

# Main Differences Between IgE and IgG Allergies

## IgE Allergies vs. IgG Allergies: What is the difference?

What is the difference between an IgE and IgG allergy? Our laboratory receives this question regularly. Here we will provide a brief overview of each type of allergic reaction.

IgE allergies are immediate responses to a foreign substance that has entered the body. These foreign substances can come from food or can come from inhalation. IgE allergies can cause very serious symptoms like difficulty breathing, swelling, and hives. In even more serious cases IgE reactions can lead to anaphylactic shock.

IgE	IgG
Releases histamine	Does not release histamine
Tested by skin pricks	No skin prick reaction
Anaphylactic shock	No anaphylactic shock
Symptoms immediate	Symptoms may be delayed
Most common allergy test	Uncommon allergy test
Limited clinical usefulness	Extreme clinical usefulness

## Example of a typical IgE response:

Suppose a person with a peanut allergy eats a peanut. B cells in the body are exposed to the peanut allergens. B cells begin making IgE antibodies to fight the peanut “infection”. These IgE antibodies were made specifically for defending the body against peanuts. The IgE antibodies bind to the peanut molecules or allergens in the body.

After the exposure to peanuts, IgE antibodies can also attach themselves to mast cells. There the IgE antibodies wait until the next peanut exposure. When the next peanut exposure occurs the IgE antibodies signal the mast cells to release histamine and other compounds. Histamine and these other compounds are the cause of allergy symptoms like itching and inflammation. All of this usually happens within minutes of ingesting the allergen. IgE allergies are treated with medications that block the release of histamines.

Next, we will discuss the role of IgG antibodies in an allergic reaction. The antibodies that provide long term resistance to infections, called Immunoglobulin G (IgG), have a much longer half life than the traditional IgE allergy. Symptoms, ranging from headache and nausea to seizure and hyperactivity, may occur hours or even days after the offending food has been ingested. The degree and severity of symptoms vary because of the genetic makeup of the individual. The complete elimination of IgG positive foods may bring about important improvements in symptoms of irritable bowel syndrome, autism, AD(H)D, cystic fibrosis, rheumatoid arthritis, and epilepsy as demonstrated in numerous clinical studies.

## What are the main causes of IgG or delayed food allergies?

Digestive problems play a major role in the development of IgG food allergies. Some individuals have leaky guts, meaning that food particles are able to enter the bloodstream. When these particles are recognized by the immune system the body has an immune response. More antibodies are created to fight the perceived infection of the foreign food particles. This can lead to a weakening of the overworked immune system.

IgG food allergies are treated by removing problem foods from the diet and by helping digestion with probiotics.