Expanded View Figures

Figure EV1. Gating strategy for the identification of γδT17 cells by flow cytometry in lymph nodes and ear skin and assessment of the RORγt^{CRE} efficiency.

Flow cytometric analysis of γδ T cells to indicate the gating strategy used to identify γδT17 cells in lymph node and skin and to assess the efficiency of the RORγt^{CRE}. In graph, each symbol represents a mouse and line the median.

A, B   Gating strategy in the lymph node (A) and skin (B).

C   RORγt^{CRE} mice were crossed with ROSA26-STOPflox-RFP mice (RORγt^{CRE}-RFP$^{STP-F/F}$), whereby the floxed STOP cassette in front of the red fluorescent protein (RFP) gene prevents its constitutive driven expression by the ROSA26 locus until Cre recombinase-mediated excision. The graph summarizes data from 4 mice. Each color represents a cell population.

Data information: In all FACS plots, numbers in gates indicate % of positive cells.

A

B

C

Figure EV1.

A

B
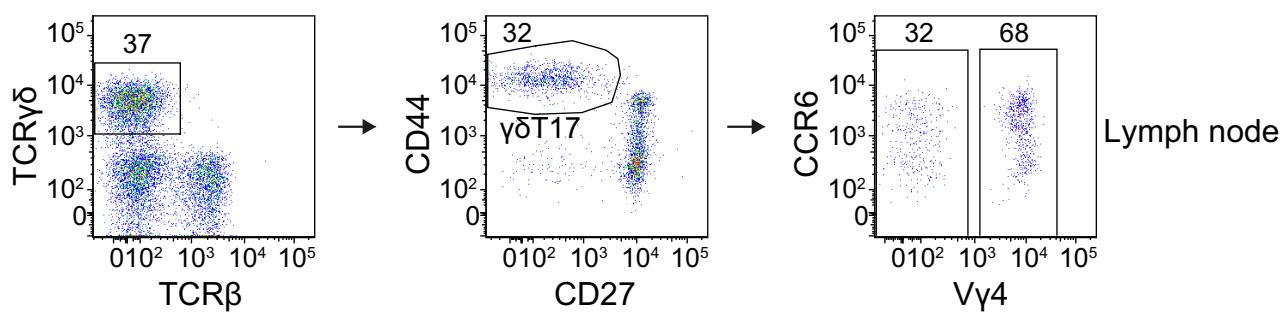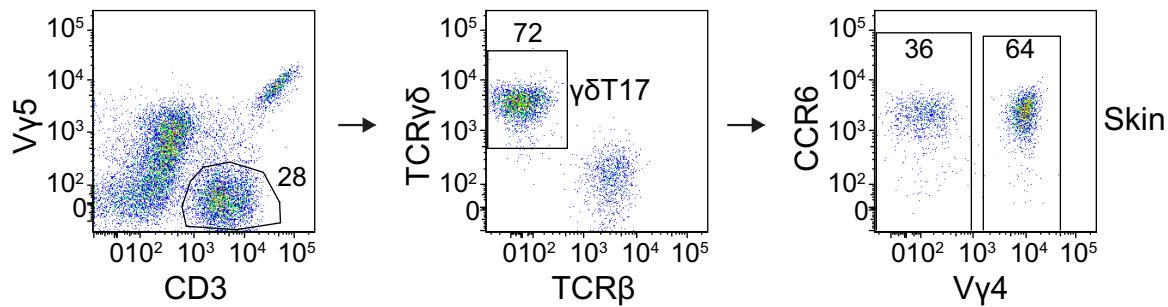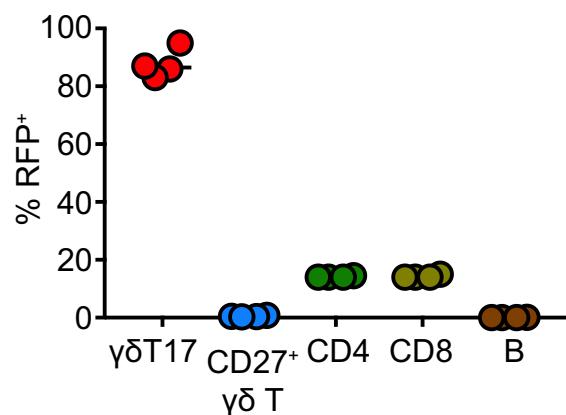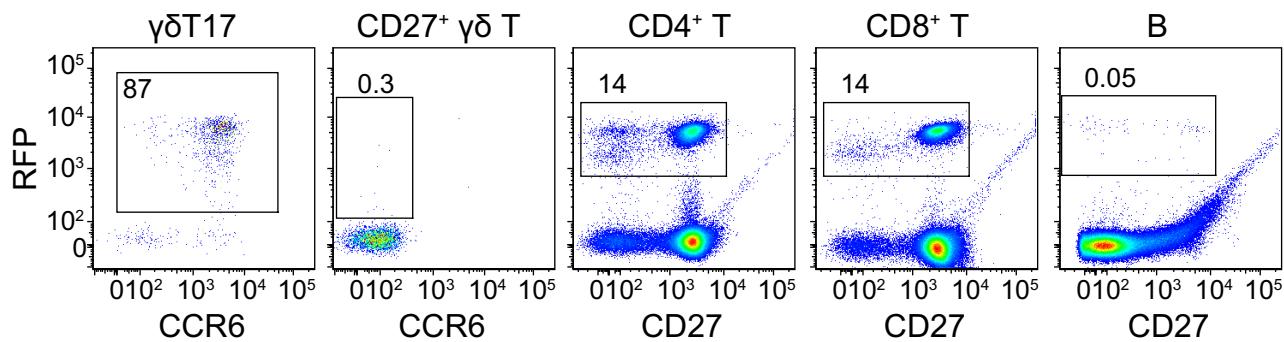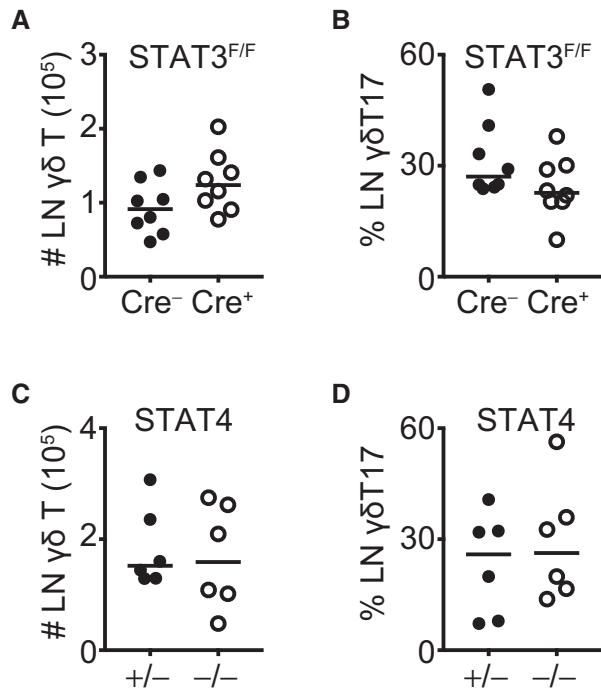
Figure EV2. STAT3 and STAT4 do not regulate γδ T and γδT17 cell numbers in the lymph nodes.

Flow cytometric analysis of γδ T cells in RORγt^{CRE}-STAT3$^{F/F}$ (Cre$^+$) and littermate control mice (Cre$^-$) (A–B) or in STAT4$^{-/-}$ (−/−) and littermate control mice (+/−) (C–D). In graphs, each symbol represents a mouse and line the median.

A   Numbers of total γδ T cells in the LN of RORγt^{CRE}-STAT3$^{F/F}$ mice.
B   Frequency of γδT17 cells (% of total γδ T) in the LN of RORγt^{CRE}-STAT3$^{F/F}$ mice.
C   Numbers of total γδ T cells in the LN of STAT4$^{-/-}$ mice.
D   Frequency of γδT17 cells (% of total γδ T) in the LN of STAT4$^{-/-}$ mice.

Data information: In (A–B), *n* = 8; 4 experiments. In (C, D), *n* = 6; 3 experiments.

C

D

Figure EV3. Impact of STAT3 and STAT4 on Vγ4$^+$ and Vγ4$^-$ γδT17 subsets in the lymph node and skin at steady state and during inflammation.

Flow cytometric analysis of γδ T cells in RORγt^{CRE}-STAT3$^{F/F}$ (Cre$^+$) and littermate control mice (Cre$^-$) (A-D) or in STAT4$^{-/-}$ (−/−) and littermate control mice (+/−) (E-H). In graphs, each symbol represents a mouse and line the median. *$P < 0.05$, **$P < 0.01$, ***$P < 0.001$ using Mann–Whitney test.

A–H   (A, B and E, F) Numbers of Vγ4$^+$ (A and E) and Vγ4$^-$ (B and F) γδT17 cells in the LN before (steady state) and after IMQ-induced psoriasis in RORγt^{CRE}-STAT3$^{F/F}$ (A, B) or STAT4$^{-/-}$ (E, F) mice. Steady state: *n* = 7–8; 4 experiments, IMQ: *n* = 11–12; 4 experiments. (C, D and G, H) Numbers of Vγ4$^+$ (C and G) and Vγ4$^-$ (D and H) γδT17 cells in the skin before (steady state) and after IMQ-induced psoriasis in RORγt^{CRE}-STAT3$^{F/F}$ (C, D) or STAT4$^{-/-}$ (G, H) mice. Steady state: *n* = 7–8; 4 experiments, IMQ: *n* = 11–12; 4 experiments.
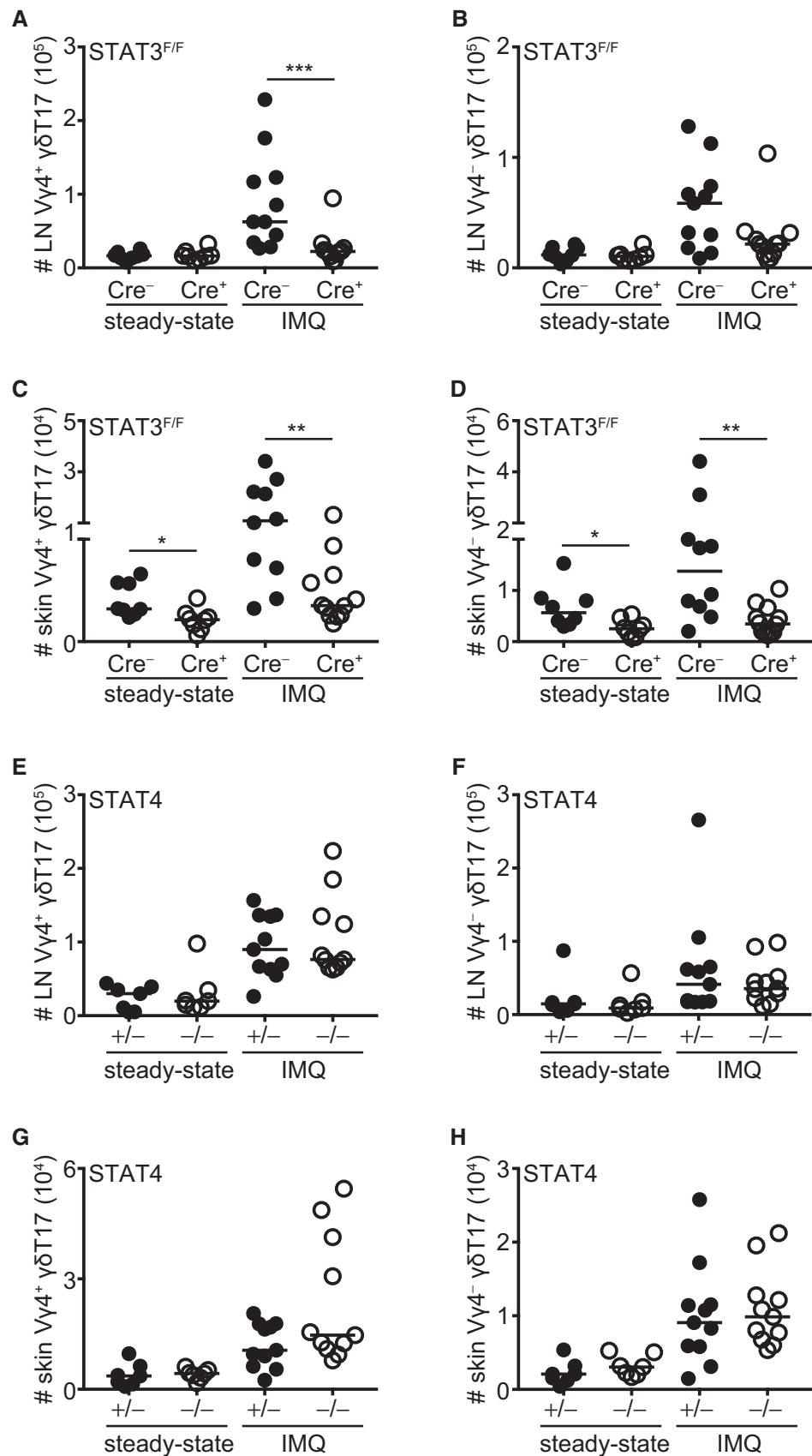
**Figure EV3.**
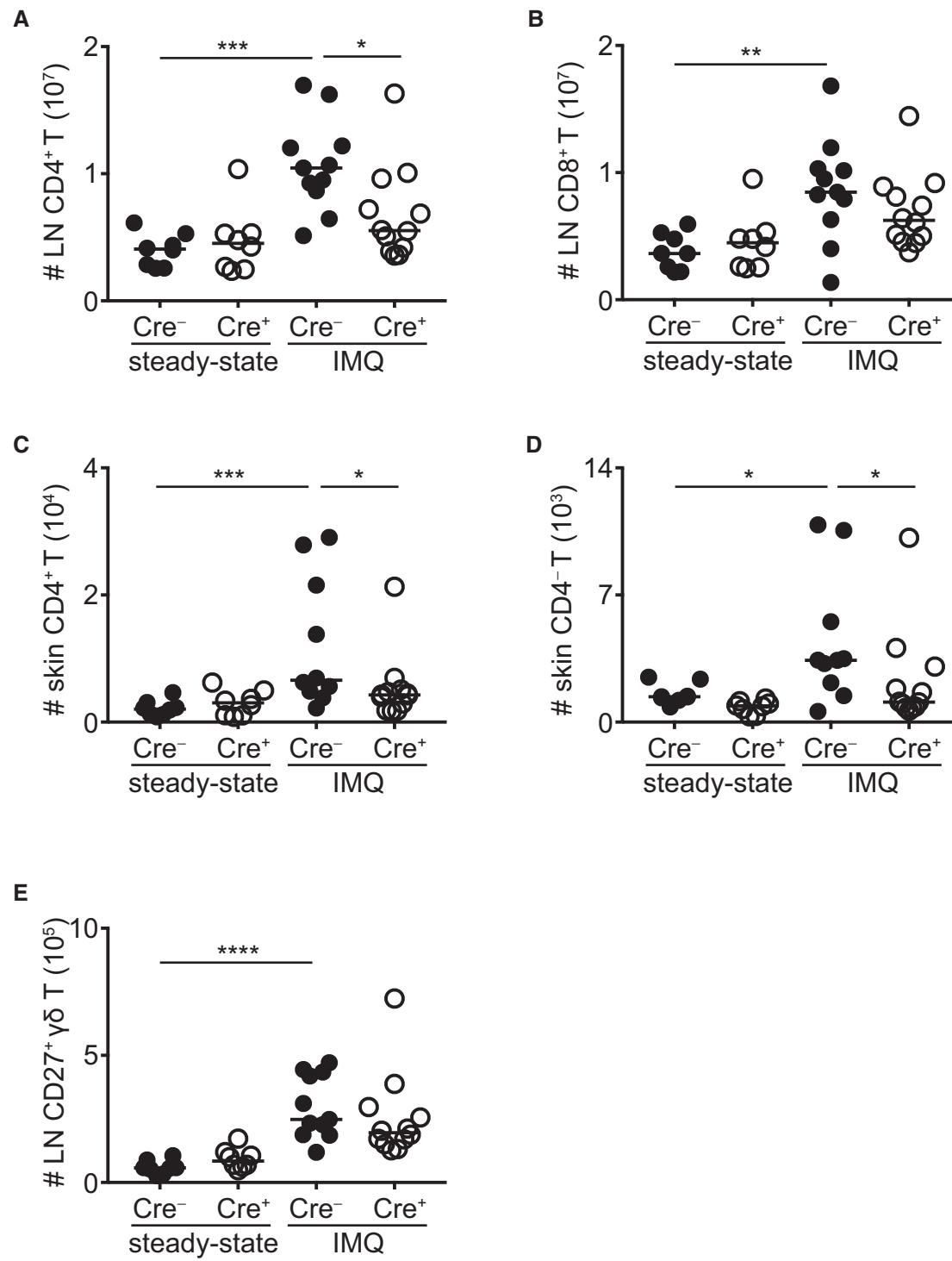
Figure EV4. Impact of STAT3 on non-γδT17 cell populations.

Flow cytometric analysis of lymph node or skin lymphocytes in RORγt^{CRE}-STAT3$^{F/F}$ (Cre$^+$) and littermate control mice (Cre$^-$). In graphs, each symbol represents a mouse and line the median. *$P < 0.05$, **$P < 0.01$, ***$P < 0.001$, ****$P < 0.0001$ using Mann–Whitney test.

A, B   Numbers of LN CD4$^+$ and CD8$^+$ T cells before (steady state) and after IMQ treatment.
C, D   Numbers of skin CD4$^+$ and CD4$^-$ T cells before (steady state) and after IMQ treatment.
E   Numbers of LN CD27$^+$ γδ T cells before (steady state) and after IMQ treatment.

Data information: Steady state: $n = 8$; 4 experiments, IMQ: $n = 11$–12; 4 experiments.

EV6

Figure EV5. Contribution of γδ and αβ T cells toward production of IL-17A, IL-17F, and IL-22 during IMQ-induced inflammation.

Flow cytometric analysis of IL-17A-, IL-17F-, and IL-22-producing T cells in the lymph node during IMQ-induced inflammation. In graphs, each symbol represents a mouse and line the median. ***$P < 0.001$, ****$P < 0.0001$ using Mann–Whitney test.

A, B Frequency of IL-17A$^+$ (A) or IL-17F$^+$ (B) cells that are either TCRγδ$^+$ or TCRβ$^+$ within the total IL-17A- or IL-17F-producing population.
C Frequency of IL-22$^+$ cells that are either TCRγδ$^+$ or TCRβ$^+$ within the total IL-17A-producing population.
D Frequency of CD4$^+$ and CD4$^-$ IL-22$^+$ T cells in RORγt^{CRE}-STAT3$^{F/F}$ (Cre$^+$) and littermate control mice (Cre$^-$) at steady state or after IMQ treatment.

Data information: (A–D) $n = 8$–11; 3–4 experiments. In FACS plots, numbers in gate indicate % positive cells.

Figure EV5.