

Figure S1: Slc1a3-CreER marks the Henle's and Huxley's layers of the IRS. Immunostaining with K6 and AE15 are shown in higher magnification. Scale bars, 10 μm . IRS, inner root sheath; Cp, companion layer; He, Henle's layer; Hu, Huxley's layer; Ci, cuticle of IRS.

Figure S2: Quantification of Slc1a3-CreER marked cells. (a, b) Fraction of tdTomato⁺ cells in indicated cell types. Data have been obtained from 3 mice per condition; data from each mouse are shown as an individual bar. Numbers of cells counted for each cell type are shown in (d, e). (c) Confocal images were used to quantify 20 different follicles from 3 different mice and data are plotted as average percentage. PD, postnatal day; ORS, outer root sheath; Cp, companion layer; IRS, inner root sheath; He, Henle's layer; Hu, Huxley's layer; Ci, cuticle of IRS; HS, hair shaft; HG, hair germ.

Figure S3: Lineage tracing of Slc1a3-CreER marked cells. (a-c) Confocal images showing individual Z-stack of thickness (0.45 - 1 μm) at different depth of 14 μm section. Selected Z-stacks for top and bottom view from left to right are shown. (d) 3D projected images for all the Z-stacks are shown. (e) Telogen skin from Slc1a3-CreER/Rosa-tdTomato mice with or without Tamoxifen injections. Arrow represents tdTomato⁺ clone in the inter-follicular epidermis. Scale bars, 50 μm .

Figure S1

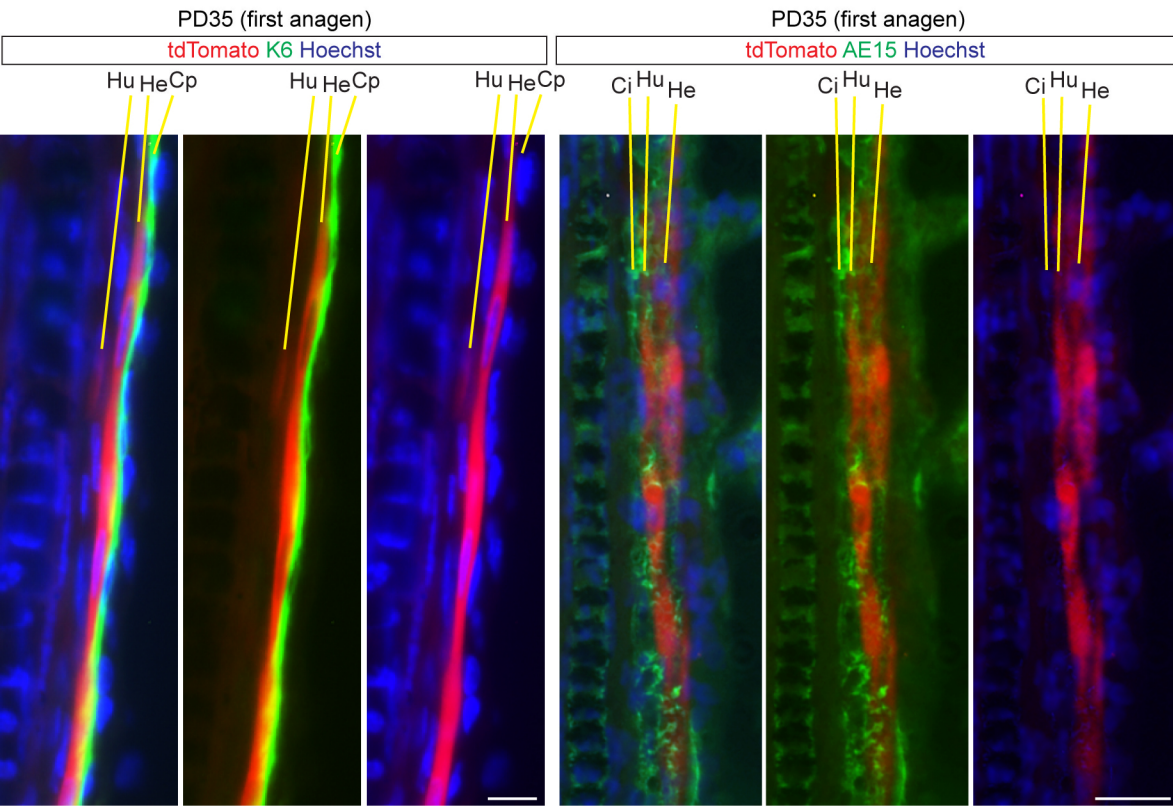
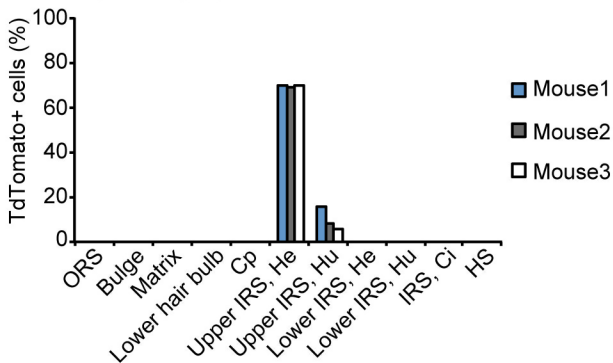
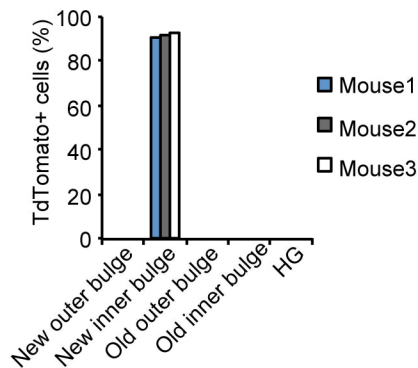


Figure S2

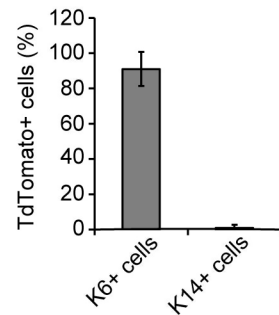
a PD35 (first anagen)



b PD49 (second telogen)



c PD49 (second telogen)



d PD35 (first anagen), # of cells counted

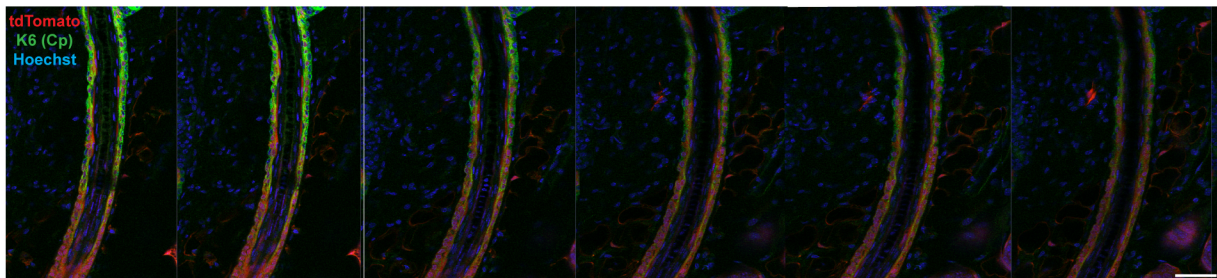
	ORS	Bulge	Matrix	Lower hair bulb	Cp	Upper IRS, He	Upper IRS, Hu	Lower IRS, He	Lower IRS, Hu	IRS, Ci	HS
Mouse1	1052	144	501	112	369	368	312	140	119	118	661
Mouse2	507	48	114	14	88	192	152	72	82	124	220
Mouse3	318	67	68	13	39	165	120	23	27	78	94

e PD49 (second telogen), # of cells counted

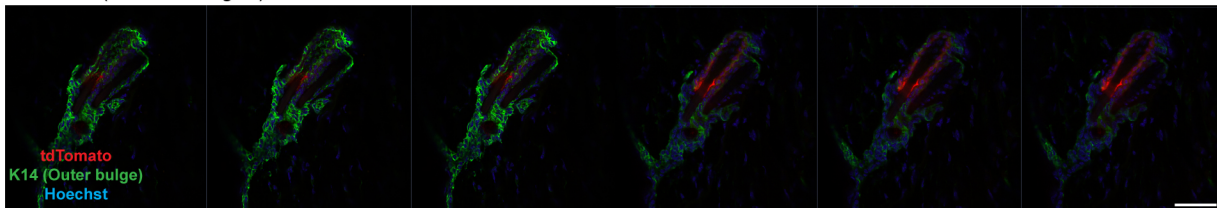
	New outer bulge	New inner bulge	Old outer bulge	Old inner bulge	HG
Mouse1	174	156	117	47	63
Mouse2	344	380	174	161	138
Mouse3	102	208	45	61	29

Figure S3

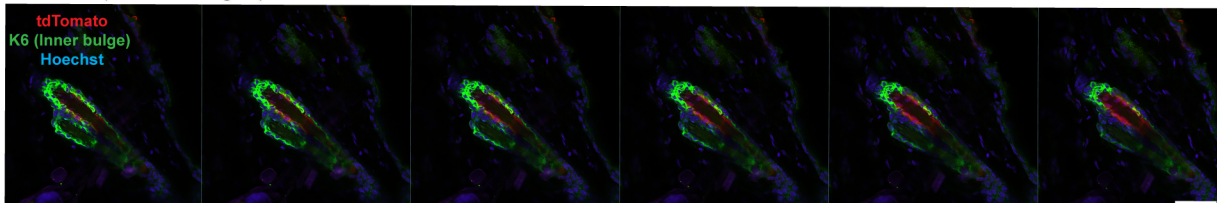
a PD35 (second catagen)



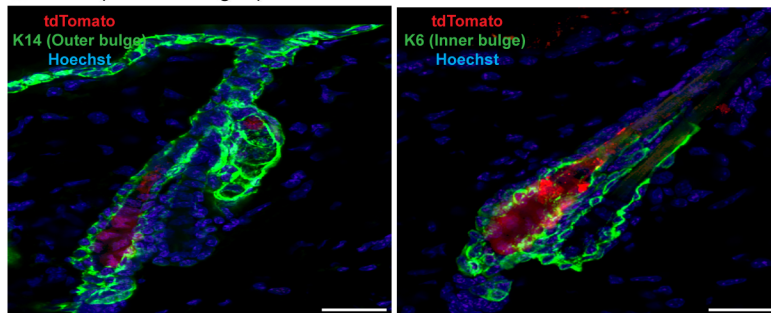
b PD49 (second telogen)



c PD49 (second telogen)



d PD49 (second telogen)



e PD49 (second telogen)

