Data is available that provides support for the notion that a specific function of IgG4 in serum might also be to control antigen recognition by IgE and consequently, to regulate anaphylactic reactions and IgE-mediated immunity. Subsequently, studies have shown that the level of specific IgG4 was clearly lower than that of specific IgG1, suggesting that the major contribution of IgG4 in the competition effect is not due to higher levels but rather to a specificity spectrum close to that of the specific IgE. Moreover, these “blocking antibodies” have been demonstrated to have the potential to account for the clinical efficacy of immunotherapy for the neutralization of offending IgE species.
**IgE**

People can develop irritating and even life-threatening Th2-driven IgE antibody responses to even the most minute exposure to the wrong dietary antigens. It is, however, important to note that only some of the people who are exposed to these substances make IgE antibodies against them.

The first exposure may make people sensitive to the allergen without causing any symptoms. When these sensitized people subsequently encounter the allergen, IgE-expressing basophils and mast cells release substances (such as histamine, prostaglandins, and leukotrienes) that cause swelling or inflammation in the surrounding tissues. Such substances begin a cascade of reactions that continue to irritate and harm tissues. These reactions range from mild to severe.

In this report a human serum sample was probed for the presence of IgE's that have an exact affinity for specific dietary allergens. Dietary-specific IgE's are clustered by food groups and the quantitative average of the IgE's within the offending food group(s) are expressed graphically. The exclusion of the offending food group(s) from the diet has shown to improve the symptoms of these conditions.

**IgG4**

As IgG4 levels increase in the blood due to the presence of a dietary antigen in the bloodstream, elevated levels are seen in response to the most commonly eaten foods.

The complement-negative IgG4 antibodies can combine with the specific food antigen to form a food immune complex. These complexes are thought to be the active agents for the delayed allergic responses. These complexes also have the potential to cause allergic food responses involving the anaphylactic response or sensitivity reactions. Such reactions can lead to a diverse variety of symptoms ranging from ill-defined malaise and fatigue to digestive disorders, skin problems, aching joints or back issues.

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This test was developed and its performance characteristics determined by Dunwoody Labs or third-party reference affiliates. FDA clearance is not currently required for clinical use. Results are not intended to be used as the sole means for clinical diagnosis. Clinical correlation is required.

Analysis performed by Dunwoody Labs
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GA Clinical License: 044-160
CLIA ID: 11D1101209
In the 588E assay the titer of the total population of dietary antigen(s)-specific IgE and IgG4 are measured, and a positive blocking potential is scored if the ratio of IgG4 to IgE dietary antigen-specific molecules is 1 or greater. The assay does not differentiate between high and low affinity dietary-specific IgE and IgG4 molecules. The degree of affinity of molecules for a particular dietary antigen dictates the result of the blocking potential calculation. The total avidity of the population of IgE and IgG4 dietary antigen specific molecules plays a significant role when they compete for identical epitopes or ones juxtapose to each other. Therefore the blocking potential result must be used in conjunction with other clinical relevant data, particularly symptom presentation.