## **Supporting Information**

S1 Fig. Limited effect of administration of rIL-31 on the increase in dermal thickness induced by IL-31. C57BL/6 mice were injected intradermally with saline as control and recombinant IL-31 (rIL-31; 20  $\mu$ g per injection) daily, for 14 days. A portion of dorsal skin was excised and fixed in 10% buffered formalin, paraffinembedded, and used for H&E staining. Dermal thickness was measured using MetaMorph Image analysis software. Data is cumulative of three independent experiments, total numbers of mice in each group were 8-13, and represented as mean  $\pm$  SEM. An unpaired Student's t-test was used to measure the significant difference between the groups.

