

CagA (b-300): sc-25766

BACKGROUND

Helicobacter pylori is a spiral shaped bacterium that accounts for 80 percent of stomach ulcers and more than 90 percent of duodenal ulcers. Infection with *H. pylori* is also associated with the development of gastric cancer. The vacuolating toxin VacA is a major determinant of *H. pylori*-associated gastric disease. In non-polarized cells, VacA alters the endocytic pathway, resulting in the release of acid hydrolases and the reduction of both extracellular ligand degradation and antigen processing. The toxin forms *trans*-membrane anion-specific channels and reduces the transepithelial electrical resistance of polarized monolayers. Localization of the VacA channels in acidic intracellular compartments causes osmotic swelling; which, together with membrane fusion, leads to vacuole formation. This protein has recently been shown to be an important antigen in the human immune response to *H. pylori* infection. Cytotoxin associated gene A, otherwise known as CagA, is closely associated with that of VacA. CagA induces morphological changes in the host, as well as inducing actin reorganization, variations in the cell cycle and autocrine effects.

REFERENCES

1. Konturek, P.C., et al. 1999. *Helicobacter pylori* associated gastric pathology. J. Physiol. Pharmacol. 5: 695-710.
2. McGee, D.J. and Mobley, H.L. 1999. Mechanisms of *Helicobacter pylori* infection: bacterial factors. Curr. Top. Microbiol. Immunol. 241: 155-180.
3. Graham, D.Y. and Yamaoka, Y. 2000. Disease-specific *Helicobacter pylori* virulence factors: the unfulfilled promise. Helicobacter 1: S3-S9.

SOURCE

CagA (b-300) is a rabbit polyclonal antibody raised against amino acids 1-300 of CagA of *H. pylori* origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

CagA (b-300) is recommended for detection of CagA of *H. pylori* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of CagA: 120 kDa.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

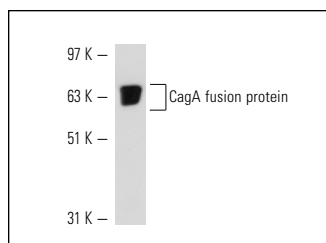
PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

DATA



CagA (b-300): sc-25766. Western blot analysis of *H. pylori* recombinant CagA fusion protein.

SELECT PRODUCT CITATIONS

1. Zhu, Y., et al. 2005. Transformed immortalized gastric epithelial cells by virulence factor CagA of *Helicobacter pylori* through Erk mitogen-activated protein kinase pathway. Oncogene 24: 3886-3895.
2. Kanada, R., et al. 2008. Genotyping of the cagA gene of *Helicobacter pylori* on immunohistochemistry with East Asian CagA-specific antibody. Pathol. Int. 58: 218-225.
3. Ye, Z., et al. 2008. ATP binding by monarch-1/NLRP12 is critical for its inhibitory function. Mol. Cell. Biol. 28: 1841-1850.
4. Jones, K.R., et al. 2009. Polymorphism in the CagA EPIYA motif impacts development of gastric cancer. J. Clin. Microbiol. 47: 959-968.
5. Takata, S., et al. 2009. Pathogenetic role of the tyrosine-phosphorylated CagA EPIYA sequence of *Helicobacter pylori* in histological gastritis in Japanese patients. J. Gastroenterol. 44: 405-411.
6. Ritter, B., et al. 2011. Differential effects of multiplicity of infection on *Helicobacter pylori*-induced signaling pathways and interleukin-8 gene transcription. J. Clin. Immunol. 31: 60-68.
7. Hitkova, I., et al. 2013. Caveolin-1 protects B6129 mice against *Helicobacter pylori* gastritis. PLoS Pathog. 9: e1003251.
8. Wang, Y.C., et al. 2014. *Helicobacter pylori* infection activates Src homology-2 domain-containing phosphatase 2 to suppress IFN-γ signaling. J. Immunol. 193: 4149-4158.
9. Costa, A.M., et al. 2016. *Helicobacter pylori* activates matrix metalloproteinase-10 in gastric epithelial cells via EGFR and ERK-mediated pathways. J. Infect. Dis. 213: 1767-1776.

MONOS
Satisfaction
Guaranteed

Try **CagA (A-10): sc-28368**, our highly recommended monoclonal alternative to CagA (b-300). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **CagA (A-10): sc-28368**.