



**Fig. S1. Expression of STAT3 and phospho-STAT3.** STAT3 was detected in the cytoplasm of epidermal keratinocytes (a) and gut epithelium (b) in control mice (Control). In STAT3 cKO mice (*STAT3* cKO), STAT3 was detected in the gut epithelium (b), but not in the epidermal keratinocytes (a). (c) Nuclear translocation of phospho-STAT3 was also confirmed in the skin from control mice, but not from *STAT3* cKO mice. Bars indicate 50  $\mu$ m.