

## **IgE Antibody vs. IgG Antibody Relative to Allergy Testing**

Antibodies are major components of the body's immune system. These substances are manufactured by the immune system to help fight off foreign substances which the immune system believes can cause harm to the body. These antibodies often fight bacteria, viruses, fungi, parasites and other potentially harmful items. The immune system produces five types of immunoglobulins (Ig) or antibodies in an effort to protect the body.

These antibodies are as follows:

### **IgA**

Found in areas such as the nose, breathing passages, digestive tract, ears and eyes, particularly in saliva, tears and blood. This antibody protects body surfaces that are exposed to outside substances.

### **IgG**

This antibody is found in all body fluids. They are the smallest but most common antibody of all the antibodies produced in the body. This antibody is very important in fighting bacterial and viral infections. It is the only antibody that can cross the placenta to help protect the fetus with maternal antibodies.

### **IgM**

This antibody is found in blood and lymph fluid and are the first responders to any threat of infection. They also cause other immune system cells to help destroy foreign substances.

### **IgE**

This antibody is found in the lungs, skin, mucous membranes and blood. They cause the body to react against suspected foreign or harmful substances such as pollen, fungi, animal dander and food proteins. The antibody levels of IgE are often high in people that have allergies.

### **IgD**

Found in small amounts in the tissues that line the belly and chest. How they work is not clear.

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**IgE** antibodies are the primary antibodies responsible for allergic reactions. Each allergic substance, known as an allergen, causes the production of a specific IgE antibody to that substance. Depending on the individual, different substances will cause the immune system to react differently.

During an allergic reaction, where the immune system feels the body is being threatened by the presence of a specific substance, that substance or allergen stimulates the production and release of the IgE antibodies. These antibodies bind themselves to the basophil and mast cells in the body. When the amount of antibody present becomes overwhelming, these cells burst and release histamines into the body through the surrounding tissue and blood stream. Histamine is what causes the common allergy symptoms such as sneezing, runny nose, itchy eyes, rashes, hives, gastrointestinal discomfort, constriction of the throat, headaches, joint pain and others.

Every person has his or her own tolerance or threshold for the amount of histamine release they can tolerate before the allergy symptoms occur. In some cases the same substance may cause mild reaction in one person and much more severe reaction in another person.

IgE mediated reaction is considered an immediate response to a foreign substance that a person has come in contact with or ingested. The symptoms often happen fairly soon after exposure and can stay present for some time afterwards because the mast cells may have been stimulated enough upon exposure to continue making the antibody for some time afterwards.

The IgE antibody is known to exist principally due to an allergic reaction and its presence in the body is the primary source of detecting what substances a person may be allergic to.

### **IgG antibody**

These antibodies provide long-term resistance to infections and have a much longer half-life than the IgE antibody. This is where food sensitivities come into play because they are more subtle than allergy symptoms and most people can live with these sensitivities for most of their lives. A food sensitivity is an adverse reaction to a food that does not necessarily have an allergen-antibody response.

Symptoms, ranging from headache, nausea, fatigue, bloating, mood changes, dark circles under the eyes and others may occur hours or even days after the offending food has been eaten. This is often defined as a delayed reaction. The complete elimination of foods testing positive for IgG antibody levels may bring about improvements in symptoms of irritable bowel syndrome, autism, rheumatoid arthritis and epilepsy as demonstrated by certain clinical studies.

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### **Should I Test For the IgE or the IgG Antibody?**

If looking to ascertain if a person has a true medical allergy to substances we come in contact with in our environment such as grasses, weeds, trees, fungi and animal dander as well as allergy to the foods we eat, the appropriate allergy test would be to measure the level of circulating IgE antibody in a person's blood. Remember, the immune system only produces the Ige antibody when it creates an allergic response to allergens we come in contact with.

It can be important however, to measure the level of IgG antibody to detect the presence of a person's sensitivity to certain foods they eat. If a person consumes the same foods that the immune system reacts with over a prolonged period of time, the body will start to manufacture IgG antibody in addition to or instead of the IgE antibody. It is this reason that many health care professionals feel it is equally important to measure the IgG antibody levels to foods simultaneously with measuring the IgE antibody levels. It should be noted however that there has been no know scientific studies performed that have proven that there is any correlation between both antibody tests in regards to food allergy and sensitivity.