



Rocky Mountain Analytical
Changing lives, one test at a time

Food Reactions

Clinical Information for Professionals

IgG, IgA, IgE Food Reactions

Immunoglobulin G and Immunoglobulin E are antibodies involved in delayed and immediate hypersensitivity reactions respectively. Immunoglobulin A provides a protective barrier in the mucosal membranes, which is the body's first line of defense against antigens. The properties and differences between these antibodies are highlighted below:

Important Facts

IgG	<p>IgG reactions take hours to days to develop after ingestion of food antigen., making reactions nearly impossible to uncover through elimination diets because of their slow onset.</p> <ul style="list-style-type: none"> • IgG antibody-allergen complexes can deposit in any tissue and cause inflammation. • Because they create inflammation, IgG reactions are more frequently associated with chronic conditions. • IgG reactions are dose-dependent; meaning the foods most frequently consumed or those consumed in large quantity are more likely to produce symptoms. • The half-life of an IgG antibody is between 23 and 96 days and it takes 5 to 7 half lives to for antibodies to completely disappear after reactive antigen has been removed. It could therefore take between 3 and 18 months for food specific IgG antibodies to fall to the non-reactive range. • 80% of the immunoglobulins in blood are IgG. The large number of IgG molecules in blood means that a small amount of blood is sufficient to test 96 foods.
IgA	<p>IgA reactions to specific foods may be indicative of increased exposure caused by damage to the intestinal mucosa.</p> <ul style="list-style-type: none"> • IgA reacts with food antigens to form an immune complex, but unlike IgG and IgE, does not provoke inflammation. Failure of IgA to maintain adequate anti-inflammatory control may lead to mucosal damage. • 75% of daily immunoglobulin production is IgA, most of which remains in mucous membranes (e.g. in saliva, tears, bronchial secretions etc). • The half-life of an IgA antibody is about 6 days.
IgE	<p>IgE reactions occur within minutes of exposure to, or ingestion of, food antigen.</p> <ul style="list-style-type: none"> • Because reactions occur so soon after exposure, IgE allergies are generally easy to uncover through an elimination diet. • The half-life of an IgE antibody is approximately 1 to 3 days. It takes 5 to 7 half lives to completely eliminate a specific IgE antibody, so it could take 1 or 2 weeks for IgE levels to a reactive food to drop down to the non-reactive range. • IgE reactions are generally more acute, like hives or anaphylaxis. • IgE reactions typically affect airways, skin, or intestines. • Only 1 to 2% of immunoglobulins in blood are IgE, which is why a larger amount of blood is required for IgE testing.

When to Order

<ul style="list-style-type: none"> • used to find hidden food reactions, resolve current symptoms and/or prevent hidden chronic inflammation from developing into systemic disease. • use > 2years • eat one serving of each target food at least twice in the 7 days prior to collection.
<ul style="list-style-type: none"> • consider testing for food specific IgA when mucosal damage is suspected (e.g. Crohn's disease, colitis). • consider testing for food specific IgA when IgG reactions are negative, but patient is symptomatic.
<ul style="list-style-type: none"> • semi-quantitative IgE best for assessing reactions to regularly consumed foods . Not useful for diagnosing intermittent acute IgE-like (e.g. hives) reactions to foods. • eat one serving of each target food at least twice in the 48 hours prior to collection.



IgG/ IgA /IgE

IgG , IgA and IgE food reactions can contribute to a variety of health problems.

