



Helicobacter pylori



The *Helicobacter pylori* colonize and infect the stomach mucosa. That causes gastritis type B and duodenal ulceration, sometimes gastric ulceration as well. Chronic atrophic gastritis leads sometimes to a gastric adenocarcinoma.

Helicobacter pylori are spirally shaped, Gram-negative rods with lophotrichous flagellation (see fig.). The pathogenicity factors include pronounced motility for efficient target cell searching, adhesion to the surface epithelial cells of the stomach, urease that releases ammonia from urea to facilitate survival of the cells in a highly acidic environment and a vacuolizing cytotoxin (VacA) that destroys epithelial cells.

Once the pathogen has infected the stomach tissues an acute gastritis results, the course of which may or may not involve overt symptoms. The following sequelae may include:

- Mild chronic gastritis type B that may persist for years or even decades and is often asymptomatic.
- Duodenal ulceration, sometimes gastric ulceration as well.
- Chronic atrophic gastritis from which a gastric adenocarcinoma sometimes develops.
- Rarely B cell lymphomas of the gastric mucosa (MALTomas).

Helicobacter pylori occur worldwide. Generalized contamination of the population begins in childhood and may reach 100% in adults in areas with poor hygiene. The contamination level is about 50% among older adults in industrialized countries, but not every infection leads to a manifested disease. *Helicobacter pylori* occur only in humans and is transmitted by the fecal-oral pathway.

Species	Disease	Symptoms	Mechanism of infection
<i>Helicobacter pylori</i>	Gastritis, Duodenal ulceration Adenocarcinoma	Poss. asymptomatic: - diffuse abdominal pain, mostly in the upper abdomen - abdominal discomfort or pain, - incompatibility of foods - bad breath	Oral Transmission from one human to another

Infections may be diagnosed by:

Breath- and urease-rapid test: Determination of the urease-activity
 Serology: Determination of specific antibodies based on the ELISA-technique

NovaLisa™ *Helicobacter pylori* recombinant IgA/IgG ELISA:

The NovaLisa™ *Helicobacter pylori* recombinant IgA/IgG ELISA is intended for the quantitative determination of IgA-/IgG-class antibodies against *Helicobacter pylori* in human serum or plasma (citrate).

Antigens:

IgA: recombinant CagA- and recombinant urease-antigens
 IgG: Highly purified proteins associated with CagA genes (120 KD) and VaCA genes (87 KD) as well as urease-antigens

Specific performance characteristics:

	Intraassay			Interassay			Sensitivity %	Specificity %
	n	Mean	CV %	n	Mean	CV %		
IgA	12	0,63	7,24	3	0,62	9,6	90	>95
	16	1,27	5,9	3	1,28	6,7		
IgG	19	0,56	6,1	13	1,3	7,2	93,7	93,3
	19	1,50	7,0	13	3,7	3,0		

Order information:

ELISA	Number of determinations	Product number
Helicobacter pylori IgA	96	HELA0220
Helicobacter pylori IgG	96	HELG0220