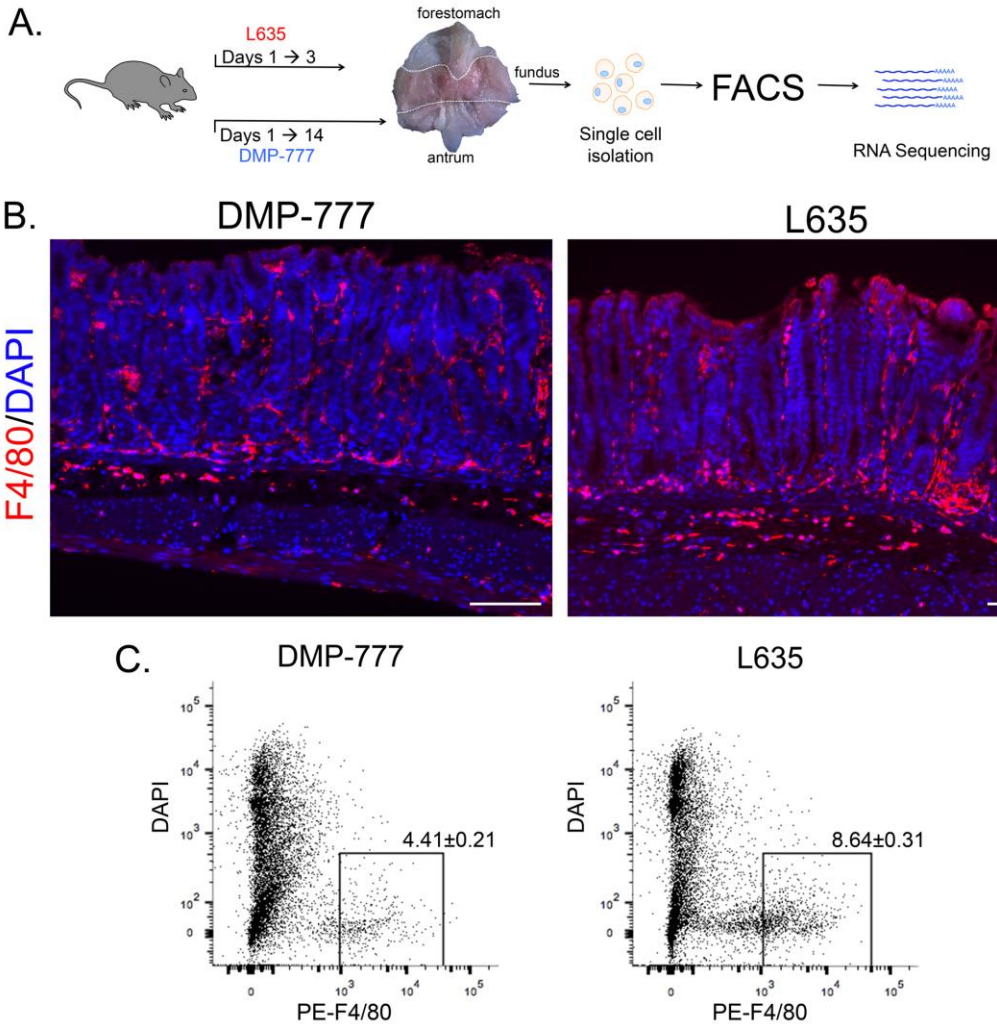
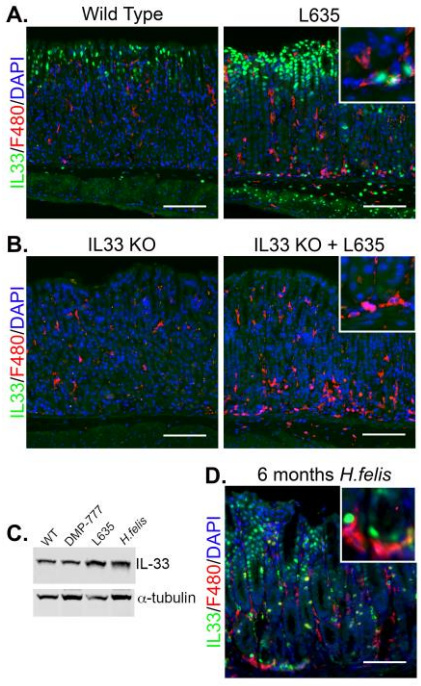
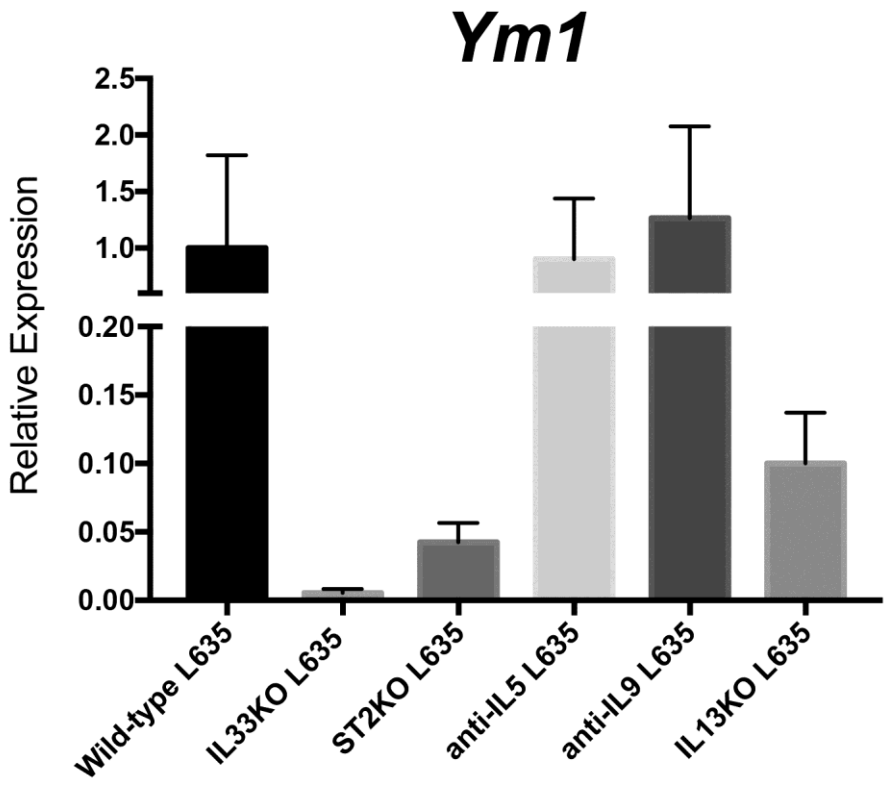
Supplemental Figure 1. Method for isolating F4/80 positive cells from acute SPEM models. A. Wild-type C57BL/6 mice (n=3 per sample, 3 biological replicate samples) were treated with L635 for 3 days or DMP-777 for 10 days, and were sacrificed on the last day of treatment. The corpus was removed from the stomach and enzymatically digested into a single cell suspension. Macrophages were labeled using the antibody F4/80 and FACS sorted for RNA sequencing, n=3 replicates/each sample**. B.** Immunofluorescence staining of representative images illustrating the F4/80 positive macrophages sorted from DMP-777 and L635-treated mice. Scale bars 100 μm. **C.** Representative dot plot images of the FACS sorted PE-F4/80 cell population in DMP-777 and L635-treated mice. Macrophages sorted from DMP-777 made up 4.41% (±0.21) of cells, while macrophages sorted from L635-treated mice was 8.64% (±0.31).



Supplemental Figure 2. IL-33 is upregulated after L635 treatment or *H. felis* infection and is expressed in macrophages. A. Immunofluorescence staining for IL-33 (green) and the macrophage marker F4/80 (red) with DAPI (blue) in wild type mice. IL-33 is expressed in nuclei of surface mucus epithelial cells in the normal stomach corpus. After parietal cell loss following L635 treatment, nuclear IL-33 expands in accordance with foveolar hyperplasia and is also expressed in macrophages. **B.** Immunofluorescence staining for IL-33 (green) and the macrophage marker F4/80 (red) with DAPI (blue) in IL33KO mice. No IL-33 staining is observed in either mucosal cells or macrophages in IL33KO mice. Higher magnification insets are shown in upper right. C. Western blot for IL-33 protein and α-tubulin control demonstrates elevation of IL-33 expression in the corpus mucosa after L635 treatment and *H. felis* infection. D. Immunofluorescence staining for IL-33 (green) and the macrophage marker F4/80 (red) with DAPI (blue) in the corpus of a wild type mouse infected with *H. felis* for 6 months. IL-33 was expressed in foveolar cells as well as in macrophages (see inset at right). Scale bar = 100 μm.

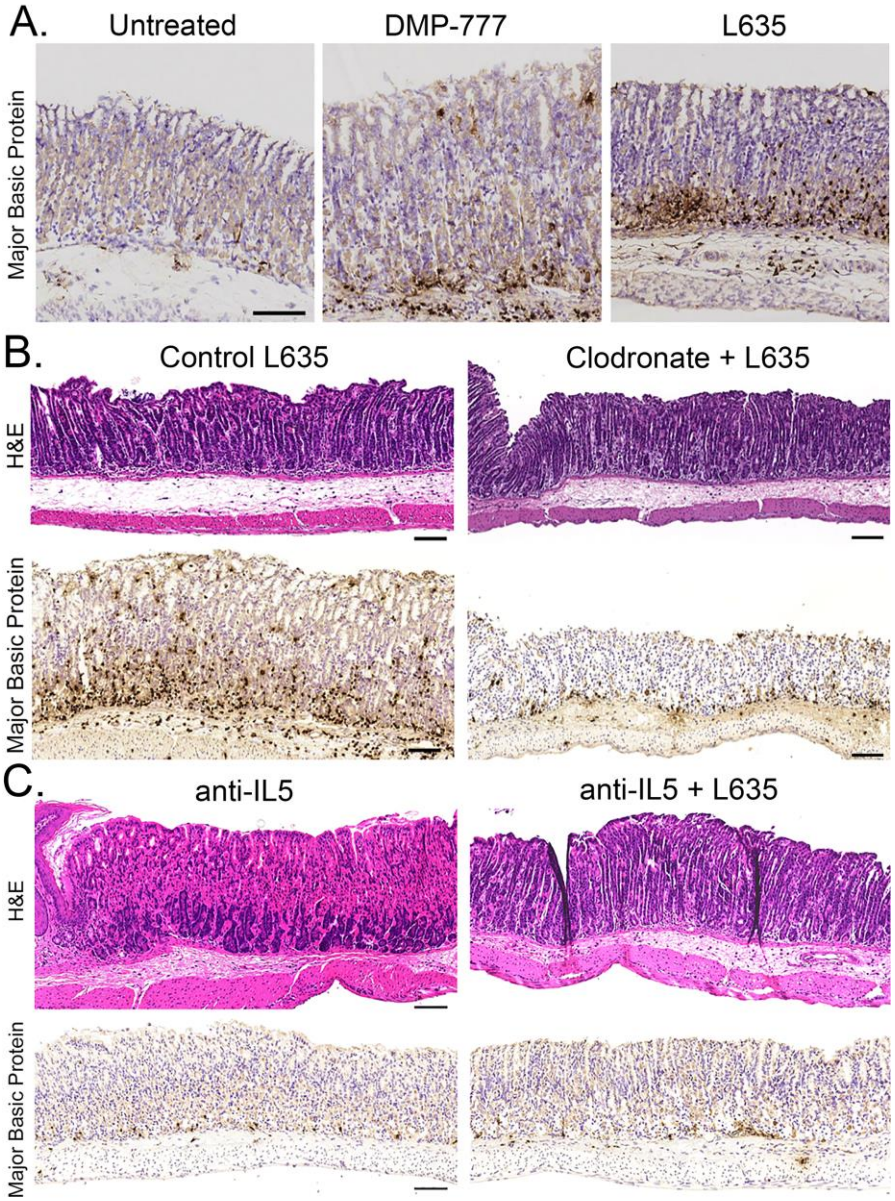


Supplemental Figure 3. Ym1 expression is lost in L635-treated IL-33, ST2 and IL-13 deficient mice. Relative expression of Ym1 transcripts using quantitative PCR. Results are normalized to the expression of GAPDH and relative expression of Ym1 for each mouse model is shown compared to wild-type L635. In each of the untreated mouse models tested, there was no detectable expression of Ym1 transcript (data not shown).



Supplemental Figure 4. Eosinophil infiltration into the stomach after acute parietal cell loss is dependent on macrophages and IL-5. A. Eosinophil specific Major Basic Protein IHC of wild-type untreated, DMP-777-treated, and L635-treated mice to visualize eosinophil granules. Wild-type untreated mice have a few eosinophils within the mucosa, which increases after acute parietal cell loss in DMP-777 and L635-treated mice. **B.** H&E and Major Basic Protein IHC of L635-treated and L635-treated macrophage-depleted (clodronate-treated) mice. Parietal cell loss can be visualized after L635-treatment in both models. After L635 treatment, increased eosinophils are observed within the mucosa. There is less eosinophil infiltration into the mucosa in L635-treated macrophage-depleted mice

compared to wild-type L635-treated mice. **C.** Wild-type mice were treated with two IP injections of anti-IL-5 prior to and one dose during the three days of L635 treatment to prevent eosinophil activation and trafficking into the mucosa. H&E and Major Basic Protein IHC of control anti-IL-5-treated mice and anti-IL-5 with L635-treated mice were compared. Anti-IL-5 treatment did not impact the stomach of wild-type mice or impact the effectiveness of L635 treatment to cause parietal cell loss. Eosinophil infiltration was not observed in the mucosa in anti-IL-5 and L635-treated mice. Scale bars = 100 μm.



Supplemental Figure 5. Expression of IL-13rα1 receptor in the mouse gastric corpus mucosa. Immunofluorescence staining was performed in sections of mouse corpus with antibodies against IL-13rα1 receptor (red) and chief cell granule marker GIF (green) along with nuclear staining with DAPI (blue). Higher magnification inset is shown at right. Scale bars = 100 μm.