

***Helicobacter pylori*  $\gamma$ -glutamyl transferase contributes to colonization and differential recruitment of T cells during persistence.**

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**Supplementary Figure 1. Confirmation of *H. pylori*  $\Delta$ gGT mutant and assessment of pathology at day three.** (a) Colonization level of mice inoculated with *H. pylori* PMSS1  $\Delta$ gGT was assessed by plating serial dilutions on plates without and with 50  $\mu$ g/ml kanamycin. Number of colony forming units (CFU) from each sample plated on either plate did not differ according to Wilcoxon signed rank test. (b) Inflammatory score in stomach of mice at three days post infection. (c) Chloroacetate esterase (CAE) staining and CD3<sup>+</sup> cells detected by immunohistochemistry in gastric tissue samples after three days of infection. (d) C57Bl/6 mice were inoculated with *H. pylori* wt,  $\Delta$ gGT, or a combination of both. Bacterial load was analysed after one month. Data are derived from three independent inoculations (four to eight mice per group). (e) PCR of the gGT locus that encompasses the kanamycin resistance cassette. (f) gGT activity of *H. pylori* PMSS1 parental strains and reisolates. (g) C57Bl/6 mice were infected with *H. pylori* wt or  $\Delta$ gGT parental strain or *H. pylori*  $\Delta$ gGT that had been isolated from mice that had been colonized with *H. pylori*  $\Delta$ gGT before for ten days (d10) or one month at high and low levels. Mice were analysed at one month post infection.

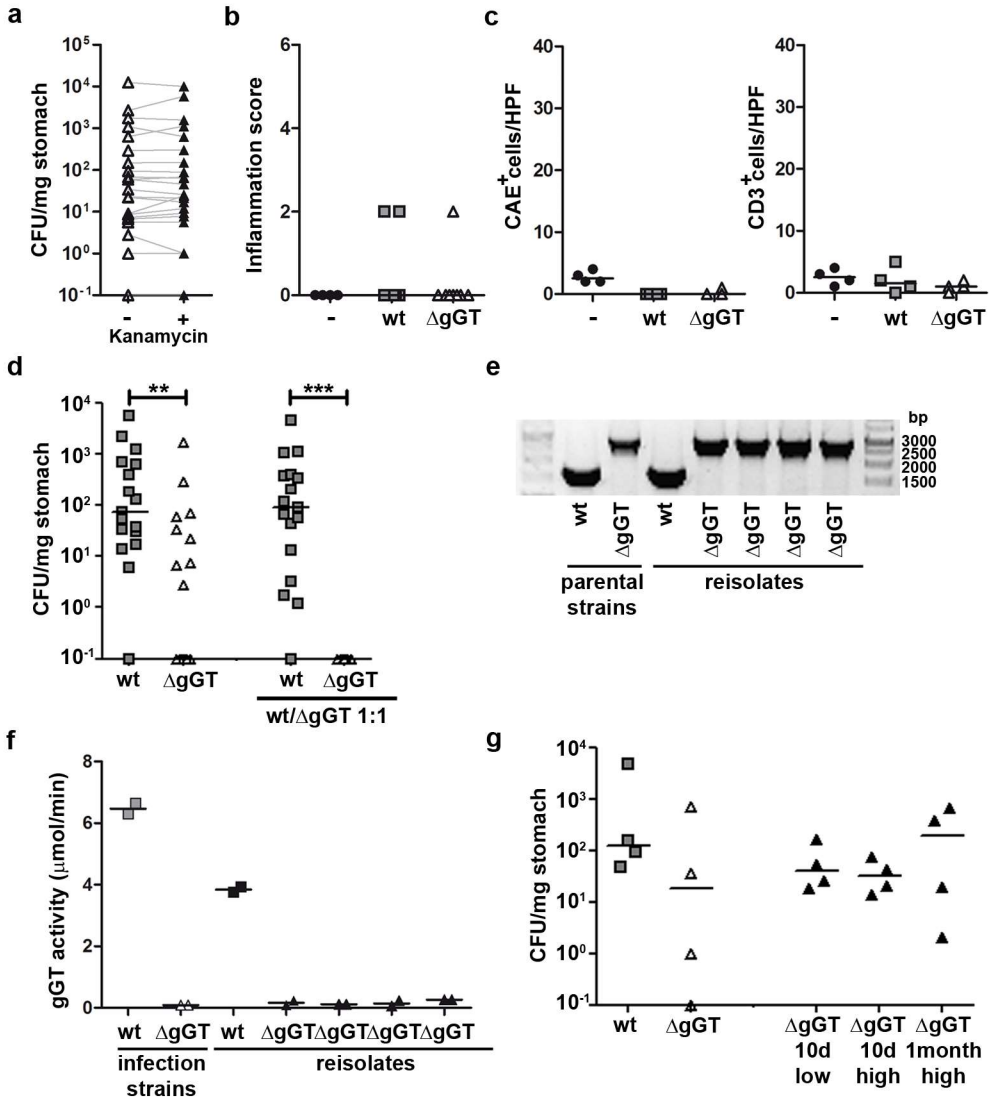
**Supplementary Figure 2. Long-term effects of gGT deficiency on gastric immunopathology.** Mice were infected with *H. pylori* wt or  $\Delta$ gGT for six months. (a) Representative hematoxylin-eosin (HE), chloroacetate esterase (CAE) and CD3 and CD8 stainings of gastric tissue samples. (b) Number of neutrophils (CAE<sup>+</sup> cells) per high power field (HPF) in the stomach of control and infected mice. (c) CD3<sup>+</sup> T cells per HPF observed in the stomach of mice.

Kruskal-Wallis test followed by Dunn's test for multiple comparisons. \* $p \leq 0.05$ , \*\* $p \leq 0.01$ . Horizontal bars indicate medians.

**Supplementary Figure 3. Correlation of gGT activity and gastric infiltration of T cells.** (a) gGT activity of *H. pylori* strains isolated from human gastric biopsies (C1-14) and mouse adapted control strains (G27 and PMSS1). (b) Spearman's correlation between gGT activity of *H. pylori* strains isolated from human gastric biopsies and CD3<sup>+</sup> cells infiltrating corresponding tissue samples.  $p=0.8873$ . (c) Spearman's correlation between gGT activity of

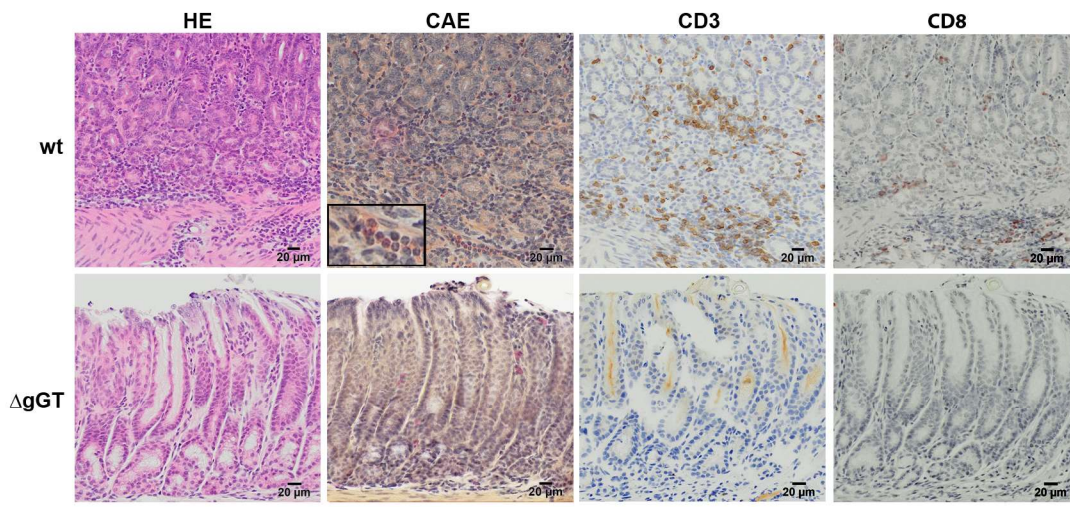
*H. pylori* strains isolated from human gastric biopsies and CD4<sup>+</sup> cells infiltrating corresponding tissue samples.  $p=0.2140$ .

Supplementary Figure S1

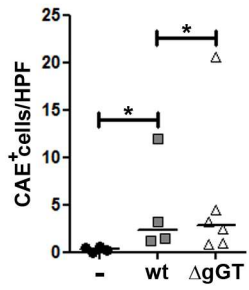


# Supplementary Figure S2

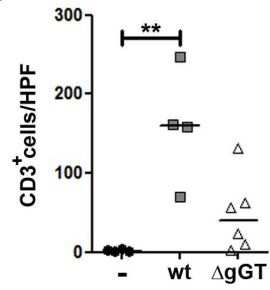
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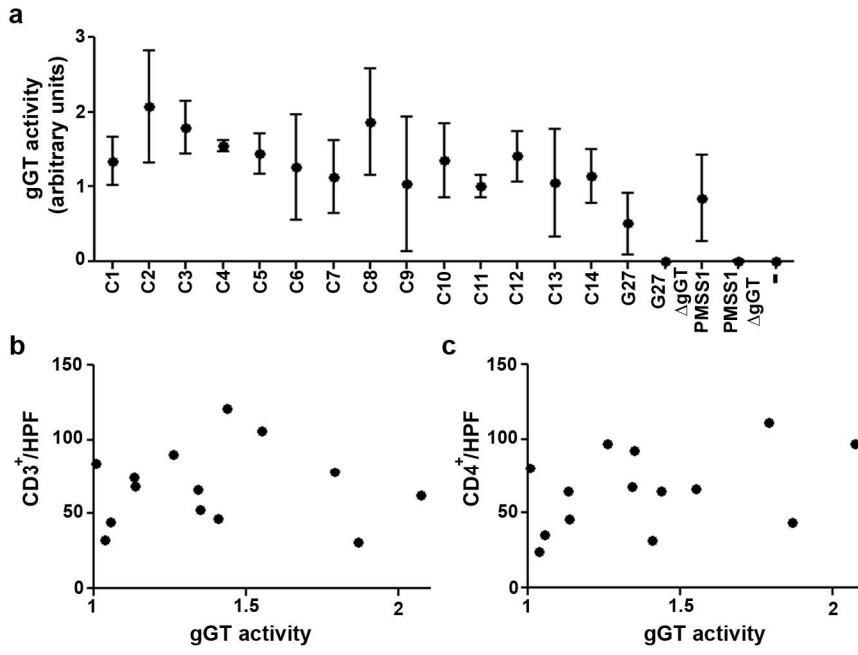
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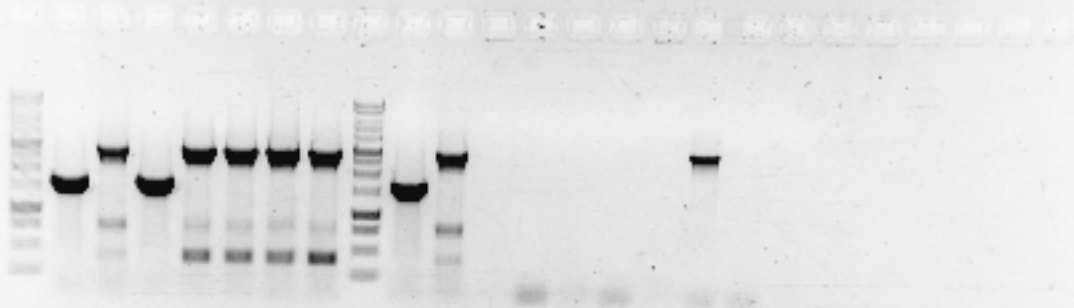


c



### Supplementary Figure S3





**Supplementary Figure S1e**