

FIG E1. Venn diagram illustrating the overlap between differentially expressed genes identified in different comparisons. *PN*, Nonlesional skin; *PP*, lesional skin.

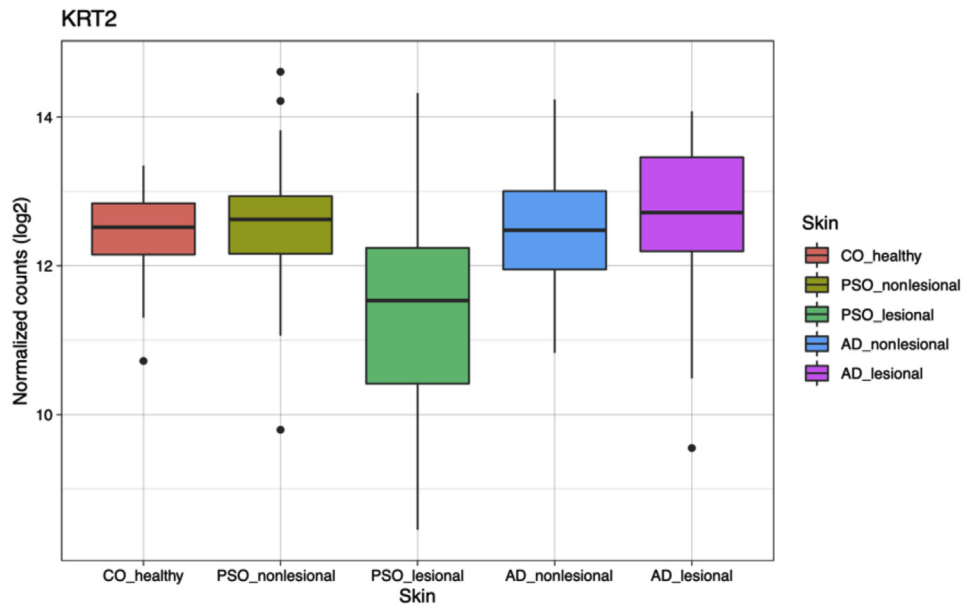
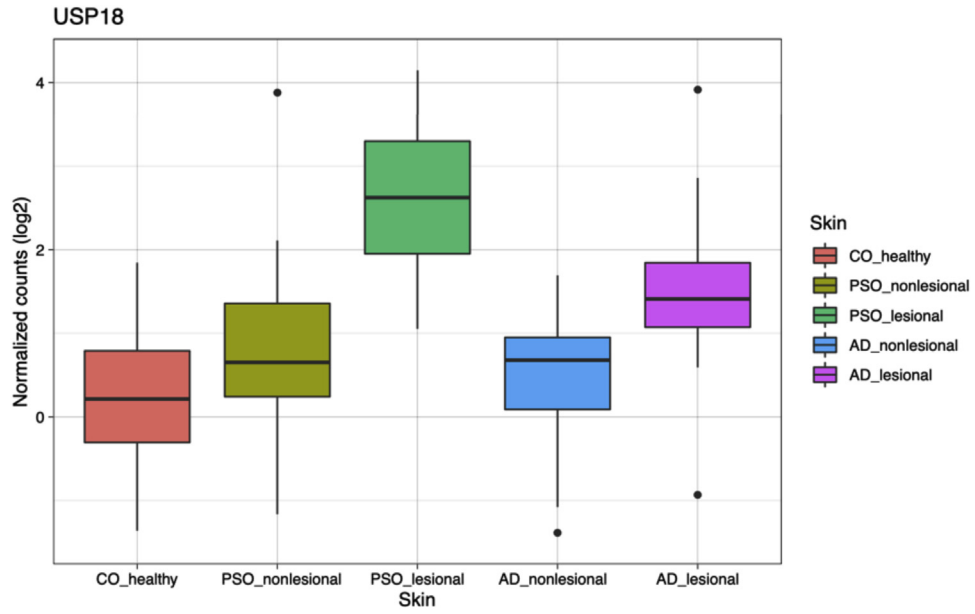


FIG E2. The normalized expression of *USP18* and *KRT2* in independent data set of control (CO_healthy), uninvolved skin of psoriatic patients (PSO_nonlesional), lesional skin of psoriatic patients (PSO_lesional), uninvolved skin of atopic dermatitis patients (AD_nonlesional), and lesional skin of atopic dermatitis patients (AD_lesional).

USP18

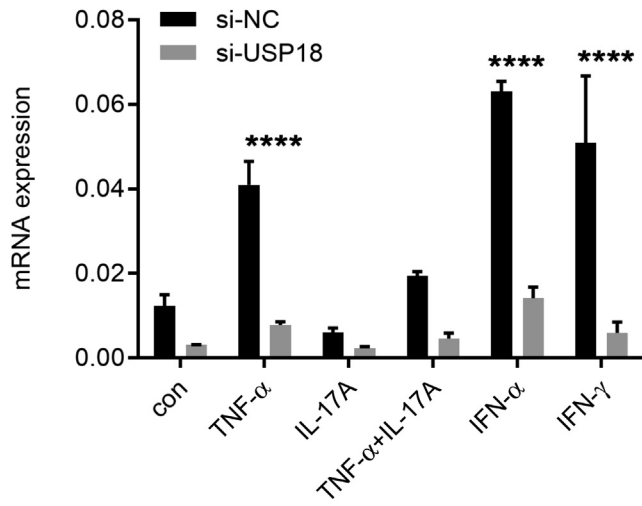


FIG E3. The expression of *USP18* in the knockdown experiments in different cytokine-stimulated conditions.

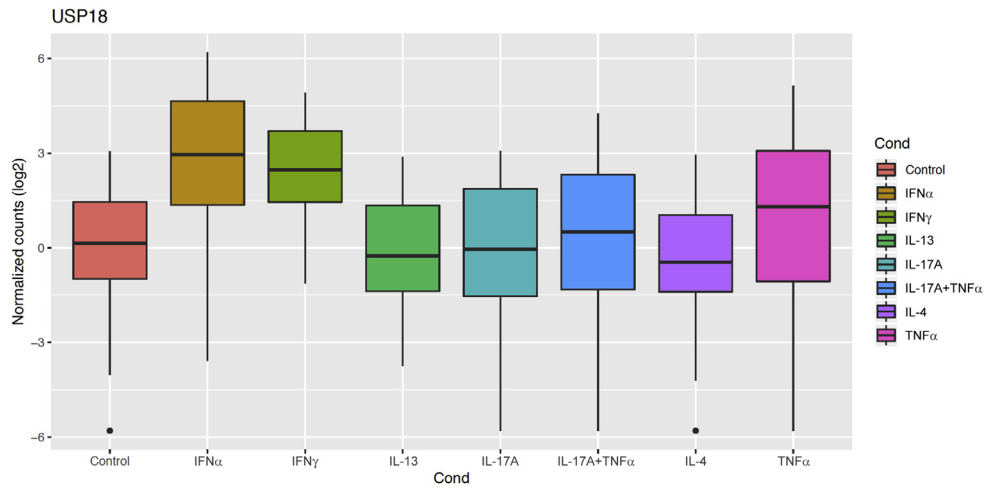


FIG E4. Normalized expression level of *USP18* under different cytokine stimulations in keratinocytes.

TABLE E1. Number of differentially expressed genes when comparing the lesional skin (PP) from baseline vs that from follow-up visits

PP week 0 vs:	Upregulated genes	Downregulated genes	Total differential expressed genes
Week 2	42	109	151
Week 6	508	517	1025
Week 12	961	788	1749

FDR \leq 5% and 2-fold change difference were used as criteria.