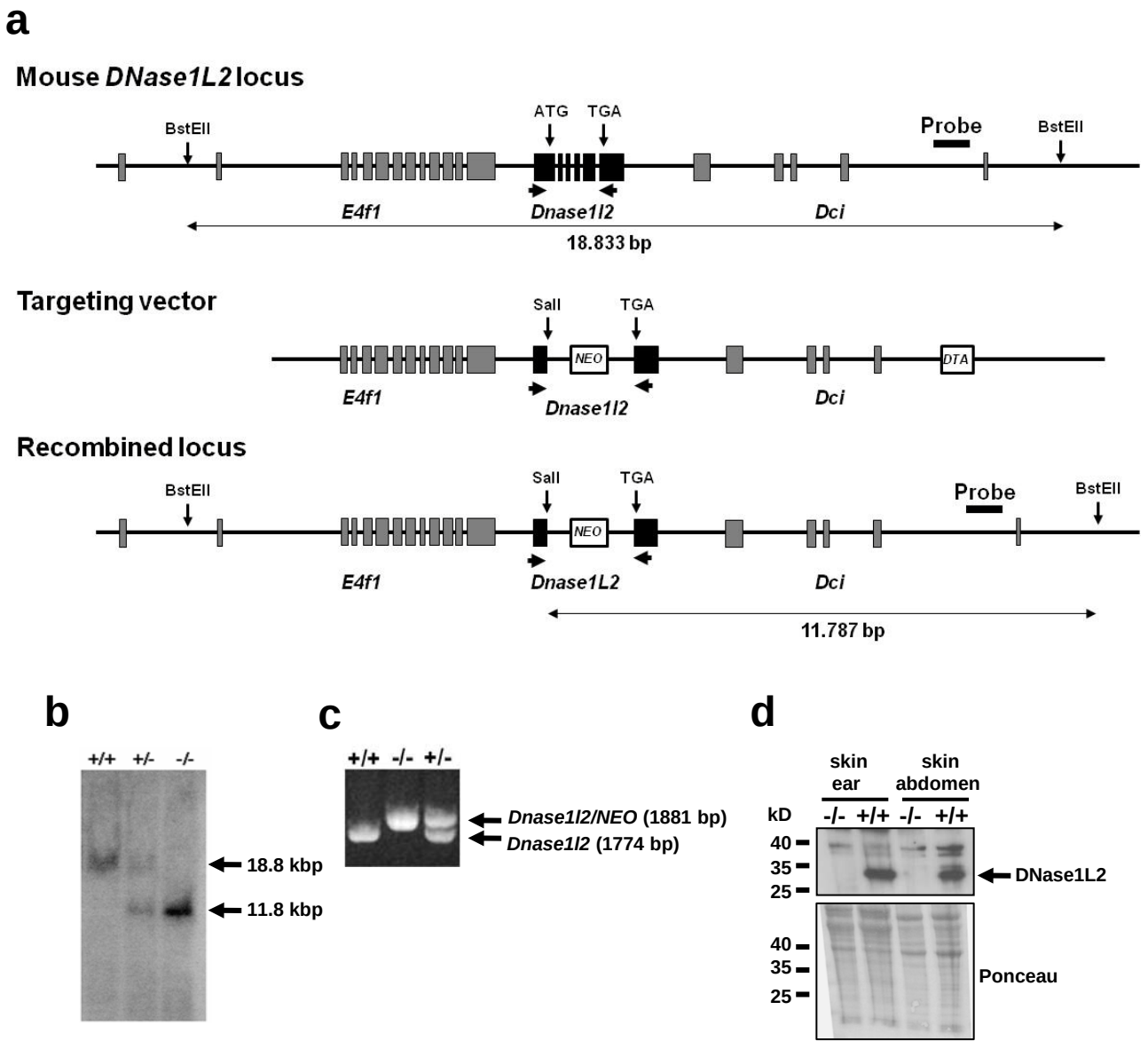
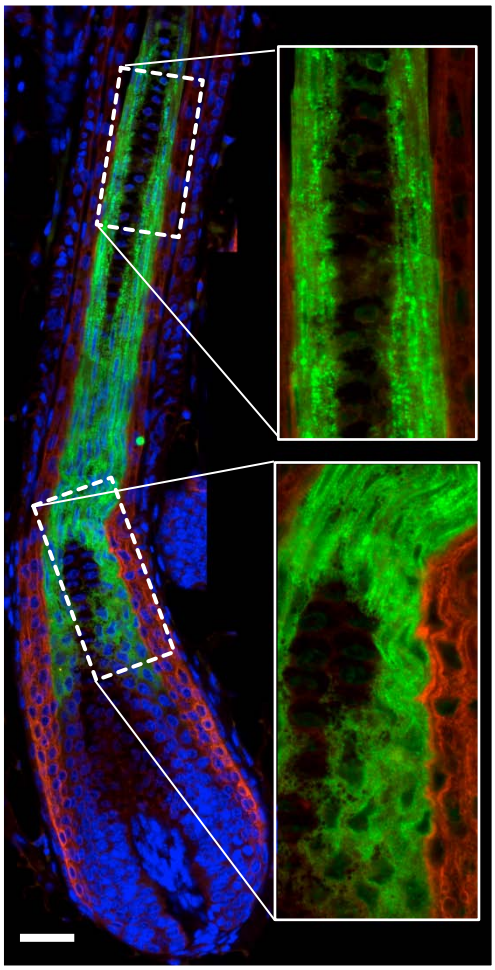
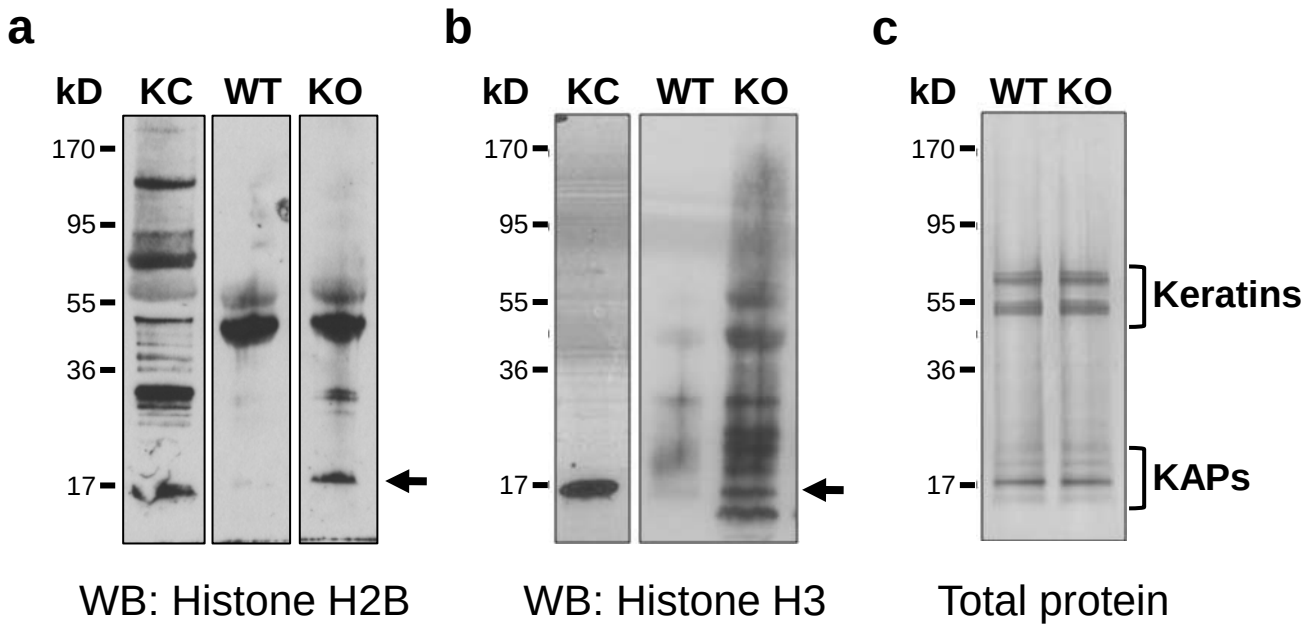


Supplementary Figure S1. Targeted deletion of the *Dnase1l2* gene in the mouse. (**a**) Construction of the targeting vector. Exons 2-6 of the *Dnase1l2* gene including start (ATG) and stop (TGA) codons were replaced by a neomycin resistance cassette. *DTA*, *Clostridium diptheriae* A toxin gene; *Dci*, dodecenoyl-coenzyme A delta isomerase gene; *E4f1*, E4f transcription factor 1 gene; kbp, kilobasepairs; *NEO*, neomycin resistance gene. (**b**) ES clones were screened by Southern-blotting of genomic DNA digested with *BstEII* and *SalI* using a radioactively labeled probe that hybridized with a site depicted in panel **a**. (**c**) PCR-screening of DNA from DNase1L2$^{+/+}$, DNase1L2$^{+/-}$, and DNase1L2$^{-/-}$ mice using a primer pair indicated by arrows in panel **a**. (**d**) Western blot analysis for DNase1L2 in skin lysates from the ear and abdomen of DNase1L2$^{+/+}$ and DNase1L2$^{-/-}$ mice (upper panel). A rabbit antiserum against murine DNase1L2 was used as first step reagent. The antiserum against DNase1L2 was produced by immunizing rabbits with a purified recombinant protein corresponding to amino acids 61-278 of murine DNase1L2 derived from *e. coli*. Equal protein loading was demonstrated by Ponceau staining of the membrane (lower panel).



blue: Hoechst; green: DNase1L2; red: keratin 28

Supplementary Figure S2. Immunolocalization of DNase1L2 in the hair follicle.
Immunofluorescence co-labelling of DNase1L2 (green) and keratin 28 (red), a specific marker of the inner root sheath. Nuclei were counterstained by Hoechst 33258 (blue). Scale bars: 40 µm.



Supplementary Figure S3. Protein composition of hair from wild-type and DNase1L2 knockout mice. Western blot analysis of histones H2B (**a**) and H3 (**b**) in hair. Each lane was loaded with a total protein amount proportional to that in the gel of panel **c**. Lysates were made by homogenizing 10 mg hair in a Precellys®24 bead mill containing 10 ceramic beads of a diameter of 1.4 mm for 2x50 seconds at 6500 rpm, followed by incubation in lysis buffer (8% SDS, 4% mercaptoethanol, 50 mM Tris-HCl, pH 6.8) at 95°C for 10 minutes. As a positive control, a lysate of cultured keratinocytes (KC) was run in parallel. Arrows indicate the positions of the histones as predicted from their molecular weight. (**c**) Electrophoretic separation and silver staining of proteins in representative hair lysates from DNase1L2-deficient and wild-type mice revealed no major differences in protein composition. The positions of bands corresponding to the main structural proteins of hair, i.e. keratins and keratin-associated proteins (KAPs), are indicated on the right. The positions of molecular weight markers (kD, kilo Daltons) are indicated on the left.