AIMS 588G INTERPRETIVE GUIDE
TEST SUMMARY

Clinical Use
Assess the risk of Type II and Type III hypersensitivity reactions (food intolerance) to dietary antigens.

Clinical Background
Tolerance is the normal immune response to the food an individual eats over a lifetime. A food allergy is an abnormal immune reaction consisting of hypersensitivity to food components, most commonly proteins. Allergic reactions to dietary antigens can be immediate or delayed and the rate and types of reaction indicate different immune responses. Peter Gell and Robert Combs developed a system to classify these different reactions that was later found to correlate with four different molecular pathways that lead to allergic responses. The four types were sensibly given the names Type I, II, III and IV hypersensitivity. There are four subclasses of the G-type immunoglobulins produced in hypersensitivity reactions to dietary allergens, and some of the subclasses of IgG are the most difficult to detect.

In this report Type II/III responses are detected by measuring the IgG response to specific dietary antigens that mediates the production of food-specific immune complexes. IgG-mediated immune complexes may be tagged for complement activity by complement antigens such as C1q and C3d. The absence or presence of complement activity is essential to the pathological pathway that the immune system follows in response to the offending dietary antigen or food group.

Individual Suitable For Testing
Individuals with a history of food intolerance to specific dietary antigens or those who are actively displaying symptoms of food intolerance.

Methods
Colorimetric enzyme immunoassay (EIA) measurement of IgG antibodies and complement markers contained within dietary antigen specific immune complexes.

Analytical Sensitivity
IgG: 8 ng/mL
C3d: 1097 ng/mL

Interpretive Information
Moderate-to-high IgG reactivity to specific dietary antigens in the presence of a complement marker may be associated with a high risk of systemic reaction, including type II and type III hypersensitivity.
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Moderate-to-high IgG reactivity to specific dietary antigens in the absence of a complement marker* may be associated with high titers of IgG4 and a variable risk for systemic food intolerance.

Interpretive Information (continued)
Patients who exhibit moderate-to-high IgG reactivity to specific dietary antigens should be counseled to avoid foods that contain said antigen.

Patients with low or mild reactivity to specific dietary antigens may consider taking an oral food challenge test. If negative, they may not have to avoid the food groups containing those antigens.

Low-to-undetectable IgG reactivity to the panel of 88 dietary antigens may indicate a low titer of total IgG or immune tolerance to the listed food groups.

Reflex Testing

<table>
<thead>
<tr>
<th>Total IgG</th>
<th>Complement</th>
<th>Interpretation</th>
<th>Further Recommended Testing</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>+</td>
<td>IgG reactivity with complement activity to specific dietary antigens</td>
<td>Customize a Rotational Diet to exclude offending foods</td>
</tr>
<tr>
<td>+</td>
<td>-</td>
<td>IgG4 reactivity to specific dietary antigens without complement activity</td>
<td>588E</td>
</tr>
<tr>
<td>-</td>
<td>+</td>
<td>IgA and/or IgM reactivity with complement activity to specific dietary antigens</td>
<td>530T, 530C</td>
</tr>
<tr>
<td>-</td>
<td>-</td>
<td>No IgG reactivity or complement activity</td>
<td>530T, 530C</td>
</tr>
</tbody>
</table>

*Complement marker is C3d
†For the most accurate interpretation, all test results must be combined with clinical information that should include the patient’s history, physical examination, and results of other diagnostic testing.

References