FIGURE LEGENDS FOR SUPPLEMENTAL DATA

Fig. S1. Histological analysis of newborn *Prx1*-Cre/*Vcan*$^{+/+}$ (A,C) and *Prx1*-Cre/*Vcan*$^{flox/flox}$ (B,D) forelimbs by H&E staining. *Prx1*-Cre/*Vcan*$^{+/+}$ digits display joint tilting (arrowhead in B), and formation of hypertrophic chondrocyte nodule in proximal phalanges and delayed endochondral ossification (D). M, metacarpus; pp, proximal phalanges. Scale bars: (A,B) 100 μm; (C,D) 25 μm.

Fig. S2. Patterns of H&E, and beta-galactosidase staining of hindlimbs at E14.5. (A) Histological analysis of *Prx1*-Cre/*Vcan*$^{+/+}$ and *Prx1*-Cre/*Vcan*$^{flox/flox}$ hindlimbs by H&E staining. *Prx1*-Cre/*Vcan*$^{+/+}$ digits display horizontal stripes of the metatarsophalangeal joint interzones (a, and c as an enlarged image of the boxed area in a). Note no obvious differences between *Prx1*-Cre/*Vcan*$^{+/+}$ and *Prx1*-Cre/*Vcan*$^{flox/flox}$ (b, and d as an enlarged image of the boxed area in b) in the joint interzone, although there were no clear joint interzone stripes in *Prx1*-Cre/*Vcan*$^{flox/flox}$, compared with *Prx1*-Cre/*Vcan*$^{+/+}$ embryos. Scale Bars: (a,b) 100 μm; (c,d) 30 μm. (B) Beta-galatosidase staining of Prx1-Cre/R26R. Scale Bars, 100 μm, 80 μm.

Fig. S3. Alcian blue staining of hindlimbs at E13.5. Patterns of both *Prx1*-Cre/*Vcan*$^{+/+}$ and *Prx1*-Cre/*Vcan*$^{flox/flox}$ are shown. Scale Bar: 100 μm.

Fig. S4. Micromass at day 3. (A) An immunostaining pattern for versican at day 3 of *Prx1*-Cre/*Vcan*$^{+/+}$ micromass culture is shown. Scale Bar: 50 μm (B) A pattern stained for beta-galactosidase of *Prx1*-Cre/R26R micromass culture is shown. Scale Bar: 120 μm.

Fig. S5. Expression of CD44 and β-catenin. (A) Immunofluorescent staining pattrens for CD44 of metatarsophalangeal joint at E18.5 of *Prx1*-Cre/*Vcan*$^{+/+}$ and *Prx1*-Cre/*Vcan*$^{flox/flox}$ are shown. Scale Bar: 40 μm. (B) Immunostaining patterns for β-catenin of metatarsophalangeal joint at E15.5 of *Prx1*-Cre/*Vcan*$^{+/+}$ and *Prx1*-Cre/*Vcan*$^{flox/flox}$ are shown. Scale Bars: 100, 40 μm.

Fig. S6. Western blot analysis of TGF-β in micromass. Top panels represent Pro-TGF-β together with actin. The graph shows the band density measured by Image J. The expression levels of TGF-β of *Prx1*-Cre/*Vcan*$^{flox/flox}$ (n=3) standardized by actin are shown as percent of *Prx1*-Cre/*Vcan*$^{+/+}$.

Figure S1

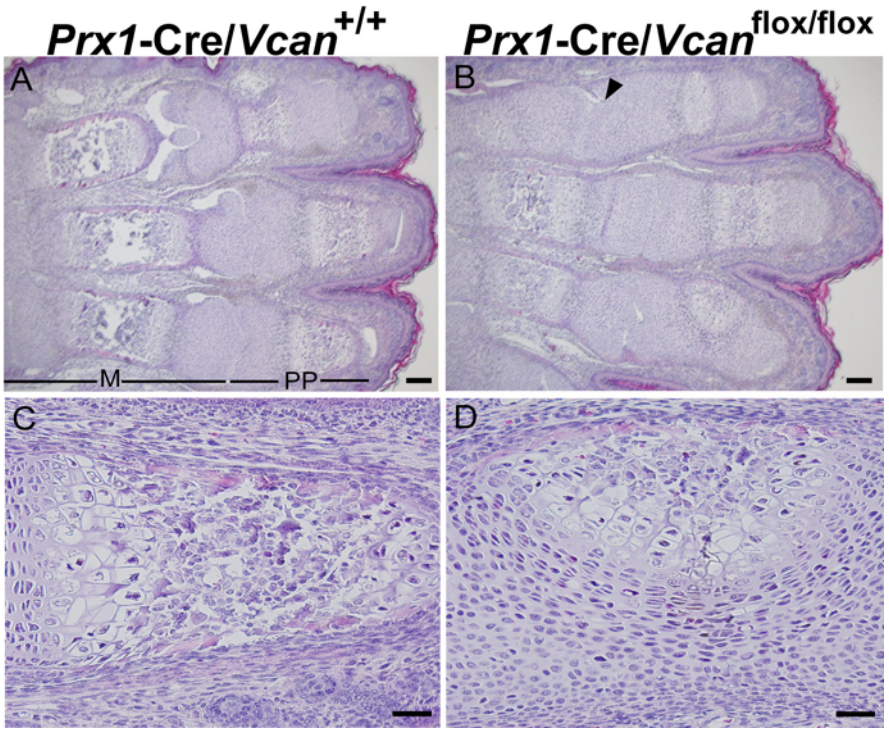


Figure S2

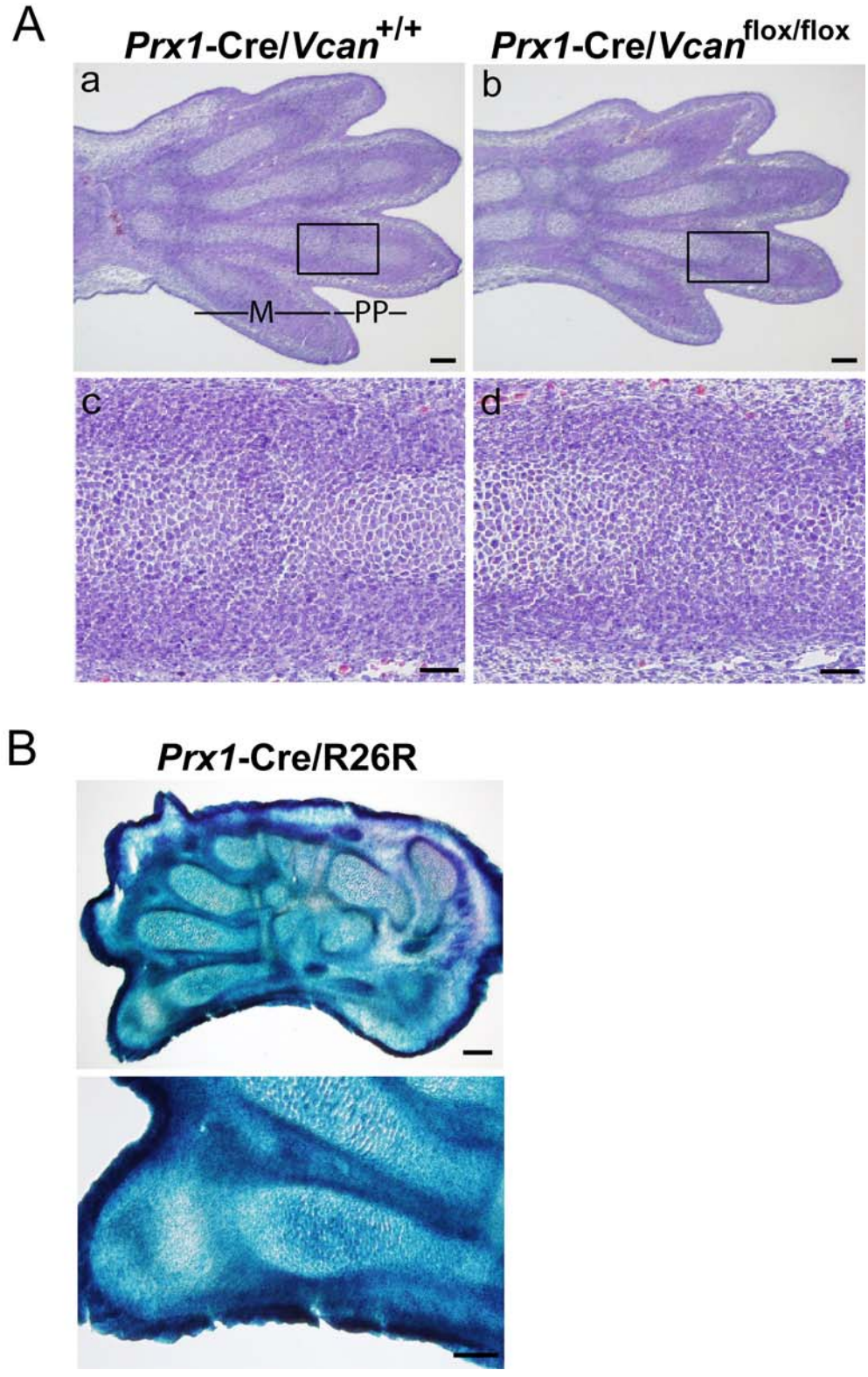

A
Prx1-Cre/Vcan+/+
Prx1-Cre/Vcanflox/flox
a
b
M
PP
c
d
B
Prx1-Cre/R26R

Figure S3

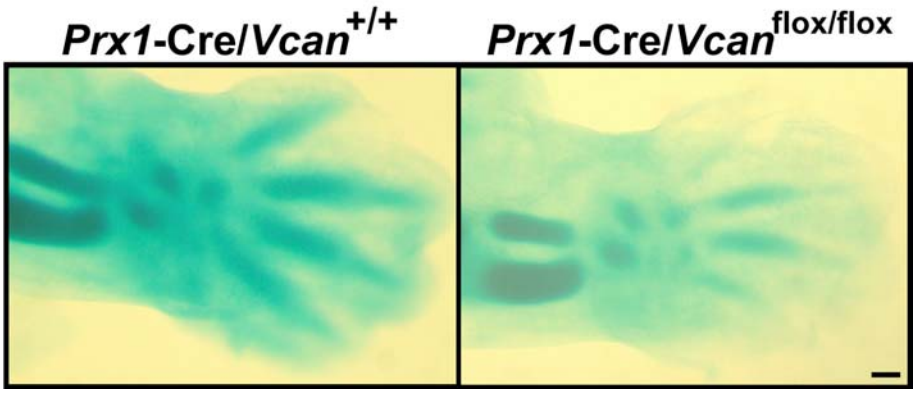
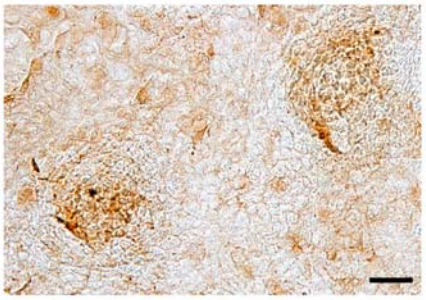


Figure S4

A



B

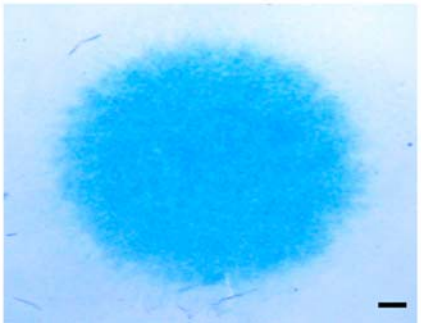


Figure S5

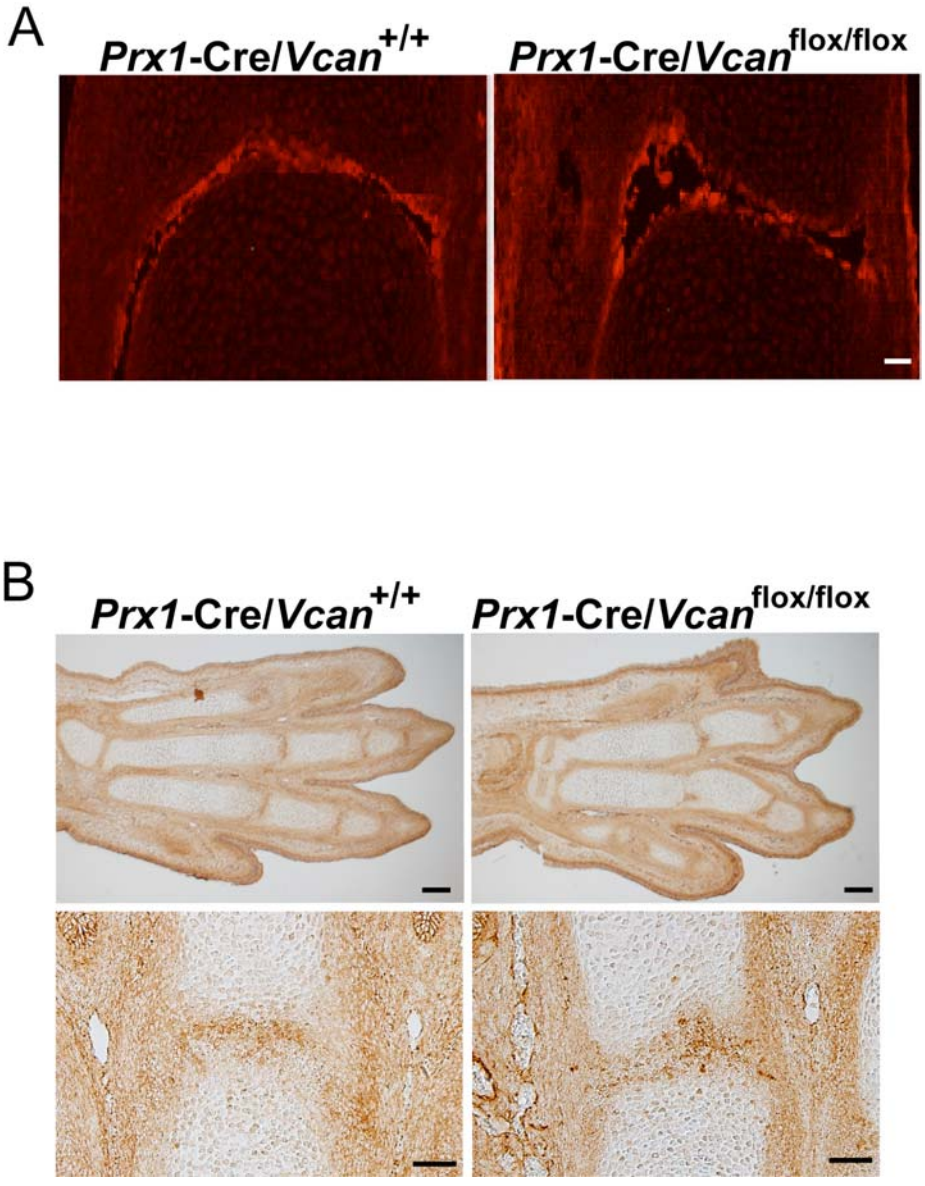
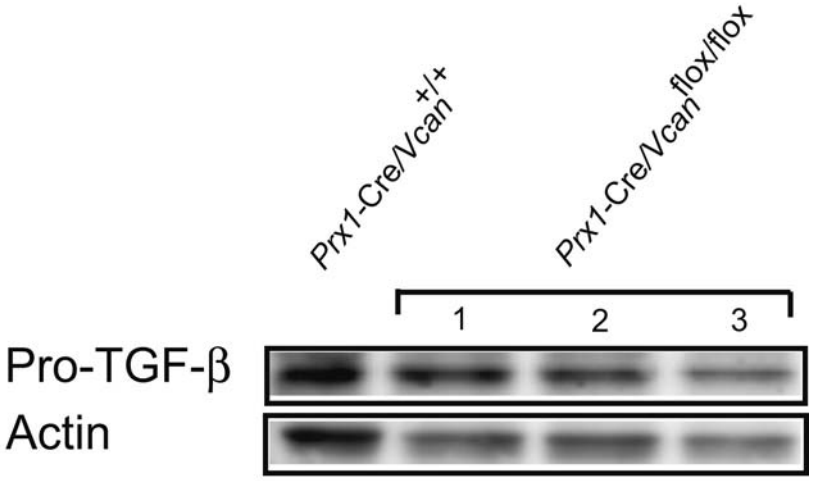
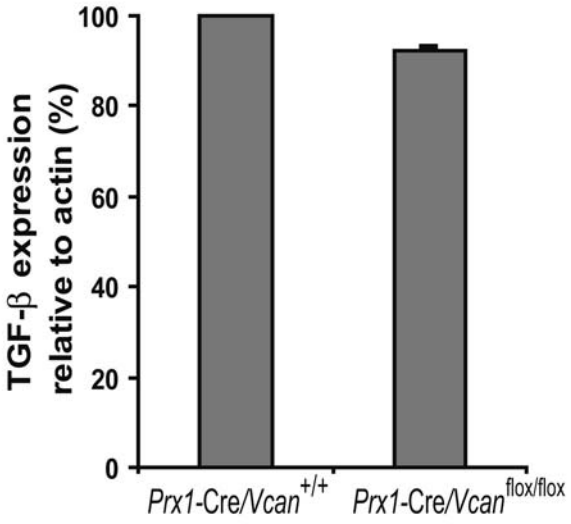

A
Prx1-Cre/*Vcan*$^{+/+}$
Prx1-Cre/*Vcan*$^{flox/flox}$
B
Prx1-Cre/*Vcan*$^{+/+}$
Prx1-Cre/*Vcan*$^{flox/flox}$

Figure S6


Prx1-Cre/Vcan+/+
Prx1-Cre/Vcanflox/flox
1
2
3
Pro-TGF-β
Actin


TGF-β expression relative to actin (%)
100
80
60
40
20
0
Prx1-Cre/Vcan+/+
Prx1-Cre/Vcanflox/flox