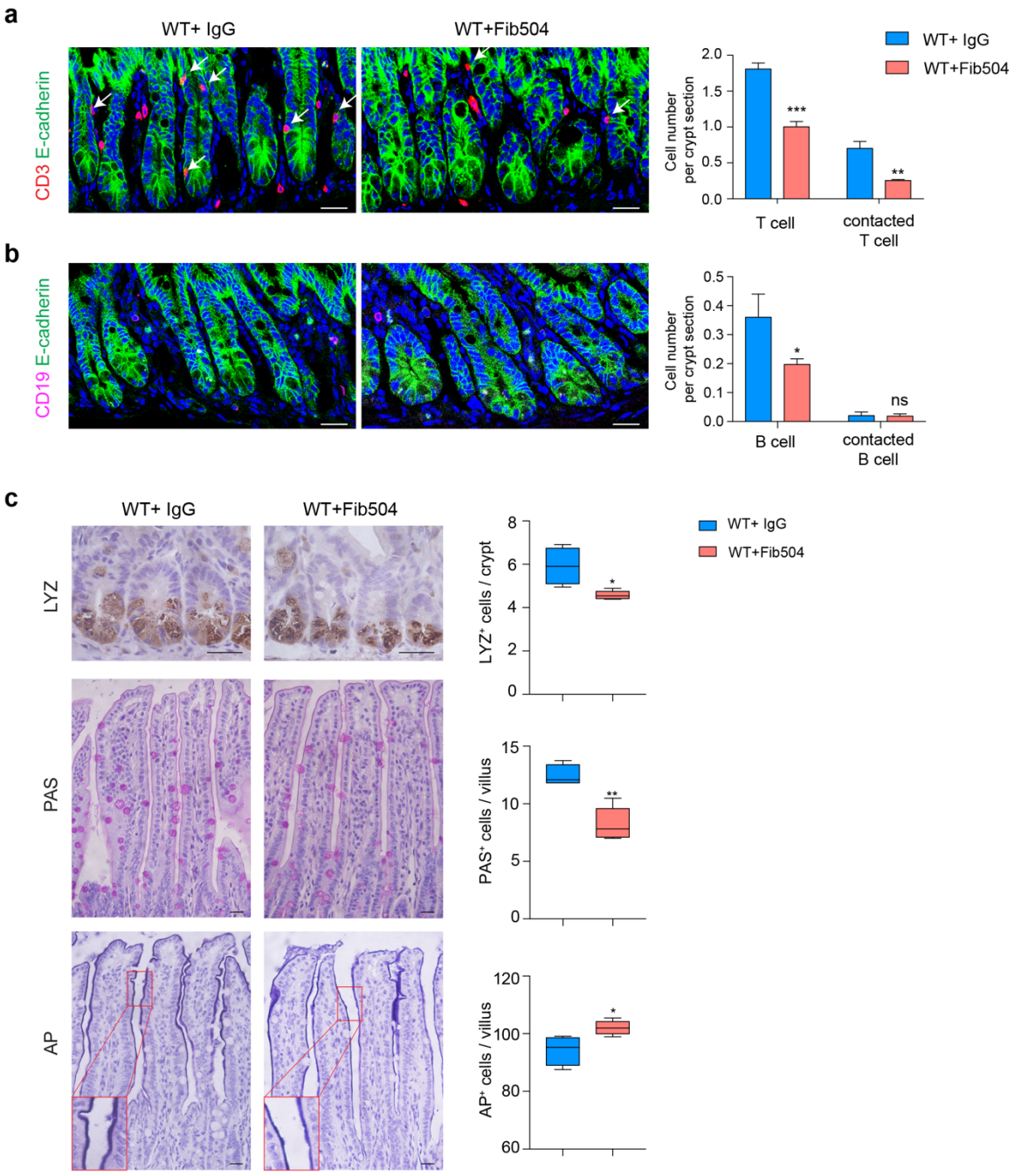

Fig. S3 Integrin β7 blockade caused aberrant IEC differentiation in mice. WT mice were treated with integrin β7 blocking mAb Fib504 or control IgG (200μg per mouse) every other day for two weeks. Then the mice were sacrificed, and the small intestines were assessed using immunohistochemical analysis. **a,b** Representative immunofluorescent images of $CD3^+$ T cells (**a**) and $CD19^+$ B cells (**b**) in the small intestinal crypts of antibody-

treated mice (left panel). Crypt epithelial cells were identified by E-cadherin (green), $CD3^+$ T cells (red), $CD19^+$ B cells (violet). The sections were counterstained with DAPI (blue). T cells in contact with crypt epithelial cells were highlighted with white arrows. Scale bars, 50 μm. Quantification of total T or B cells and T or B cells in contact with crypt epithelial cells per crypt section (right panel). n = 4-5 mice, more than 5 fields per mouse. Data are represented as mean ± SEM. ***$P < 0.001$, **$P < 0.01$, *$P < 0.05$, ns, no significant difference, *t*-test. **c** Left: representative images of LYZ, PAS and AP staining of small intestine sections for IgG control or Fib504 treated WT mice. Scale bars, 50 μm. Right: quantification of LYZ^+ Paneth cells, PAS^+ goblet cells and AP^+ enterocytes in each crypt or villus. n = 4-5 mice per group, more than 8 fields were analyzed per mouse. Data are represented as mean ± SEM, **$P < 0.01$, *$P < 0.05$, *t*-test.