

Supplemental Figures

Supplemental Figure S1. Related to Figure 1. **A.** Histopathological analysis corresponding to Figure 1E. **B.** Histopathological sections from infected and uninfected mice one day after administration of two doses of 132 mg LDSs. **C–D.** Cecal tissue samples were collected 12 or 24 hours after administration of two doses of 132 mg arabinose, or from untreated controls. **C.** Regulatory T cells (Tregs) and myeloid cells in cecal tissue. Treg fractions (of CD45⁺ CD4⁺ live cells) and myeloid cell fractions in the cecal lamina propria were analyzed. Cells were pre-gated on CD45⁺ live cells. Data were log-transformed and analyzed by ANOVA with multiple correction; ns, not significant. MΦ, macrophages. **D.** Transcriptional analysis of cecal tissue by qPCR for selected immune cell markers and cytokines.

Supplemental Figure S2. Related to Figure 2. **A.** CFU enumeration by plating on MacConkey agar for the experiment shown in Figure 2A. **B.** Histopathological analysis corresponding to Figure 2A. **C.** 16S rRNA gene analysis of fecal microbiota composition in mice administered two doses of 132 mg arabinose and infected with either a *ΔinvG* or *ΔssaV* mutant. Shown is the mean composition (N = 5 mice per group).

Supplemental Figure S3. Related to Figure 3. **A.** *In vitro* growth assays of selected bacterial strains from a human microbiota consortium, cultured in YCSF medium supplemented with either 0.5 % glucose or 0.5 % arabinose as the sole carbon source. Growth was assessed by area under the curve (AUC). Circle radius corresponds to growth (AUC) and color indicates the final pH of the medium. **B.** Comparison of growth rates of *B. thetaiotaomicron*, *E. rectale*, and *Salmonella* across pH values. Points are measured data (*B. thetaiotaomicron* and *E. rectale* data from (Cremer et al., 2017), and lines are 3-parameter logistic fits to the data.

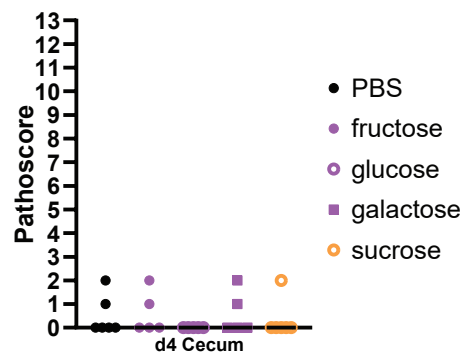
Supplemental Figure S4. Related to Figure 6. Population dynamics analysis using wild-type isogenic tagged strains. Mice were gavaged with two doses of 132 mg arabinose and infected with a mixture of tagged and untagged strains at the indicated ratios, totaling 5×10^7 CFU.

Supplemental Figure S5. Related to Figure 7. Heterozygous and homozygous *Il2rg/Rag2* mice were given two doses of 132 mg arabinose and orally infected with 5×10^7 CFU of *S. Tm*. **A.** *S. Tm* counts from systemic organs. **B.** Fecal lipocalin-2 levels. The Mann–Whitney *U* test was used for statistical analysis; **p* < 0.05; ***p* < 0.01; ****p* < 0.001; *****p* < 0.0001.

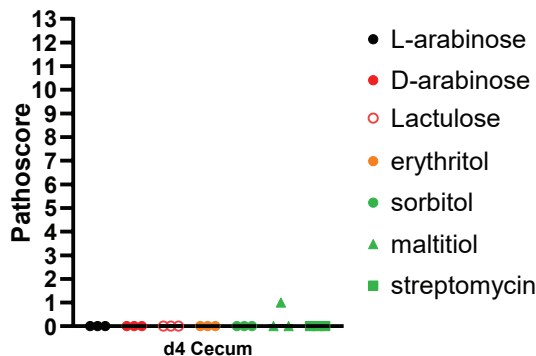
Supplemental Figure S6. Related to Figure 3. pH of cecal contents measured at 4 hours after two 132 mg doses of arabinose or lactulose. The Mann–Whitney *U* test was used for statistical analysis; **p* < 0.05; ***p* < 0.01; ****p* < 0.001; *****p* < 0.0001; ns, not significant

Supplemental Figure 1

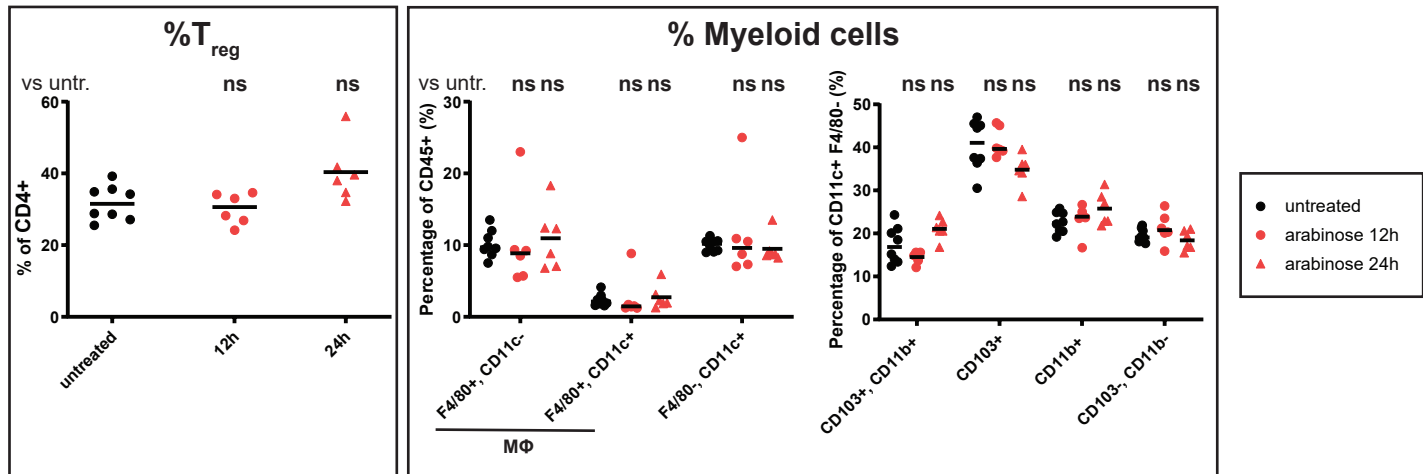
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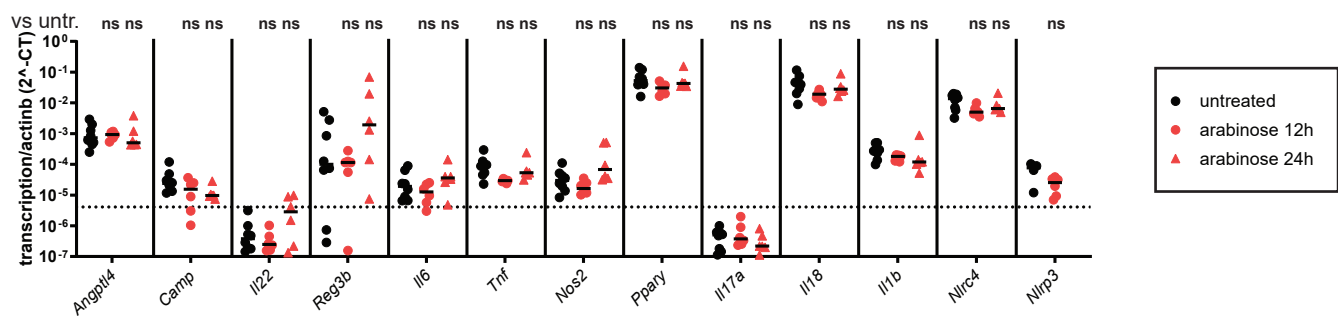
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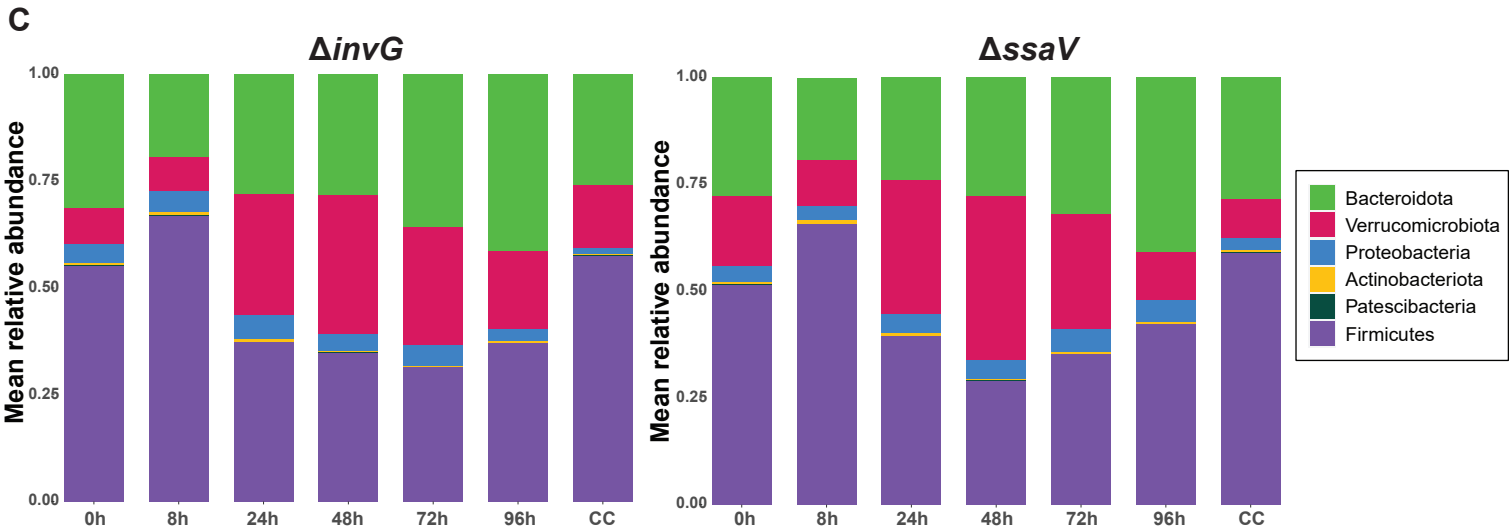
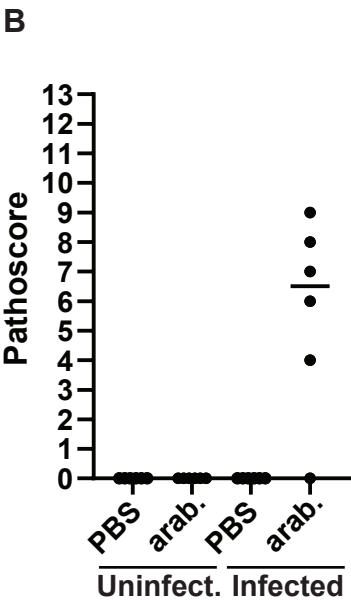
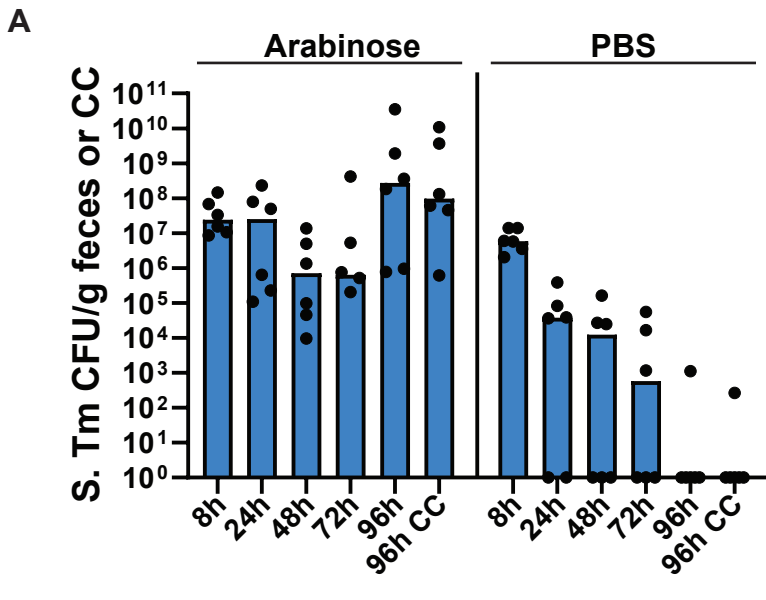
C



D

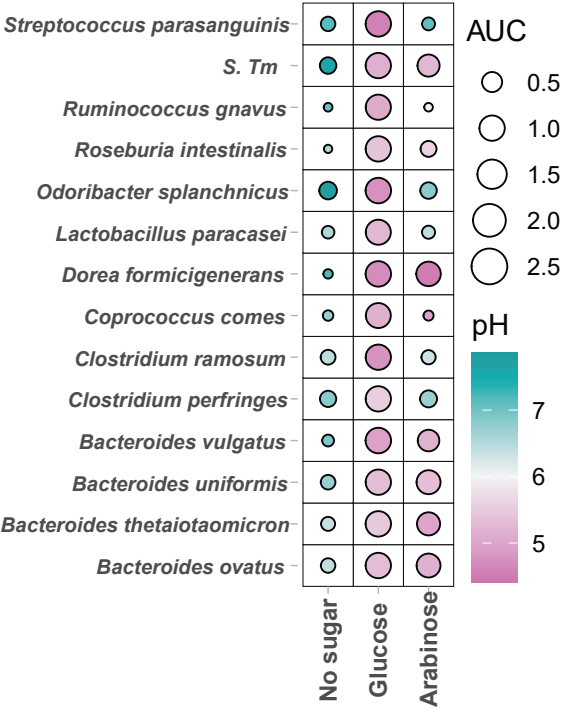


Supplemental Figure 2

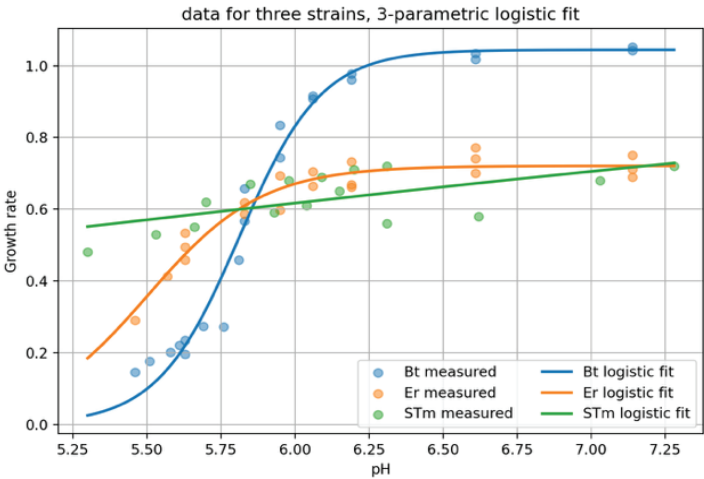


Supplemental Figure 3

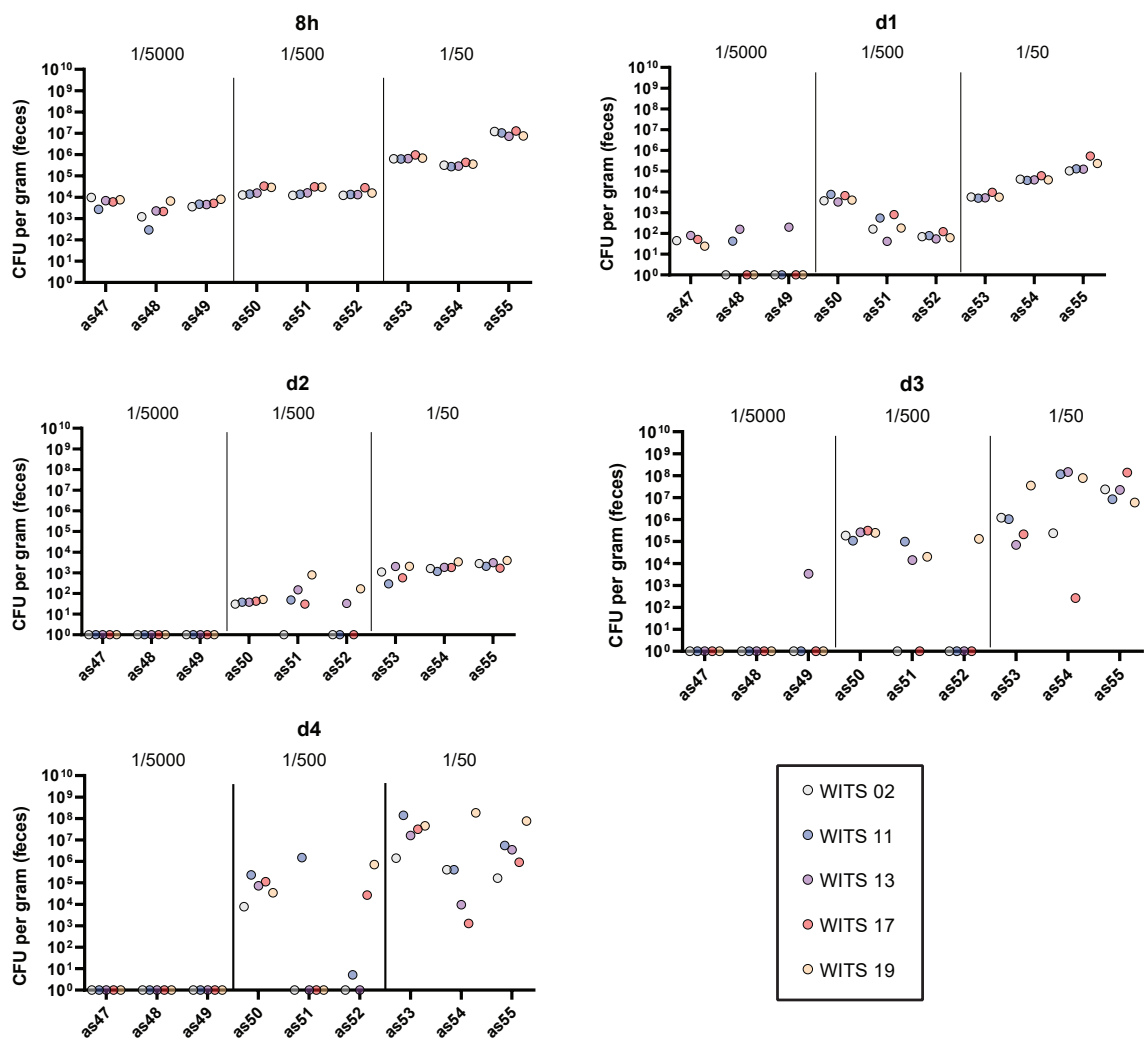
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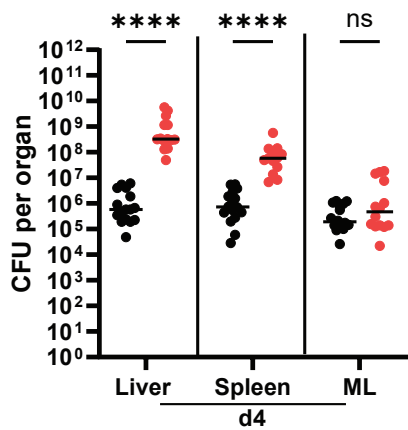


Supplemental Figure 4

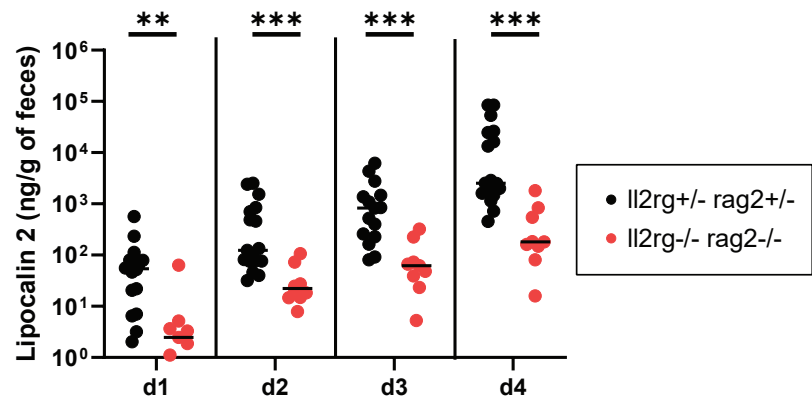


Supp. Figure 5

A



B



Supplemental Figure 6

