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# 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 are the body's first line of defense against antigens. The properties and differences between these antibodies are highlighted below:

Important Facts		When to Order
<b>IgG</b>	<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"> <li>• IgG antibody-allergen complexes can deposit in any tissue and cause inflammation.</li> <li>• Because they may result in inflammation, IgG reactions are more frequently associated with chronic conditions.</li> <li>• IgG reactions are dose-dependent; meaning the foods most frequently consumed or those consumed in large quantity are more likely to produce symptoms.</li> <li>• 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.</li> </ul>	<ul style="list-style-type: none"> <li>• used to find hidden food reactions, resolve current symptoms and/or prevent hidden chronic inflammation from exacerbating systemic disease.</li> <li>• use &gt; 2 years of age.</li> <li>• <b>Note:</b> long-term avoidance of a food will necessitate a longer reintroduction time: See collection instructions.</li> </ul>
<b>IgA</b>	<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"> <li>• 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.</li> <li>• 75% of daily immunoglobulin production is IgA, most of which remains in mucous membrane secretions (e.g. in saliva, tears, bronchial secretions etc).</li> <li>• The half-life of an IgA antibody is about 6 days.</li> </ul>	<ul style="list-style-type: none"> <li>• consider testing for food specific IgA when mucosal damage is suspected (e.g. Crohn's disease, colitis).</li> <li>• consider testing for food specific IgA when IgG reactions are negative, but patient is symptomatic.</li> </ul>
<b>IgE</b>	<p>IgE reactions occur within minutes of exposure to, or ingestion of, food antigen.</p> <ul style="list-style-type: none"> <li>• Because reactions occur so soon after exposure, IgE allergies are generally easy to identify through an elimination diet.</li> <li>• 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 levels of IgE may be undetectable through this test within a few days of exposure to food antigen.</li> <li>• IgE reactions are generally more acute, e.g. hives, lip swelling, anaphylaxis.</li> <li>• IgE reactions typically affect airways, skin, intestines.</li> </ul>	<ul style="list-style-type: none"> <li>• semi-quantitative IgE is best for assessing reactions to regularly consumed foods . It is <b>not</b> useful for diagnosing intermittent acute IgE-like (e.g. hives) reactions to foods.</li> <li>• eat one serving of each target food at least twice in the 48 hours prior to collection.</li> </ul>



**IgG, IgA , IgE**

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

