Helicobacter pylori Therapeutic Vaccine IMX101

National Cancer Institute

Source

National Cancer Institute. Helicobacter pylori Therapeutic Vaccine IMX101. NCI Thesaurus. Code C153374.

A Helicobacter pylori (H. pylori) therapeutic vaccine comprised of three components: two antigens, the immunosuppressive antigen, gamma-glutamyl transpeptidase (GGT), and an as of yet not disclosed H. pylori outer membrane protein and mucosal adjuvant, which consists of a fusion protein containing two domains, with potential immunostimulating and H. pylori-eradicating activities. Upon administration of the H. pylori therapeutic vaccine IMX101, the GGT antigen, which is an immune evasion factor, elicits a strong B-cell-mediated immune response against the GGT antigen, thereby generating neutralizing antibodies that bind to and inhibit GGT. This inhibits H. pylori's central immune evasion mechanism and enables the immune system to elicit a strong cytotoxic T-lymphocyte (CTL)-mediated immune response against the second outer membrane protein antigen, thereby killing H. pylori. The third component contains a domain that targets immune cells present near the site of H. pylori infection in the stomach. Once taken up by immune cells, the second domain is able to activate and enhance the immune response against H. pylori antigens. H. pylori infections may lead to gastritis and in some cases gastric cancer. GGT plays a key role in H. pylori's immune evasion mechanisms.