

Supplemental information

***Lactobacillus*-derived indole-3-lactic
acid ameliorates colitis in cesarean-born
offspring via activation of aryl hydrocarbon receptor**

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Table. S1 Primer sequences for qRT-PCR, Related to STAR Methods.

Gene	Accession No		Sequence (5'-3')
<i>Gapdh</i>	NM_008084	Forward	CATCACTGCCACCCAGAAGACTG
		Reverse	ATGCCAGTGAGCTTCCCGTTCAG
<i>Ii1b</i>	NM_008361	Forward	TGGACCTTCCAGGATGAGGACA
		Reverse	GTTTCATCTCGGAGCCTGTAGTG
<i>Tnf</i>	NM_013693	Forward	GGTGCCTATGTCTCAGCCTCTT
		Reverse	GCCATAGAACTGATGAGAGGGAG
<i>Ii22</i>	NM_016971	Forward	GCTTGAGGTGTCCAACCTTCCAG
		Reverse	ACTCCTCGGAACAGTTTCTCCC
<i>Cyp1a1</i>	NM_001136059	Forward	CATCACAGACAGCCTCATTGAGC
		Reverse	CTCCACGAGATAGCAGTTGTGAC
<i>Fmo2</i>	NM_018881	Forward	GCATAGGTCTCATCCAGCCTCT
		Reverse	TAGTCGTCTCCGAAGGCAAGCT
<i>Kit</i>	NM_001122733	Forward	GAGTTCCATAGACTCCAGCGTC
		Reverse	AATGAGCAGCGGCGTGAACAGA

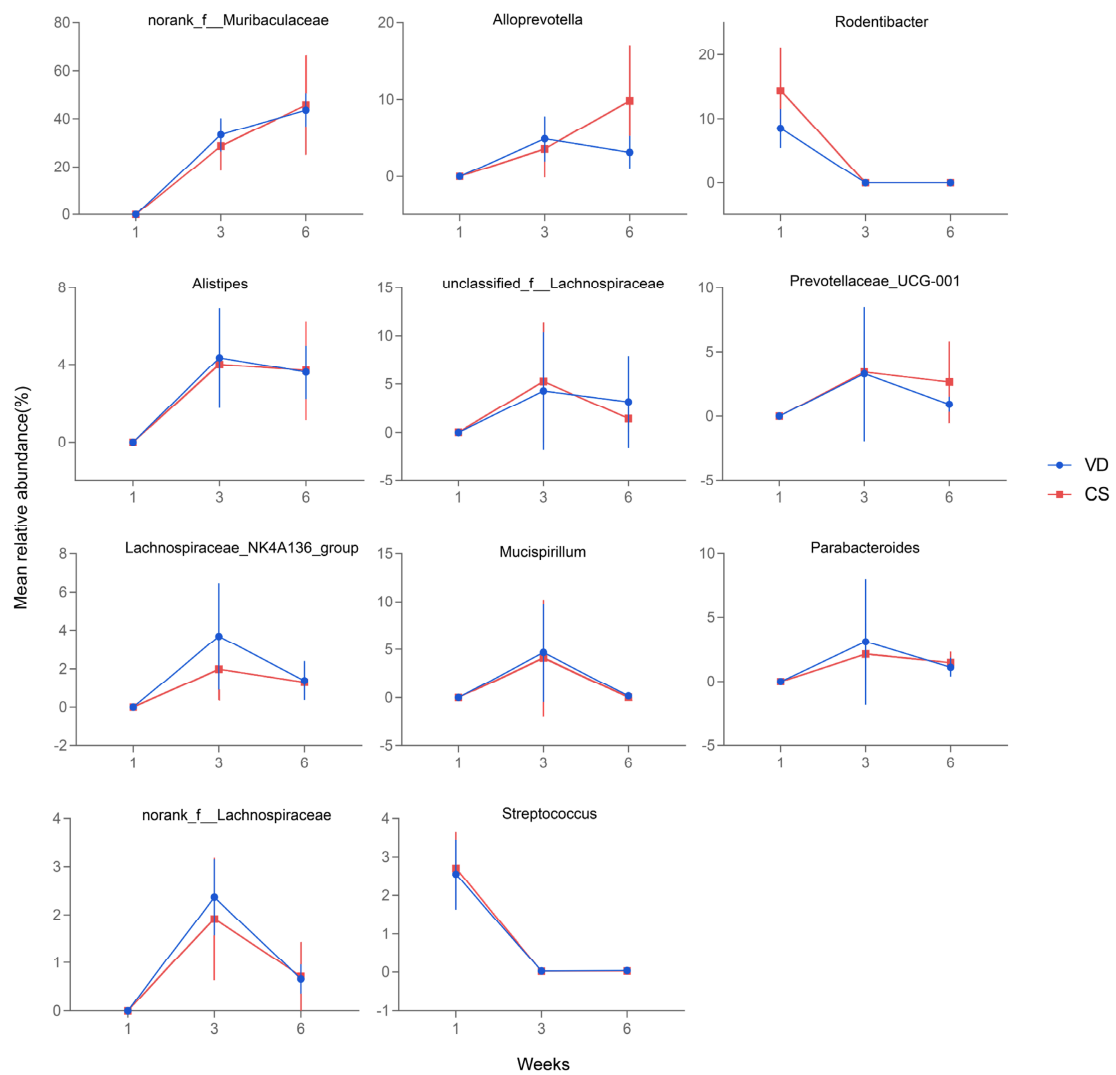


Figure S1. Temporal development of microbiota on genus level in VD and CS mice, Related to Figure 1.

The group means and standard errors are shown. Significance of the difference between CS group to VD group was tested at 1, 3, and 6 weeks (n =5 per group).

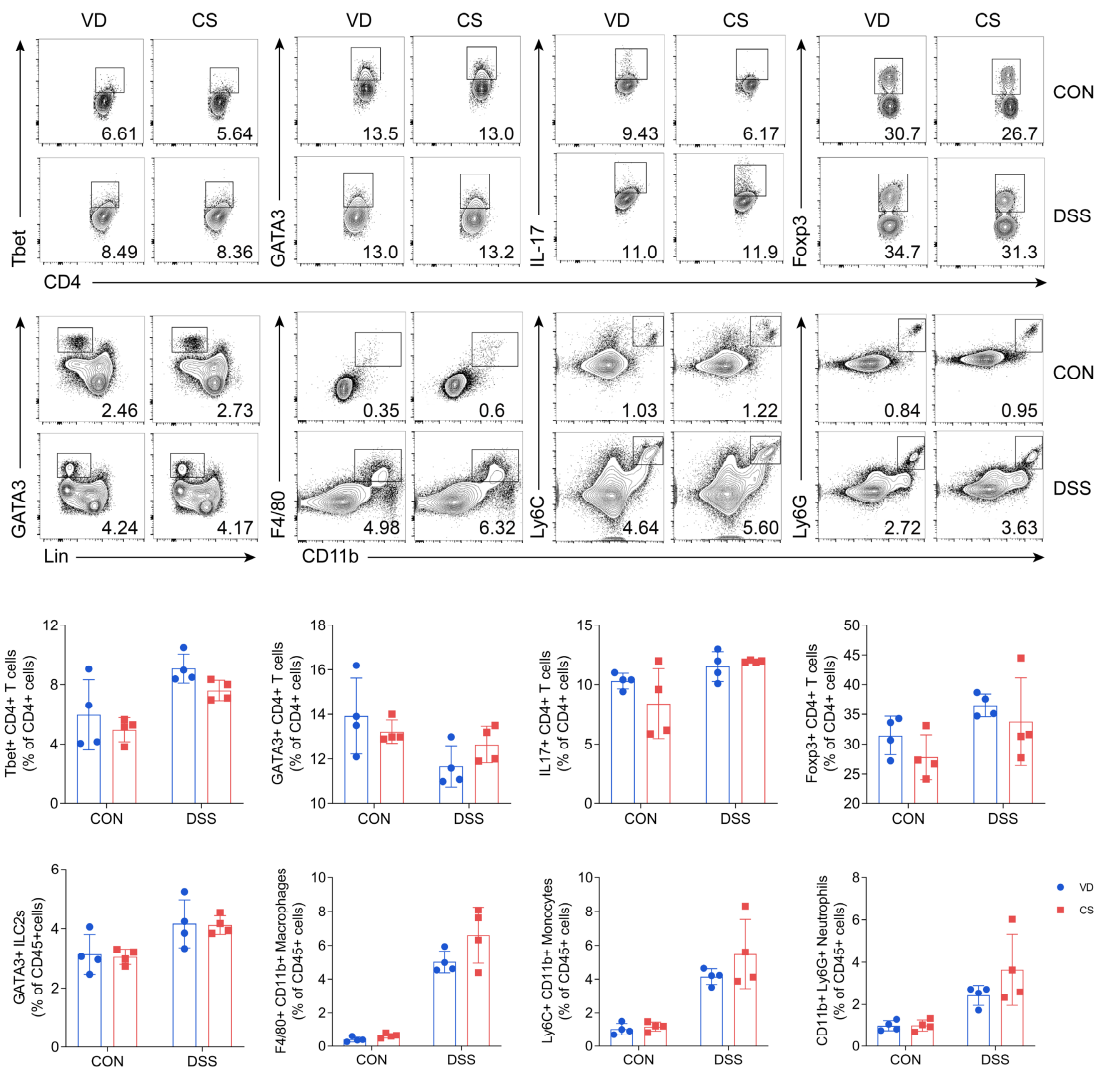


Figure S2. Myeloid cells, CD4⁺ T cells, and GATA⁺ ILC2s in colonic lamina propria are not affected by CS, Related to Figure 3.

Representative flow cytometry plots and percentage of colonic myeloid cells (F4/80⁺ CD11b⁺ Macrophages, Ly6C⁺ CD11b⁺ Monocytes, and Ly6G⁺ CD11b⁺ Neutrophils), T cell populations (Tbet⁺ CD4⁺ Th1, GATA3⁺ CD4⁺ Th2, IL17⁺ CD4⁺ Th17, and Foxp3⁺ CD4⁺ Treg) and ILC2s (Lin⁻ GATA3⁺) from VD and CS mice at steady state or after DSS administration (n = 4 per group). Data shown as the mean ± SEM. One dot represents one mouse.

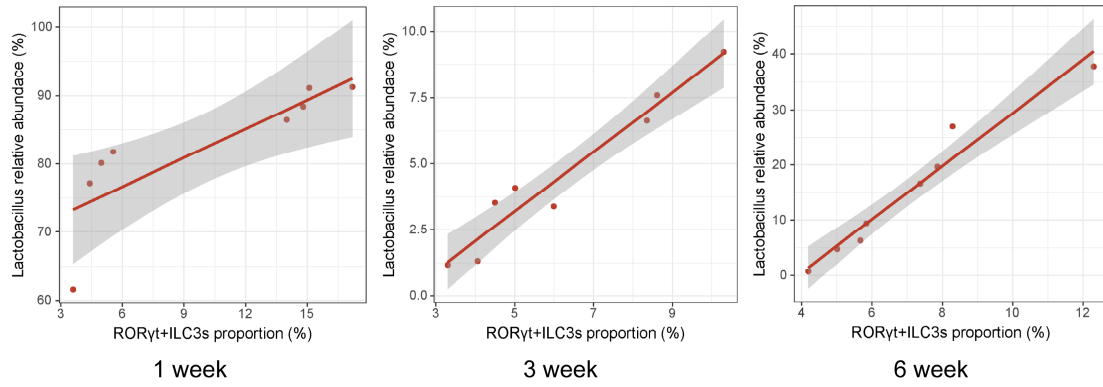


Figure S3. Microbiome associated with immune cells, Related to Figure 4.

Correlation of genus *Lactobacillus* relative abundance and ILC3s proportion at week 1 ($R = 0.69$, $P = 0.0105$), week 3 ($R = 0.94$, $P = 2.54e-05$), and week 6 ($R = 0.94$, $P = 5.56e-05$). Linear regression curve fits are shown with colored mean line and 95% CI indicated in grey shading.

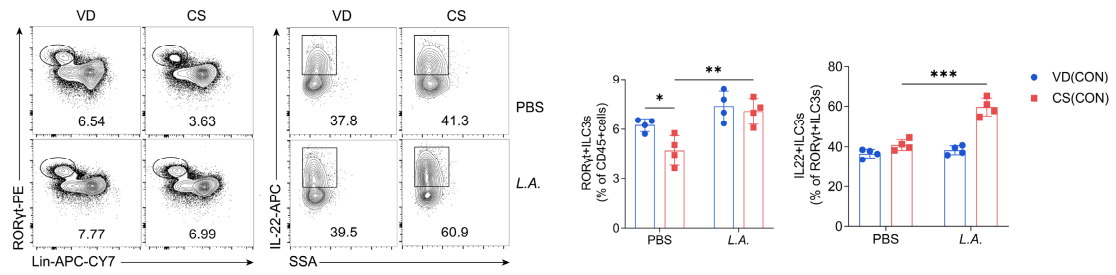


Figure S4. Supplementation with *L. acidophilus* partially restores ILC3s in CS mice at steady state, Related to Figure 5. Representative flow cytometry plots and percentage of colonic ILC3s and IL-22+ILC3s from VD and CS mice with different treatment (n = 4 per group). Data shown as the mean ± SEM. One dot represents one mouse. **P* < 0.05, ***P* < 0.01 and ****P* < 0.001.