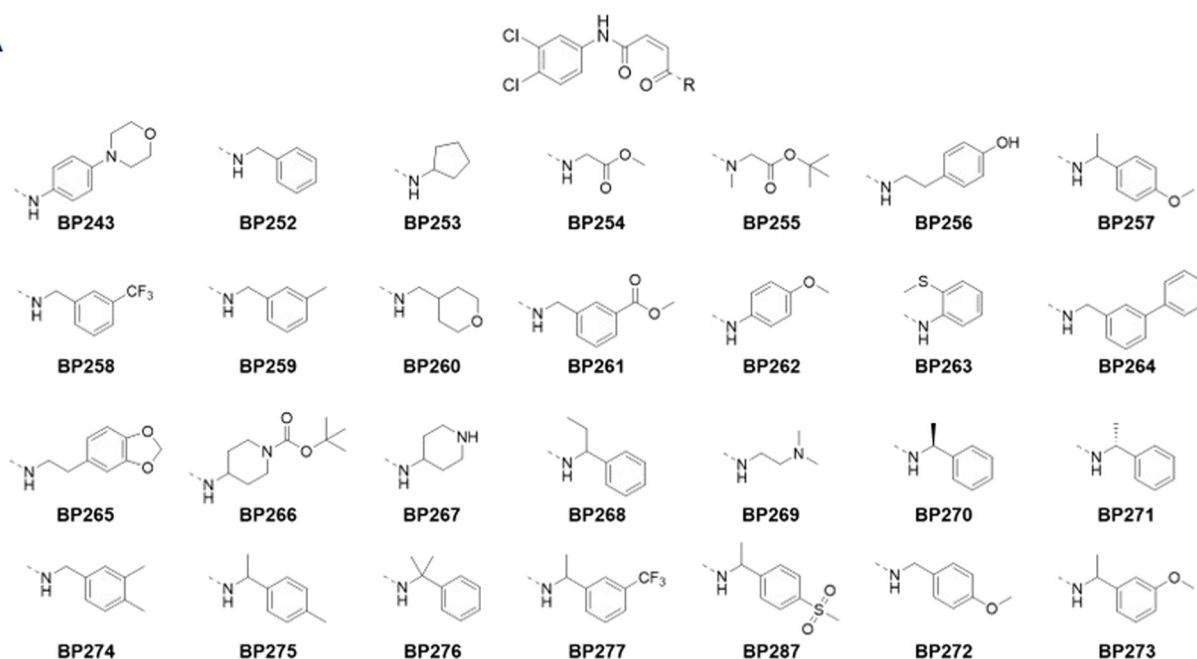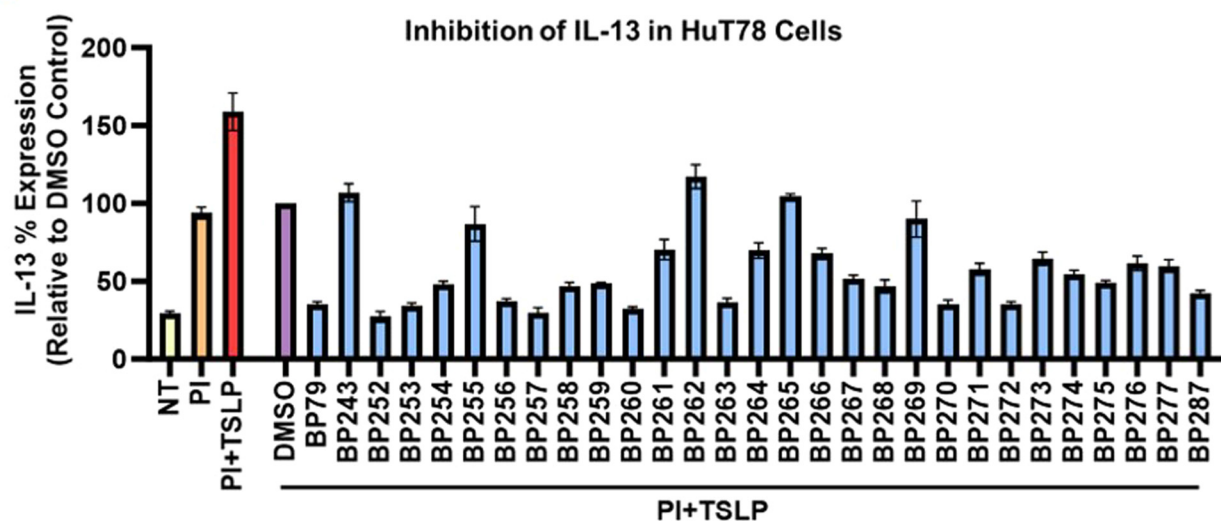# Expanded View Figures

**Figure EV1. Biological screen of twenty-eight BP79 analogs.**

(A) Chemical structures of BP79 analogs produced. (B) IL-13 expression in HuT78 cells after treatment with 1μm of inhibitor for 36 h ($n = 2$). (C) IL-4 expression in HuT78 cells after treatment with 1 μm of inhibitor for 36 h. Bars represent mean percentage cytokine expression relative to the DMSO control ($n = 2$). Non-treated (NT), PMA-ionomycin stimulated (PI), PMA-ionomycin and TSLP-stimulated (PI + TSLP), and a PMA-ionomycin + TSLP-stimulated 0.4% DMSO vehicle control (DMSO) were included. Data information: All data are presented as mean ± SEM. $n$ represents the number of biological replicates. Statistical analysis was performed using Student's $t$ test, *$P ≤ 0.05$, **$P ≤ 0.01$, ***$P ≤ 0.001$.

## A



## B



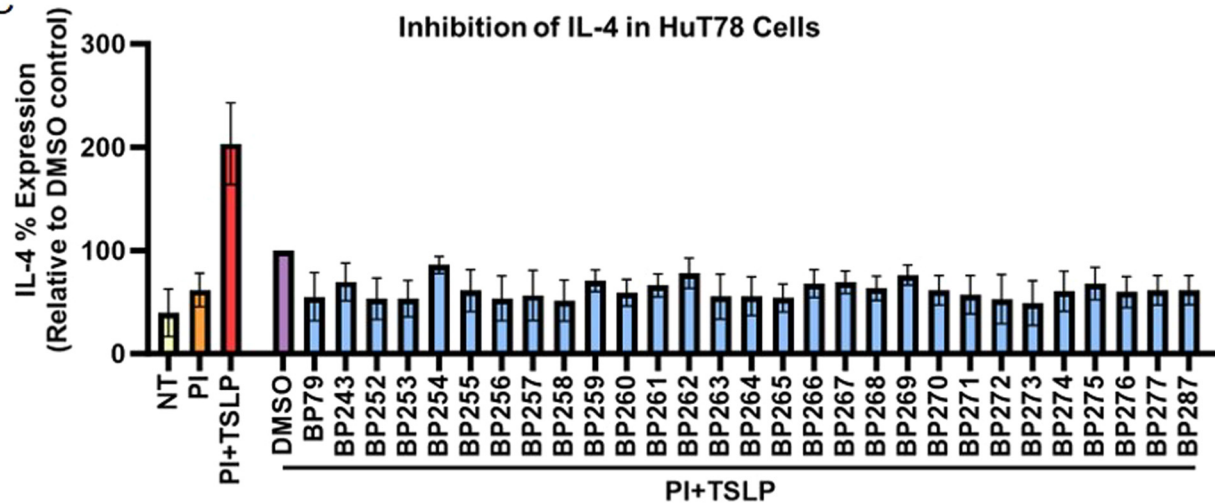Inhibition of IL-13 in HuT78 Cells

## C
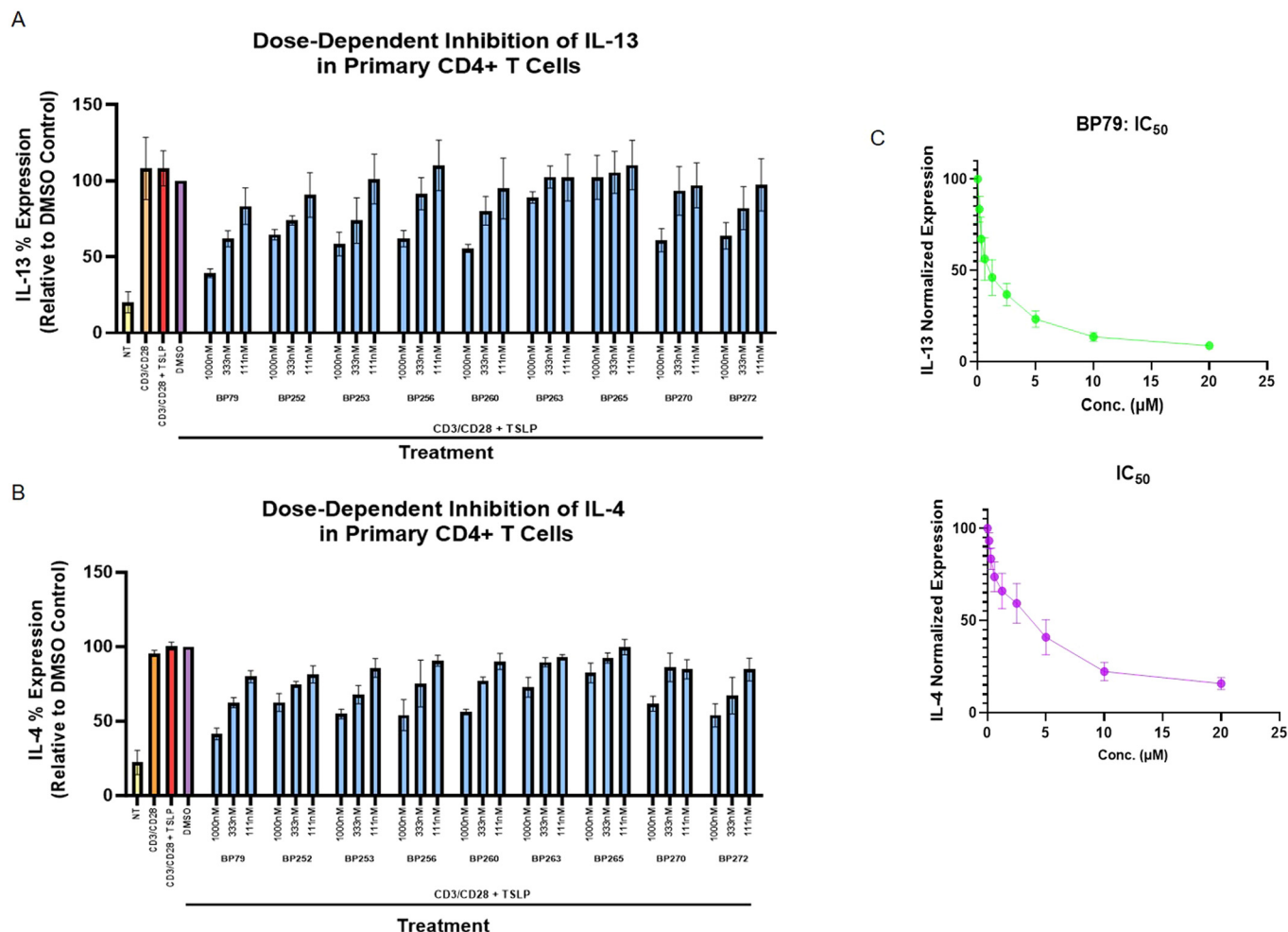


Inhibition of IL-4 in HuT78 Cells

Figure EV2.   Dose-dependent screen of BP79 analogs in CD4 + T cells.

(A) IL-13 expression in primary CD4 + T cells after treatment with 111 nM, 333 nM, and 1000 nM of inhibitor for 36 h. (B) IL-4 expression primary CD4 + T cells after treatment with 111 nM, 333 nM, and 1000 nM of inhibitor for 36 h. Bars represent mean percent cytokine expression relative to the DMSO control, $n = 3$. Non-treated (NT), CD3/CD28 stimulated (CD3/CD28), CD3/CD28 and TSLP-stimulated (CD3/CD28 + TSLP), and vehicle (CD3/CD28 + TSLP + DMSO) controls were included. (C) Dose–response curves of BP79, which were used to calculate the $IC_{50}$ value and HillSlope ($n = 3$). Data information: All data are presented as mean ± SEM. $n$ represents the number of biological replicates. Statistical analysis was performed using Student's $t$ test, *$P \leq 0.05$, **$P \leq 0.01$, ***$P \leq 0.001$.
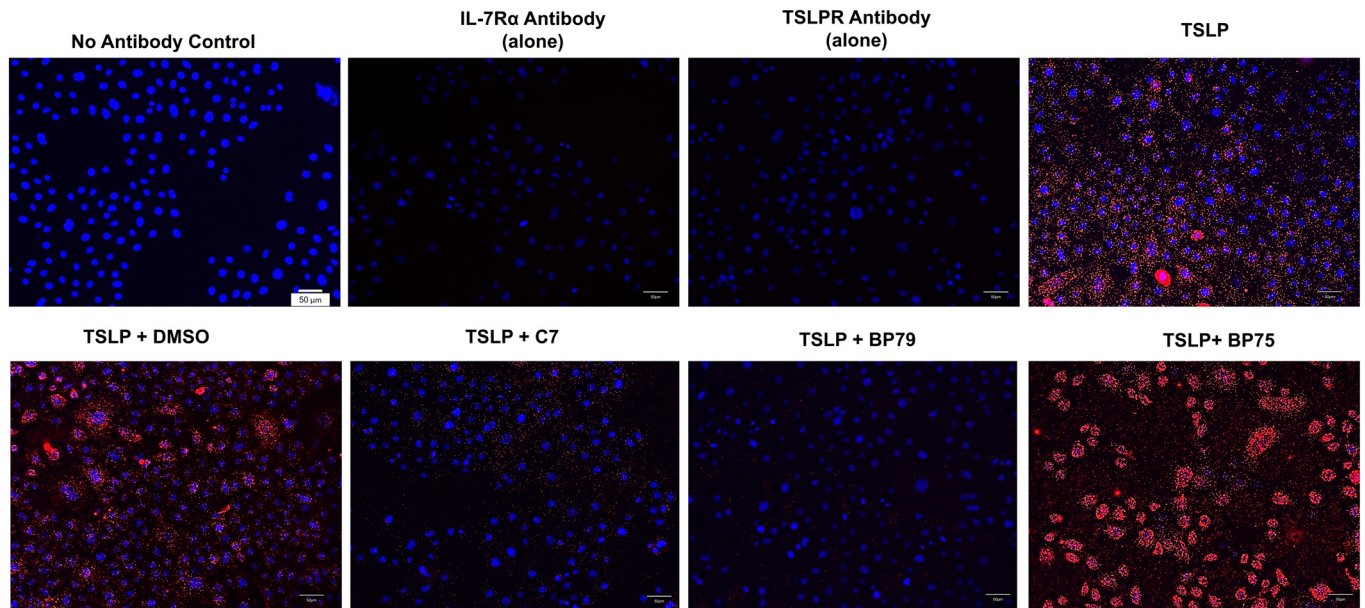
**Figure EV3. Full panel images of proximity ligation assay (PLA).**

PLA was performed to check the inhibition of TSLP-mediated ternary complex formation with BP79. Primary keratinocyte cells were treated with the TSLP inhibitors and stimulated with TSLP. Cells were fixed and the interaction between TSLPR and IL-7Rα was observed with PLA assay. C7 and BP79 inhibited the TSLP:TSLPR:IL-7Rα ternary complex formation. Scale bar = 50 μm.