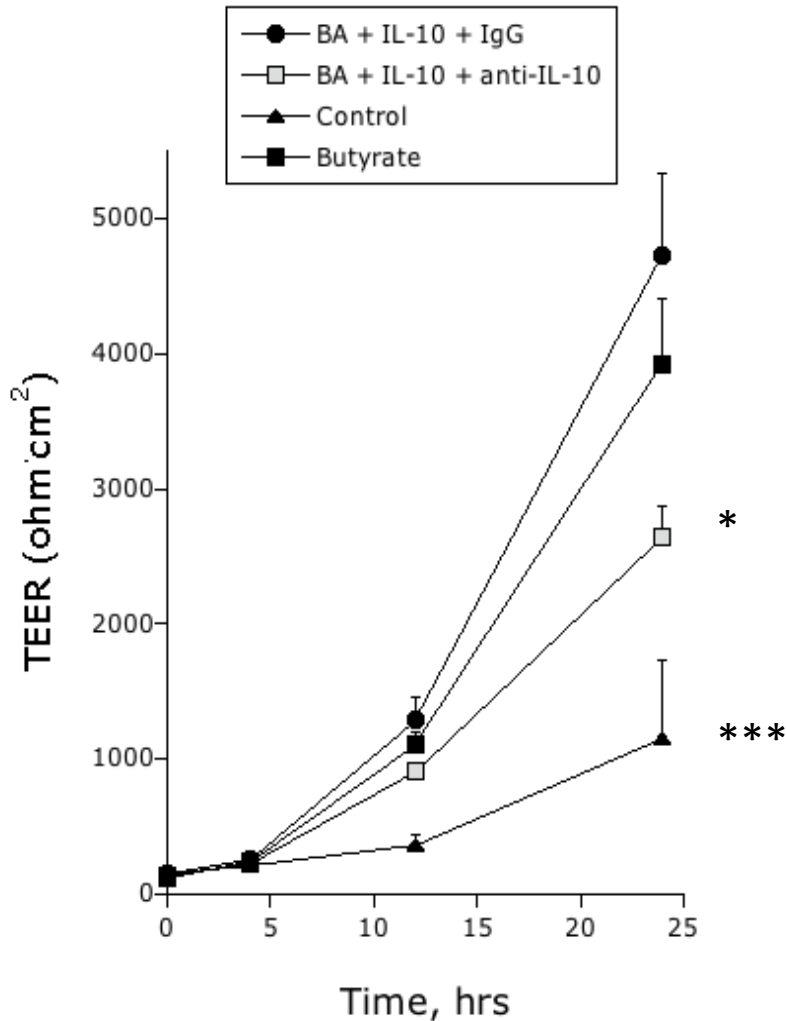


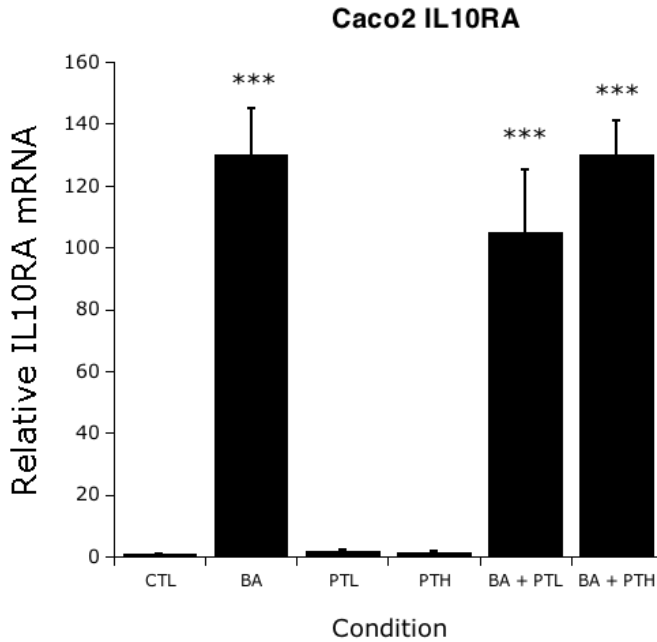
Supplemental Figure 1



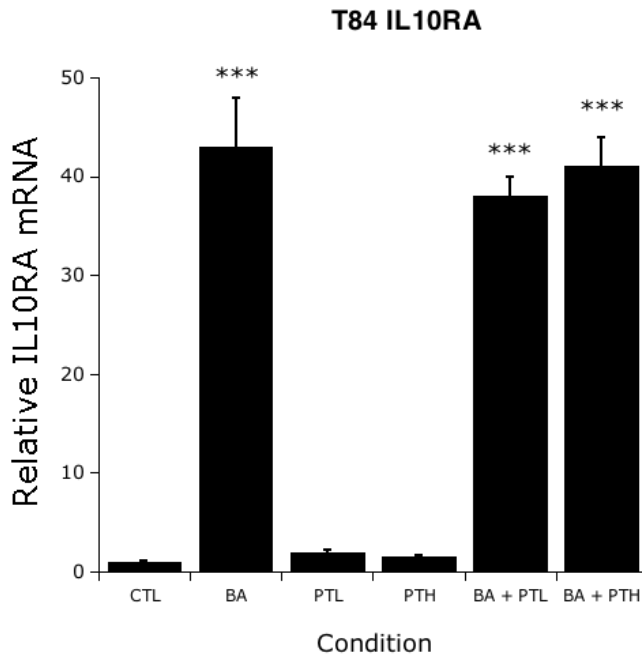
Supplemental Figure 1: Exogenous IL-10 enhances barrier formation following butyrate treatment. T84 cells were exposed to butyrate (5mM, 24h) followed by IL-10 (10ng/ml) for indicated time points in the presence of non-specific IgG or anti-IL-10 antibody. Transepithelial electrical resistance TEER was monitored over 24 hr period. Data are representative of two independent experiments and six individual monolayers. Error bars represent mean \pm SEM. *** $p < 0.001$ compared to butyrate alone and * $p < 0.05$ compared to butyrate alone by ANOVA.

Supplemental Figure 2

A

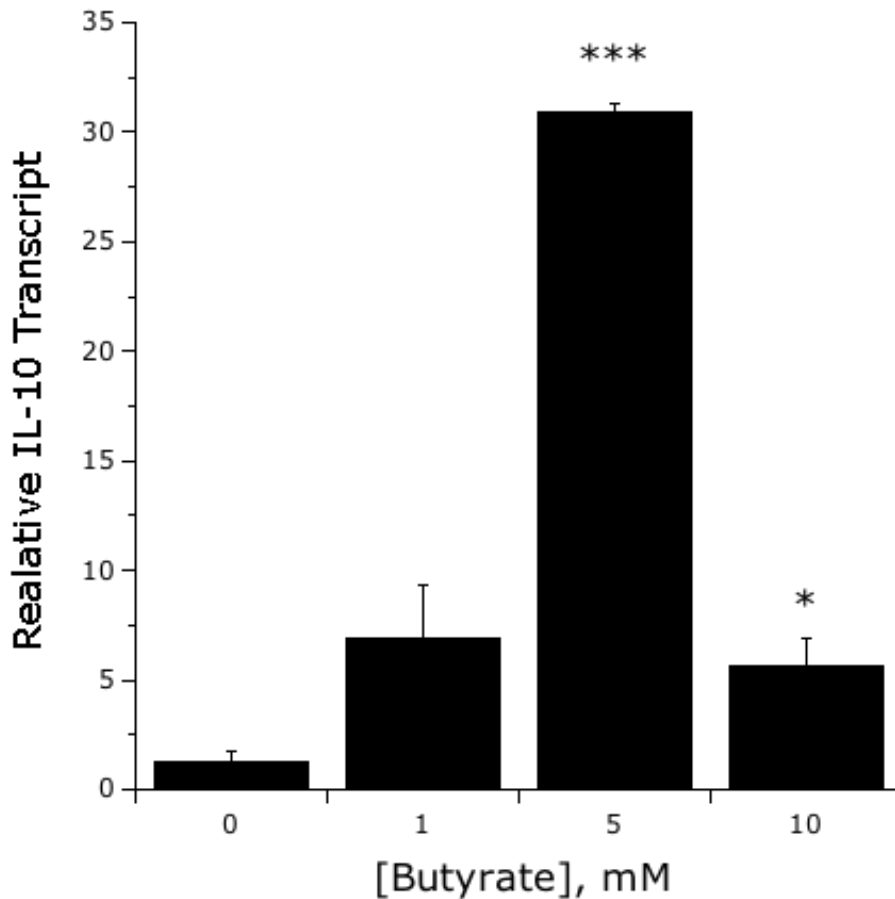


B



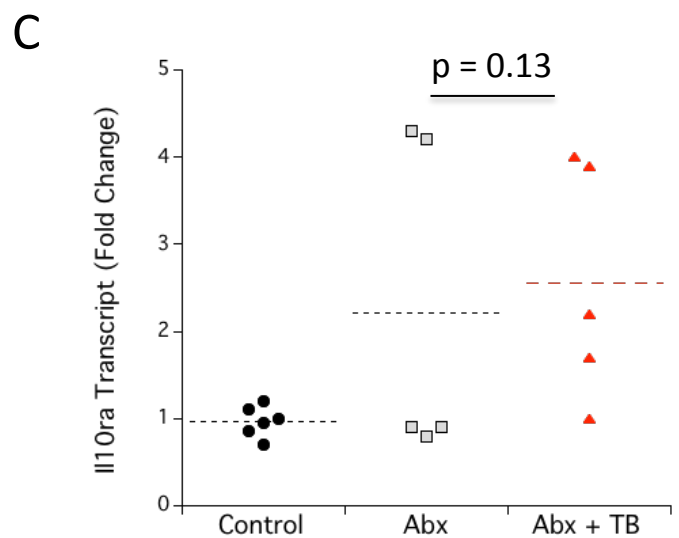
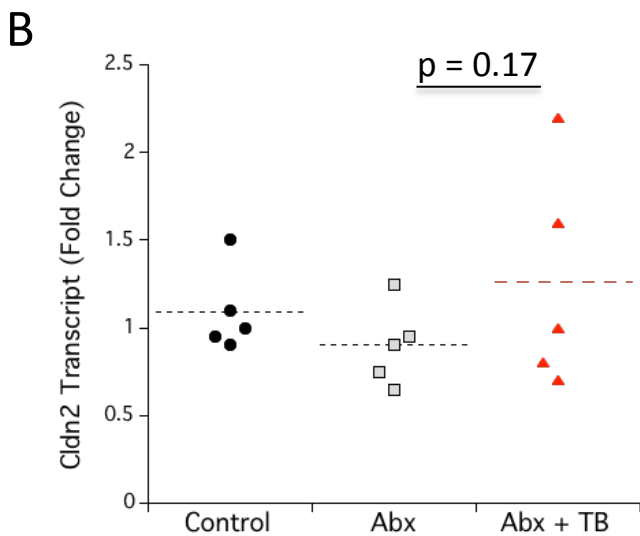
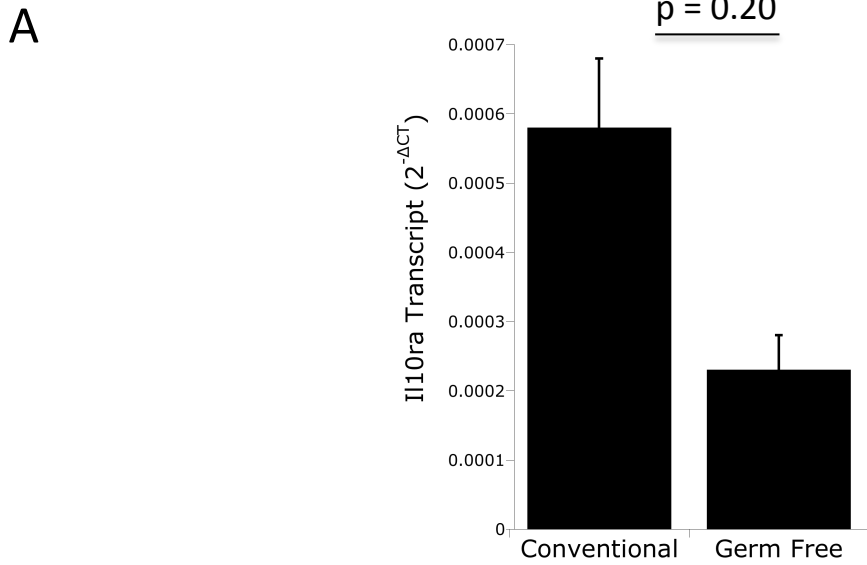
Supplemental Figure 2: Butyrate regulation of IL-10RA is not mediated by GPCR signaling. Caco-2 and T84 cells were treated with pertussis toxin (PTL: 400ng/ml or PTH: 800ng/ml) in the presence and absence of HHBS ± butyrate (10mM) for 24h. IL-10RA mRNA quantified by qPCR (data normalized to β -actin). Data are representative of at least two independent experiments. Error bars represent mean \pm SEM. *** $p < 0.001$ compared to control (CTL).

Supplemental Figure 3



Supplemental Figure 3: Butyrate induces IL10 mRNA. T84 cells were exposed to indicated concentrations of butyrate for 22h and assessed for the induction of IL10 mRNA by qPCR (data normalized to β -actin). Data are representative of at least two independent experiments. Error bars represent mean \pm SEM. *** $p < 0.001$ compared to no butyrate and * $p < 0.05$ compared to no butyrate.

Supplemental Figure 4



Supplemental Figure 4: Influence of microbiota on murine *Il-10r* in vivo. In panel A, colonic scrapings from conventional C57BL/6 and germ-free mice were harvested, lysed, RNA was isolated, cDNA was synthesized, and IL-10RA mRNA was analyzed by qPCR. Data are representative of at least two independent experiments. Error bars represent mean \pm SEM. In panels B and C, Mice were pre-treated with broad spectrum antibiotics (Abx) followed by oral gavage of tributyrin (TB). Controls received neither Abx or TB. Colonic scrapings were harvested, lysed, RNA was isolated, cDNA was synthesized, and *Cldn2* (panel B) or *Il10ra* (panel C) mRNA were analyzed by qPCR.