

### What is the difference between Gluten and Wheat on the TOTAL ALLERGY AND SENSITIVITY PANEL report?

**Gluten** is in whole wheat; however, wheat has other proteins that you could react to. It is possible for someone to come back positive to wheat and not gluten, and that would mean you are reactive to other proteins in the wheat instead of the gluten. If your patient comes back positive to gluten, but not to wheat, it is because the other proteins in wheat can obscure a bit of the binding to gluten, so it is also isolated, and run separately. We do this is to catch smaller gluten reactions that did not show up because of other proteins obscuring re-actions and because you will capture lower level reactions that are only seen when gluten is isolated. Because it is such an antigenic molecule, it is important to see if even minimal amounts will trigger reactivity.

### What should I do if mold comes back positive?

**The Total Allergy and Sensitivity** Panel tells you that there is a response to mold, but it doesn't tell you where exposure is coming from. Exposure can come from foods or the environment. To get a better picture of how mold is shifting immune function, markers such as TGF-Beta can be measured to see how immunoreactive a patient is to the exposure to gauge how much change must be done. MOLD TESTING INCLUDES: Aspergillus (A. oryzae, A. niger, A. repent, A. terries)

Key foods to avoid for elevated mold reaction are moldy cheeses, peanuts, melons and sake. For patients with severe reactions and active symptoms, and more restrictive mold diet may be needed. Consider using Konjac Fiber, which binds to mold aflatoxin.;

## **Avoid the following foods as a more restrictive mold diet:**

**Peanuts**

**Cheese – all cheese, especially aged cheese**

**Melons**

**Vinegar – and vinegar containing food (mayonnaise, salad dressings, catsup, chili sauce, pickled foods, relishes, green olives, mustard)**

**Alcoholic liquors, beer, wine and sake**

**Soured breads, such as pumpernickel, coffee cakes, and other foods made with large amounts of yeast**

**Sauerkraut**

**Cider and homemade root beer**

**Pickled and smoked meats and fish, including delicatessen foods, sausages, frankfurters, corned beef and pickled tongue, ham and bacon**

**All dried fruits such as apricots, dates, prunes, figs and raisins**

**Canned tomatoes unless homemade**

**All canned juice**

**13 Eat only freshly opened canned foods and freshly prepared fruits**

**14 Do not eat meat or fish more than 25 hours old**

**Avoid foods made from leftovers such as meatloaf, hash and croquettes**

**Avoid hamburger unless made from freshly ground meat**

## Why would I be reactive to something I never eat?

- I could have a cross reaction with something in the environment to the food. For example, latex can cause banana allergies because they are in the same family. (See table below)
- Sometimes there may be trace amounts of foods in other sources you are not aware of
- There can be cross reactions from other foods in the family of the food you are showing a reaction to. See food families below.

## Cross Reactivity

### Environmental Allergens that Cross React with Foods

If you have the following environmental allergy, it can increase your likely-hood of being sensitive to the following foods. If you have allergies or sensitivities to the following foods, it can increase your chance of having that environmental allergy. Things from the environment share similar amino acid sequences to certain foods, meaning they will have some similar epitopes which increase binding.

### Cross Reactivity List from Environmental Triggers to Food

<b>Alder Pollen</b>	<b>almonds, apples, apricot, celery, cherries, hazelnuts, kiwi, nectarine, orange, peaches, pears, persimmon, plum, parsley, raspberry, strawberry, carrot, white potato, fennel</b>
<b>Birch Pollen</b>	<b>almonds, apples, apricots, avocados, bananas, carrots, celery, cherries, chicory, coriander, fennel, fig, hazelnuts, kiwifruit, lychee, nectarines, parsley, parsnips, peaches, pears, peppers, persimmon, plums, potatoes, prunes, soy, strawberries, wheat, zucchini. Potential: walnuts</b>
<b>Grass Pollen</b>	<b>fig, melons, tomatoes, oranges, celery, peach, kiwi, swiss chard, potato, buckwheat, wheat, fennel, peanut, latex</b>
<b>Mugwort Pollen</b>	<b>carrots, celery, coriander, fennel, parsley, peppers, sunflower, apple, kiwi, melon, lettuce, anise seeds, caraway, chamomile tea extract, cumin, almond, hazelnut, peanut, pistachio, poppy seed, honey, latex</b>

<b>Ragweed Pollen</b>	<b>banana, cantaloupe, cucumber, green pepper, paprika, sunflower seeds/oil, honeydew, watermelon, zucchini, echinacea, artichoke, dandelions, honey (if bees pollinate from wild flowers), hibiscus or chamomile tea, pumpkin, tomato, latex</b>
<b>Latex</b>	<b>apple, banana, cherry, kiwi, melon, papaya, peach, pear, pineapple, tomato, avocado, carrot, celery, white potato, almond, chestnut, hazelnut</b>
<b>Cow's Milk</b>	<b>Meat: sheep, lamb, goat, buffalo</b>
<b>Beef</b>	<b>cow's milk, lamb, pork, cat dander, Lymes Disease</b>
<b>Pork</b>	<b>cow's milk, beef, cat epithelia, dog dander</b>
<b>Chicken Egg</b>	<b>duck egg, goose egg, seagull egg, turkey egg, pet bird dander, avian feathers and meat</b>
<b>Crustacean</b>	<b>Mollusks (abalone, clam, mussel, oyster, scallop, squid), dust mite, cockroach</b>
<b>Candida</b>	<b>Cross reacts with gluten</b>
<b>Dog</b>	<b>Meat: cat, horse, pork</b>
<b>Dust Mite</b>	<b>lobster, snail, shrimp, cockroach, other insects</b>
<b>Mold</b>	<b>Baker's and Brewer's yeast, Candida albicans, raw mushroom, latex, fruit fly</b>

## What should I do if yeast comes back positive?

**Elevated candida markers** are indicative of a current or recent intestinal overgrowth of yeast. Some symptoms of a candida overgrowth within the body are:

- Skin and nail fungal infections such as athlete's foot, ringworm, and toenail fungus
- Feeling tired and worn down or suffering from chronic fatigue or fibromyalgia
- Digestive issues such as bloating, constipation, or diarrhea
- Autoimmune disease such as Hashimoto's thyroiditis, Rheumatoid arthritis, Ulcerative colitis, Lupus, Psoriasis, Scleroderma, or Multiple sclerosis
- Difficulty concentrating, poor memory, lack of focus, ADD, ADHD, and/or brain fog
- Skin issues such as eczema, psoriasis, hives, and rashes
- Irritability, mood swings, anxiety, or depression
- Vaginal infections, urinary tract infections, rectal itching, or vaginal itching
- Severe seasonal allergies or itchy ears
- Strong sugar and refined carbohydrate cravings

### **Other Considerations:**

- Eliminate gluten containing grains as antibodies between wheat and candida have cross-reactivity

Consider further testing, such as our Comprehensive Stool and Parasitology Testing, to confirm yeast overgrowth and strain susceptibility. Diet recommendations for yeast overgrowth are a low-carb, low-sugar diet. Restrict sugar, refined grains, alcohol and vinegar. Treatment recommendations to kill yeast may include garlic, caprylic acid, berberine, and grapefruit seed extract.

## What If Foods Bother me, but there is no reaction shown on the test?

Other factors can cause reactions to foods besides allergies. For example, gluten can interfere with ability to convert amino acids into neurotransmitters. This can make us feel depressed and achy. However, this is not an allergy or sensitivity. Other examples of this are reactions that are secondary to things like platelet activating factor which may cause an adverse response but is not an allergy or sensitivity.

Other reasons may be certain characteristic of foods such as being high in histamine, lectins, or oxalates. These can all cause discomfort but are not an allergic reaction

## What are some treatments I should consider to improve my allergies and sensitivities?

The elimination diet is the best way to calm the inflammation and over activity of the immune system to those reactive foods.

All treatments designed to decrease leaky gut can be useful, such as glutamine, probiotics, demulcents, immunoglobulins and functional foods.

## What Can I Do In Addition To Elimination of Foods?

### Other Treatments for HIGH IgE and High IgG Reactivity Include:

- If you have excessive IgE responses, consider a s-IgA test, as part of a Complete Digestive Stool Analysis, as under-active s-IgA could lead to an overactive IgE and IgG system.
- Consider immunoglobulins to help with immune system function and build healthy gut lining.
- Immunoglobulin usage helps a person to regain tolerance to foods.
- Therapies such as glutamine and probiotics and Vitamin A will also be helpful in regaining immune tolerance.
- Consider Oxidative Stress Testing, as high levels of free radicals will excite immune function.  
High Complement Reactivity
- For high complement, consider curcuminoids from turmeric as part of treatment to help reduce complement activation.

## Why Test Complement and IgG together?

Complement plays a role in how inflammatory an IgG antibody is. Complement binds to IgG and creates a synergistic effect in terms of increasing inflammation. The combination of complement and IgG together can increase inflammation 1000 to 10,000-fold.

See: [The Comprehensive Assessment in Food Allergy and Sensitivity Screening](#)

## Why should IgG and IgE be tested together?

IgE and IgG should be measured together because they each independently play a role in symptoms to foods. You can either have an allergy/IgE response, or a sensitivity IgG response and both are independent of the other and create inflammation in the body.

## What are the limitations of only testing Total IgG?

Only testing IgG, is a bit like knowing total cholesterol, but not knowing how much HDL/good or LDL/bad cholesterol you have. The reason for this is that different IgG antibodies do different things depending on their subtype. IgG4 decreases IgE or allergic reactions. IgG1-III increase inflammation 3-72 hours after exposure. Also, different subtypes are increased in certain pathologies. For example, while IgG4 is generally good, there are a handful of pathologies where it is of concern, such as auto-immune hypothyroidism and eosinophilic esophagitis.

See: [The Comprehensive Assessment in Food Allergy and Sensitivity Screening](#)

## Is IgG4 good or bad?

IgG4 is by and large good, as it blunts an IgE response and reduces anaphylactic shock. In fact, desensitization injections and drops work by this mechanism of increasing Ig4 to induce tolerance. However, there are a handful of conditions that increase IgG4 reactions, and if the patient has one of these conditions it may be helpful to remove foods that are provoking an IgG4 reaction. In non-responsive patients it is also reasonable to do a clinical trial of removal of IgG4, especially if removal of other foods did not create the improvement anticipated. IgG4 plays multiple roles in immune function and must be carefully evaluated with each patient.

## Why Test Complement and IgG together?

<b>Eosinophilic Esophagitis</b>	<b>Autoimmune Pancreatitis</b>	<b>Increased number of eosinophils</b>
<b>Midline-destructive lesion</b>	<b>Nasopharyngeal Disease</b>	<b>Constrictive Pericarditis</b>
<b>Mimics sarcoidosis in the lung</b>	<b>Prostatitis</b>	<b>Hypopituitarism associated with IgG4-related Hypophysitis</b>
<b>Sclerosing Cholangitis</b>	<b>IgG4-related thyroid disease</b>	<b>“Idiopathic” Retroperitoneal Fibrosis</b>
<b>Lacrimal gland enlargement</b>	<b>IgG4-related submandibular gland disease</b>	<b>Sclerosing Sialadenitis</b>
<b>IgG4-related kidney disease</b>	<b>Mikulicz Disease</b>	<b>Lymphadenopathy</b>
<b>IgG4-related disease of the ovary</b>	<b>Atopy</b>	<b>Peripheral Eosinophilia</b>
<b>Salivary gland disease</b>	<b>Retroperitoneal Fibrosis</b>	<b>Orbital disease, often complicated by proptosis</b>

## Is IgG4 related to autoimmune disease?

IgG4-related disease is an immune-mediated condition, meaning that it involves the occurrence of disease in organs as the result of a dysregulated immune system. Increasing evidence suggests that IgG4-RD is an autoimmune condition, much like rheumatoid arthritis and lupus. IgG4, can blunt an IgE response, but if it becomes confused, and upregulated by exposure to antigens or foods, it can begin to precipitate out into tissue creating damage. There are IgG4-related diseases which are a subset of autoimmune conditions.

## What is the difference between an allergy and a sensitivity?

An allergy is mediated by IgE antibodies and creates an immediate reaction. A sensitivity is created by IgG antibodies and create a delayed response. While these general traits hold true, there are also times when IgG can amplify IgE reactions, and also some examples of if there is a very high level of IgG, it can have more of an immediate reaction too. They create independent reactions but can also influence each other. IgG is most typically a delayed reaction, but if high enough titers are present, it too can react within a few hours. The interplay between parts of the

## Are IgG reactions the result or the cause of gut-based permeability?

IgG reactions are both the cause and the result of gut-based permeability. One way we develop IgG reactions is when the gut becomes more compromised or permeable. This allows for larger molecules than normal to “leak” through the gut. These larger molecules look antigenic to the immune system. T cells become sensitized and begin to make an immune response or produce antibodies. However, this is not the only way one can become sensitive to foods. Improper immune queuing in the GI tract, specifically in cells called the Peyer’s patches, can also cause this too.

Once an IgG reaction begins, it increases production of histamine and inflammation. This inflammation continues to damage the gut, thereby contributing to permeability. The best way to reduce gut-based inflammation, is to remove offending foods and work on healing the gut.

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## I react to gluten, but it did not show up on my test, why?

Reactions to gluten could be because of allergies or sensitivities, but there are also a number of other reasons you can feel bad from gluten outside of sensitivities. For example, gluten more than other grains decreases the tryptophan to serotonin ratio, making production of this neurotransmitter more difficult.

Also, gluten can often be contaminated with bromides that decreases other important nutrients like Iodine.

Gluten can often be moldy, as commercial grains are measured for ppm of aflatoxin and are generally positive for this contaminate.

## Can food sensitivities be related to weight gain?

Food sensitivities can be related to weight gain in that they will create more inflammation in the body. Inflammation will cause an increase in the hormone leptin, which in turn tells adipose tissue to store more fat. Inflammatory foods create and irritation that leads to weight gain.

## Can food sensitivities be related to other issues such as headaches, pain, or depression?

Yes! While the beginning of the reaction to foods start in the gut, it does not have to necessarily create gut pain, or be contained in the GI tract. The inflammatory process that starts in the gut can spread and even be more symptomatic in places outside of the gut. Many conditions such as headaches, pain and even depression have a gut-based cause but manifest in other areas of the body.