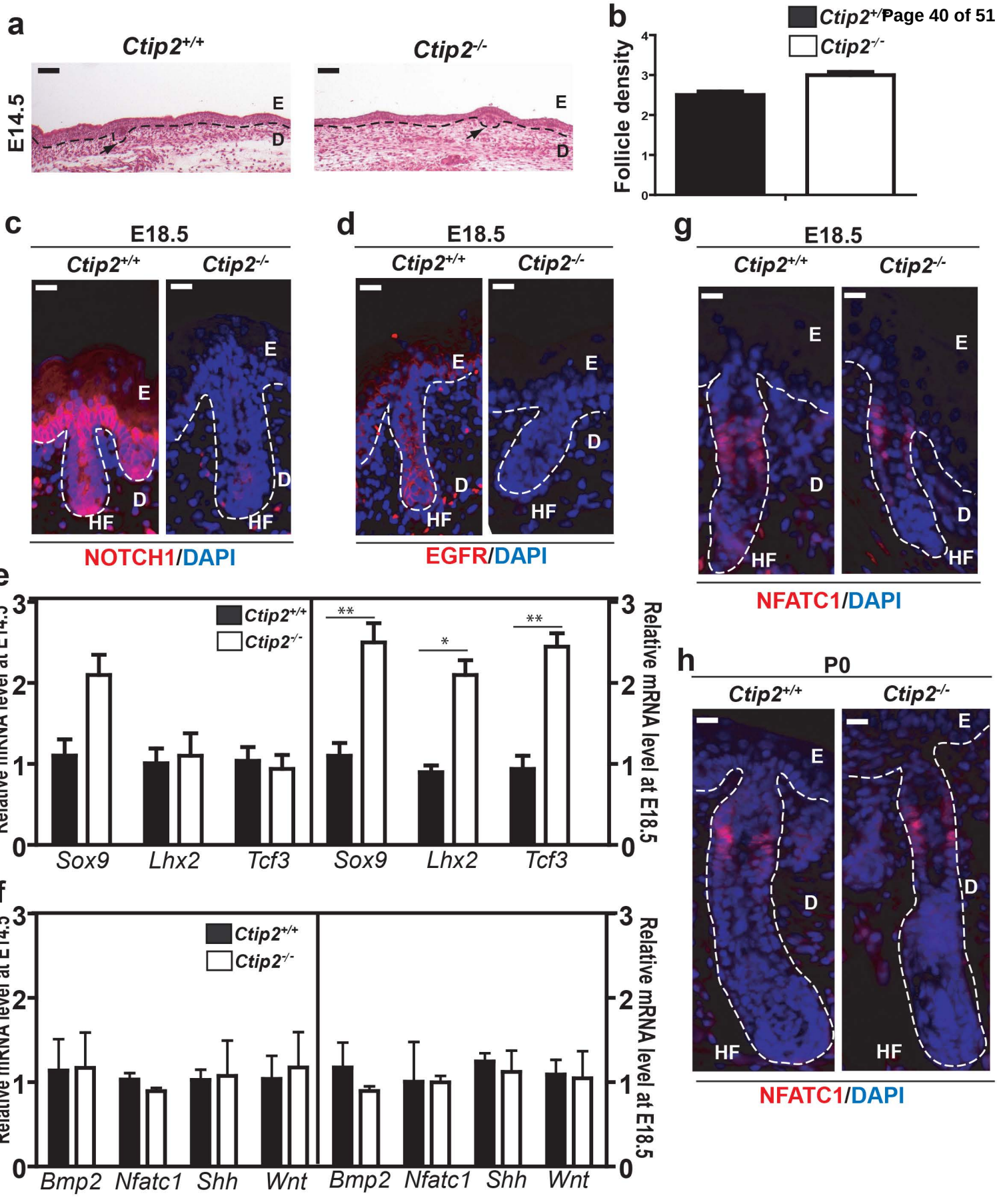
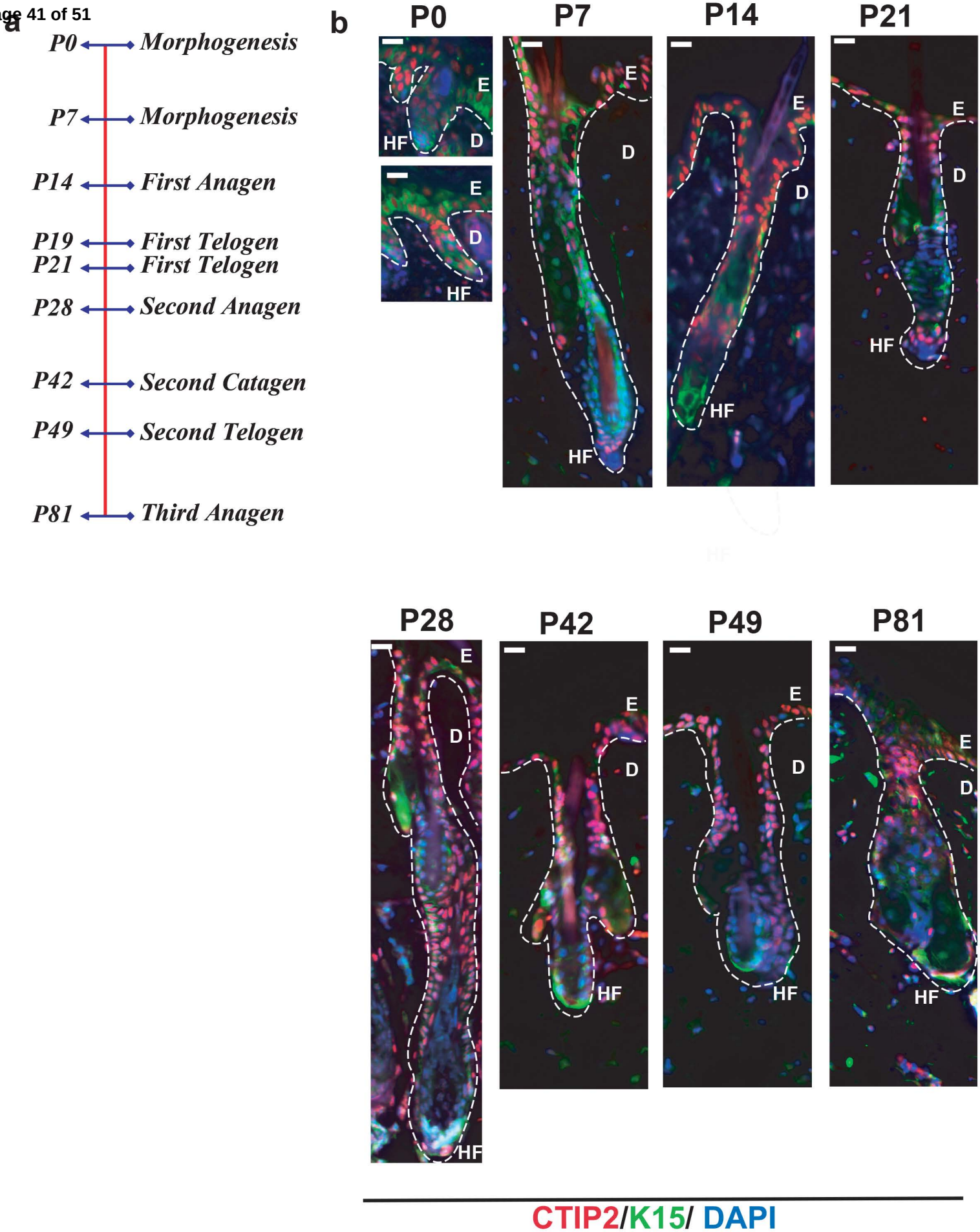
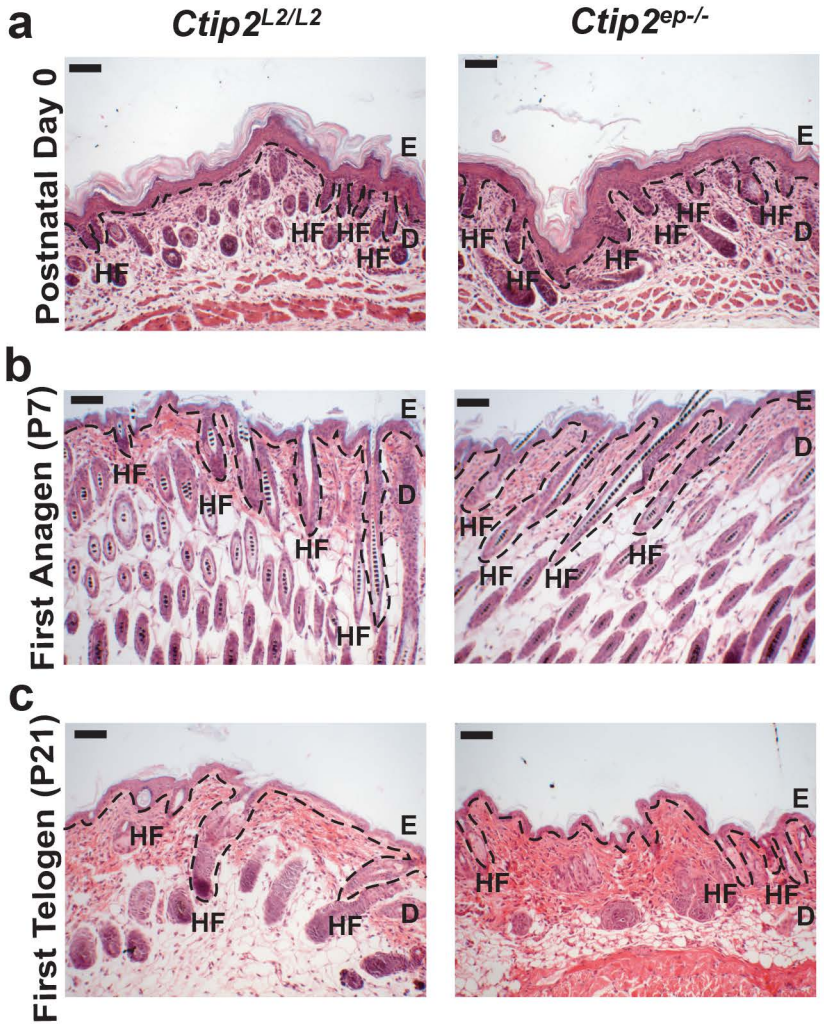


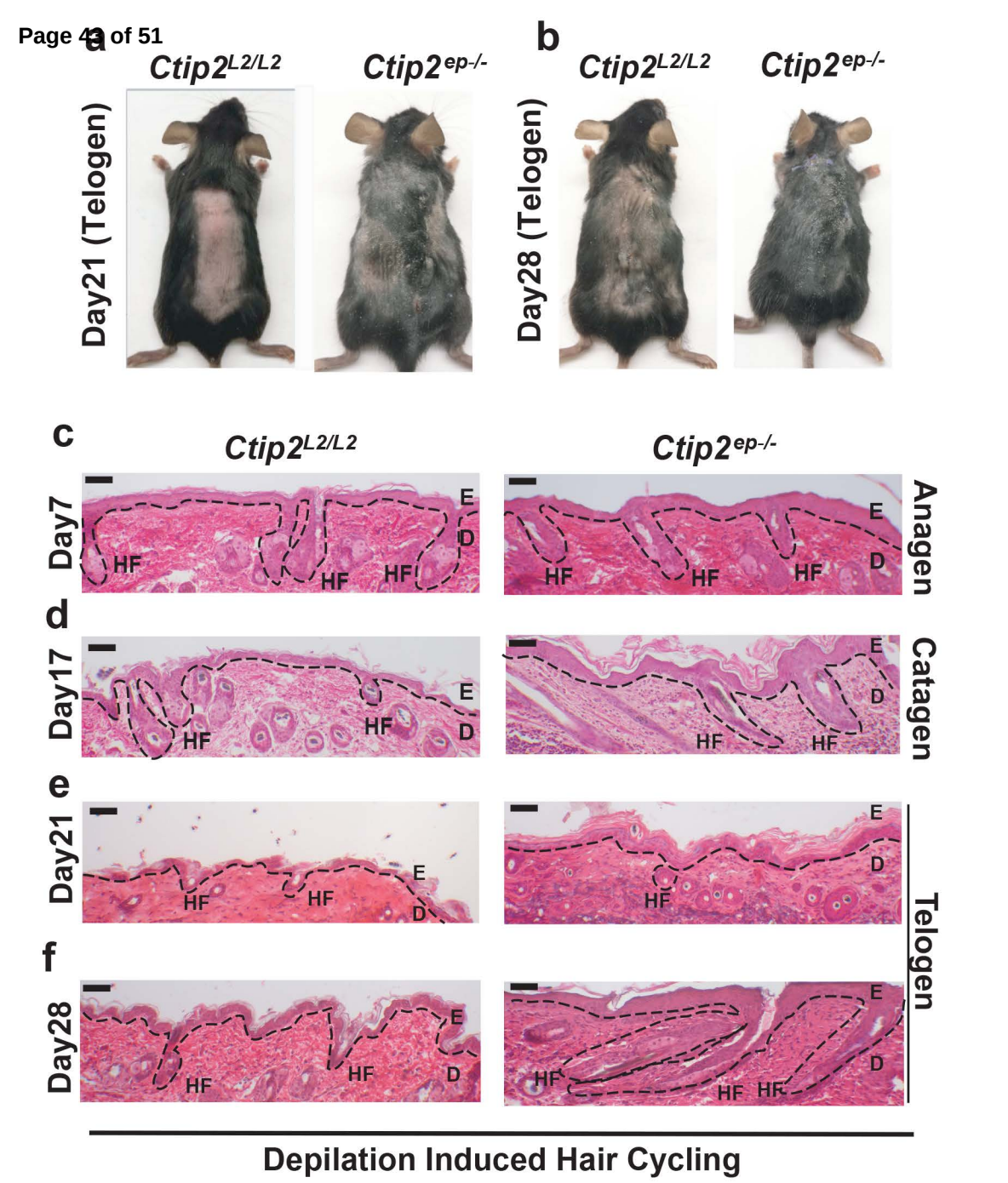
Supplementary Figure 1. Histological analysis and expression of factors involved in HF morphogenesis in Ctip2-null skin



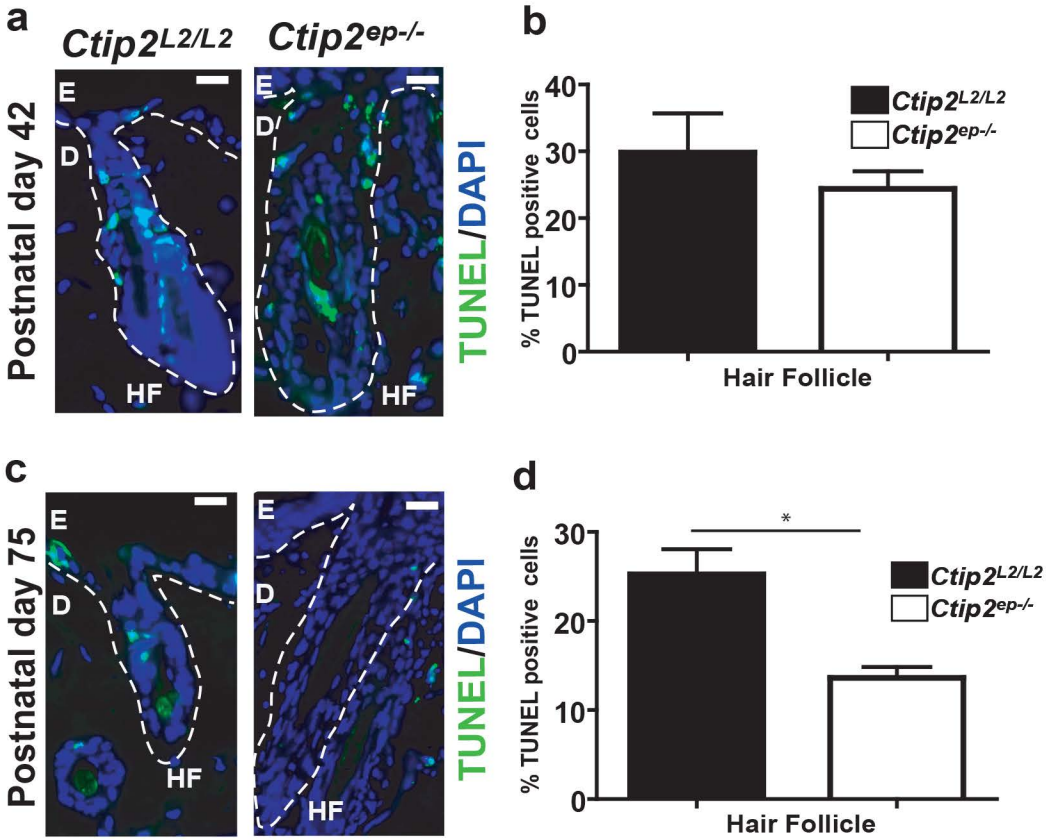
Supplementary Figure 2. CTIP2 expression during follicular morphogenesis and hair cycling



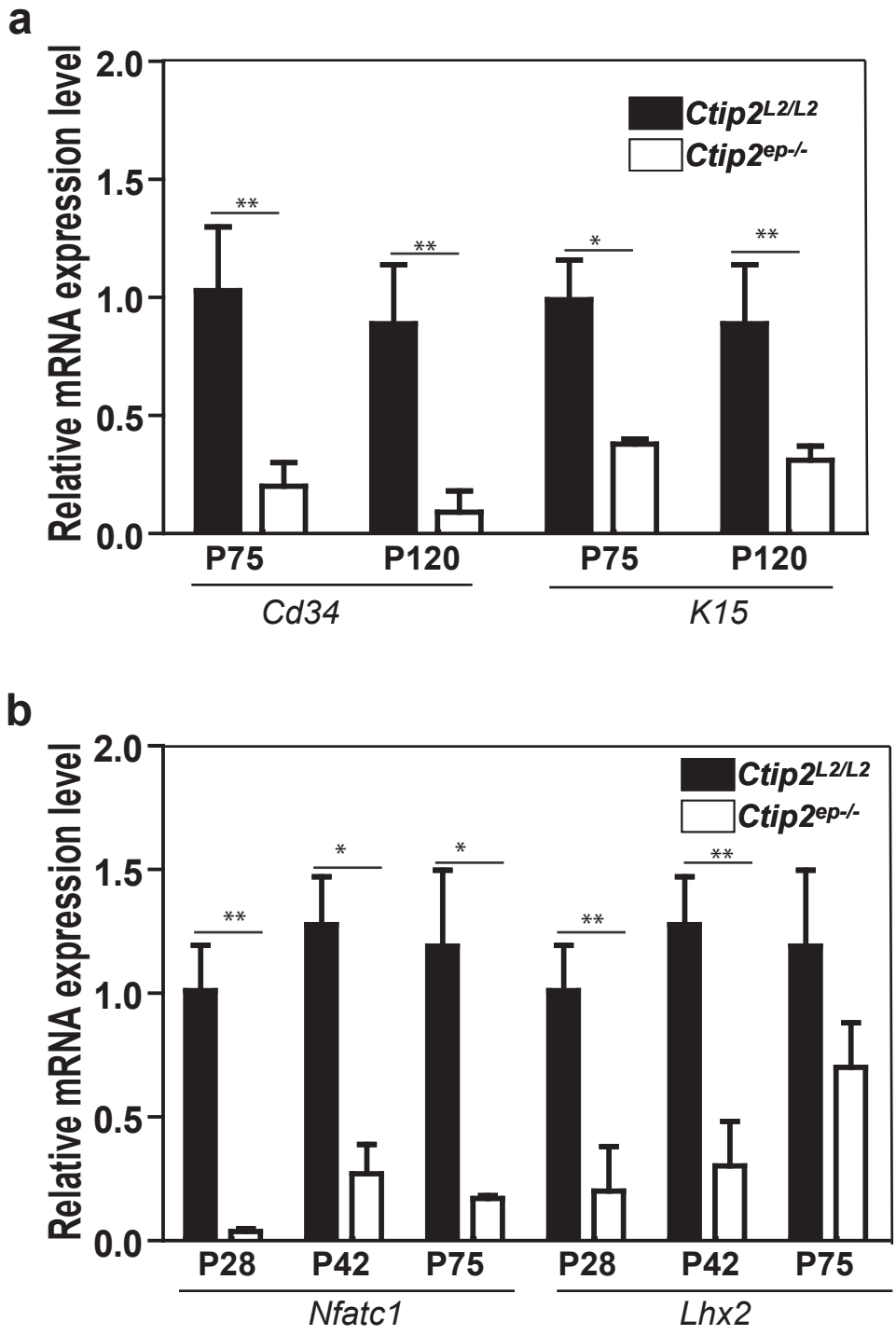
Supplementary Figure 3. Hair follicle defects were not observed during follicular establishment and during first hair cycling phase in *Ctip2*$^{ep-/-}$ mice



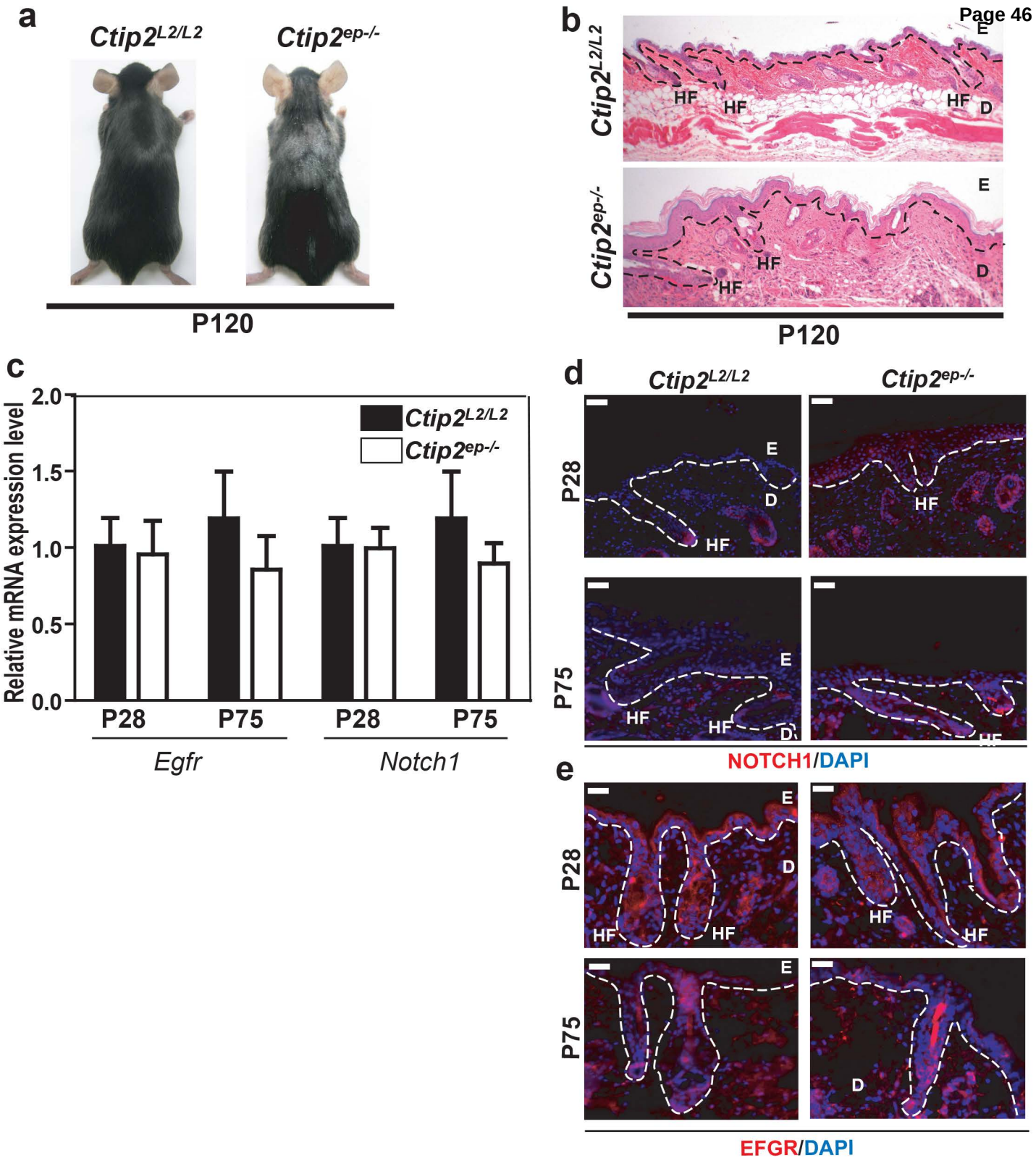
Supplementary Figure 4. Ctip2 has a role in depilation induced hair cycling in adult mice



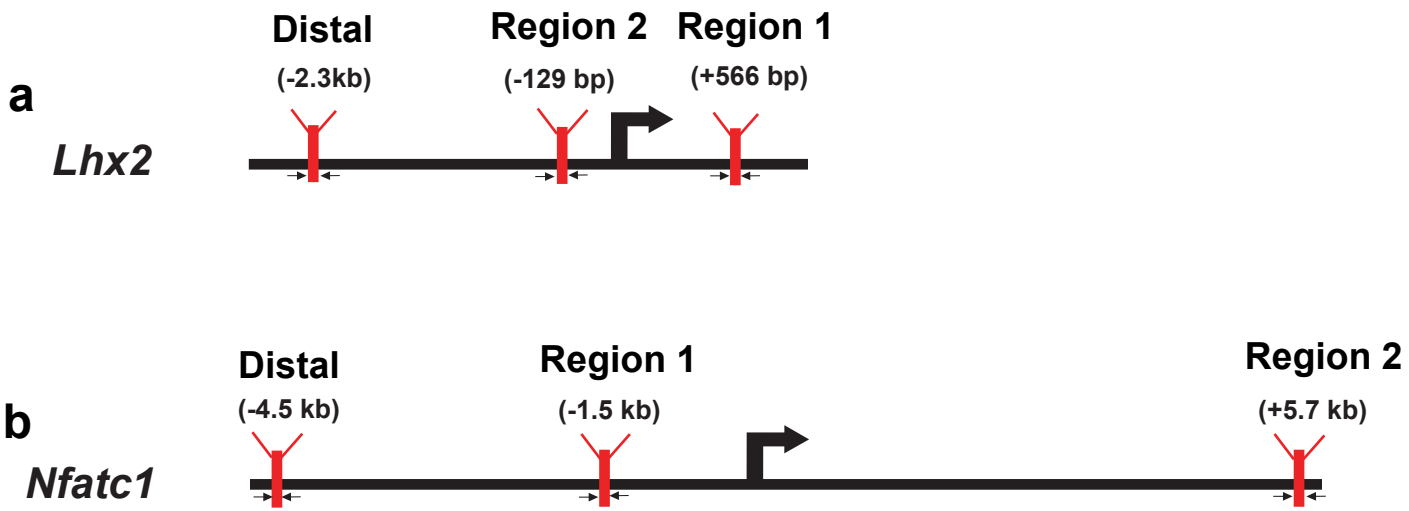
Supplementary Figure 5. Ablation of Ctip2 from epidermis and hair follicle lead to altered cell survival specifically in HF



Supplementary Figure 6. Expression of genes encoding stem cell markers and regulators of hair cycling in adult mice skin



Supplementary Figure 7. Loss of hair coat in *Ctip2*$^{ep-/-}$ mice and expression of factors involved in hair cycling in the *Ctip2*$^{ep-/-}$ skin



Supplementary Figure 8. Schematic diagram indicating binding region of CTIP2 on the Lhx2 and Nfatc1 promoters

Table S1. List of antibodies

Antibody	Species	Source/Company	Dilution
anti-BrdU	Rat	Serotec	1:200
anti-CTIP2	Rat	Abcam	1:300
anti-EGFR	Rabbit	Cell Signaling	1:200
anti-NOTCH1	Rabbit	Cell Signaling	1:400
anti- LHX2	Goat	Santa Cruz Biotechnology	1:100
anti-NFATC1	Mouse	Santa Cruz Biotechnology	1:200
anti-CD34	Rabbit	Santa Cruz Biotechnology	1:200
anti-K15	Chicken	Covance	1:500
anti-K6hf	Guinea Pig	Progen	1:200

Table S2. List of Primers for RT-qPCR

Gene	Strand	Primer Sequences
Bmp2	Forward	5' – GGACCCGCTGTCTTCTAGTG – 3'
	Reverse	5' – GTCTCTGCTTCAGGCCAAAC – 3'
Cd34	Forward	5' – AGACTCAGGGAAAGGCCAAT – 3'
	Reverse	5' – TTCTGTGTCAGCCACCACAT – 3'
Egfr	Forward	5' – GCCATCTGGGCCAAAGATACC – 3'
	Reverse	5' – GTCTTCGCATGAATAGGCCAAT – 3'
K15	Forward	5' – AGCTTTGGTGGAGGGAGTCT – 3'
	Reverse	5' – ACCAAAGCCACAACTCATGC – 3'
Lhx2	Forward	5' – CTGTTCCACAGTCTGTCGGG – 3'
	Reverse	5' – CAGCAGGTAGTAGCGGTCAG – 3'
Nfatc1	Forward	5' – GCACATTTGAGTCCGTGATG – 3'
	Reverse	5' – GCAGAGCAAATGACTGTGGA – 3'
Notch1	Forward	5' – TCAATGCCGTGGATGACCTA – 3'
	Reverse	5' – CCTTGTTGGCTCCGTTCTTC – 3'
Shh	Forward	5' – AAGCAGGTTTCGACTGGGTC – 3'
	Reverse	5' – CCGGGACGTAAGTCCTTCAC – 3'
Sox9	Forward	5' – ATAAGTTCCCCGTGTGCATC – 3'
	Reverse	5' – TACTGGTCTGCCAGCTTCCT – 3'
Tcf3	Forward	5' – GTCACCACAGGGCTGTCTCT – 3'
	Reverse	5' – CATGCTGAAGTCCAGGAGGT – 3'
Wnt10b	Forward	5' – CCTTAAACTTCCCGGTGAGC – 3'
	Reverse	5' – TGGTGCTGACACTCGTGAAC – 3'

Table S3. List of primers used for ChIP

Gene and location	Region	Strand	Sequence
Lhx2 (-2.38 to -2.28kb)	Distal	Forward	5'– TGGTAGGGAGGTAGGCAGTG – 3'
		Reverse	5'– AGGGGTAAAGCACCCTCAGT – 3'
Lhx2 (+517 to +616bp)	Proximal	Forward	5' – CCTACTCCAGTTCGCCTTTG – 3'
		Reverse	5' – GGTTCACCCAGGAACAGCTA – 3'
Lhx2 (3UTR)	3' UTR	Forward	5' – GGTATTTGCCTGCCTACCAA – 3'
		Reverse	5' –TCAAGTGCAAGACCTGGATG – 3'
Nfact1(-4.6 to -4.5kb)	Distal	Forward	5' – GAAAACCTTTGGGCAGTGAG – 3'
		Reverse	5' – GAAGCAAAAGGAAGGGAGGT – 3'
Nfatc1(-1.56 to -1.46 kb)	Proximal	Forward	5' – CCATCCTCTCAAAGCCAGAG – 3'
		Reverse	5' – ATGTCTCAGGCGCACTACCT – 3'
Nfact1(3UTR)	3' UTR	Forward	5' – TGCTGGGCAGTCTATGTGAG – 3'
		Reverse	5' – GAAACAGCCAGAGCCATGTT – 3'

Table S4. List of primers used for Promoter Cloning for Luciferase Assay

Gene and location	Region	Strand	Sequence
Lhx2 ***(-399 to +618bp)***	Proximal	Forward	5' – AGATCTAACGCGTTGCACGTACATGGGAGAGAG – 3'
		Reverse	5'– TGAGACCTAAAGCTTGGTTCACCCAGGAACAGCTA – 3'
Nfatc1 ***(-3.2 to -1.1kb)***	Proximal	Forward	5' – ACTACTAGGTACCCCCAGGTGAGGTAACAGGAG – 3'
		Reverse	5'– CTTACATGCTAGCGGTTGGGCAGTTAGAACGTC – 3'

Note: Black is the part of the respective gene sequence.

Green is the restriction digestion site for particular restriction enzyme.

Blue is additional nucleotide for optimal restriction digestion