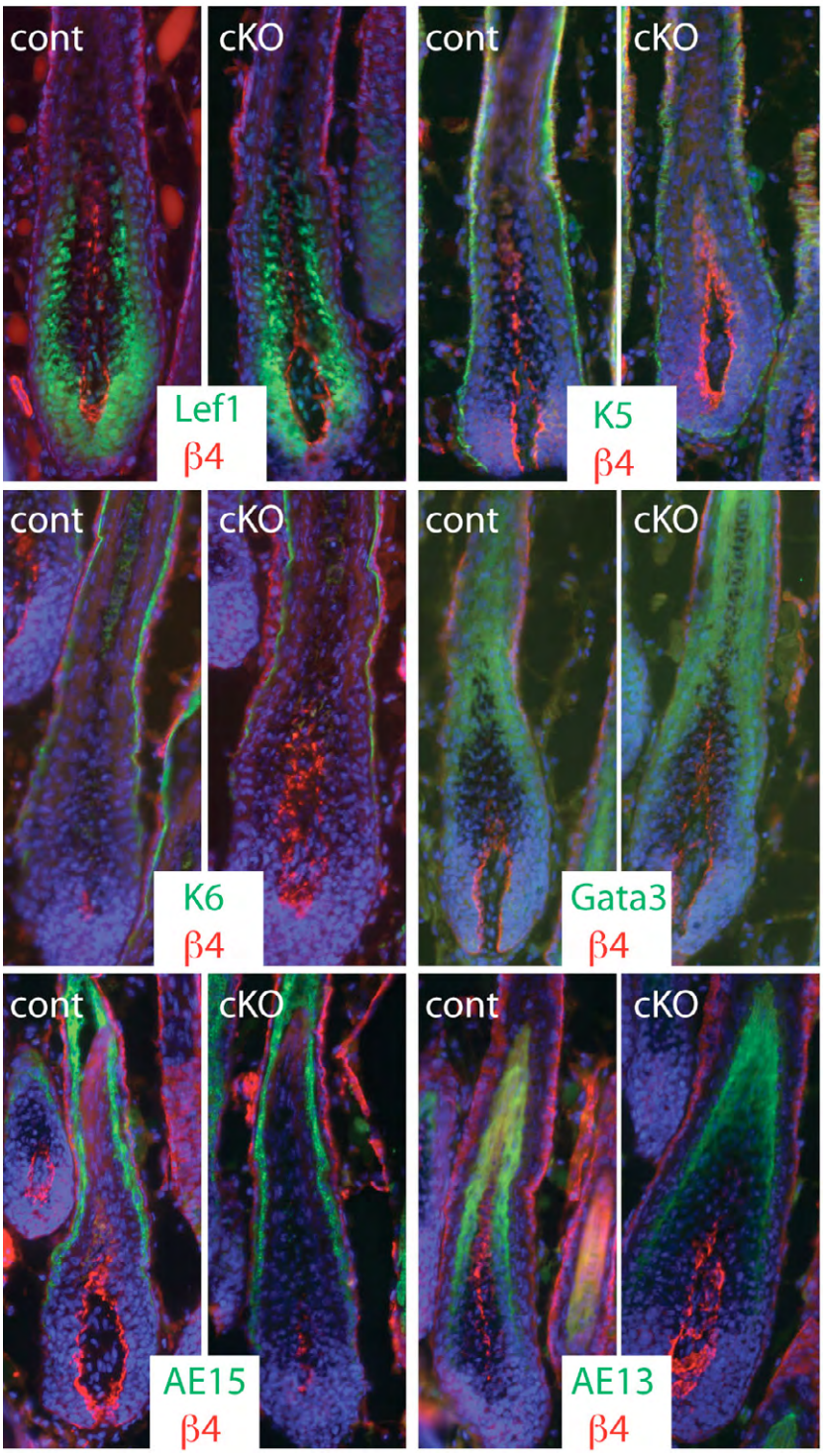

Fig. S1. Foxp1 ablation does not affect differentiation of hair follicle lineages. Immunofluorescence images of P26 skins from *Foxp1* cKO and control mice show that markers of the differentiated lineages of the hair follicle were detected in the *Foxp1* cKO skins. Integrin-β4 (red) marks epidermal cells bordering dermal cells.

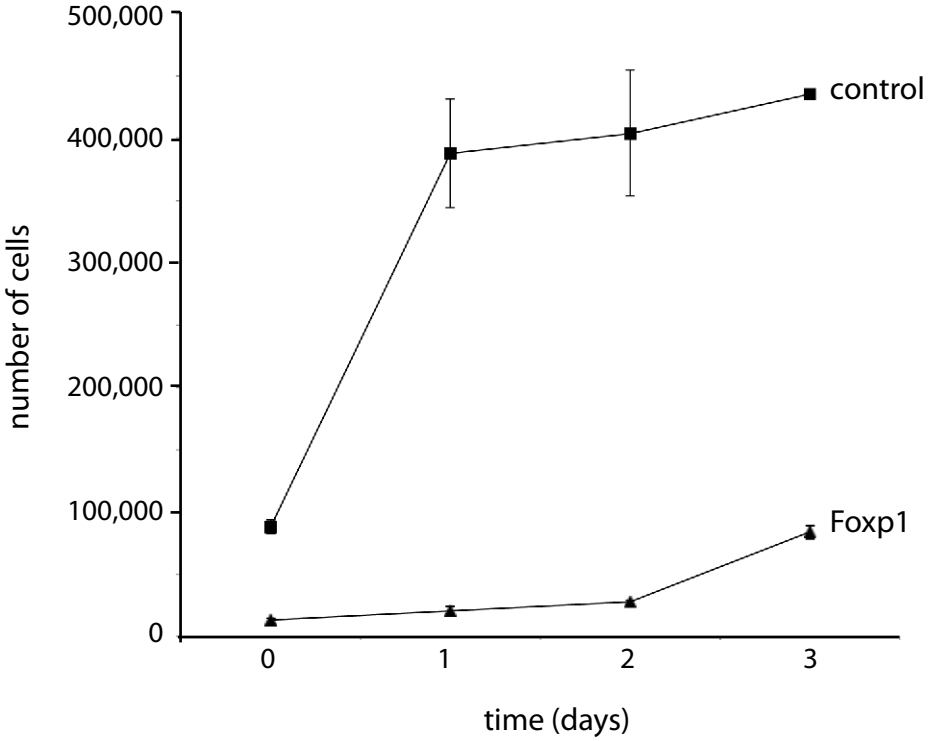

Fig. S2. Overexpression of Foxp1 leads to decreased cell proliferation. Keratinocytes were transduced with retroviral vector pBABE alone (control) or pBABE-Foxp1. After selection with G418, 20,000 of the transduced cells were plated onto each well of a 24-well plate. A day later cells were counted as t=0 and were counted in duplicate every 24 hours subsequently. Error bars represent s.d.

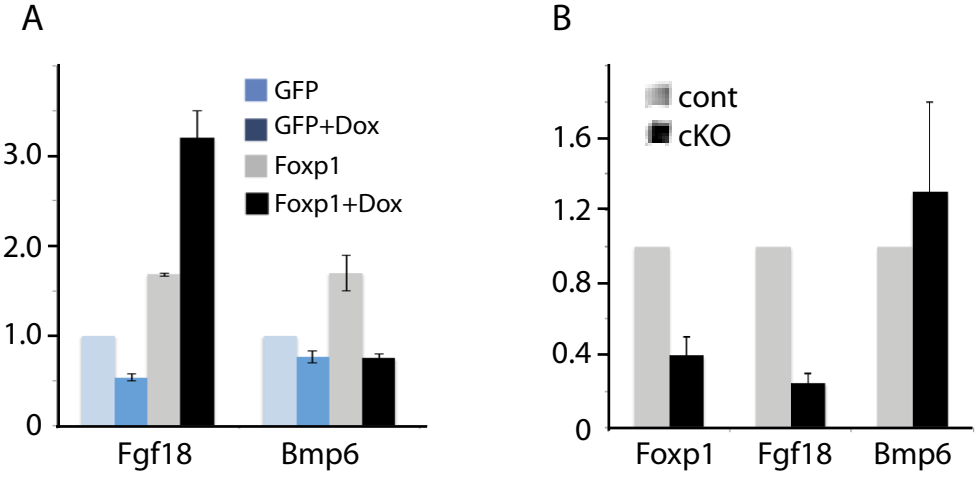

Fig. S3. Gain and loss of function of Foxp1 alters only the expression of Fgf18 and not Bmp6. (**A**) Real-time PCR analysis shows that overexpression of Foxp1 results in the induction of *Fgf18* and not *Bmp6* mRNA expression. Keratinocytes were transduced to express tet-inducible HA-tagged Foxp1 or GFP and were selected with G418. Real-time PCR was performed on cDNA synthesized from total RNA that were isolated from the transduced cells that were grown in media with Dox or vehicle for 24 hours. (**B**) Real-time PCR analysis shows that loss of Foxp1 results in reduction of *Fgf18* and not *Bmp6* mRNA expression. Real-time PCR was performed on cDNA synthesized from RNA isolated from FACS-sorted HFSCs of *Foxp1* cKO or control skins.

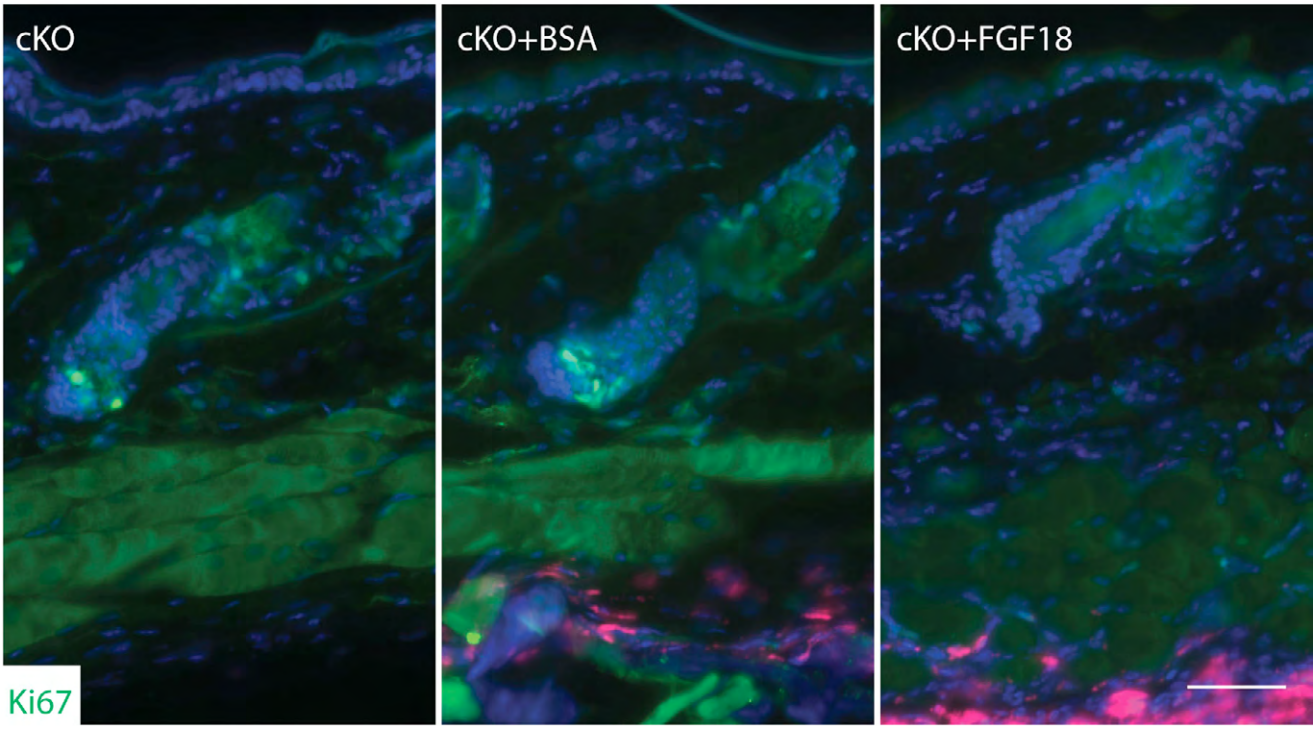

Fig. S4. Exogenously delivered FGF18 rescues premature SC activation in *Foxp1* null mice. Immunofluorescence images of *Foxp1* cKO skins that were injected with FGF18 or BSA or were far from the injected sites. *Foxp1* cKO mice were injected with 1 μg FGF18 or BSA together with fluorescent beads (red) daily for 5 days at the beginning of the second telogen. One day after the last injection, skins were embedded and immunostained for the proliferative marker Ki67 (green). Scale bar: 50 μm.

Table S1. Primers

Cloning primers

HAtag_Bam_fw	5'CTCGGA GGATCC GCC ACCATGGGTTATCCATATGATG3'
Foxp1_Not_rv	5'CCATCT GCGGCCGC TCACTCCATGTCCTCATTTACT3'

qPCR primers	Forward (5'-3')	Reverse (5'-3')
Foxp1	GCCAGGCTGTGAAAGCATATGTGA	CATTTGCACTCGACATTGGGCAGT
NFATC1	CTGTAGTGATCAAGCAAGAGC	TGCTGGAGAGGTCGTTACG
Lhx2	ATGCCAAGGACTTGAAGCAG	AAAGGTTGCGCCTGAACTTG
Sox9	GAGCACTCTGGGCAATCTCA	CAGCTTGCACGTCGGTTT
Tcf3	GGAGCCGGGGCAACCAGTG	CATCCTGGGGCCTTCTCACTTC
p27	ACTAACCCGGGACTTGGAGA	GAAATTCCACTTGCGCTGAC
p21	TGGTGGGGGTGGGCTTATC	ATGTTTGGGGCTGGAGTCAGAC
p57	CAGCGGACGATGGAAGAACT	CTCCGGTTCCTGCTACATGAA
p15	ACATTTGGGTGGGTGCAGT	TCCAGGTTTCCCATTTAGCC
p18	TGCGCTGCAGGTTATGAAACTTGG	AACATCAGCCTGGAACTCCAGCAA
p19	GCCTTGCAGGTCATGATGTTTGGA	ATTCAGGAGCTAGGAAGCTGACCA
Fgf18	CCCAGGACTTGAATGTGCTT	ACTGCTGTGCTTCCAGGTTC