

Supplemental figures

Fig. S1

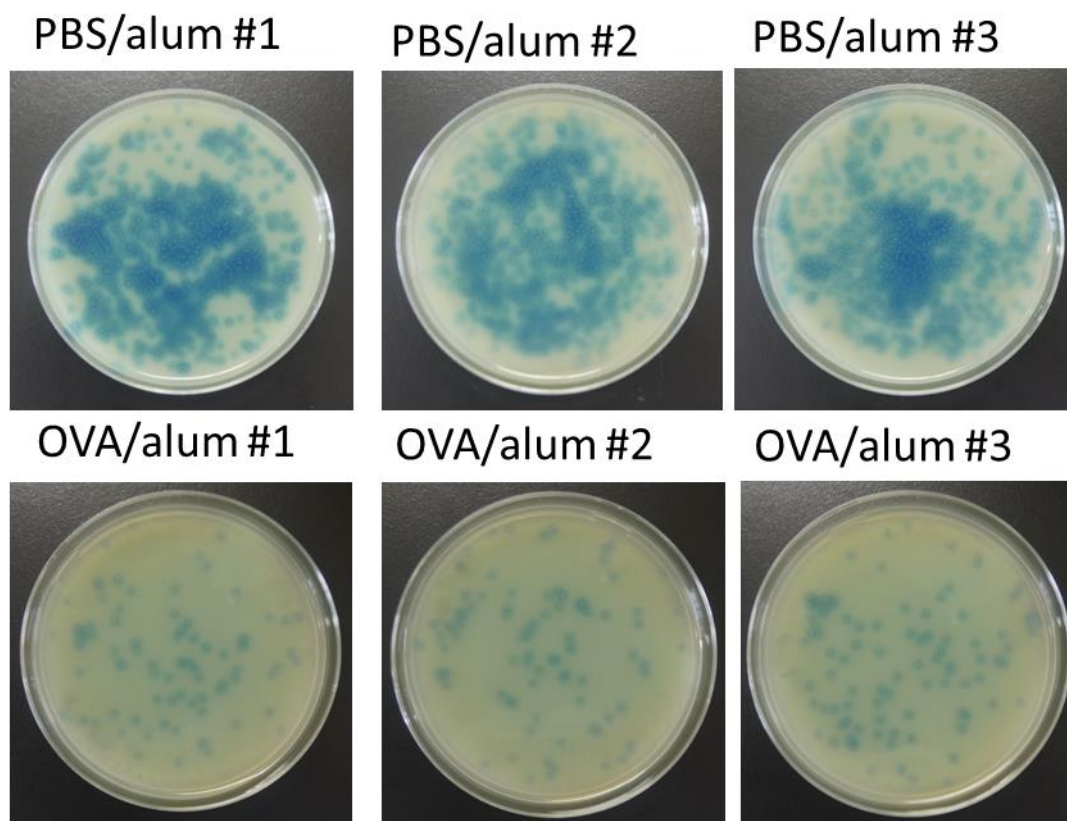
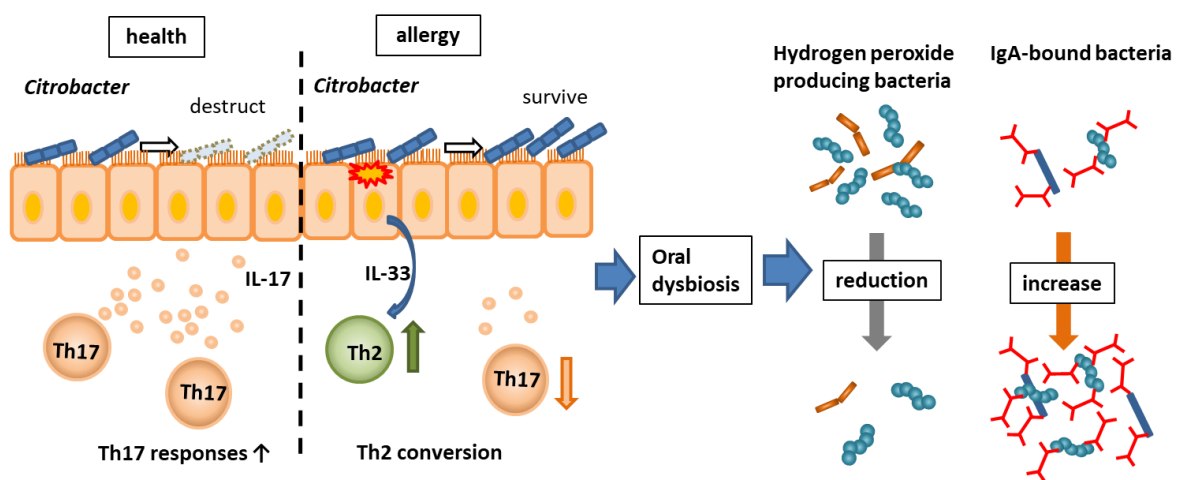


Fig. S2



Supplemental figure legends

Fig. S1. Each Prussian blue plate inoculated by saliva of OVA allergic and control mice. Saliva of OVA allergic (OVA/alum #1–#3) and control mice (phosphate-buffered saline [PBS]/alum #1–#3) were inoculated onto three Prussian blue plates. After an overnight anaerobic incubation, hydrogen peroxide-producing bacteria formed colonies with blue halos. The plates of OVA/alum #1 and PBS/alum #1 are shown in Fig. 8A as representative data.

Fig. S2. Graphical Abstract of this study

This figure illustrates our finding of this study. Although *Citrobacter spp.* are destructed by Th17 responses in healthy intestine, Th2-biased, Th17-weakend, allergic intestinal condition allows them to proliferate and aggravate allergic symptoms by inducing IL-33 release from intestinal epithelial cells. Further, this dysregulation of intestinal microbiota elicits oral dysbiosis by reducing hydrogen peroxide producing bacteria and stimulating IgA induction.