

Supplementary information, Fig. S1

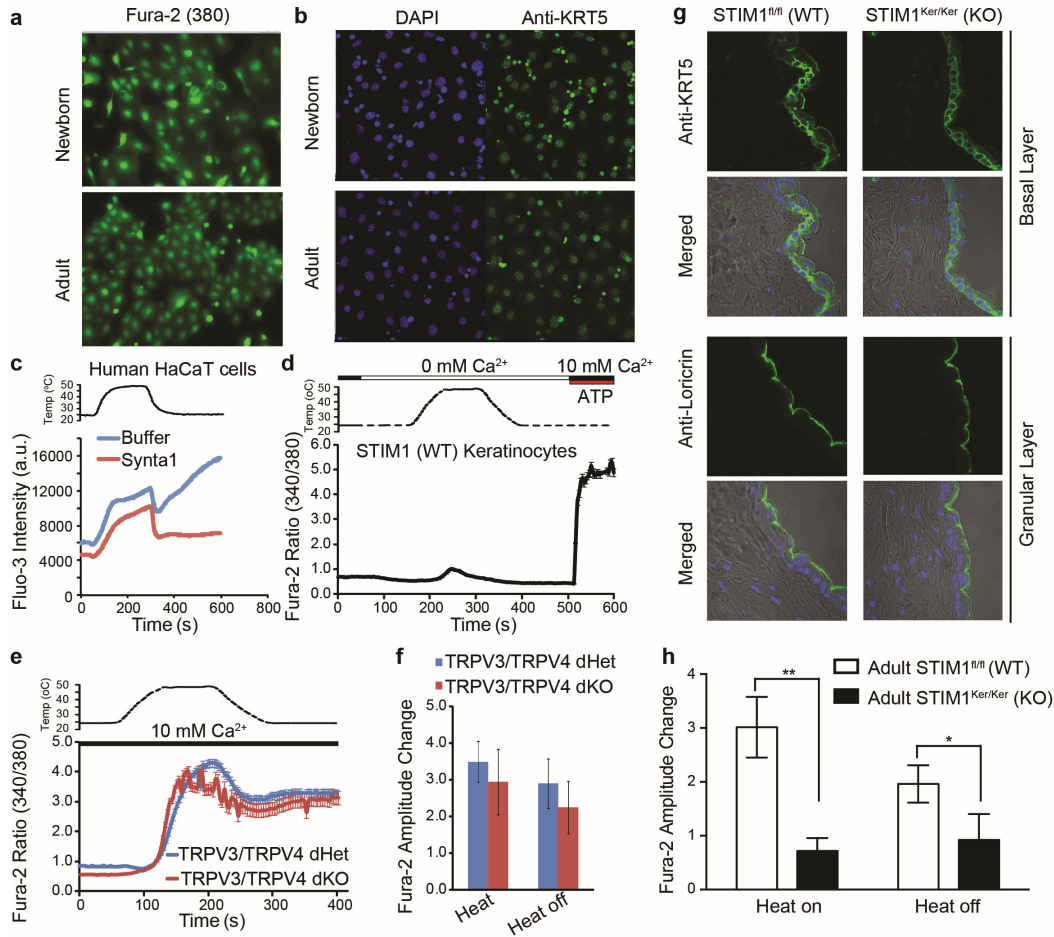


Fig. S1 STIM1-dependent temperature responses in keratinocytes and characterization of the skin tissue of the STIM1^{Ker/Ker}(KO) mice. **a** Representative images showing primary keratinocytes derived from either newborn or adult C56B/L6 mice, which were loaded with Fura-2 and imaged through excitation at the wavelength of 380 nm. **b** Representative images showing immuofluorescent staining of the primary keratinocytes derived from either newborn or adult C56BL/6 mice with the anti-KRT5 antibody, which stains the keratinocyte-specific marker keratin 5. **c** Average Fluo-3 intensity changes of the human HaCaT cells in response to a heating pulse to ~50 °C measured by FLIPR in the absence or presence of the Orai1 channel blocker Synta1. **d**

Average Fura-2 ratio of keratinocytes derived from STIM1 (WT) mice in response to a heating pulse in the absence of extracellular Ca^{2+} . **e** Average Fura-2 ratio of keratinocytes derived from TRPV3^{+/-}/TRPV4^{+/-} mice (TRPV3/TRPV4 dHet, blue trace) or TRPV3^{-/-}/TRPV4^{-/-} mice (TRPV3/TRPV4 dKO, red trace) to a heating pulse as assayed by single cell Ca^{2+} imaging. **f** Fura-2 amplitude change during the heating and heat off phase obtained from TRPV3/TRPV4 dHet mice (blue bar, total 329 cells from 4 coverslips) or TRPV3/TRPV4 dKO mice (red bar, total 228 cells from 3 coverslips). **g** Immunostaining images of the skin specimens from STIM1^{fl/fl} (WT) and STIM1^{Ker/Ker} (KO) mice with the indicated antibodies for the specified skin layers. **h** Fura-2 amplitude change during the heating and heat off phases obtained from keratinocytes derived from adult STIM1^{fl/fl} (WT) and STIM1^{Ker/Ker} (KO) mice. Unpaired Student's *t*-test. **P* < 0.05, ***P* < 0.01.