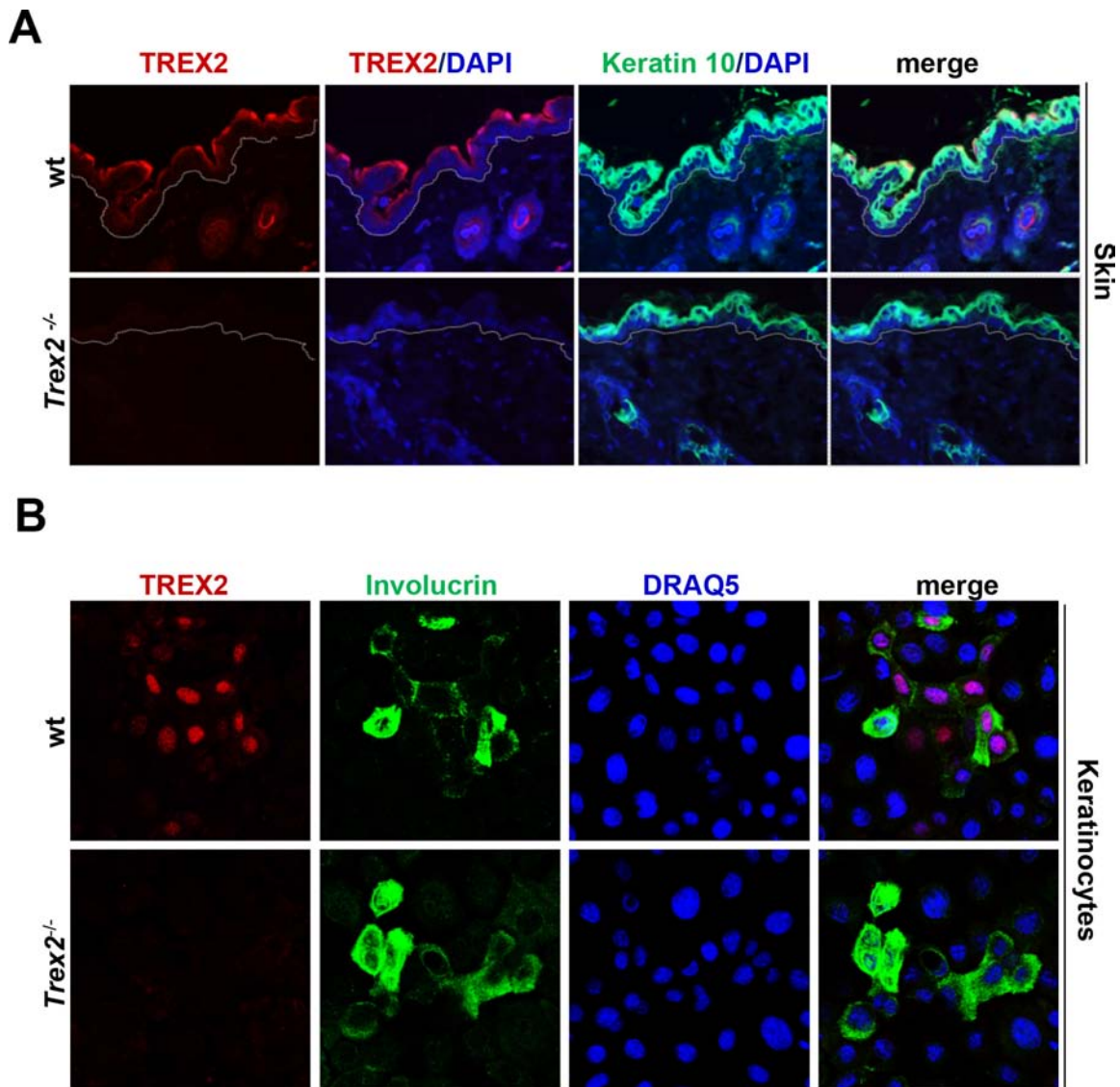
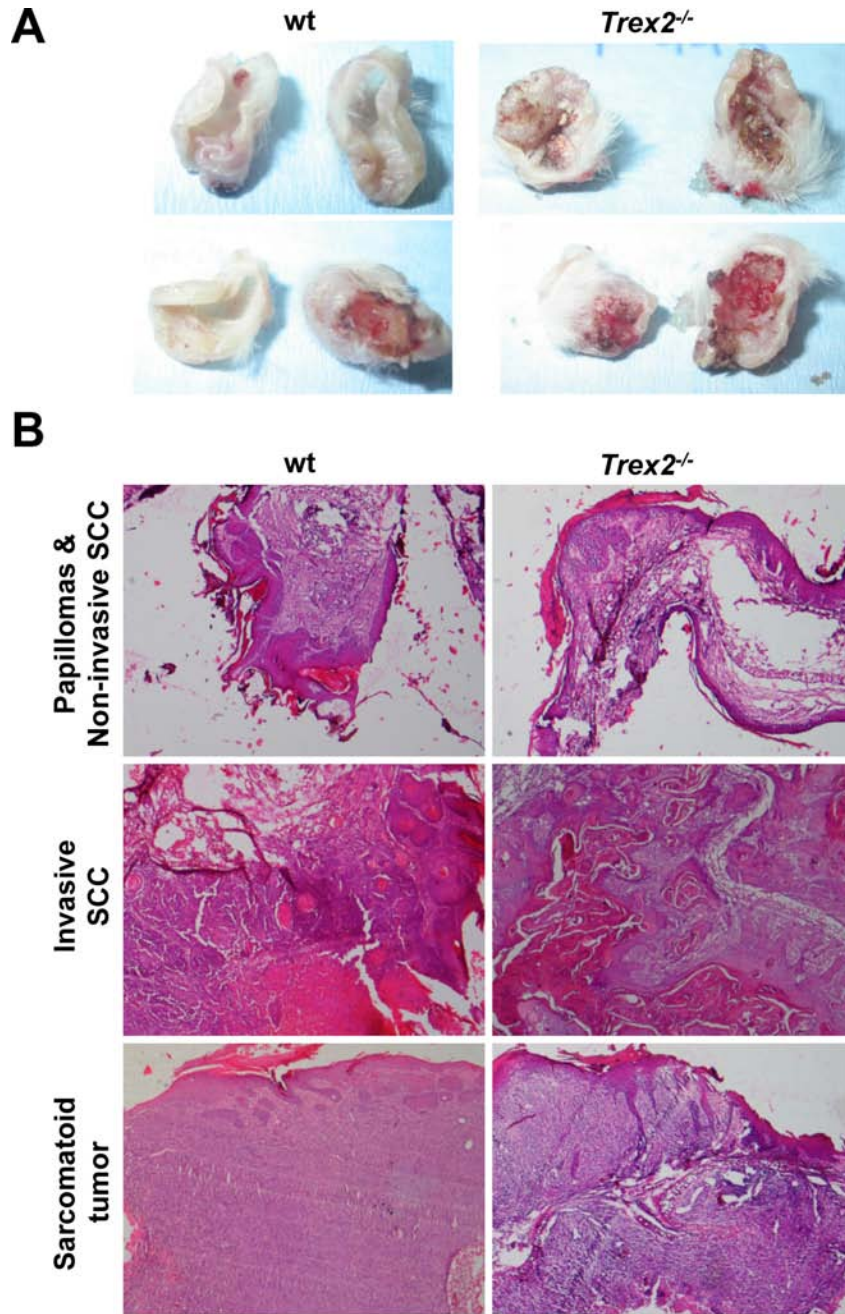


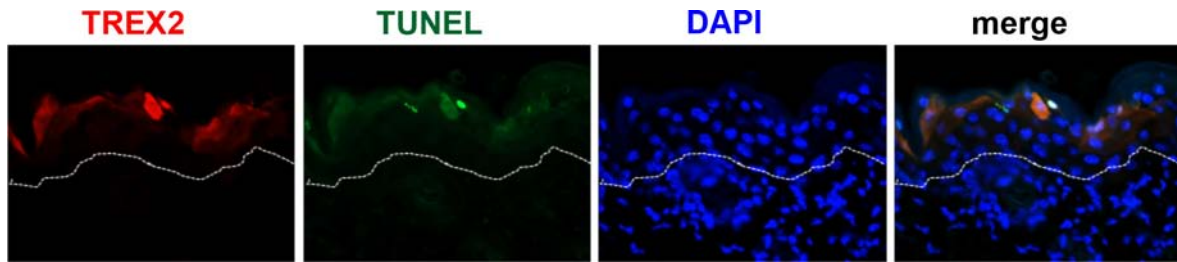
## SUPPLEMENTARY FIGURES



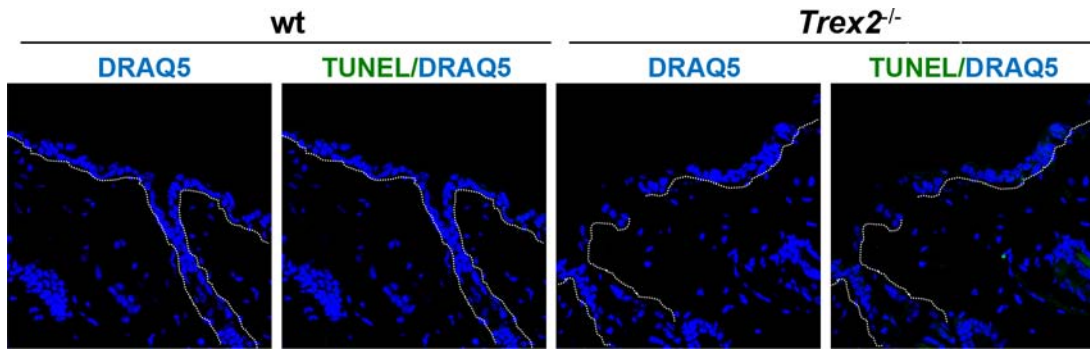
**Supplementary Figure S1: *TREX2* expression in mouse skin and keratinocytes.** A. Skin and B. primary keratinocytes from wt and *Trex2*<sup>-/-</sup> mice were stained with antibodies against *TREX2*, keratin-10 and involucrin, as indicated. Nuclei were counterstained with DAPI or DRAQ5, as indicated. White dotted lines demarcate the epidermal-dermal border. Original magnification was 20x (A) and 63x (B).



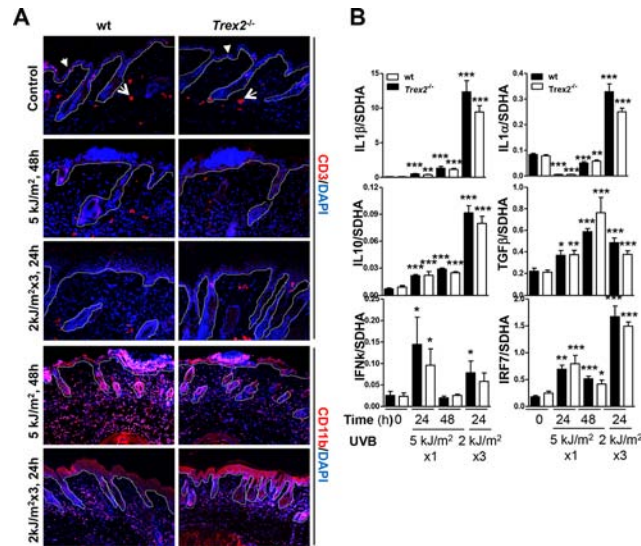
**Supplementary Figure S2: UVB-induced skin carcinogenesis in *Trex2*<sup>-/-</sup> mice.** A. Representative macroscopic images and B. histological sections from tumors in ears of wt and *Trex2*<sup>-/-</sup> mice. Original magnification was 4x.



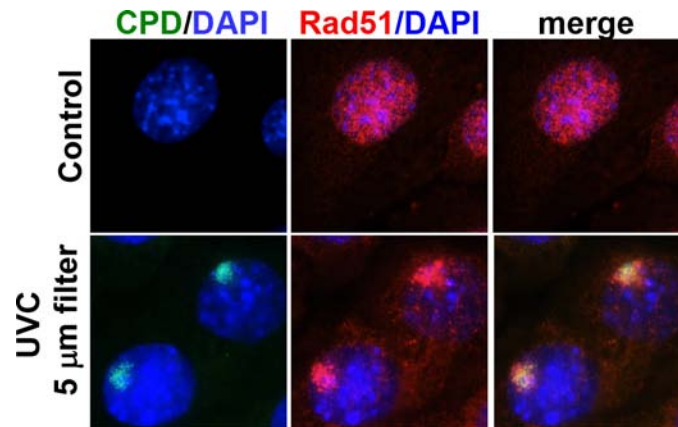
**Supplementary Figure S3: *TREX2* and TUNEL staining in chronic UVB-irradiated skin of wt mice.** Nuclei were counterstained with DAPI. White dotted lines demarcate the epidermal-dermal border. Representative images are shown. Original magnification, 40x.



**Supplementary Figure S4: Cell death in normal skin of wt and *Trex2*<sup>-/-</sup> mice.** TUNEL and active caspase-3 staining in non-irradiated skin of wt and *Trex2*<sup>-/-</sup> mice. Nuclei were counterstained with DRAQ5. White dotted lines demarcate the epidermal-dermal border. Representative images are shown. Original magnification, 40x.



**Supplementary Figure S5: UVB-induced inflammatory response in wt and *Trex2*<sup>-/-</sup> skin.** UVB-induced inflammatory response in wt and *Trex2*<sup>-/-</sup> skin. **A**, Immunodetection of CD11b and CD3 expression. Nuclei were counterstained with DAPI. Original magnification was 20x (CD3) and 10x (CD11b). White dotted lines demarcate the epidermal-dermal border. **B**, Expression of immune genes in acute and chronic UVB-treated skin of wt and *Trex2*<sup>-/-</sup> mice. The mRNA levels were determined by RT-qPCR. Graphs show mean values and SEM of at least five mice from each condition and genotype. Significant differences by Mann-Whitney test between controls and UVB-irradiated samples: \**P* < 0.05, \*\**P* < 0.01, \*\*\**P* < 0.001. There are no significant differences between wt and *Trex2*<sup>-/-</sup> skin samples.



**Supplementary Figure S6: Immunodetection of UVB-induced DNA damage.** Immunodetection of UV-induced DNA damage. Rad51 recruitment to sites of localized UV DNA damage. Mouse keratinocytes that were untreated or treated with UVC (100 J/m<sup>2</sup>) through a 5-mm micropore filter were immunostained with the indicated antibodies. Nuclei were counterstained with DAPI. Original magnification was 100x.