Supplemental Figure legends

Figure S1 The expression of *YAP1* in healthy controls, psoriatic lesions, and non-lesional skins was analyzed using GEO database. Analysis of *YAP1* mRNA expression in 64 normal healthy skins (NN), 58 psoriatic lesions (Involved skin lesions from psoriatic patients, PP), and 58 samples from individual-matched uninvolved skin of psoriatic patients (Uninvolved skin from psoriatic patients, PN) using the GSE13355 dataset. **: $P < 0.01$, compared with the indicated controls.

Figure S2. The expression of Yap1 in skin tissues derived from mouse back administrated with si-Yap1/si-CTL in the presence or absence of IMQ treatment. (a) Representative immunohistochemistry images showing the expression of Yap1 in the skin tissues derived from different groups. Scar bar: 25 μm. **(b)** Quantification data of Yap1 positive cells in the mouse skin samples of different groups (n=8 for each group). ***: $P < 0.001$, compared with the indicated controls.

Figure S3. The expression of Stat3 and NF-κB in the skins of mice administrated with si-Yap1 in the presence or absence of IMQ treatment. (a) Left panel: Representative images showing the Stat3 expression in the skin tissues derived from different groups. Scar bar: 25 μm. Right panel: Quantification of Stat3 positive cells in the mouse skins of different groups (n=8). **(b)** Left panel: Representative images showing the NF-κB expression in the skin tissues from different groups. Scar bar: 25 μm. Right panel: Quantification of NF-κB positive cells in the mouse skins of different groups (n=8). ***: $P < 0.001$, compared with the indicated controls.

Figure S4. Effects of VP on regulating systemic immune response in IMQ-induced psoriasis mouse model. (a) Representative pictures showing the spleen size of mice from different groups. **(b)** mRNA levels of *Il-1β* in the spleens derived from mice treated with VP or CTL in the presence or absence of IMQ treatment (n=8). **(c)** mRNA levels of *Il-1β*, et al. in the lymph nodes derived from different groups (n=8 for each group). ***: $P < 0.001$, **: $P < 0.01$, *: $P < 0.05$, compared with the indicated controls.
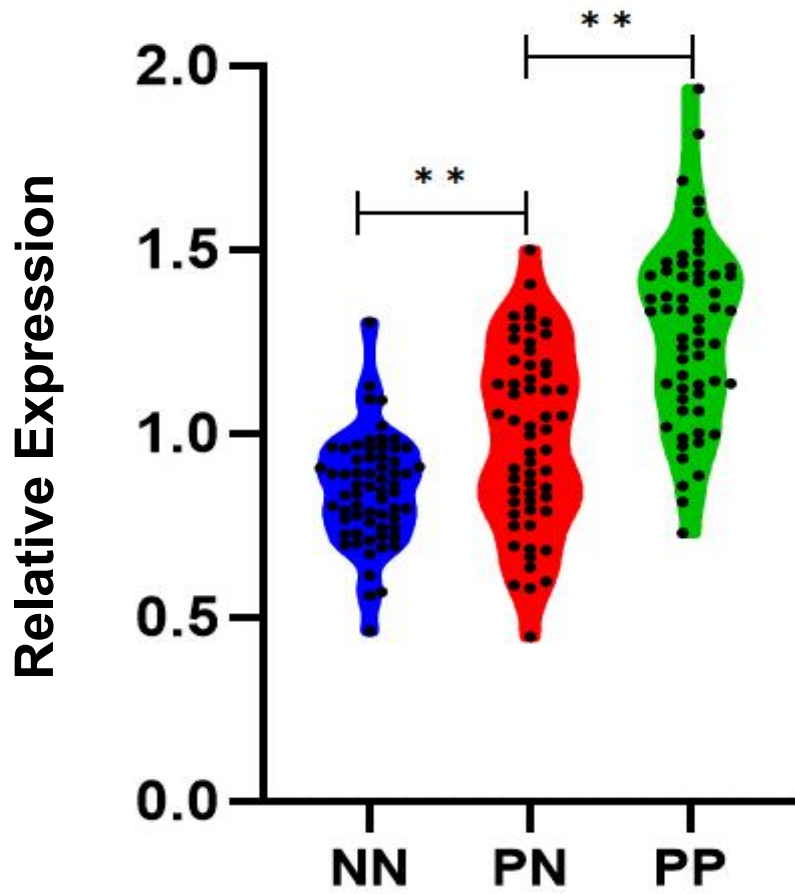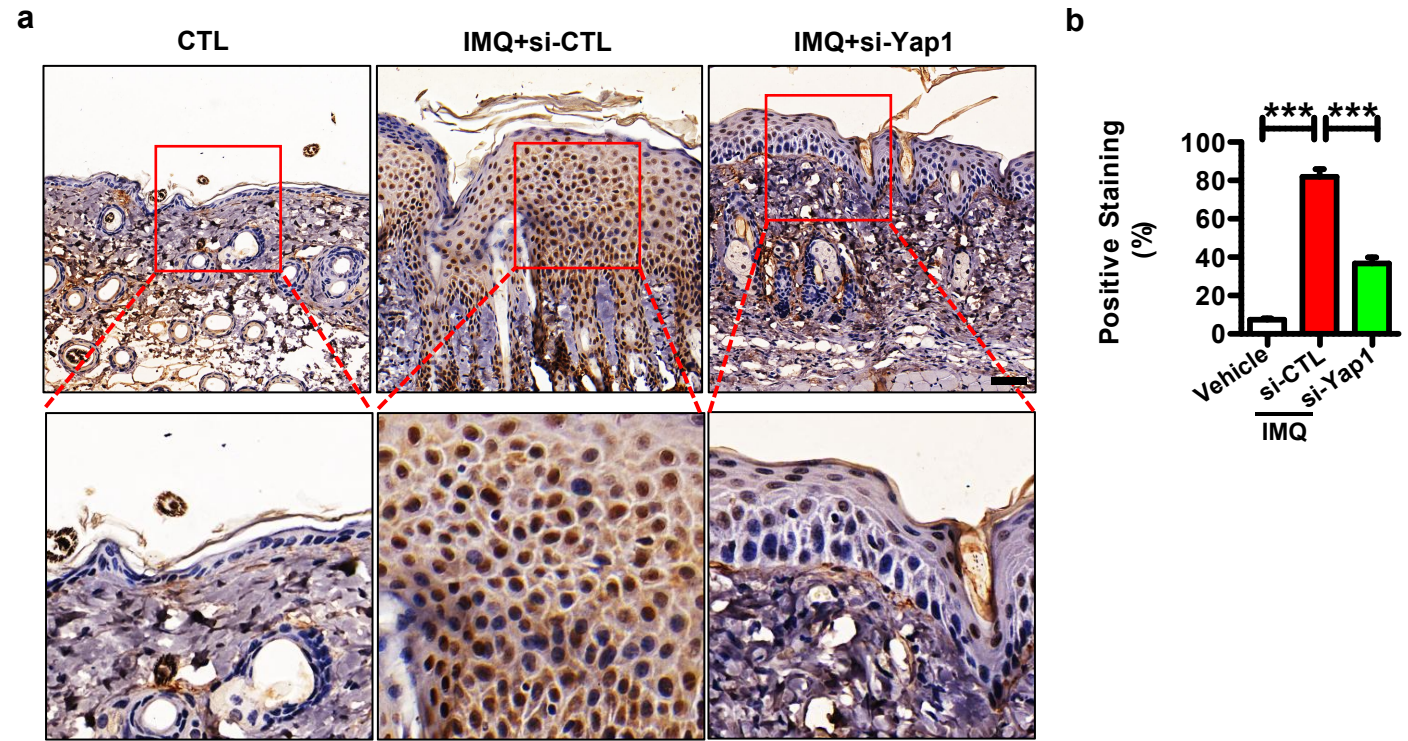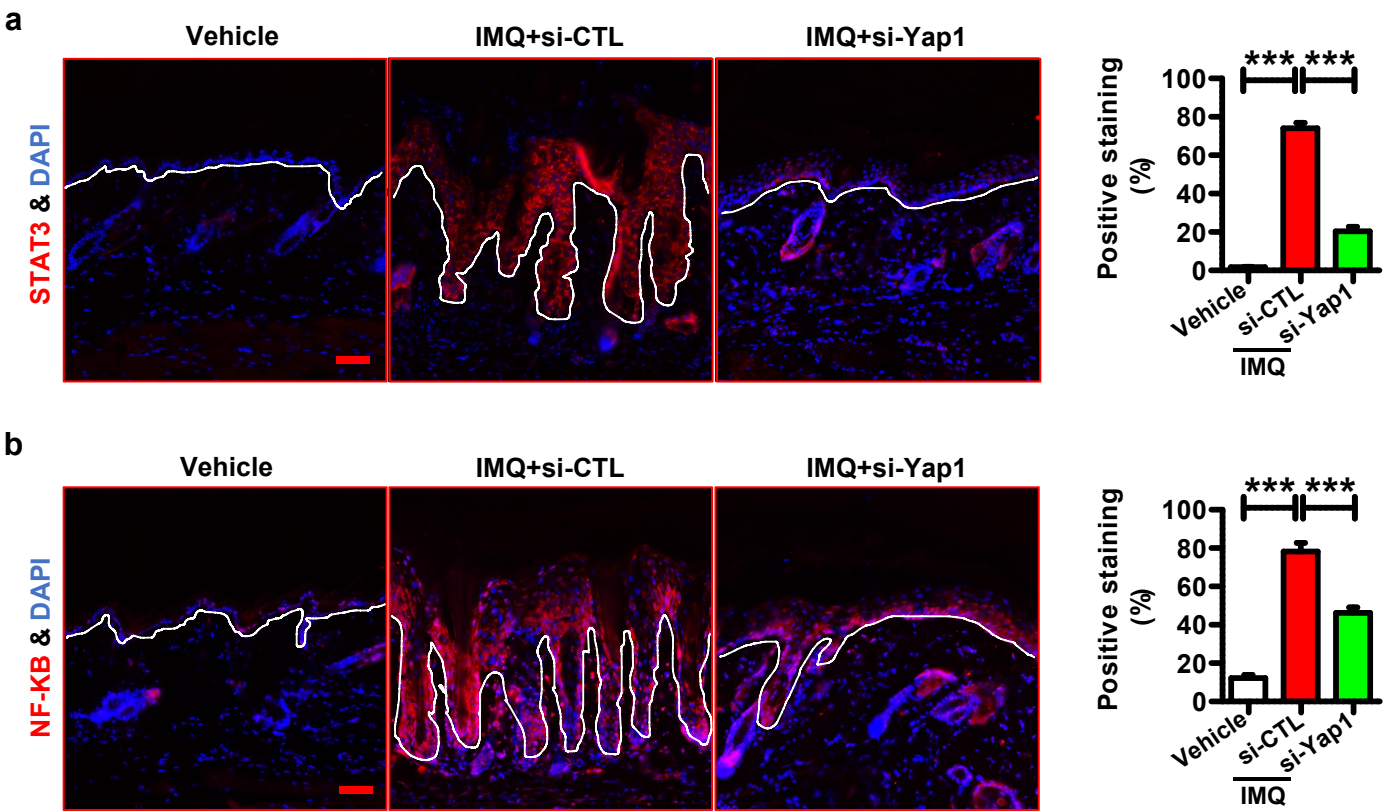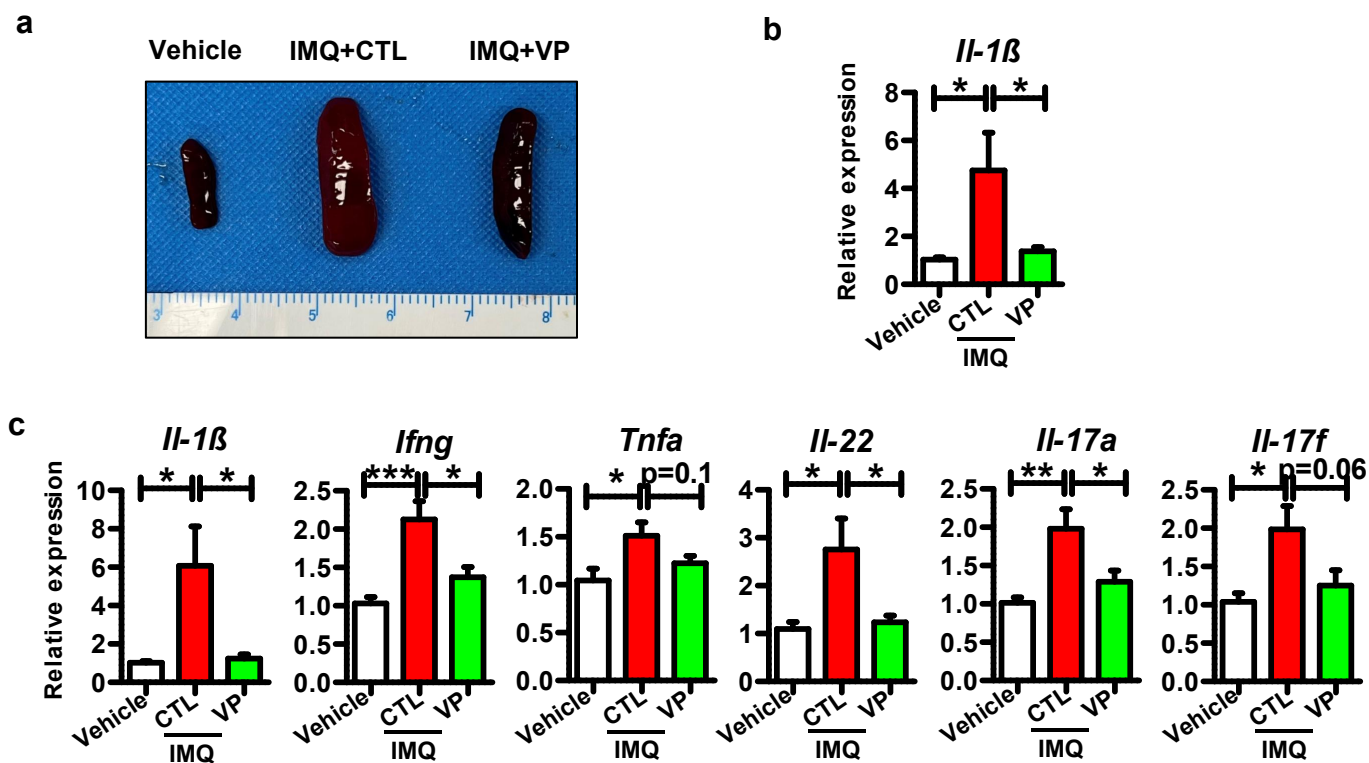
YAP1 mRNA (GSE13355)

Fig. S1

a

| CTL | IMQ+si-CTL | IMQ+si-Yap1 |

b

Positive Staining (%)

*** ***

Vehicle | si-CTL | si-Yap1

IMQ

Fig. S2

a

b

Fig. S3

a

Vehicle　　IMQ+CTL　　IMQ+VP

b

Il-1ß

c

Il-1ß　　*Ifng*　　*Tnfa*　　*Il-22*　　*Il-17a*　　*Il-17f*

Fig. S4