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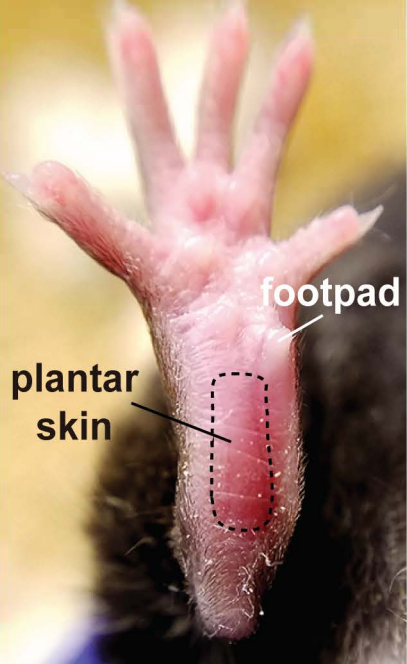
Supplemental Information

Regional Control of Hairless

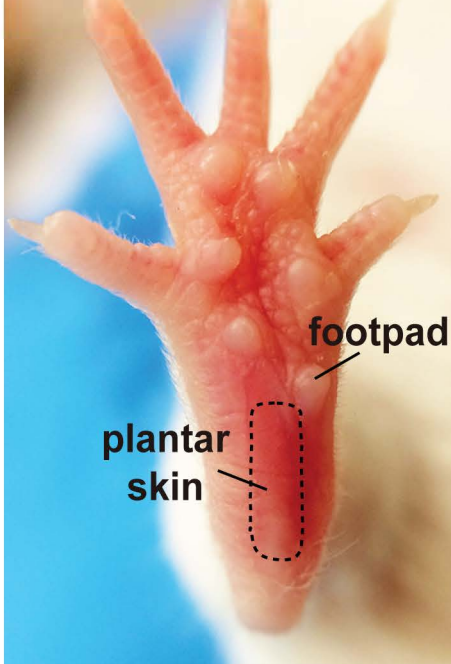
versus Hair-Bearing Skin by *Dkk2*

Yaolin Song, Ana C. Boncompagni, Sang-Seok Kim, Heather R. Gochnauer, Yuhang Zhang, Gabriela G. Loots, Dianqing Wu, Yulin Li, Mingang Xu, and Sarah E. Millar

C57BL/6



FVB/N



CD-1

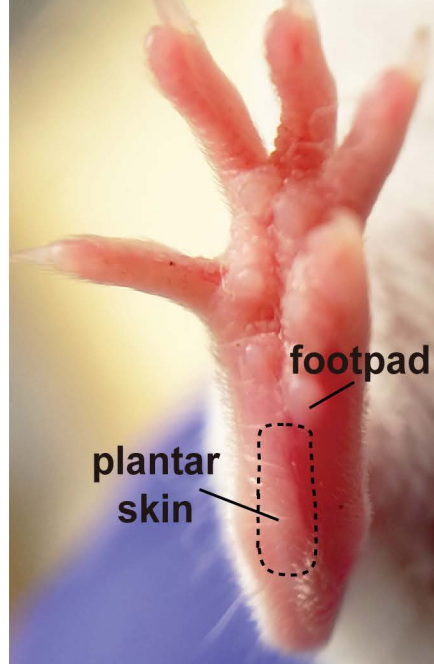


Figure S1. Lack of plantar hair is not mouse strain-dependent, related to Figure 1. The plantar region is hairless in hind paws of adult C57BL/6, FVB/N and CD-1 mice. Plantar skin is indicated in each panel by a dashed black line. Six mice were analyzed for each strain.

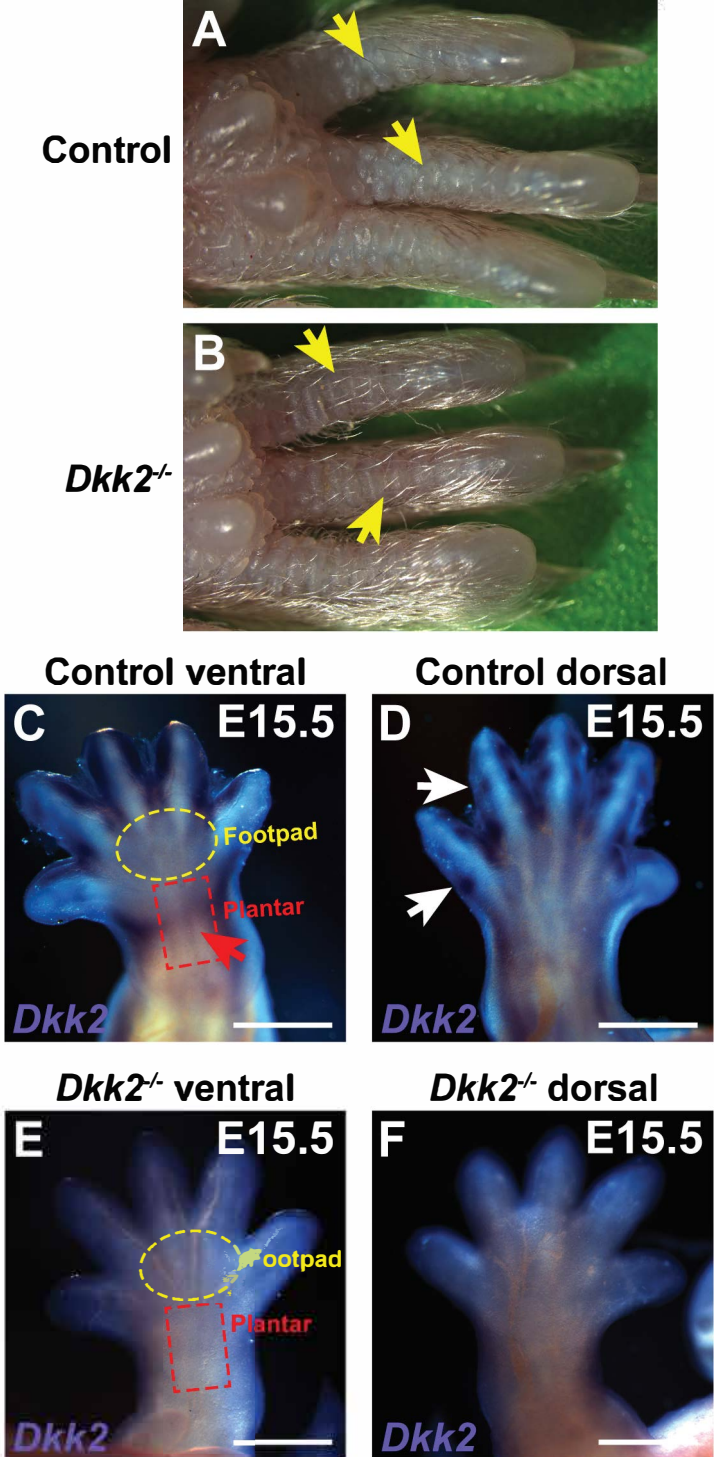


Figure S2. Ectopic ventral digit hair in *Dkk2*^{-/-} mice and absence of specific in situ hybridization signal for *Dkk2* in *Dkk2*^{-/-} embryonic limbs, related to Figure 2. (A,B) Ventral views of the digits in hind paws of control littermate (A) and *Dkk2*^{-/-} (B) adult mice. Yellow arrows indicate hairless ventral digit skin in the control (A) and ectopic ventral digit hairs in the *Dkk2*^{-/-} mutant (B) (n=6 control littermates and n=6 *Dkk2*^{-/-} mice analyzed). (C-F) Whole mount in situ hybridization for *Dkk2*. Control littermate (C,D) and *Dkk2*^{-/-} (E,F) E15.5 hind limbs were photographed from the ventral (C,E) or dorsal (D,F) sides. Hybridization signal (purple-blue) is present in the control plantar region (C, red arrow) and in control digits (D, white arrows) but is absent in *Dkk2*^{-/-} limb (E,F) (n=3 control littermate and n=3 *Dkk2*^{-/-} mice analyzed). Scale bars represent 750 μm.

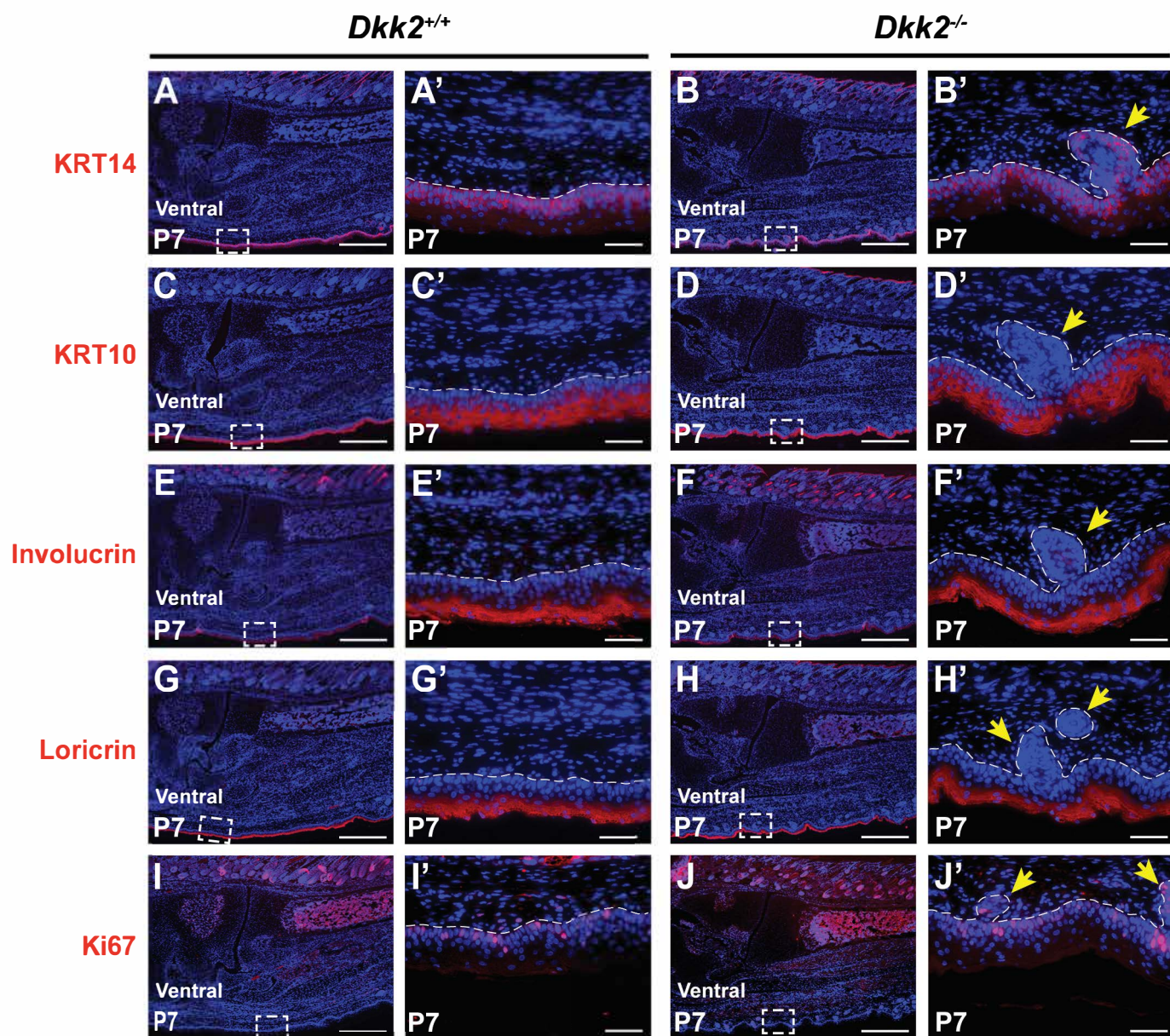


Figure S3. Differentiation and proliferation of plantar epidermis are unaffected by loss of *Dkk2*, related to Figure 3. Hind paws from P7 *Dkk2*^{+/+} control and *Dkk2*^{-/-} mutant mice as indicated were sectioned and subjected to immunofluorescence for the basal epidermal marker keratin 14 (KRT14) (A-B'), suprabasal marker keratin 10 (KRT10) (C-D'), terminal differentiation markers involucrin (E-F') and loricrin (G-H'), and proliferation antigen Ki67 (I-J'). n=3 mutants and n=3 littermate controls for each analysis. Boxed regions of plantar skin indicated in (A-J) are shown at higher magnification in (A'-J'). Scale bars represent 500 μ m (A-J) and 50 μ m (A'-J'). Yellow arrows indicate ectopic plantar hair follicles.

Table S1. Oligonucleotide Sequences, Related to Experimental Procedures and Key Resources.

Oligonucleotides	SOURCE
Genotyping primers	
Genotyping primer <i>Dkk2</i> Wild-type-F 5'CACTCAGGTTTGGTGCTCAGTGCCT3'	This paper
Genotyping primer <i>Dkk2</i> Wild-type-R 5'AACACTTGATAGCTTTCTTACCAT3'	This paper
Genotyping primer <i>Dkk2</i> Mutant-F 5'CACTCAGGTTTGGTGCTCAGTGCCT3'	This paper
Genotyping primer <i>Dkk2</i> Mutant-R 5'GACAATAGCAGGCATGCTGGGGATG3'	This paper
Genotyping primer <i>Axin2^{LacZ}</i> -F 5'TTCACTGGCCGTCGTTTTACAACGTCGTGA3'	This paper
Genotyping primer <i>Axin2^{LacZ}</i> -R 5'ATGTGAGCGAGTAACAACCCGTCGGATTCT3'	This paper
Genotyping primer <i>Sostdc1</i> Wild-type-F 5'CCTTCTCTGTGTTTTCACTCCG3'	This paper
Genotyping primer <i>Sostdc1</i> Wild-type-R 5'TGATTCAGGGTGCTGTTGC3'	This paper
Genotyping primer <i>Sostdc1</i> Mutant-F 5'CCTTCTCTGTGTTTTCACTCCG3'	This paper
Genotyping primer <i>Sostdc1</i> Mutant-R 5'CCGTAATGGGATAGGTCACG3'	This paper
qPCR primers	
qPCR primer <i>mDkk2</i> -F 5'TGAACCAAGGACTGGCTTTTC3'	This paper
qPCR primer <i>mDkk2</i> -R 5'TGGCAGTATCTTCCAACCTTCA3'	This paper
qPCR primer <i>Gapdh</i> -F 5'GCATTGCTCTCAATGACAACCTT3'	This paper
qPCR primer <i>Gapdh</i> -R 5'GTGGTCCAGGGTTTCTTACTC3'	This paper
qPCR primer <i>mDkk1</i> -F 5'CCGAAGTTGAGGTTCCGCAG3'	This paper
qPCR primer <i>mDkk1</i> -R 5'AGCCGCACTCCTCATCTTCAG3'	This paper
qPCR primer <i>mDkk3</i> -F 5'ACCTGGGAAGTGGAGCCTGAAG3'	This paper
qPCR primer <i>mDkk3</i> -R 5'CCTAAATCTCCTCTCCGCCT3'	This paper
qPCR primer <i>mDkk4</i> -F 5'GCCGTAGAGTTCGCAGGAGGT3'	This paper
qPCR primer <i>mDkk4</i> -R 5'AAAATGGCGAGCACAGCAAAG3'	This paper
qPCR primer <i>mSostdc1</i> -F 5'ATGGAGGCAGGCATTTCAAGTAG3'	This paper
qPCR primer <i>mSostdc1</i> -R 5'CACTGGCCGTCGAAATGTA3'	This paper
qPCR primer <i>rGapdh</i> -F 5'GCGTGAACCACGAGAAGTAT3'	This paper
qPCR primer <i>rGapdh</i> -R 5'CCTCCACAATGCCGAAGT3'	This paper
qPCR primer <i>rDkk2</i> -F 5'ATCGATCTGCGGGCATTAC3'	This paper
qPCR primer <i>rDkk2</i> -R 5'CCCACTTACATTCTTATCACT3'	This paper
In situ hybridization probes	
In situ hybridization probe for <i>Dkk2</i> NM_020265.4, nt 1141-1970	This paper
In situ hybridization probe for <i>Dkk2</i> NM_020265.4, nt 1125-1242	This paper
In situ hybridization probe for <i>Ctnnb1</i> (β -catenin) NM_007614, nt 150 – 540	Zhang et al. 2009