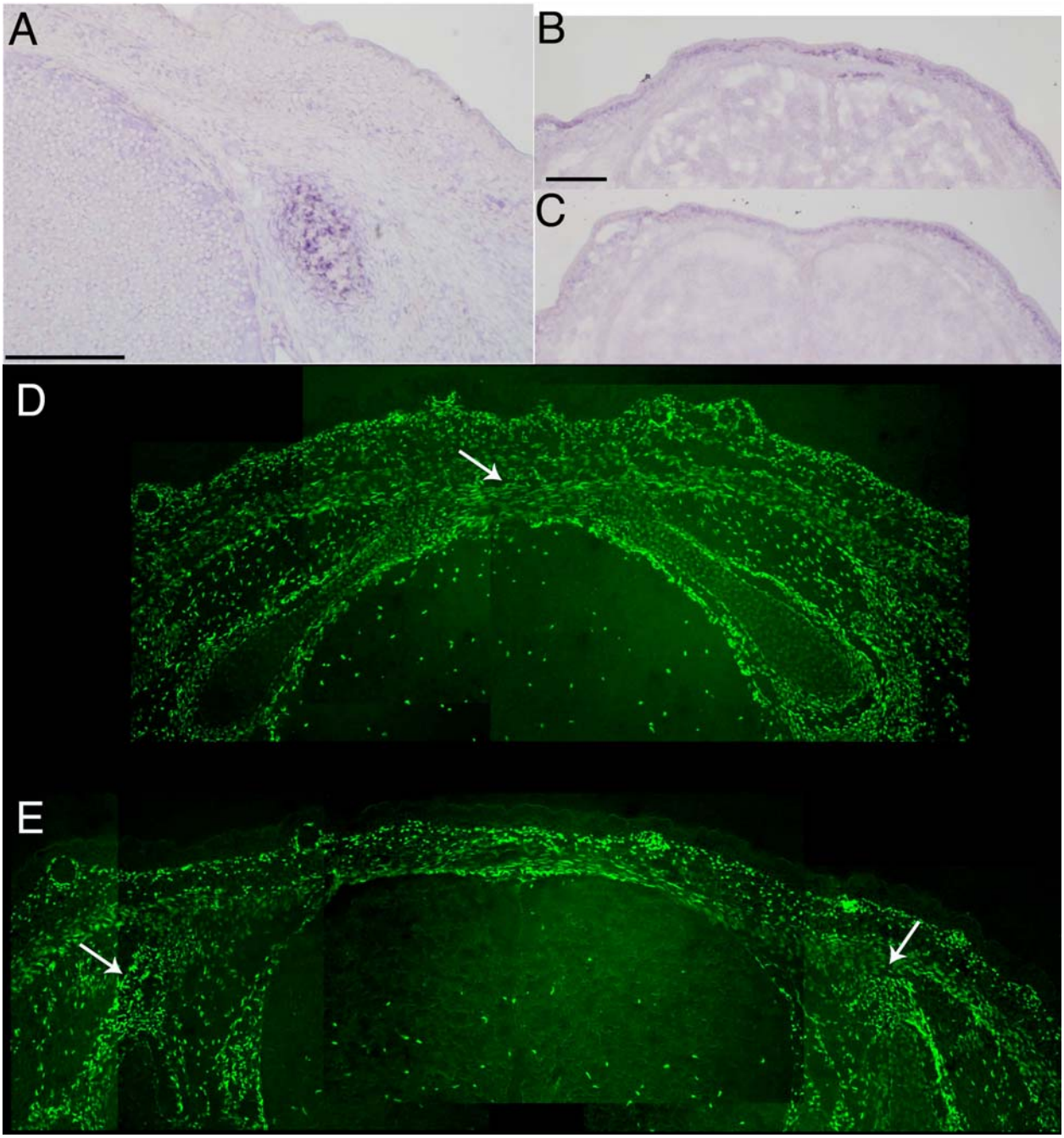

Fig. S1. In situ and PDGFRα expression analysis. (A–C) In situ hybridization analysis for (A) collagen 2aI, demonstrating chondrocytes in dorsal lumbar region of E16.5 PDGFRαPI3K/PI3K embryo; (B–C) Twist2, demonstrating presence and migration of dermis in E14.5 (B) wild type and (C) PDGFRαPI3K/PI3K dorsal lumbar region. Scale bars: 100 μm. (D,E) GFP expression in dorsal lumbar region at E16.5 of (D) PDGFRαGFP/+ and (E) PDGFRαGFP/TKO embryos. Arrows indicate PDGFRα mesenchyme presence in the direction of bone growth. Figure is a composite of three fields of view.

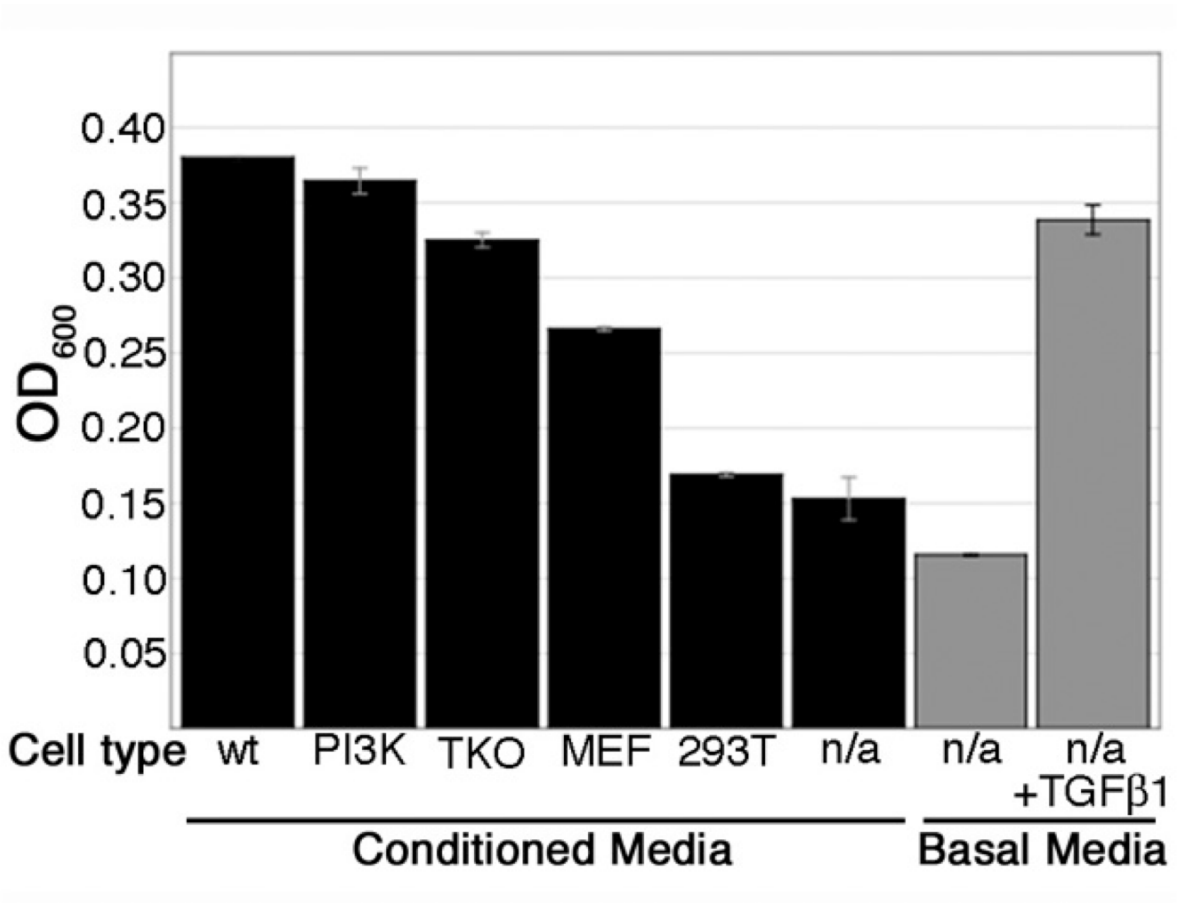

Fig. S2. Cells of the adjacent mesenchyme are capable of inducing chondrogenesis. Conditioned media from control, PDGFRα mutant and MEF cells promoted chondrogenesis of micromass cultures, while conditioned media from HEK293T cells did not. Chondrogenesis was enhanced regardless of the genotype of the cultured mesenchyme cells, indicating that PDGF signaling is not required for secretion of the chondrogenic factor. Conditioned media was harvested from the following cell cultures: wt, wild type; PI3K, PDGFRαPI3K/PI3K; TKO, PDGFRαTKO; MEF, established mouse embryonic fibroblast line; 293T, human embryonic kidney cell line. n/a indicates that no cells were cultured in the conditioned (10% serum) and basal (2% serum) media.

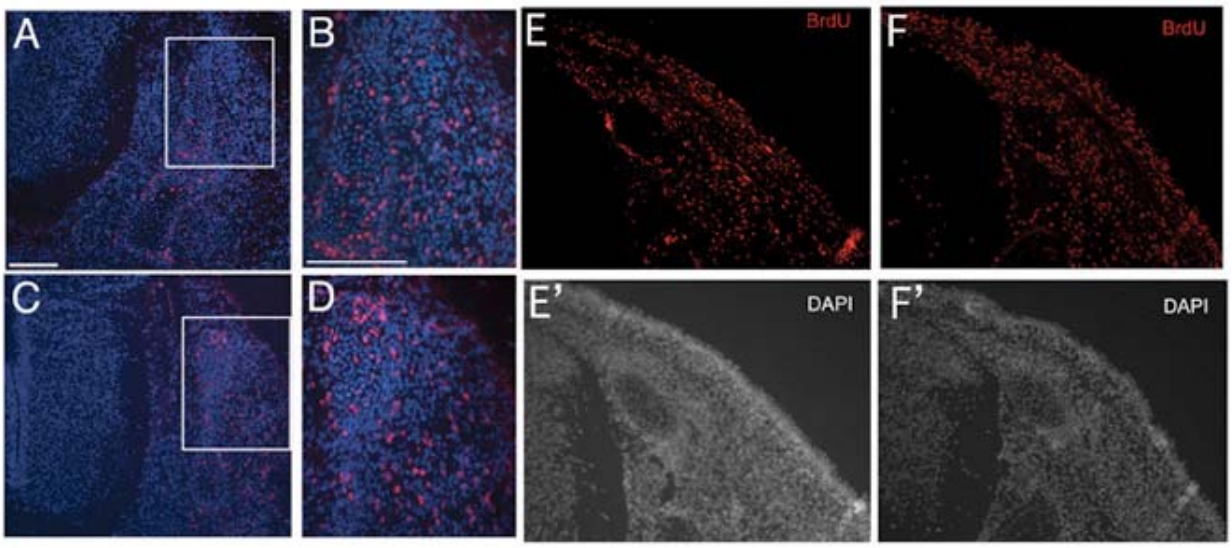

Fig. S3. Normal proliferation of PDGFRα-deficient sclerotome. (A-F) Immunohistochemistry for BrdU incorporation in the lumbar region of E14.5 (A,B) PDGFRα+/+; Twist2Cre/+ and (C,D) PDGFRαTKO, and (E,E′) E15.5 PDGFRαPI3K/+ and (F,F′) PDGFRαPI3K/PI3K embryos. (B,D) Higher magnification images of the region indicated by the boxes in A,C, respectively. E′ and F′ are the same sections as in E and F imaged for DAPI. Scale bars: 100 μm.

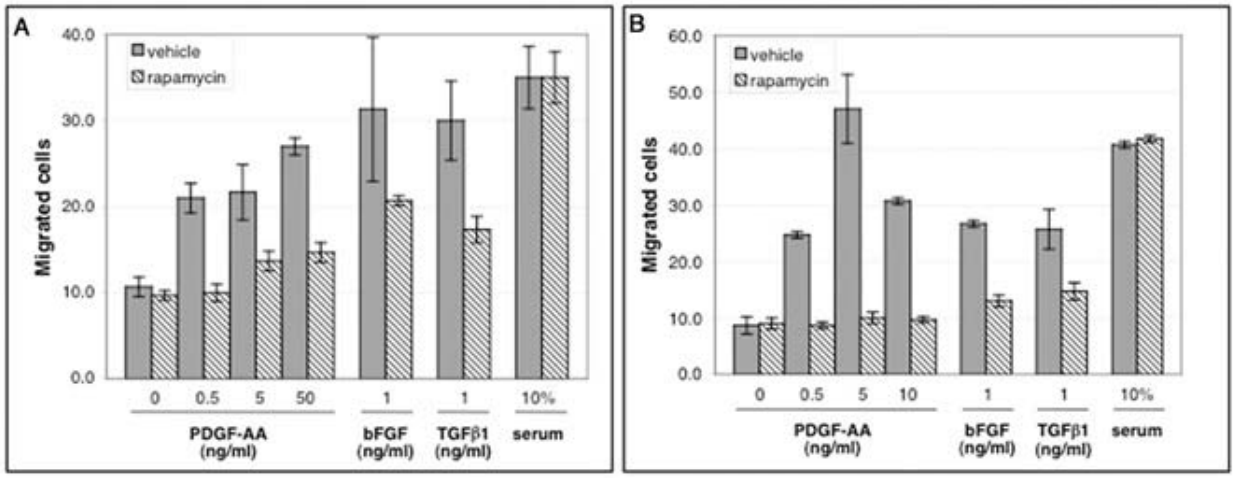

Fig. S4. Rapamycin inhibition of ligand-induced migration. Migration assay on wild-type cells in the presence of rapamycin. (A) Rapamycin was only included during the 6-hour migration assay. (B) Cells were treated with rapamycin 24 hour prior to the migration assay and subsequently treated with rapamycin during the 6-hour migration assay. Data are representative of three independent experiments.