

Table S1. Categories of labeled HF's obtained after induction at different points in the HF cycle

| | | | a | b | c | d | e | f | g | h | i | j | k | l | m | n |
|------------------------------|-------------------------|-----|-----------------------|-------|--------|---------|---------|---------|-------------------|-------------------|-------------------|--------------------|--------|--------|--------|--------|
| Animal | | | CMV#5 | CMV#6 | Rosa#1 | CMV#2 | CMV#7 | Rosa#1 | CMV#1 | CMV#4 | Rosa#1 | CMV#3 | CMV#3 | CMV#4 | Rosa#1 | CMV#1 |
| Date of induction/biopsy | | | Control (non-induced) | | | D-2/D14 | P18/P33 | D-2/D14 | D8/D14+ 1cycle | D3/D14+ 1cycle | D3/D14+ 1cycle | D3/D14+ 2cycles | D3/D14 | D3/D14 | D3/D14 | D8/D14 |
| Frequency of labeling (%) | | | 0.84 | 1.26 | 0.1 | 12.4 | 15.3 | 3 | 7 | 10.6 | 2.9 | 3.4 | 7.3 | 11.9 | 10.8 | 14 |
| Total number of HF's | | | 3574 | 1432 | 1230 | 483 | 353 | 1875 | 730 | 610 | 1430 | 1308 | 906 | 656 | 1007 | 1291 |
| Total number of labeled HF's | | | 30 | 25 | 1 | 60 | 54 | 56 | 51 | 65 | 41 | 44 | 66 | 78 | 109 | 181 |
| Number of analysed HF's | | | 30 | 18 | 0 | 44 | 47 | 52 | 39 | 39 | 35 | 34 | 49 | 42 | 60 | 69 |
| Multipotent | | OIC | 19 | 8 | 0 | 26 | 22 | 20 | 22 | 21 | 17 | 17 | 11 | 16 | (5) | (4)* |
| | | OI | 0 | 0 | 0 | 0 | 0 | (2) | 0 | 0 | (2) | (1) | (3) | (1) | (3) | (3) |
| | | OC | 0 | 0 | 0 | 0 | (1) | 0 | (2) | (2) | 0 | 0 | (1) | (1) | 0 | (1) |
| Internal | Oligopotential internal | IC | 3 | 1 | 0 | (3) | 7 | 6 | (2) | (4) | (3) | 5 | 6 | 10 | 11 | (2)* |
| | Restricted internal | I | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 6 | 10 |
| | | C | 0 | 0 | 0 | 2 | 3 | 0 | 1 | 1 | 0 | 1 | 5 | 3 | 7 | 5 |
| Outer | Restricted ORS | O | 8 | 9 | 0 | 11 | 14 | 22 | 12 | 11 | 11 | 10 | 23 | 11 | 28 | 44 |

a-n, first line, designates the experiment. 'Total number of HF's' refers to the number of HF's observed (labeled + unlabeled). 'Frequency of labeling' is the number of labeled HF's/total number of HF's×100. 'Number of analyzed HF's' refers to the number of labeled HF's that could be analyzed after dissection. The day of induction and the Cre-inducer line used are specified at the top of each column. All experiments were analyzed at D14 after depilation, except for the CMV#7 mouse that was induced at post-natal day 18 (P18; when the HF's are at the end of catagen) and analyzed at P33 during the following natural anagen. For each cross, CMV CreERT:R26R and ROSA CreERT2:R26R control animals that did not receive 4-OHT were analyzed: CMV#5 is a littermate of CMV#3 and was observed at D14; CMV#6 is a littermate of CMV#3 and was observed at D14+2cycles; ROSA#1 was sampled at P37, when the dorsal pelage is in anagen before the beginning of the experiment. The labeled HF's were classified into three categories: multipotent clonal patterns that exhibit labeling in the outer and internal structures of the HF; internal clonal patterns that exhibit labeling in one or several internal structures; outer clonal patterns with labeling in the ORS. The internal labelings were further divided into two subcategories: oligopotential internal clonal patterns with labeled cells in several internal structures and the restricted internal clonal patterns with labeled cells in only one internal structure. For the categories that combined labeling in several structures (OIC, OI, OC, IC), we checked whether this labeling was indeed generated by a single recombination event as opposed to a double or triple event (see Table S2). The numbers between italicized brackets correspond to the categories whose observed frequency was not different from the expected frequency of a double or triple recombination event or not different from the control animals (*). In all experiments, the OI and OC categories are either not represented or most likely the result of a double recombination event (see Table S2). We therefore did not consider the HF's belonging to these categories as clones and did not represent them in the figures and graphs. O, ORS; I, IRS; C, cuticle.