Figure S1. BrdU labeling of coronal suture and the underlying cartilage in E13.5 embryos.

(A, B) BrdU labeling on coronal sections of littermate control (A) (n=9) and Pdgfra^{+/K}; Meox2Cre (B) embryos (n=9) at E13.5. Sections were counterstained with alcian blue and NFR. (C) Quantification of the proliferation rate of chondrocytes underlying the coronal suture (circled area by blue dashed lines in A and B). Data are presented as mean ± SEM and subjected to double tailed Student’s t-tests. CS, coronal suture; F, frontal bone; P, parietal bone.
Figure S2. Skeletal preparations of littermate control and *Pdgfra*^+/K; *Col2a1Cre* at E18.5.

Dorsal views of skeletal preparations of E18.5 littermate control (A) (n=6) and *Pdgfra*^+/K; *Col2a1Cre* (B) (n=5) calvaria. (C) Quantification and statistical analysis of littermate control and *Pdgfra*^+/K; *Col2a1Cre* skull morphometry. Data are presented as mean ± SEM and subjected to double tailed Student t-tests. F, frontal bone; P, parietal bone; and T, total length. Bones are stained with alizarin red, and cartilages are stained with alcian blue. Scale bar=0.5mm.
Figure S3. Lineage tracing of the cartilage cells underlying the coronal sutures in E15.5 embryos.

(A) Double staining of AP and AB on coronal section of E15.5 wild type embryo (n=3) across the coronal sutures. (B, C) X-gal staining showing LacZ reporter expression (blue) on coronal sections at the same level from E15.5 Wnt1Cre-2; R26R (B) (n=3) and Mesp1Cre; R26R (C) (n=3) embryos counterstained with NFR. CS, coronal suture; F, frontal bone; P, parietal bone. Scale bars: 50 µm.
Figure S4. Activity of PDGFRα downstream signaling pathways in FNP lysates.

Western blot of phospho-Erk1/2, Erk1/2, phospho-Stat3, Stat3, phospho-Src, Src and β-tubulin in primary culture of frontonasal prominence cells generated from E11.5 littermate control and Pdgfra^{−/−}; Wnt1Cre-2 embryos.