

Difference Between *H.pylori* IGG and IGA

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KeyDifference- *H.pylori* IGGvs IGA

Helicobacter pylori are spiral-shaped [bacteria](#) that cause gastrointestinal [infections](#). *H. pylori* infection is one of the most common bacterial infection known to mankind across the world. World Health Organization has declared the *Helicobacter pylori* bacteria to be a Class 1 carcinogen which leads to gastrointestinal [cancers](#) and [lymphoma](#). *H. pylori* cause infection by invading the mucous lining of the stomach and it is also the cause of up to 95% of duodenal and up to 75% gastric ulcers.

Different tests are performed in order to diagnose *H. pylori* infection. The types of tests include gastroscopy, urea breath test and stomach biopsy tests. Serology deals with the body's serum. In the serology test for *H. pylori*, patients' blood is screened for the presence of antibodies to *H. pylori* which indicates an immune response to the bacteria. Two such tests are termed as *H. pylori* IGG and IGA test. **The key difference between *H. pylori* IGG and IGA is, in *H. pylori* IGG test, the presence of Immunoglobulin G is tested in the blood whereas, in *H. pylori* IGA test, the presence of Immunoglobulin A is tested in blood.**

What is *H. pylori* IGG?

IGG is the most common type of immunoglobulin present in the [immune](#) system. It is the main form of circulatory Immunoglobulin in the body. IGG has four major sub classes due to its wide functions. These consist of IGG1, IGG2, IGG3 and IGG4. IGG is the immediate [antibody](#) response produced in the body to an infection caused by a bacterial or a [viral](#) agent. Since IGG is produced in response to a bacterial agent, this test is done to identify the presence of bacterial agents such as *H. pylori*. IGG is reported to be produced and appeared first as a primary immune reaction in individuals who are infected for the first time. But in re-infected individuals, IGG appears late in the [serum](#). IGG is tested via [Enzyme](#) Linked Immunosorbent Assay (ELISA). However, this is not a highly accurate test to detect early infection. IGG test is performed in both adults and children, and have shown to have wide application in the [diagnosis](#) of *H. pylori* infections.



H. PYLORI CROSSING MUCUS LAYER OF STOMACH

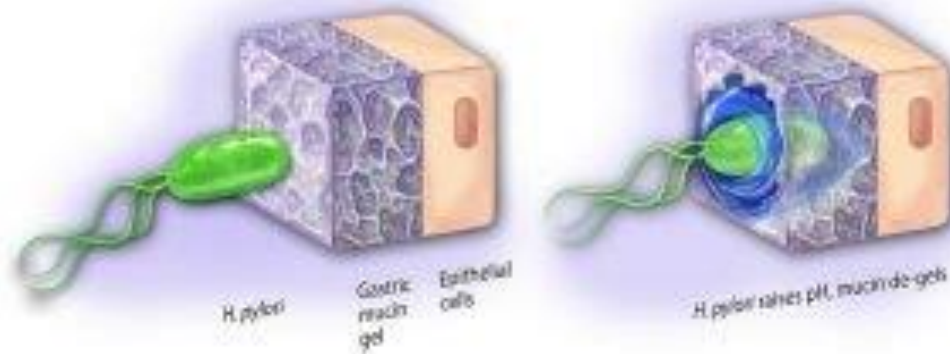


Fig.1 : H. pylori

What is *H. pylori* IGA?

Immunoglobulin A is found commonly in high concentrations in the [mucous membranes](#). It is especially found in those lining the respiratory passages and gastrointestinal tract. As *H. pylori* infection is characterized by the destruction of gastrointestinal mucosa, the elevated production of IGA is a possible immune response during *H. pylori* infection. IGA appears to be an early occurrence in the individuals who contact the infection for the first time. But in re-infected individuals it is not prominently identified. The key difference between *H. pylori* IGG and IGA is, in *H. pylori* IGG test, the presence of Immunoglobulin G is tested in the blood unlike in *H. pylori* IGA test, the presence of Immunoglobulin A is tested in blood.



Monomer
IgD, IgE, IgG



Dimer
IgA



Pentamer
IgM

Fig.2 : IGG and IGA

What are the Similarities Between *H. pylori* IGG and IGA?

- Both are tests for the presence of antibodies in response to *pylori* infection.
- Both are a type of serological test.
- Immunological testing methods such as ELISA and Radio Immuno assay are used for diagnosis for both tests.
- Both are in vitro testing methods.
- The serum sample used is blood for both tests.
- Both tests are not very specific.

What is the Difference Between *H. pylori* IGG and IGA?

<i>H.pylori</i> IGG vs IGA	
<i>H.pylori</i> IGG test is a serological test which is done to check the presence of Immunoglobulin G in the blood following an infection.	<i>H.pylori</i> IGA test is a serological test which is done to check the presence of Immunoglobulin A in blood following an infection.
Function of the Immunoglobulin	
IGG is produced in response to a bacterial agent thus it can be tested for <i>pylori</i> which is a bacterium.	IGA is produced in response to mucosal lining damage of the gastrointestinal tract which is a characteristic feature of the infection.

Summary - *H. pylori* IGG vs IGA

Helicobacter pylori or *H. pylori* infection is considered to be the most common gastrointestinal bacterial infection. This infection is found worldwide and infects both adults and children equally. The infection results in gastric ulcers and increased bile acidity leading to gastritis. This can also lead to gastrointestinal cancers. Thus, anti-bacterial treatment should be administered at an early stage to prevent the severity of the infection. Hence, the antibody testing is used much widely to detect the presence of *H. pylori* in the immune system. Immunoglobulin types IGG and IGA are widely used in detecting *H. pylori* as they are produced against bacterial infections which causes mucosal damage in the gastrointestinal tract.

Image Courtesy:

- 1."Ulcer-causing Bacterium (H.Pylori) Crossing Mucus Layer of Stomach" by Zina Deretsky, National Science Foundation - [NSF Flickr photostream](#), (Public Domain) via [Commons Wikimedia](#)
2. "Mono-und-Polymere" by Von Martin Brändli (brandlee86) - Eigenes Werk, [\(CC BY-SA 2.5\)](#) via [Commons Wikimedia](#)

Reference:

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How to Cite this Article?

APA: Difference *H.pylori* IGG and IGA. (2017, October 2). Retrieved (date), from <http://www.differencebetween.com/difference-between-h-pylori-igg-and-vs-iga>

MLA: " Difference *H.pylori* IGG and IGA." Difference Between.Com. 2 October 2017. Web.

Chicago: "Difference *H.pylori* IGG and IGA.." Difference Between.Com.
<http://www.differencebetween.com/difference-between-h-pylori-igg-and-vs-iga> accessed (accessed [date]).



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