Supporting Information

Feng et al. 10.1073/pnas.1015449108

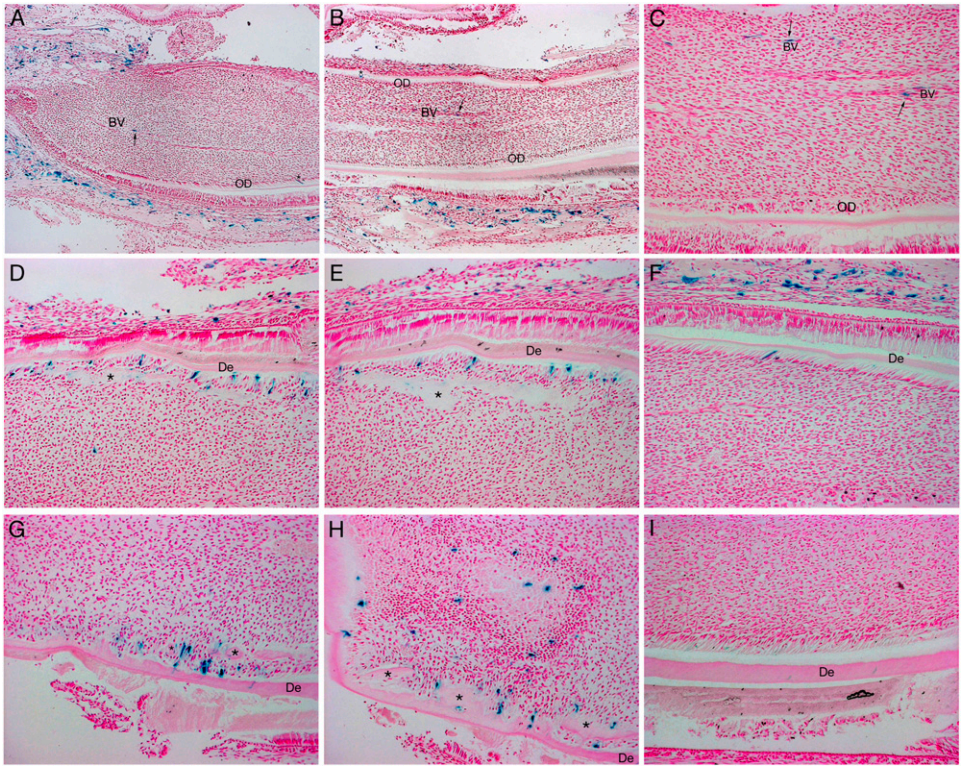

Fig. S1. NG2Cre expression following tamoxifen in normal tooth growth and following injury. Following tamoxifen administration at P2 to NG2creERTM; Rosa26R pups, NG2cre-activity can be visualized by LacZ staining. Low magnification of a control side (nondamaged) incisor (*A* and *B*) showed very few LacZ +ve cells in incisor pulp tissue, most of which were associated with blood vessels (arrow) and rarely, one or two odontoblasts were LacZ +ve (asterisk). (*C*) Pericytes on blood vessel walls inside the dental pulp labeled by LacZ staining (arrows). A massive increase of LacZ+ve cells with odontoblast morphology were found around the reparative area (asterisk) 2 d following damage (*D* and *E*), compared to similar area in control side (*F*). Further increased in LacZ+ve odontoblast-like cells were found surrounding the more-mature reparative dentin area (asterisk) 4 d after damage (*G* and *H*), compared to control side (*I*). OD, odontoblast layer; BV, blood vessel; De, dentin.

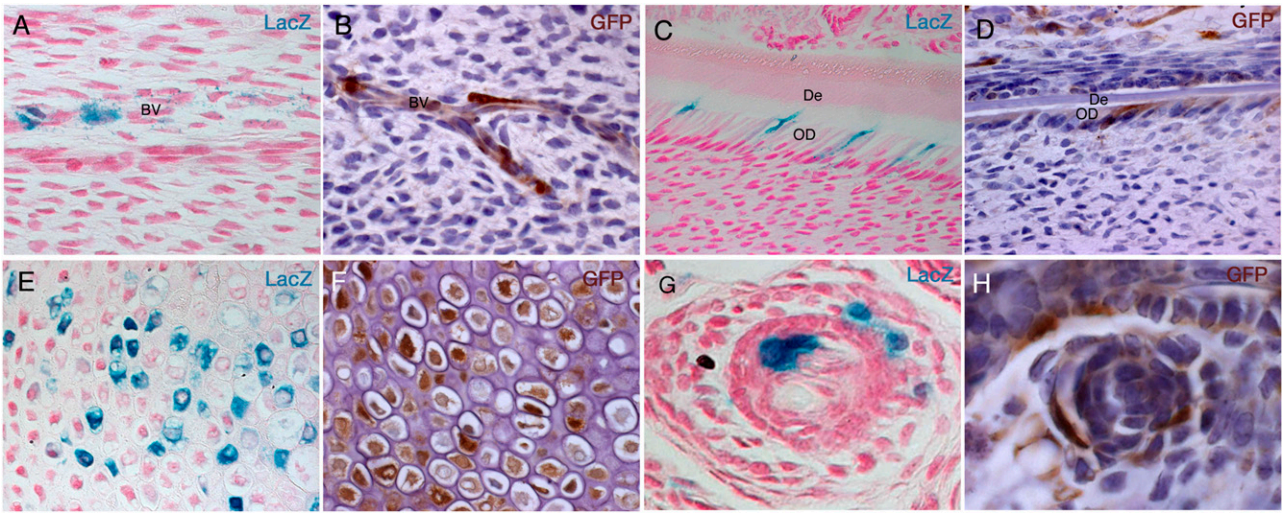

Fig. S2. Positive controls for cre recombination. Following tamoxifen injection of P2 NG2CreER;Rosa26R pups, NG2cre-activity was induced and visualized by LacZ staining. At 4 d later, blue LacZ-positive cells were seen on dental pulp blood vessels (pericytes) (*A*), in some odontoblast cells (*C*), in NG2-expressing cells of cartilage (*E*), and in hair follicles (*G*). GFP immunohistochemistry of NG2cre; Z/EG P1 pups shows NG2-cre activity in the same tissues: blood vessel (pericytes) (*B*), some odontoblasts (*D*), cartilage (*F*), and hair follicle (*H*). BV, blood vessel, De, dentin, OD, odontoblast layer.

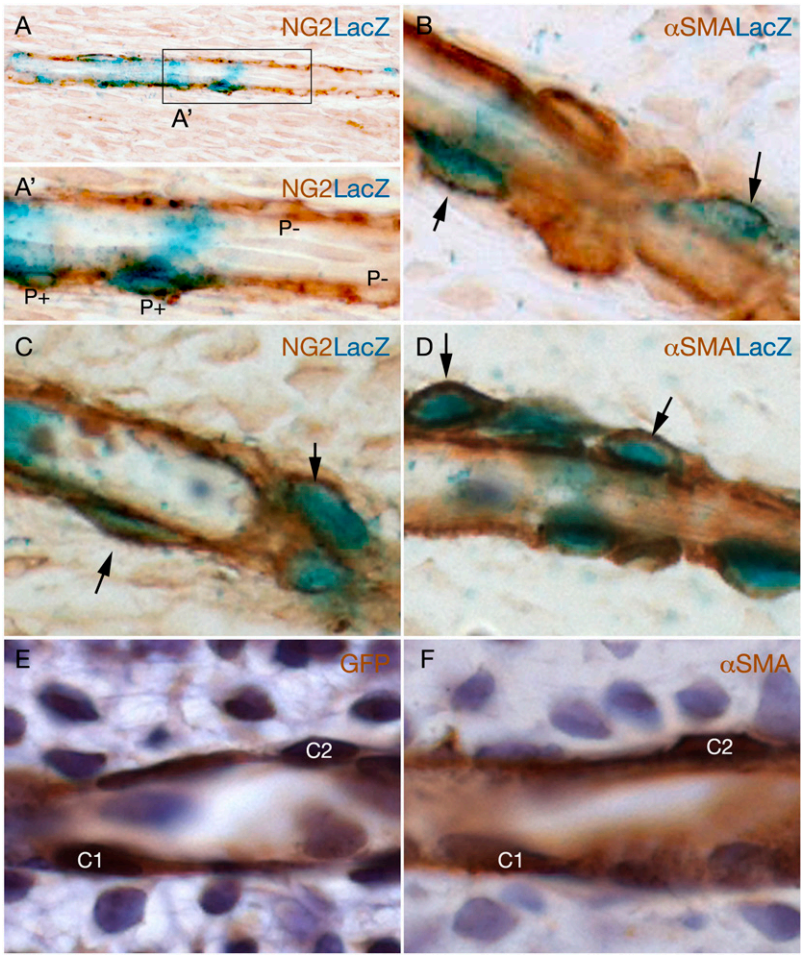

Fig. S3. Coexpression of perivascular markers and genetically labeled pericytes. Genetically labeled pericytes in NG2creER;R26R mice express pericyte markers NG2 (*A*) and α-SMA (*B*). Approximately half of NG2-positive pericytes express β-gal activity, shown by LacZ staining (*A*). Higher magnification shows P+ (LacZ-positive; NG2-positive) and P– (LacZ-negative; NG2-positive) cells lining along the vessels (*A′*). LacZ-positive pericytes also express the pericyte marker α-SMA (arrows) (*B*). X-LacZ4–labeled pericytes coexpress pericyte markers NG2 (arrows, *C*) and α-SMA (arrows, *D*). Consecutive sections of NG2cre;Z/EG showing NG2-cre labeled cells in a blood vessel (*E*; C1, cell 1; C2, cell 2) also express the pericyte marker α-SMA (*F*; C1, cell 1; C2, cell 2).