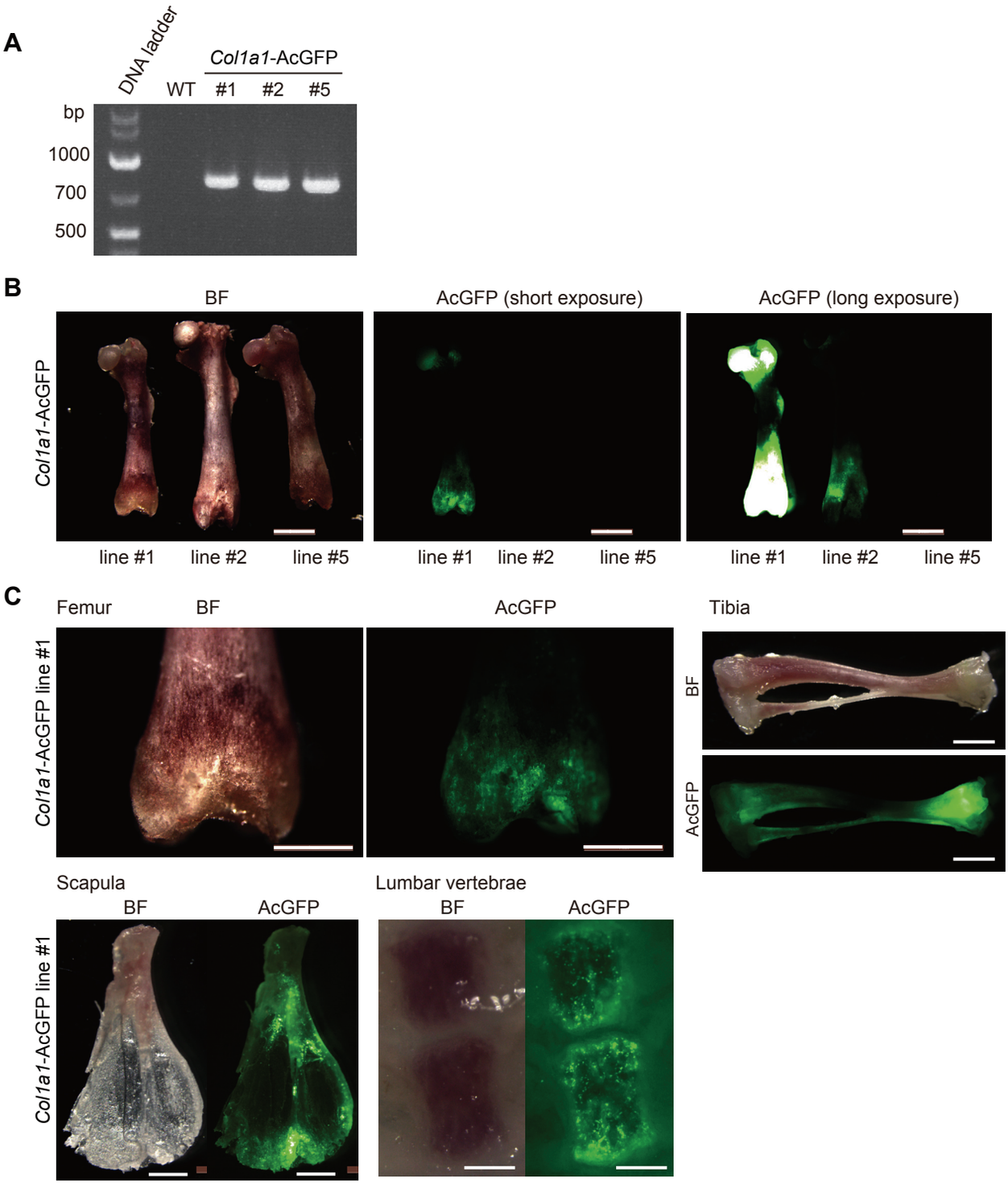

Fig. S1. *Col1a1*-AcGFP tg mice. (*A*) PCR genotyping analysis for the *Col1a1*-AcGFP allele. (*B*) Femurs of *Col1a1*-AcGFP tg mice. Three lines (#1, #2, #5) were visualized by bright field (BF) or GFP fluorescence using a fluorescence stereomicroscope (M205 FA, Leica). Line #1 was used for further analysis. Scale bar, 2 mm. (*C*) Femur, tibia, scapula and lumbar vertebrae of a *Col1a1*-AcGFP tg mouse (line #1). Note that cortical bone of the lumbar vertebrae was removed with a whetstone. Scale bars: 1 mm (femur and scapula), 2 mm (tibia), and 0.5 mm (lumbar vertebrae).

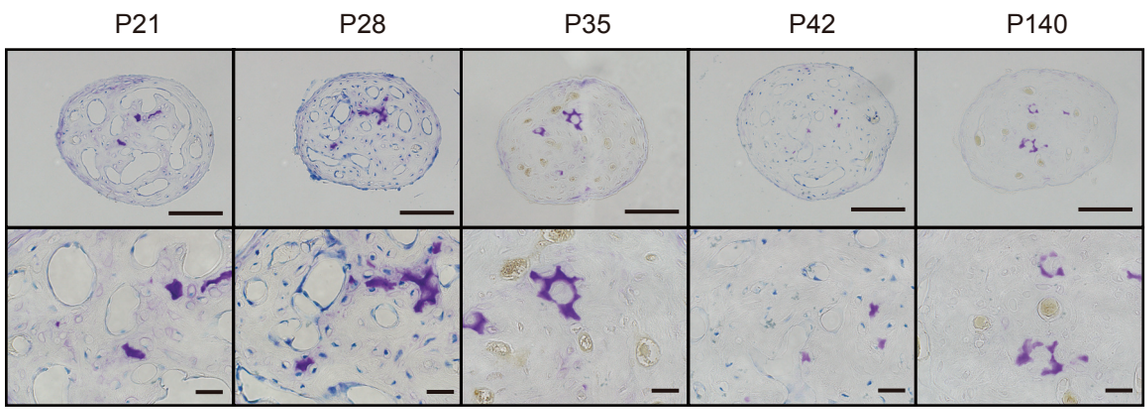

Fig. S2. Toluidine blue staining of cartilage matrix in the mPb at post-weaning stages. Scale bars: upper panels, 100 μm (x40 objective lens); lower panels, 20 μm (x100 objective lens).

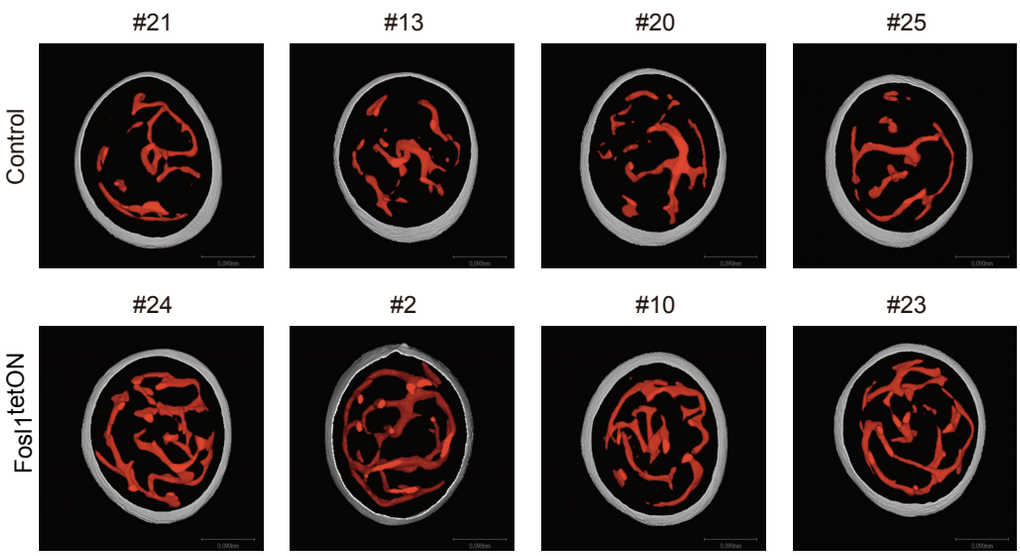

Fig. S3. Micro-CT images of the periosteum and capillaries in *in silico*-generated 80 μm-thick (60 to 140 μm from the top) sections of the mPb (top views). These sections were used to quantify capillary volumes presented in Fig. 6E. Samples #21 and #24 were shown in Fig. 6C.

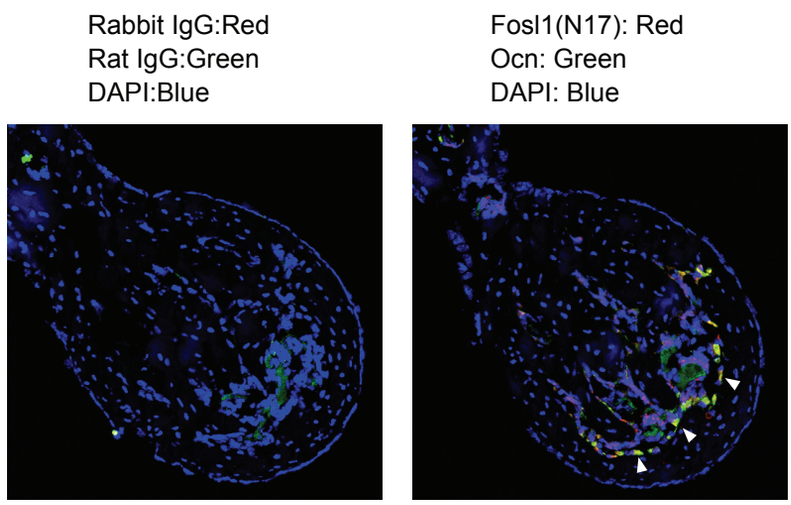

Fig. S4. Endogenous Fosl1 expression in the mPb of wild-type p21 mouse. The left panel shows a negative control. The method is same as described for Fig. 6*B*. Note that osteoblasts are positive for both Fosl1 and osteocalcin (Ocn, arrowheads).