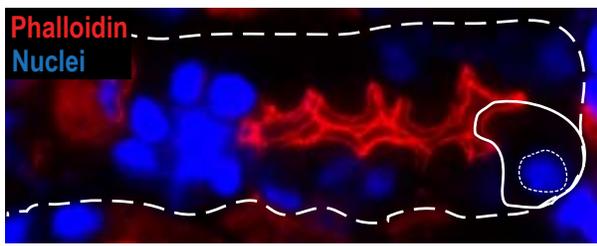
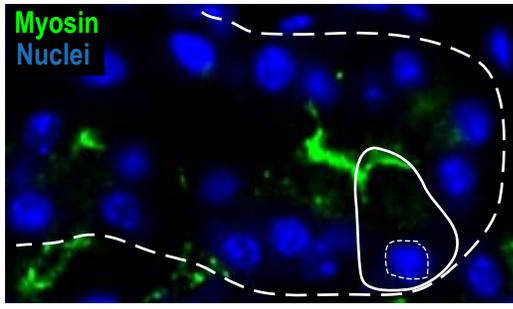
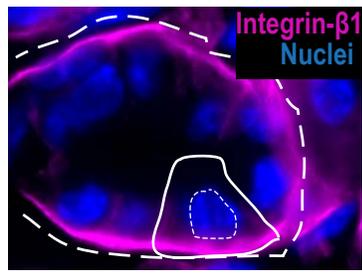
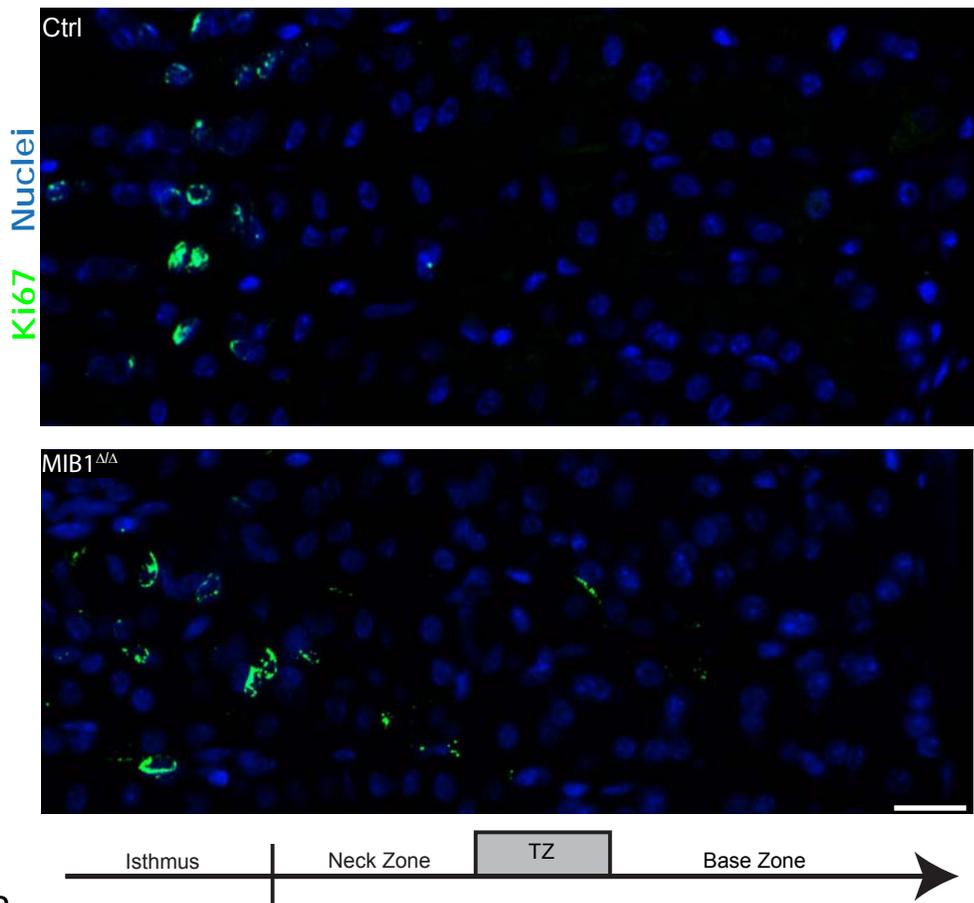


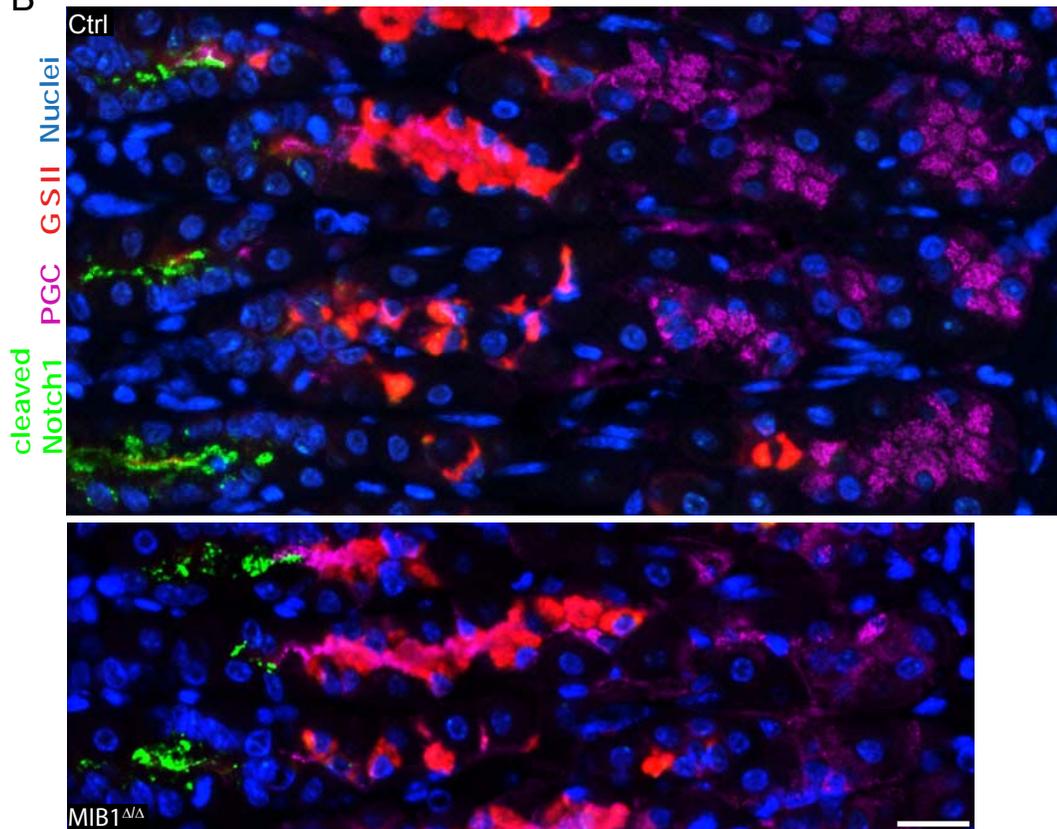
A**B****C**

Supplemental Figure 1. ZC morphology highlighted by pattern of actin, myosin, and integrin immunolabeling. Cross sectional representation of an individual gastric unit (highlighted by dashed white line) stained with antibodies against (A) phalloidin (red), (B) non-muscle myosin II (green), and (C) integrin- β 1 (purple). Scale bars, 10 μ m.

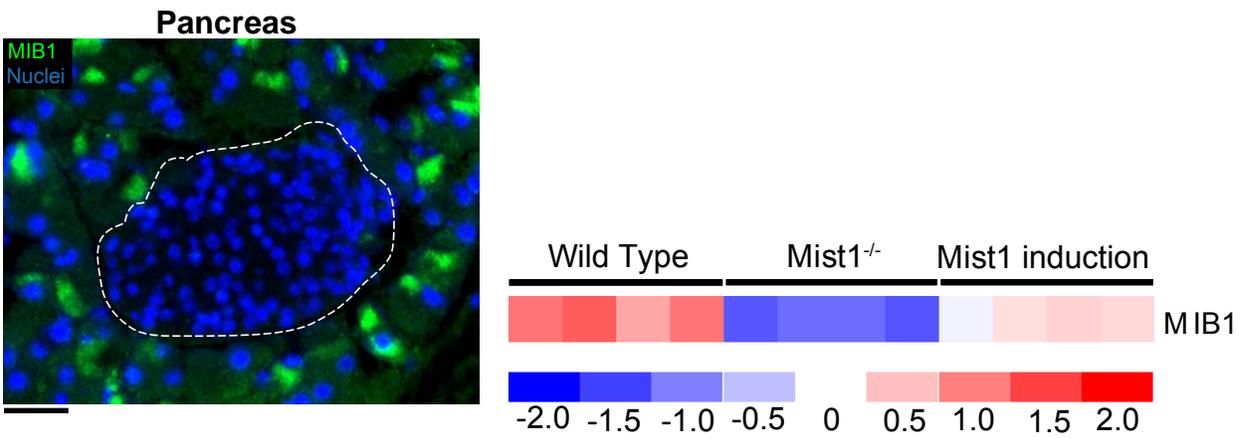
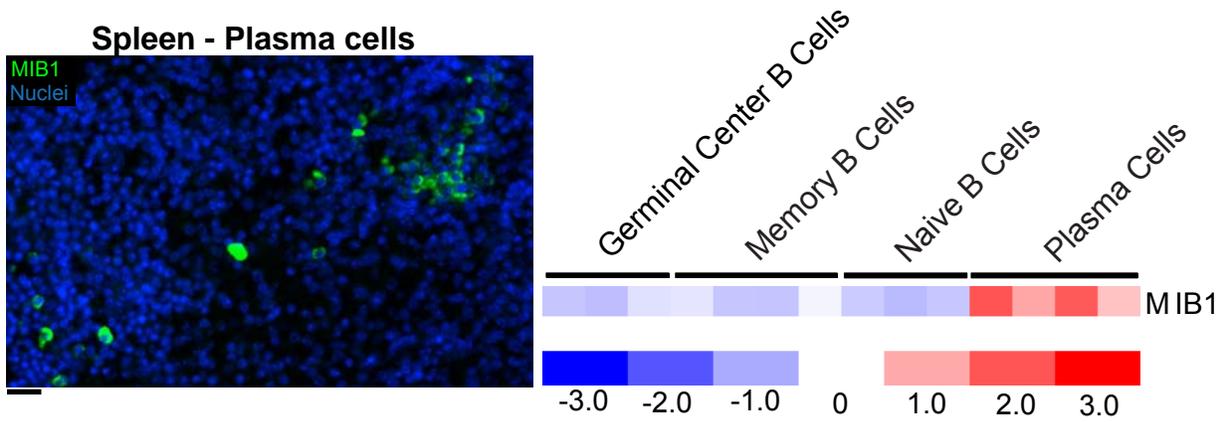
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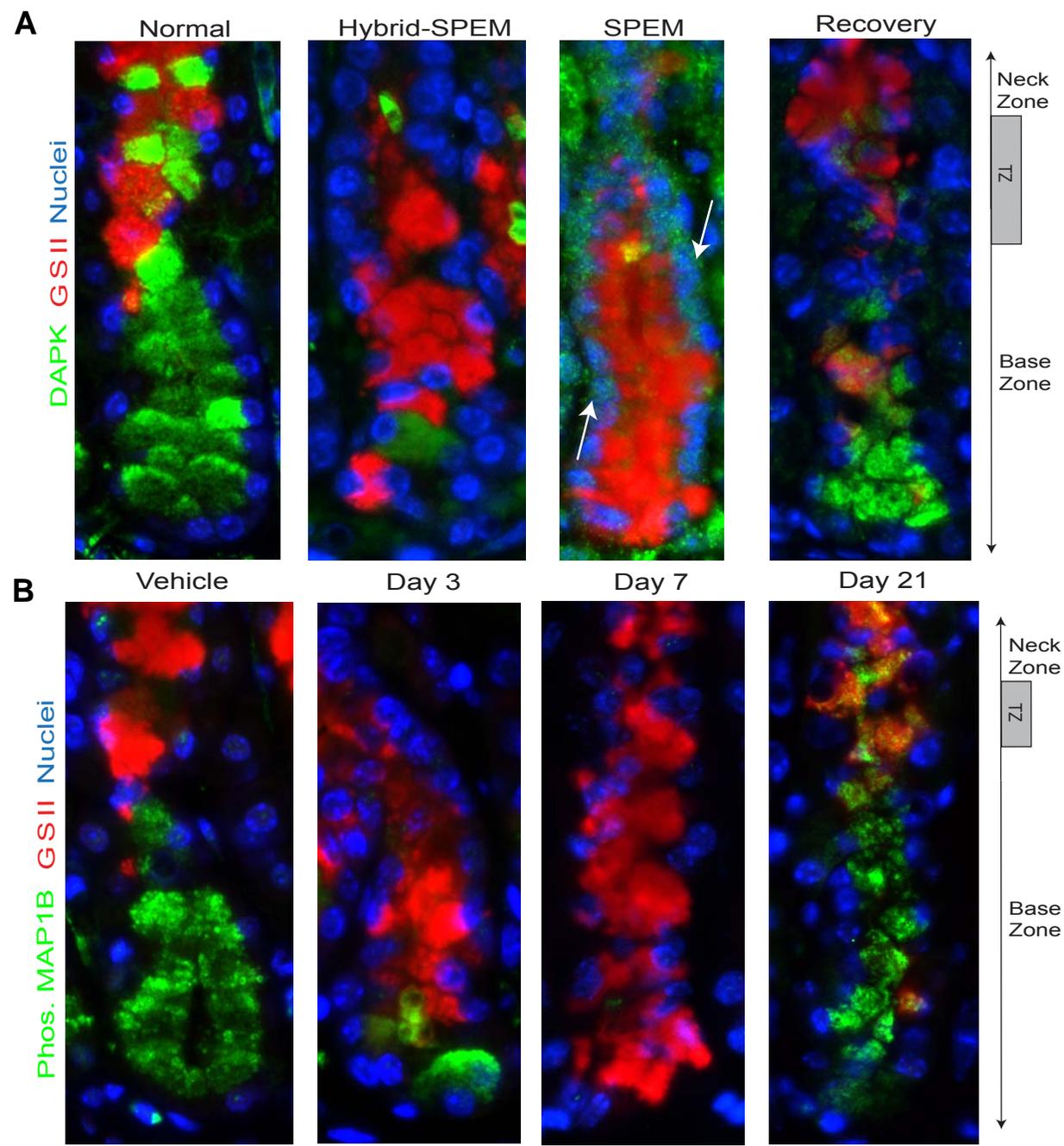
B



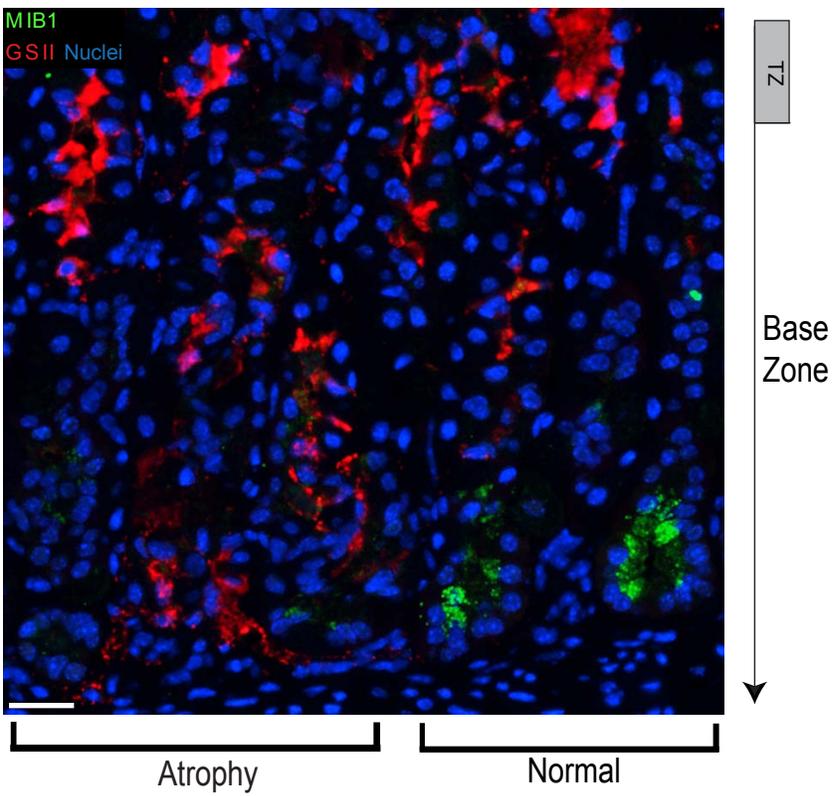
Supplemental Figure 2. Proliferation and Notch signaling in *Mib1*^{ΔΔ} mice. (A) Representative immunostain of gastric units from control and *Mib1*^{ΔΔ} mice stained for Ki67 (green) and Hoechst (blue, nuclei). (B) Gastric units stained for cleaved Notch1 (green), PGC (purple), GSII (red), and Hoechst (blue, nuclei). Scale bars, 20μm.

A**B**

Supplemental Figure 3. MIST1/MIB1 pathway is conserved in a cross-tissue fashion. (A) Mouse pancreas stained with MIB1 (green) and Hoechst (blue, nuclei). Islet outlined in white dotted line. Heatmap representing the expression values of the MIB1 probeset in wild type, *Mist1*^{-/-}, and *Mist1* induced mice (n=4 per group) (gene chips from ref. 60). (B) Mouse spleen stained for MIB1 (green) and Hoechst (blue, nuclei). Heatmap representing MIB1 expression during B cell differentiation (gene chips from ref. 61). Scale bars, 20 μ m.

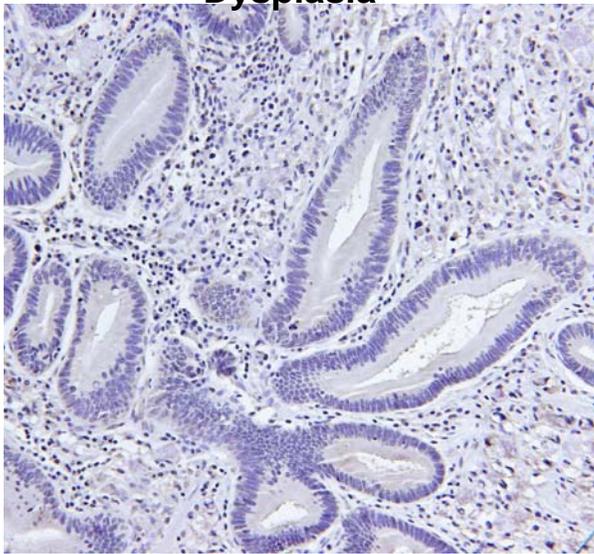


Supplemental Figure 4. DAPK and MAP1B phosphorylation during the progression of mouse SPEM. (A, B) Representative immunostain of mice treated with vehicle (left panels) or high-dose tamoxifen (5mg/20g weight). Sections were stained with DAPK (green, A) or phosphorylated MAP1B (green, B), GSII (red), and Hoechst (nuclei, blue). Arrows indicate sub-nuclear localization of DAPK at Day 7 post tamoxifen treatment. Scale bars, 20µm.

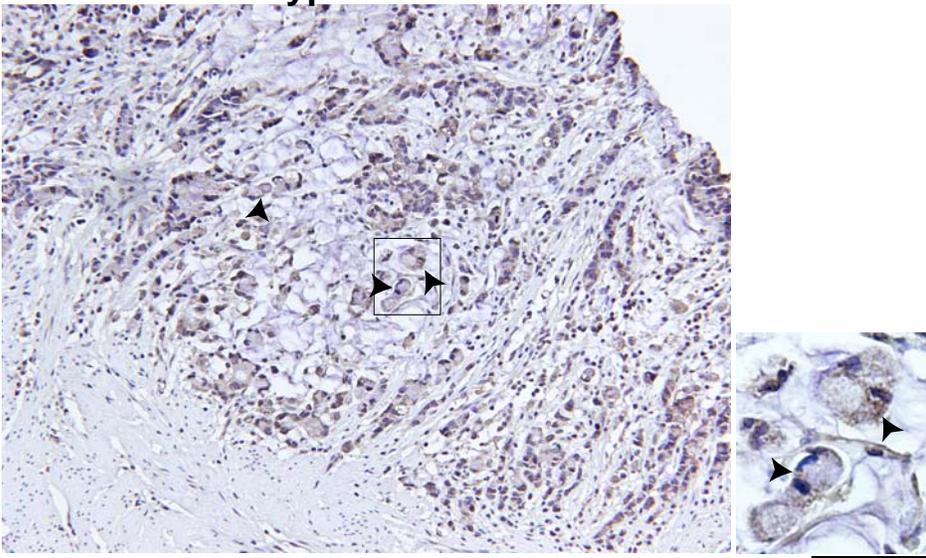


Supplemental Figure 5. MIB1 expression during *Helicobacter pylori* infection. Representative immunostain of stomach from mice 8 weeks after infection. Sections were stained with MIB1 (green), GSII (red), and Hoechst (nuclei, blue). Arrows indicate sub-nuclear localization of DAPK at Day 7 post tamoxifen treatment. Scale bars, 20 μ m.

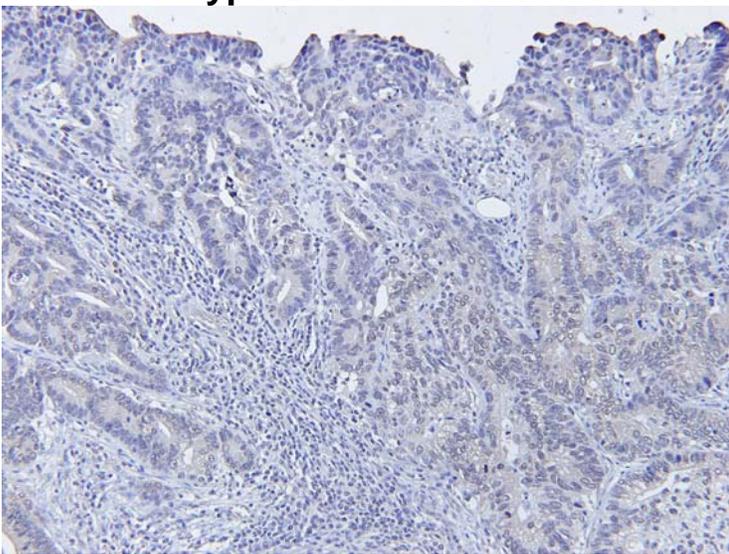
Dysplasia



Diffuse-type Gastric Cancer



Intestinal-type Gastric Adenocarcinoma



Supplemental Figure 6. Mindbomb1 in human epithelial neoplasia. (A) Low-grade intraepithelial dysplasia demonstrates no detectable Mindbomb1 staining (B) Diffuse-type gastric adenocarcinoma with signet ring morphology. Focal Mindbomb1 expression as shown with black arrowheads. (C) Well-differentiated intestinal adenocarcinoma without Mindbomb1 expression. Scale bars 50 μ m.