Images in Cellular / Molecular Medicine

Relation of *Helicobacter pylori* to mucins and mucous cells in human stomach *

Gastric mucosa without (A) or with *H. Pylori* infection (B).

A. Galactose-oxidase cold thionine Schiff reaction (GOTS) stained gastric surface mucous cell mucins blue. Paradoxical concanavalin A staining (PCS) stained pyloric gland cell mucins brown. Surface mucous gel layer had a characteristic structure consisting of laminated layers of two types of mucins: the surface mucous cell-type (blue) and the gland mucous cell-type (brown). Dual staining with GOTS-PCS. Carnoy-fixed gastric mucosa. Original magnification x10.

B. *H. pylori* is stained red by immuno-alkaline phosphatase method with anti-*H. pylori* antibody. Numerous *H. pylori* exist in the surface mucous gel layer as well as on, and between the surface mucous cells. In the surface mucous gel layer, *H. pylori* preferentially colonize in the layer of surface mucous cell type mucins. Dual staining of GOTS-PCS followed by immunostaining for *H. pylori*. Carnoy-fixed gastric mucosa. Original magnification x60)

Keywords: *Helicobacter pylori* • gastric mucin • mucous gel layer • immunohistochemistry

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Gastric mucosa with *H. pylori* infection

A. Immunostaining with anti-MUC5AC labels cytoplasm of gastric surface mucous cells (brown).

Numerous *H. pylori* (black) exist on, and between the gastric surface mucous cells. Immunoperoxidase method with anti-MUC5AC and anti-*H. pylori*. Original magnification x10.

B. Higher magnification of a region from A. Immunoperoxidase method with anti-MUC5AC and anti-*H. pylori*. Original magnification x20.

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