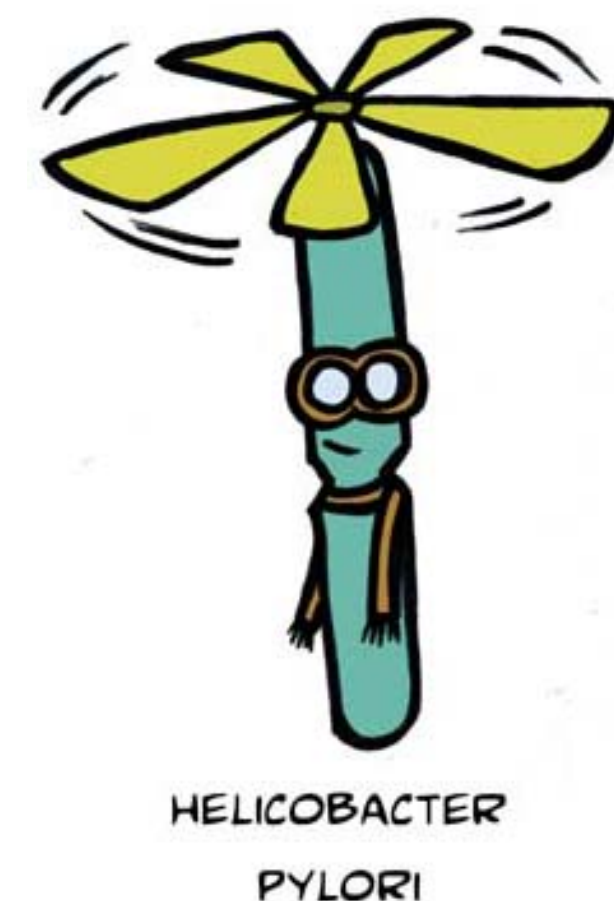


國立清華大學分子醫學研究所

高茂傑老師實驗室 (2)



Lipopolysaccharide in *Helicobacter pylori* pathogenesis and microbe-host interaction

Introduction:

Helicobacter pylori infection affects more than 50% of world's population and is associated with a wide spectrum of clinical outcomes including gastritis, peptic ulcer and gastric cancer. Lipopolysaccharide (LPS) is a major surface antigen of Gram-negative bacteria and is essential for the physical integrity and function of the bacterial outer membrane. In addition to contributing to host evasion, this outer membrane appendage is also involved in *H. pylori* adhesin glycosylation, outer membrane vesicle (OMV) formation and immune modulation. The interaction between LPS and host cells is believed to be related to disease development.

Specific Aims:

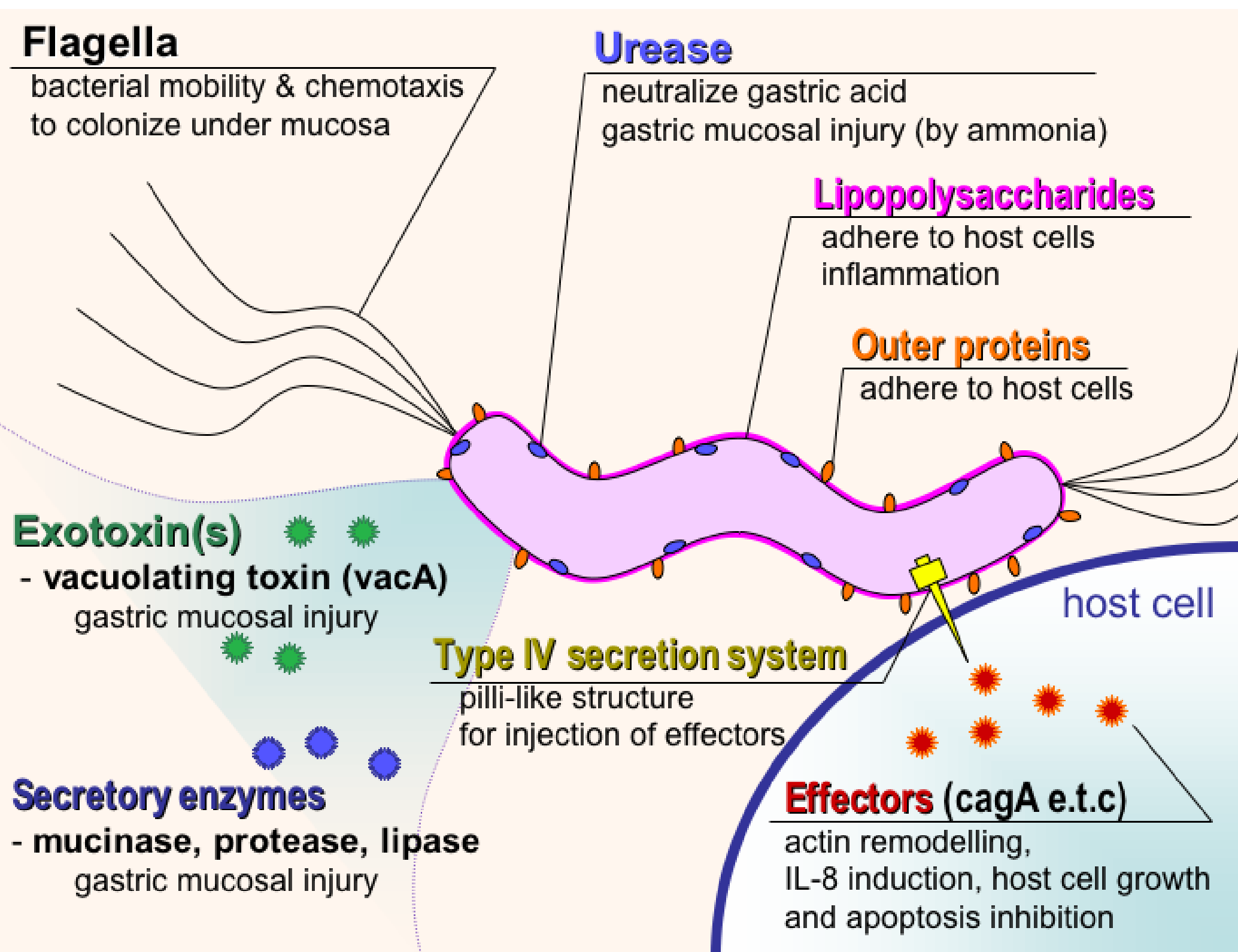
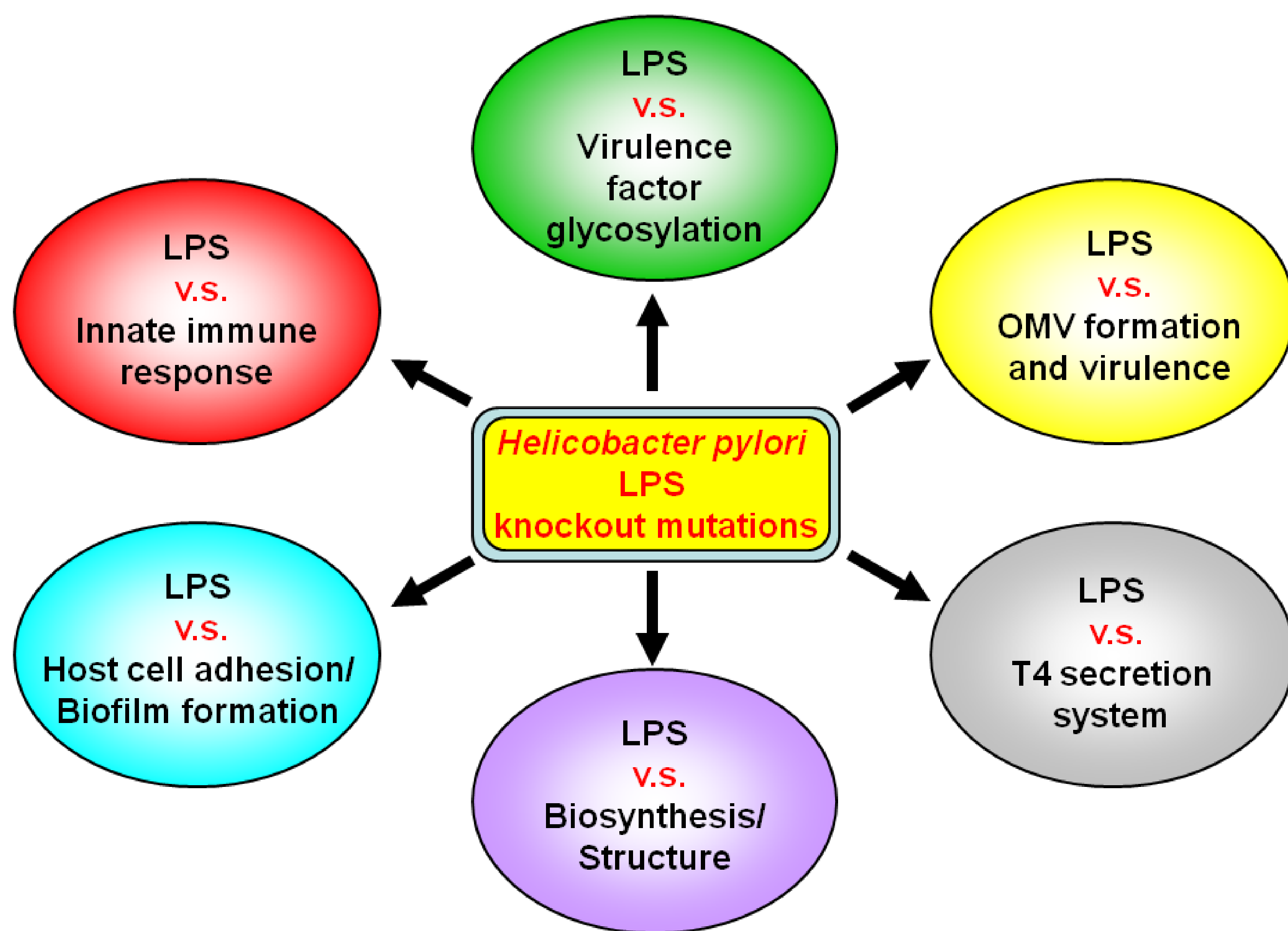


Figure 1: Virulence factors of *H. pylori*.

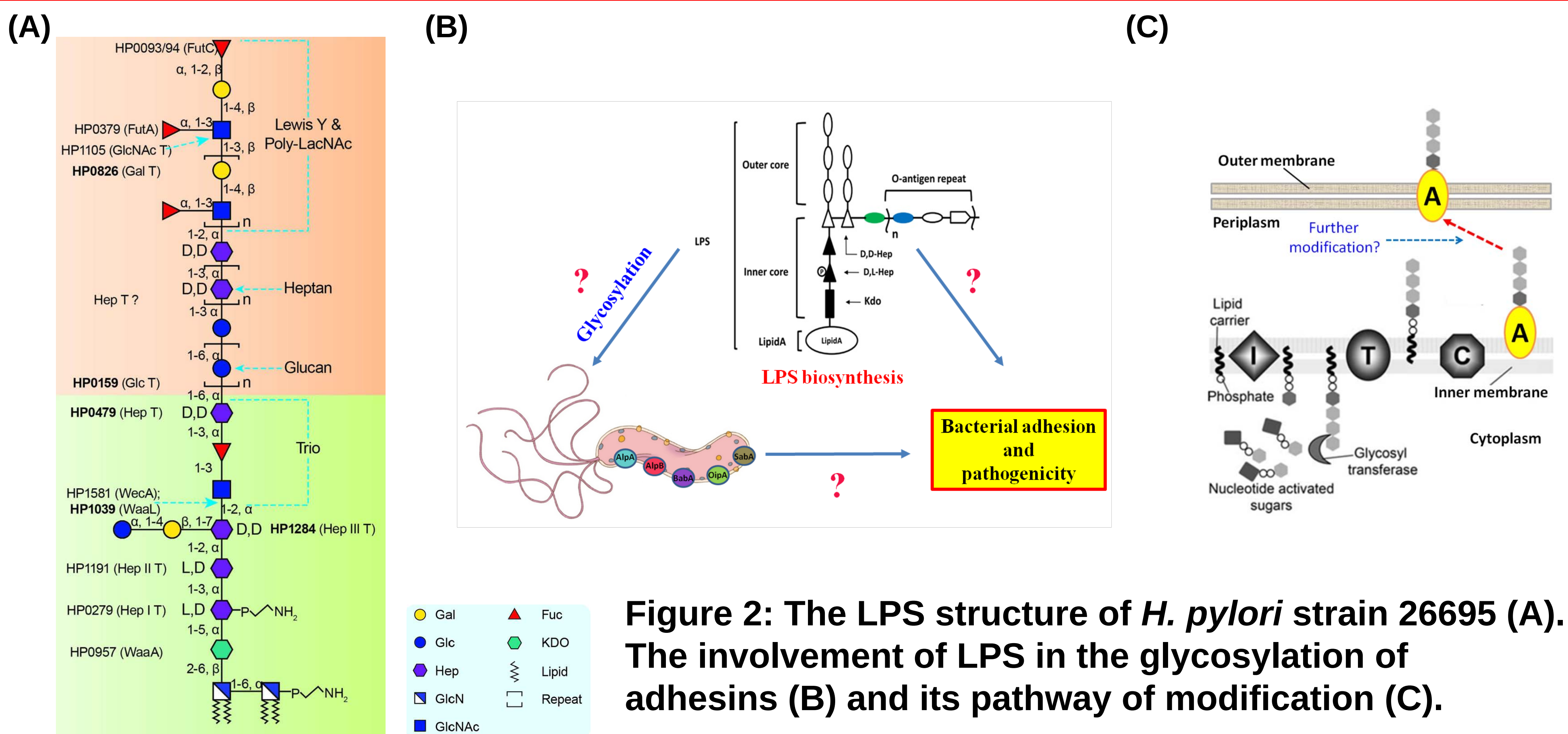


Figure 2: The LPS structure of *H. pylori* strain 26695 (A). The involvement of LPS in the glycosylation of adhesins (B) and its pathway of modification (C).

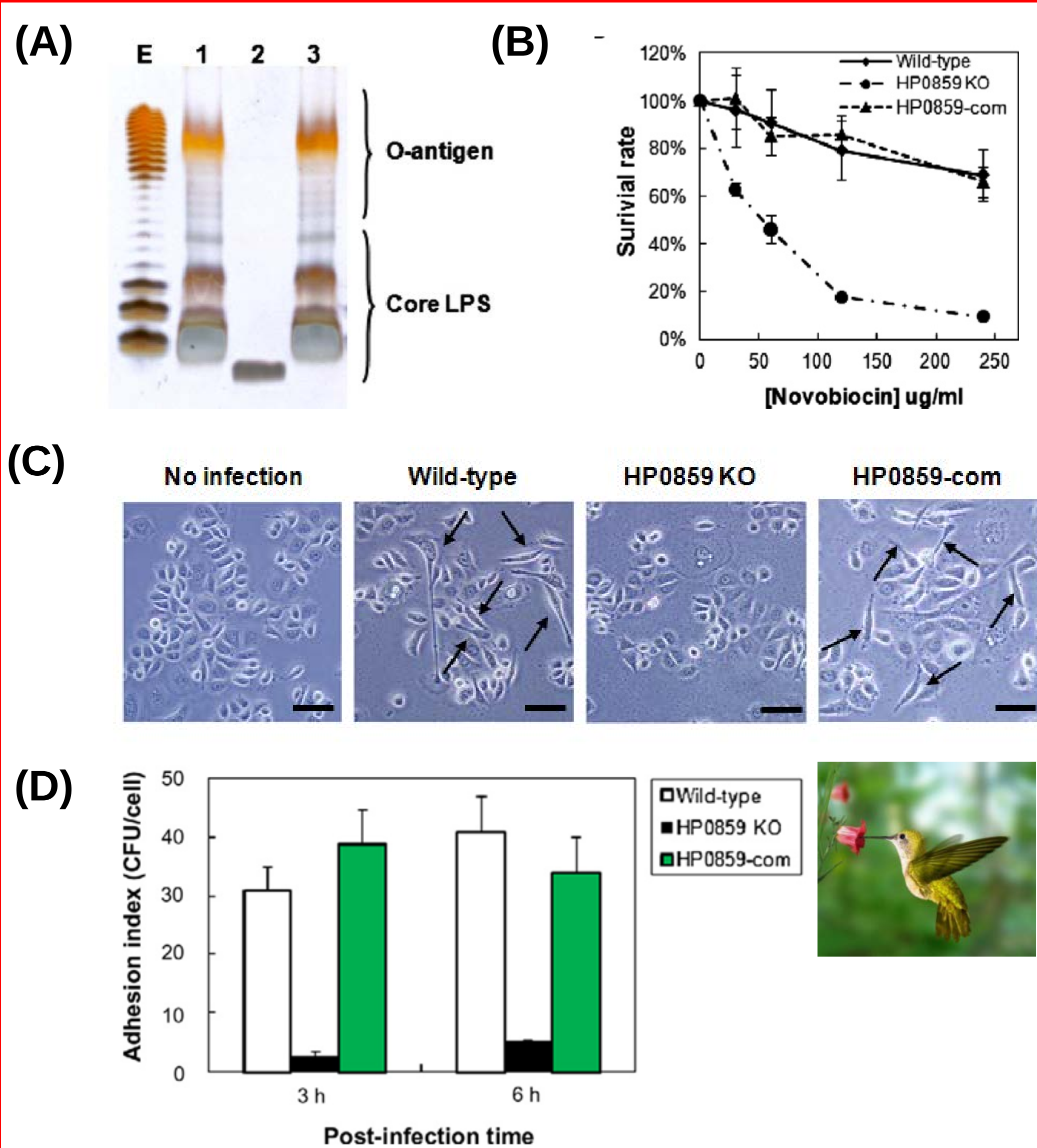


Figure 3: The effect of HP0859 mutations on LPS profile (A), novobiocin resistance (B), AGS cell morphological changes (C), and adhesion (D) after infection of *H. pylori*.

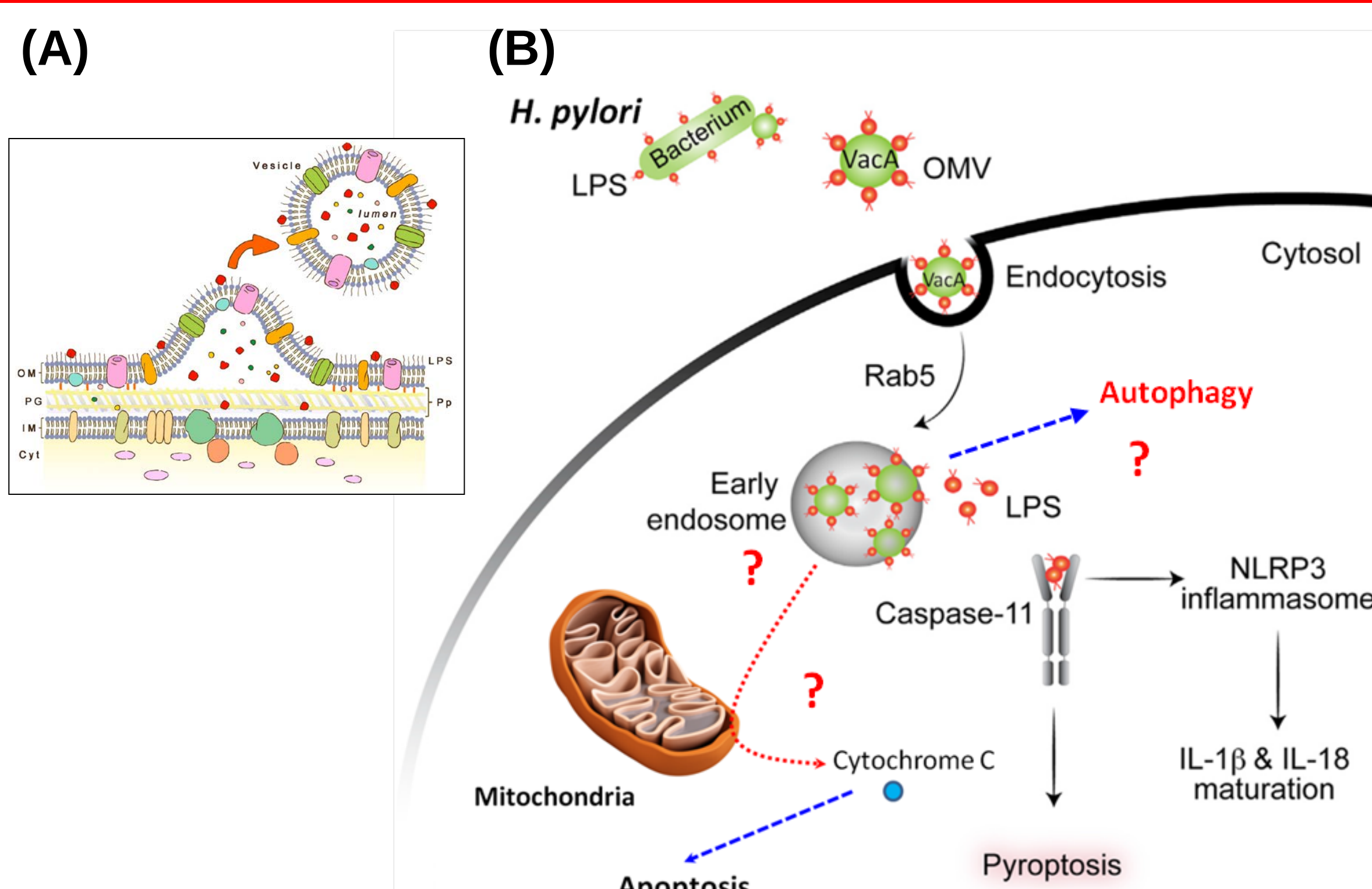


Figure 4: (A) The involvement of LPS in the formation of outer membrane vesicles (OMVs) and protein sorting. (B) The delivery of virulence factors through OMVs and its biological effects.

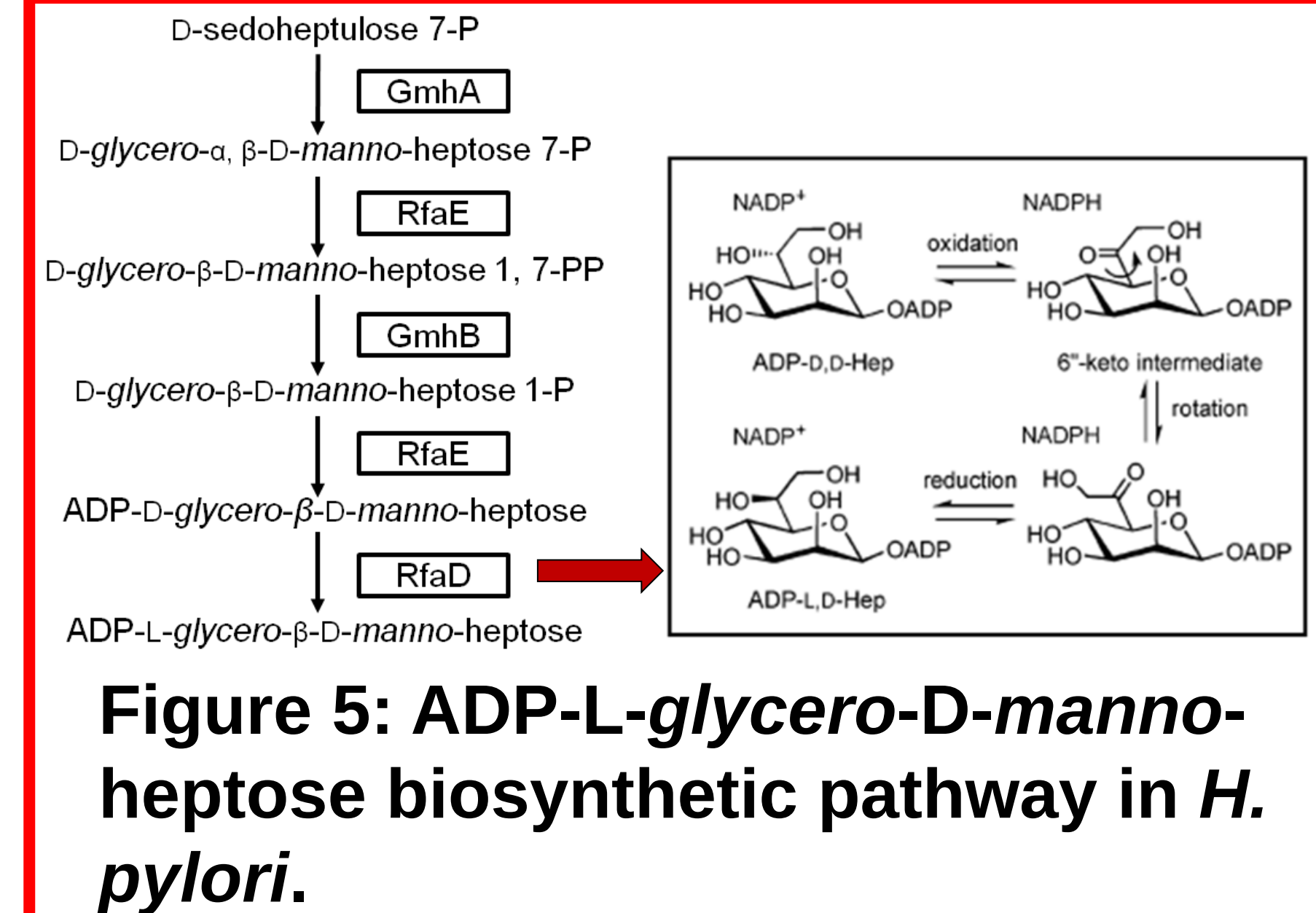


Figure 5: ADP-L-glycero-D-manno-heptose biosynthetic pathway in *H. pylori*.

