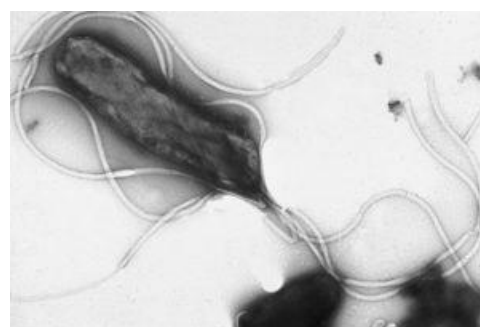
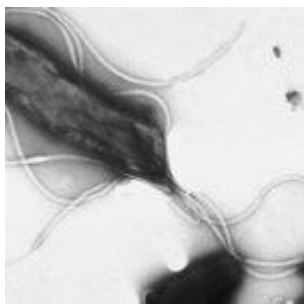


# Potential therapeutic use of *H. pylori* for asthma



Electron micrograph of *H. pylori* possessing multiple flagella (negative staining. Yutaka Tsutsumi, M.D., Wikimedia, Commons.

*Helicobacter pylori* is a bacteria that resides in the gut and is well known for its association with gastric ulcers, gastritis and gastric cancer. Recent studies highlight beneficial effects of *H. pylori* infection against the development of some chronic diseases, such as asthma. Researchers aimed to determine the therapeutic effect of *H. pylori*, against house dust mite (HDM) induced allergic airway inflammation.

Murine studies have shown that neonatal exposure to *H. pylori* or bacterial extracts from *H. pylori* can be beneficial and result in reduced allergic airway disease. Beneficial effects

of *H. pylori* have been attributed to the induction of tolerogenic Dendritic Cells (DCs) and regulatory T cells (T-regs) in an IL-18 and IL-10 dependent mechanism. However, these studies measured the effect of *H. pylori* as a prophylactic and not a therapeutic.

Van Wijck *et al.*, observed a reduction in allergen-specific IgE and IgG1 serum levels, allergen induced lung inflammation and airway mucus production in response to *H. pylori* extract treated mice compared to control mice sensitized with HDM. Treatment with *H. pylori* extract also resulted in reduction of the ratio of CD11b+ (pro-inflammatory)/ CD103+(tolerogenic) DCs, as well as reduction in ability of DCs to present antigen.

This research highlights the novel use of *H. pylori* extract as a therapeutic agent for asthma. Researchers showed that this effect is mediated by reduction of proinflammatory CD11b+CD64+ DCs and antigen presentation capacity of DCs in the presence of *H. pylori* extract. However, further studies are required to determine what other immune modulatory effects are associated with *H. pylori* treatment of allergic airway disease.

Journal Article: Van Wijck *et al.*, 2018. [Therapeutic Application of an Extract of Helicobacter pylori Ameliorates the Development of Allergic Airway Disease.](#) Journal of Immunology

*Journal Article by Cheleka AM Mpande*