

## Supplementary data

### Membrane-bound $\beta$ -catenin degradation is enhanced by ETS2-mediated Siah1 induction in *Helicobacter pylori*-infected gastric cancer cells

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### *siah1* primers

***siah1* forward:** 5' AAAAGCTTCAAATGAGCCGTCAGACTGCTACAGCATT 3'

***siah1* reverse:** 5' CCTCGAGTCAACACATGGAAATAGTTACATTGATG 3'

### *siah1* 5' UTR primers

**WT forward:** 5' AAGGTACCAGCAACGGTAGC 3'

**WT reverse:** 5' ATTAAGCTTTGTGGCGGAGAG 3'

**EBS mutant:** 5' GTCGGTCTCGGCGCCATTAAGAGGCGGTGGCGC 3'

### *siah1* 5' UTR EBS oligos for *in vitro* binding assay

**5' biotinylated WT forward:** 5' TCTCGGCGCCGGAAGAGGCGGTGGCG 3'

**5' biotinylated WT reverse:** 5' CGCCACCGCCTCTTCCCGGCGCCGAGA 3'

**5' biotinylated mutant forward:** 5' TCTCGGCGCCATTAAGAGGCGGTGGCG 3'

**5' biotinylated mutant reverse:** 5' CGCCACCGCCTCTTAATGGCGCCGAGA 3'

### Primers for ChIP assay

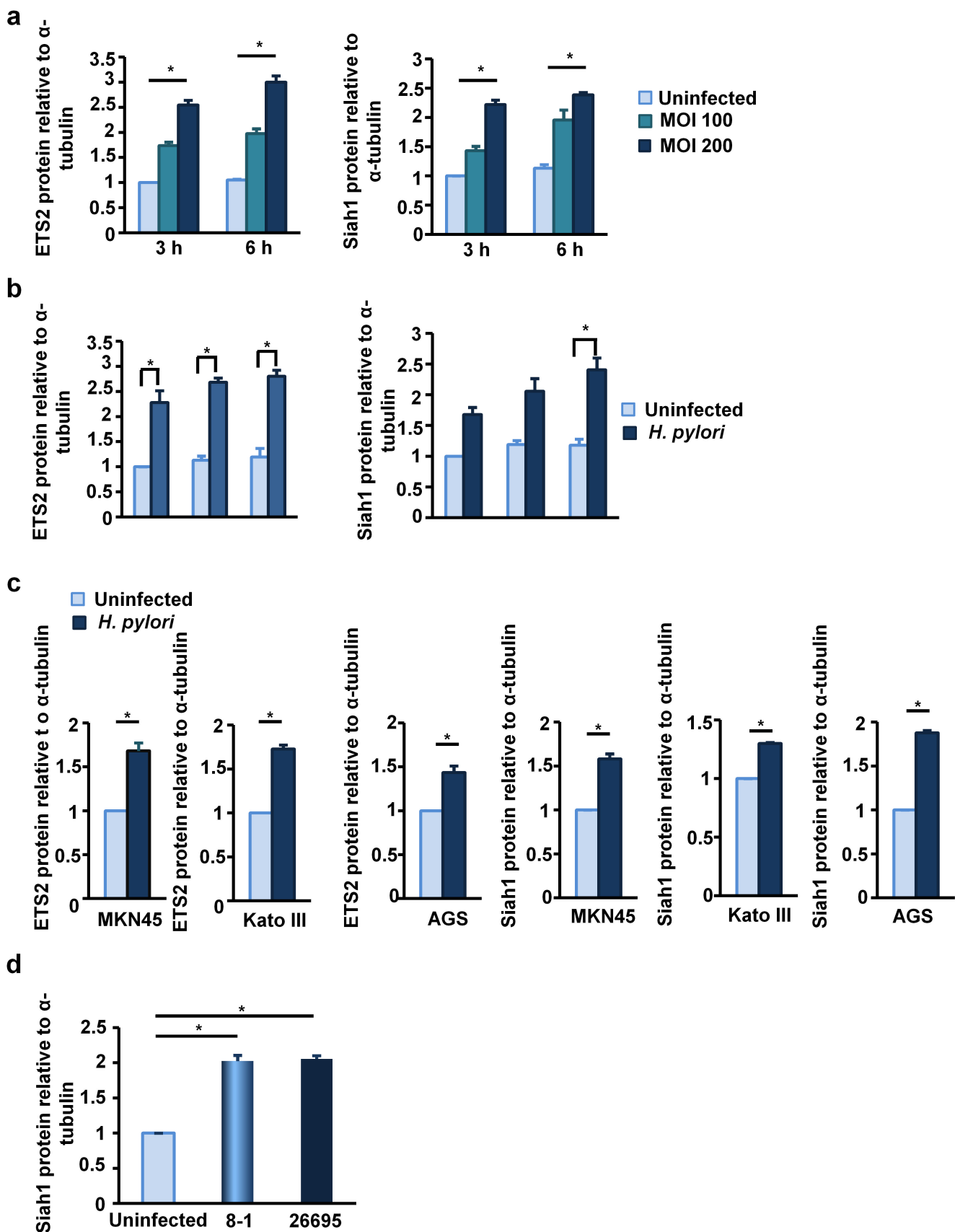
**Forward (Specific):** 5' CGCAGTGTGTGGTATTTAGCG 3'

**Reverse (Specific):** 5' TCCTGGCACCAACGCG 3'

**Forward (Non Specific):** 5' AACACTAGCCACTACTTGAGGTTTA 3'

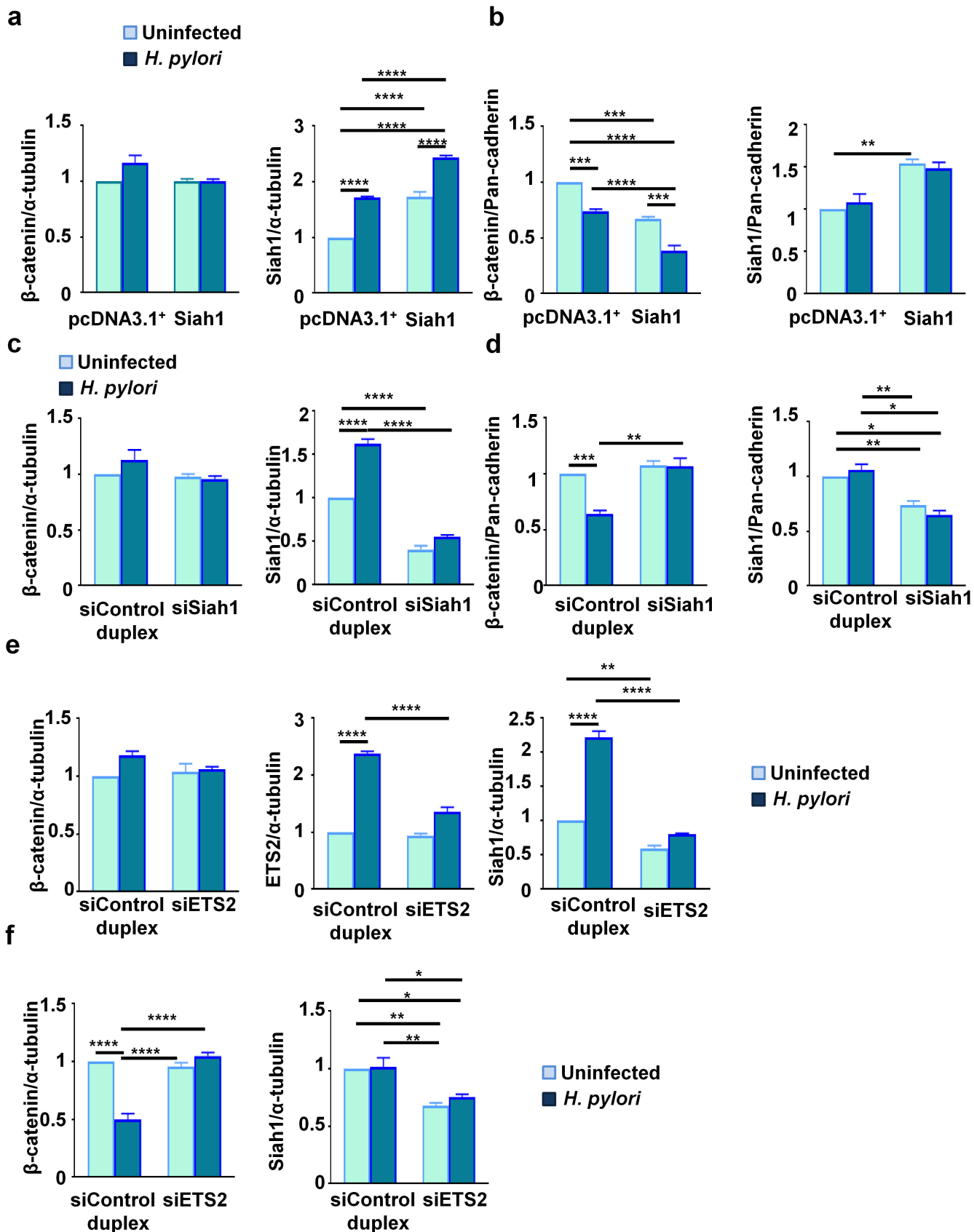
**Reverse (Non Specific):** 5' GCAGCTTTTGATGGTGGCTTTAC 3'

**Supplementary Figure 1.** List of primers and oligonucleotides used in the study. Underlined is the EBS. Mutations are shown in boldfaced italics.

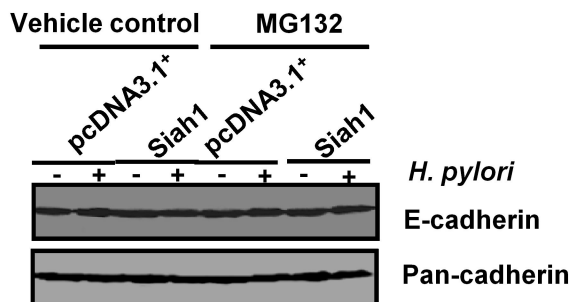
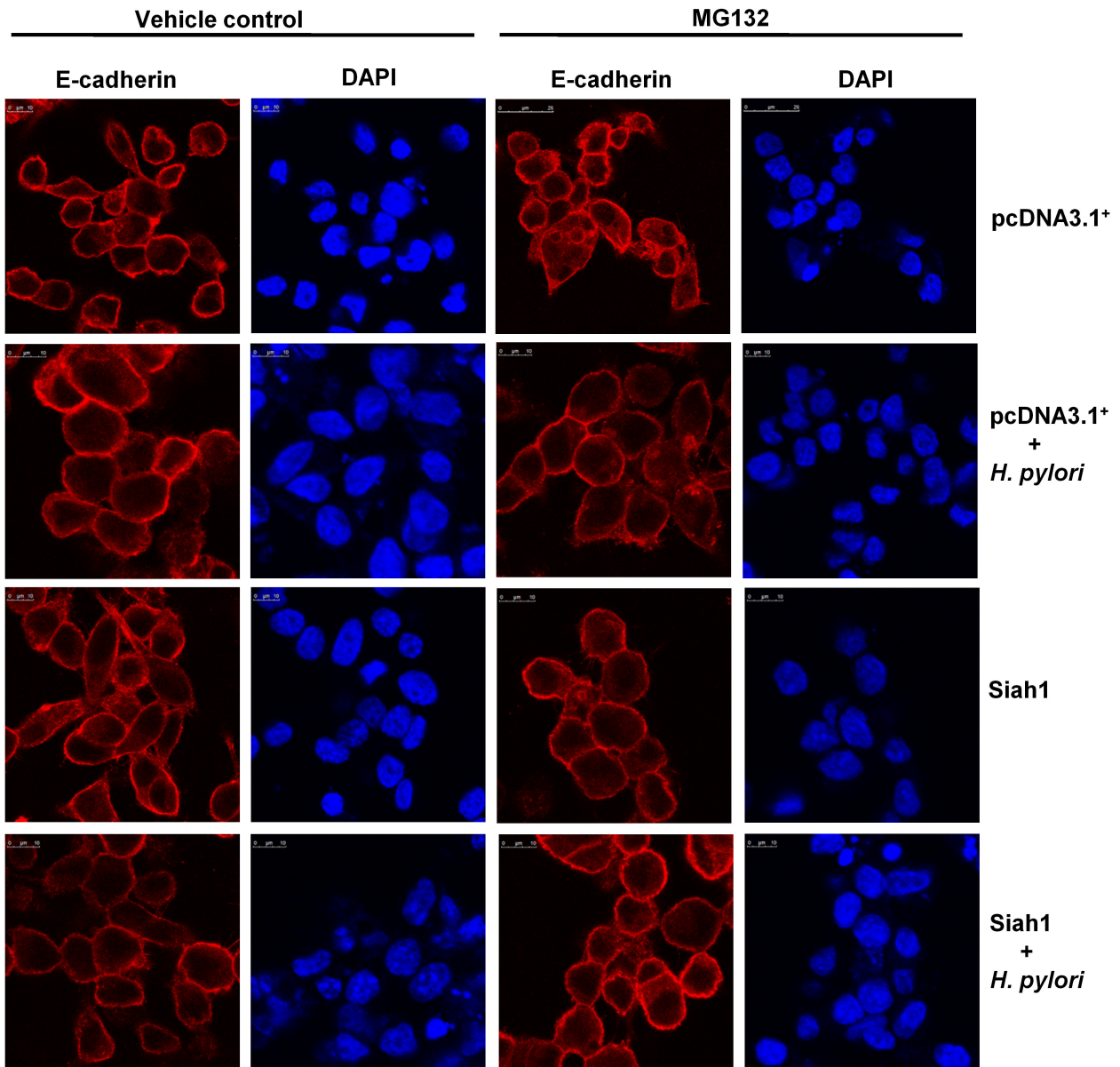


**Supplementary Figure 2.** Induced ETS2 and Siah1 expression in *H. pylori*-infected GGCs. Graphical representations of Fig. 3a-3d (mean  $\pm$  SEM, n=3) \* $P < 0.05$ .

Protein level relative to loading control (Expressed as Protein/loading control)



**Supplementary Figure 3.** Increased membrane-bound β-catenin degradation in *H. pylori*-infected GCCs is mediated by Siah1. Graphical representations of Fig. 6a-f (n=3). Data are analyzed by 2-way ANOVA with Tukey's post hoc test. Error bars, SEM. \**P* < 0.05; \*\**P* < 0.01; \*\*\**P* < 0.003; \*\*\*\**P* < 0.0001.



**Supplementary Figure 4.** The status of Membrane bound E-cadherin in *H. pylori* infected GCCs. A representative confocal microscopy result (n=4) showing E-cadherin expression in *H. pylori*-infected MKN45 cells. Accompanying western blot result showing level of E-cadherin in the above experiment.