

## GLUTEN SENSITIVITY GENE ANALYSIS RESULTS

Name:	Date:
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Test Date	Molecular Analysis of DQA1 Genotype	Gluten Sensitivity Positive
10-16-18	0301 (HLA-DQ8)	<u>Yes</u>

Test Date	Molecular Analysis of DQB1 Genotype	Gluten Sensitivity Positive
10-16-18	0301 (HLA-DQ3)	<u>Yes</u>
10-16-18	0503 (HLA-DQ1)	<u>Yes</u>

### What do these results mean?

**Genetic Analysis of your HLA-DQ genes reveals that you have three positive gene alleles for gluten sensitivity.**

If you have one gluten sensitive gene allele, then your offspring have a 50% chance of receiving the gene from you, and at least one of your parents passed it to you. Having two copies of a gluten sensitive gene allele on the same gene, means that each of your parents and all of your children (if you have them) will possess at least one copy of the gene allele. This is important to understand because if you have children or family members with unexplained illness, they should be tested as early as possible to rule out gluten sensitivity.

### What is the significance of the HLA-DQ numbers?

HLA-DQ2 and 8 are celiac associated genes. Having these genotypes does not mean that one has celiac disease; it means that there is a strong likelihood that one will develop celiac disease as a result of long term gluten exposure. It is important to understand that gluten sensitivity itself is not a disease; it is a state of genetics. Those with gluten sensitive genotypes should avoid gluten in order to maintain a healthy lifestyle. HLA-DQ1 and 3 are non-celiac gluten sensitive genotypes.

### Gluten Sensitive Genes Vs. Celiac Genes

Having a DQ2 or 8 pattern is not worse or better than having DQ1 or 3 genotypes. All four types are linked to gluten sensitivity. Remember that gluten has been shown to cause or contribute to the development of more than 200 disease states. Celiac disease is not the worst scenario for those with gluten sensitivity; it is just one outcome of many possible different disease outcomes.

Having one or more copies of a gluten sensitive allele means that there is a stronger predisposition to gluten sensitivity. The general recommendation for those with gluten sensitive gene alleles is dietary avoidance of gluten. For these individuals, a gluten free diet is recommended in order to maintain a healthy lifestyle.

### Gluten Sensitivity

"Gluten sensitivity" is currently defined as the process by which the immune system reacts to gluten contained in wheat, barley, rye, and oats. (However; this definition is not complete see #3.)

### Gluten Definition

Gluten is a protein found in all grains. Gluten is made of two components – 1. **prolamine**, and 2. **glutelin**. Prolamine is the most studied piece of gluten in the medical literature. It relates to celiac disease only. Currently there is a gap in the scientific literature regarding prolamines contained in other grains. That being said, it is recommended that you pay attention to all grains (**i.e. corn, rice, etc**) as they have prolamines and have been shown to cause problems for the gluten intolerant as well. Watch the video accompanying this handout for the science and research regarding this information.

### Nutritional Deficiencies

Nutritional deficiencies are silent symptoms which most times are undetectable without appropriate laboratory work up. Therefore, appropriate lab testing should be performed to detect mal-absorption and malnutrition in the form of vitamin, mineral, and other nutritional deficiencies before problems begin.

Follow up with your doctor to assess nutritional status.

### GlutenFreeSociety.org

**Gluten Free Society has a number of resources to aid you.**

- Facebook Support Group
- Glutenology Health Matrix, featuring Video Tutorials to fast track your knowledge.
- No Grain No Pain by Dr. Peter Osborne

### Safe Foods

**The following foods are generally safe and should be considered staple foods in the diet:**

- **Meat** – Grass fed beef, wild caught fish, and organic free range poultry. If you cannot find these locally, they are available at the following URL <http://www.glutenfreesociety.org/gluten-free-food-sources/>
- **Fruits** – any organic fruit that you are non-reactive to.
- **Vegetables** – any organic variety that you are not allergic to.
- **Nuts/Seeds** – any organic variety that you are not allergic to.
- **Beans** - any organic variety that you are not allergic to.

### Foods containing gluten

**Foods that obviously contain gluten are breads, pastas, and cereals. BELOW IS A LIST OF ITEMS THAT COMMONLY CONTAIN HIDDEN GLUTEN. The take away message here is simply this: if a food comes in a package, you should read the label very carefully. You should also take care to read the labels of hygiene products such as lotion, soap, shampoo, toothpaste, etc.**

- Bouillon cubes
- Candy may be dusted with wheat flour; ask.
- Canned soups – Most are not acceptable.
- Cheese spreads & other processed cheese foods.
- Chocolate – Check if contains malt flavoring.
- Cold cuts, Wieners, Sausages – may have gluten due to cereal fillers.
- Dip mixes
- Dry sauce mixes
- Envelope & stamp glue
- Dry roasted nuts & honey roasted nuts
- French fries or other fried foods in restaurants – Same oil may be used for wheat-containing items.
- Gravies – check out thickening agent and liquid base.
- Honey Baked Hams™ - based with wheat starch in coating.
- Ice Cream & Frozen Yogurt – check ingredients.
- Instant Teas & Coffees – cereal products may be included in the formulation.
- Lip Balms and lipsticks
- Mayonnaise – check thickeners
- Poultry and meats – Check out the flavorings and basting
- Sour cream – May contain modified food starch of indeterminate source.
- Toothpaste – Check out.

## Food Labels

**If the following terms are found on the food label or ingredient list the food should be avoided:**

- Malt
- Wheat
- Gluten
- Barley
- Rye
- Oats
- Buckwheat (not a grain but processed with grains be careful)
- Sorghum\*\*\*
- Amaranth\*\*\*
- Quinoa\*\*\*
- Spelt\*\*\*
- Rice\*\*\*
- Corn\*\*\*
- Maize\*\*\*
- Millet\*\*\*
- Triticale
- Teff
- Textured vegetable protein \*\*
- Hydrolyzed plant protein \*\*
- Extenders and binders \*\*
- Hydrolyzed vegetable protein \*\*
- Modified Food Starch\*\*

**\*\* Indicates that a food may contain hidden gluten.**

**\*\*\* Food labels in the US consider these grains to be gluten free. However; mounting research suggests that these grains may be problematic for the gluten intolerant. Eat at your own risk.**

## Gluten Shield



Gluten Shield is recommended for you to help reduce gluten induced damage. It contains an enzyme that breaks down gluten. It is not intended to allow you to eat foods containing gluten. It is intended for use to reduce damage from accidental gluten exposure. Take 1-3 caps prior to meals until you feel comfortable in your knowledge about identifying gluten in your foods. Take 1-3 caps prior to any meal that you do not prepare yourself as accidental exposure and cross contamination are common occurrences. This product can be taken continually to aid in the detoxification process. You can order [Gluten Shield](http://glutenfreesociety.org/gluten-shield) here <http://glutenfreesociety.org/gluten-shield>

\*\*\*\*The FDA has not evaluated any of the above referenced statements. These claims above are not intended to diagnose, treat, cure, or prevent any diseases. However; the information is based on scientific facts and medical research. This test result is not intended to be a substitute for you to seek out medical help should you need it. This test result does not mean that you have celiac disease. The video accompaniment to this document will describe the differences between gluten sensitivity and celiac disease should you need further clarification you may contact [TownCenterWellness.com](http://TownCenterWellness.com) to set up a consultation.

### The Following Diseases Have Been Directly Associated with Gluten Sensitivity.

Those diagnosed with these conditions may benefit tremendously by being genetically tested for gluten sensitivity.

#### The following is a list of very common manifestations. Below is a more detailed list:

<ul style="list-style-type: none"> <li>• Asthma</li> <li>• Hypothyroid</li> <li>• Eczema</li> <li>• Psoriasis</li> <li>• Autism</li> <li>• ADD/ADHD</li> </ul>	<ul style="list-style-type: none"> <li>• Colic</li> <li>• Schizophrenia</li> <li>• Bipolar</li> <li>• Irritable Bowel Syndrome</li> <li>• Infertility</li> <li>• Chronic Constipation</li> </ul>	<ul style="list-style-type: none"> <li>• Iron deficiency anemia</li> <li>• Osteoporosis</li> <li>• High Cholesterol</li> <li>• Non alcoholic fatty liver disease</li> <li>• Fibromyalgia</li> <li>• Chronic Fatigue syndrome</li> </ul>
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#### More Diseases Associated With Gluten Sensitivity

<ul style="list-style-type: none"> <li>• Angina Pectoris (chest pain/pressure)</li> <li>• Anorexia</li> <li>• Immunoglobulinopathies</li> <li>• Antiphospholipid syndrome</li> <li>• Anxiety</li> <li>• Apathy</li> <li>• Aphthous ulcers and canker sores</li> <li>• Aortic Vasculitis</li> <li>• Arthritis           <ul style="list-style-type: none"> <li>• Juvenile rheumatoid</li> <li>• Enteropathic</li> <li>• Psoriatic</li> <li>• Rheumatoid</li> </ul> </li> <li>• Abdominal pain and distention</li> <li>• Spontaneous abortion</li> <li>• Addison's Disease</li> <li>• ADHD</li> <li>• Alopecia (hair loss)</li> <li>• Anemia (can be caused by the following nutrient deficiencies)           <ul style="list-style-type: none"> <li>• Iron deficiency</li> <li>• Folate deficiency</li> <li>• B-12 deficiency</li> <li>• B-6 deficiency</li> <li>• Vitamin C deficiency</li> <li>• Vitamin E deficiency</li> <li>• Copper deficiency</li> </ul> </li> <li>• Ataxia</li> <li>• Atherosclerosis</li> <li>• Autism and other learning disorders</li> <li>• Autoimmune Hepatitis</li> </ul>	<ul style="list-style-type: none"> <li>• Polyglandular syndrome</li> <li>• Thyroiditis (hypothyroidism)</li> <li>• Bitot's spots</li> <li>• Blepharitis</li> <li>• Abnormal blurry vision</li> <li>• Bone pain</li> <li>• Bone fractures</li> <li>• Cachexia</li> <li>• Bronchiectasis</li> <li>• Bronchoalveolitis</li> <li>• Adenocarcinoma of the intestine</li> <li>• Small cell esophageal cancer</li> <li>• Melanoma</li> <li>• Asthma</li> <li>• Cardiomegaly</li> <li>• Cardiomyopathy</li> <li>• Cataracts</li> <li>• Cerebral perfusion abnormalities</li> <li>• Cheilosis</li> <li>• Cholangitis (gall bladder)</li> <li>• Chorea</li> <li>• Coagulation abnormalities</li> <li>• Crohn's disease</li> <li>• Ulcerative colitis</li> <li>• Chronic constipation</li> <li>• Coronary artery disease</li> <li>• Diarrhea</li> <li>• Lymphoma</li> <li>• Cutaneous vasculitis</li> <li>• Cystic fibrosis</li> <li>• Delayed puberty</li> <li>• Failure to thrive</li> <li>• Dementia</li> <li>• Depression</li> </ul>	<ul style="list-style-type: none"> <li>• Dermatitis Herpetiformis</li> <li>• Dermatomyositis</li> <li>• Diabetes Mellitus type I (shares the same HLA genes as Celiac disease)</li> <li>• Down syndrome</li> <li>• Dysmenorrhea</li> <li>• Dysgeusia</li> <li>• Duodenal erosions</li> <li>• Edema</li> <li>• Eczema</li> <li>• Dysphagia</li> <li>• Epilepsy</li> <li>• Spontaneous nose bleeds</li> <li>• Erythema nodosum</li> <li>• CFS</li> <li>• Growth retardation</li> <li>• Mental retardation</li> <li>• Secondary food allergy response</li> <li>• Blood in the stool</li> <li>• Gastric bloating</li> <li>• Grave's disease</li> <li>• Bleeding gums</li> <li>• Hair loss</li> <li>• Heartburn</li> <li>• H. pylori infection</li> <li>• Hives</li> <li>• NAFL</li> <li>• Malnutrition and nutritional deficiencies</li> <li>• Infertility</li> <li>• Hypogonadism</li> <li>• Hypoglycemia</li> <li>• Hypospensism</li> <li>• Thrombocytopenia</li> <li>• Impotence</li> <li>• Osteoporosis</li> </ul>	<ul style="list-style-type: none"> <li>• Insomnia</li> <li>• IBS (irritable bowel syndrome)</li> <li>• Keratomalacia</li> <li>• Lactose intolerance</li> <li>• Loss of smell</li> <li>• Non Hodgkin lymphoma</li> <li>• Early menopause</li> <li>• Migraine headache</li> <li>• Multiple sclerosis</li> <li>• Muscle wasting</li> <li>• Myopathy</li> <li>• Obesity</li> <li>• Osteomalacia</li> <li>• Osteopenia</li> <li>• Parathyroid carcinoma</li> <li>• Pancreatic insufficiency</li> <li>• Polymyositis</li> <li>• PMS</li> <li>• Biliary cirrhosis</li> <li>• Psoriasis</li> <li>• Dermatitis</li> <li>• Sjogren's syndrome</li> <li>• Short stature</li> <li>• Scleroderma</li> <li>• Steatorrhea</li> <li>• Spina bifida</li> <li>• SLE</li> <li>• Tremors</li> <li>• Parkinson's disease</li> <li>• Glossitis</li> <li>• Vitiligo</li> <li>• Vomiting</li> <li>• Vaginitis</li> <li>• UTI</li> </ul>
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## Additional Recommendations to Aid in the Healing Process

### \*Laboratory Evaluations:

- Perform IgE and Delayed Hypersensitivity food testing to rule out additional food and environmental allergens.
- Appropriate lab testing should be performed to assess nutritional status. At a minimum, testing should be inclusive of B vitamins, Vitamin D, Iron, Calcium, Magnesium, Zinc, Chromium,
- Perform Stool Analysis. This testing determines the type of bacteria present in your intestinal tract allowing for customization of probiotic use. Additionally, this test rules in or out the presence of disease causing bacteria, yeast, or parasites commonly present in those with gluten sensitivity issues.
- Perform testing to measure for Vitamin D deficiency and supplement need.
- Perform iron panel with ferritin to rule out iron deficiency.

### \*Nutritional Supplementation:

Gluten Induced damage to the GI tract can lead to nutritional deficiencies. As a result, it is extremely common for people with gluten sensitivity to have vitamin/mineral deficiencies.

Going gluten free is not always enough due to underlying malnutrition. Therefore, it is recommended to follow up with a nutritionally trained doctor.

The following supplementation has been hand selected by Dr. Osborne as begin most helpful as you embark on your gluten free journey.

1. Take [Biotic Defense](#) – 1 capsule per day with food.  
Gluten is a known disruptor of healthy gut bacteria. Biotic Defense is designed to help support the microbial balance in the GI tract.
2. Take [Gluten Shield](#)– 2 caps 10 minutes prior to meals to aid with digestion, to help the gut recover, and to reduce the damage from accidental cross contamination of gluten.
3. Take [Immune Shield](#) – 4 caps/day in divided doses with food.
4. Take [Ultra Nutrients](#) – 4 caps/day in divided doses with food.



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**\*Labs** – if your doctor is not familiar with these labs and you would like to have them run, you can contact Dr. Osborne’s Office @ 281-240-2229 and set up a consultation.

**\*\*Supplements** are available through [Gluten Free Society’s website](http://www.GlutenFreeSociety.org).

**Test Methodology:**

Client DNA is assayed for HLA alleles by HLA typing utilizing multiplex PCR amplification and hybridization with an array of specific oligonucleotide probes. Analytic sensitivity and specificity are >99.9%

This test or one or more of its components was developed and its performance characteristics determined by LabCorp. It has not been approved by the FDA. The FDA has determined that such approval is not necessary. This test is used for clinical purposes. It should not be regarded as investigational or for research. LabCorp is regulated under the Clinical Laboratory Improvement Act (CLIA) of 1988 as qualified to perform high complexity clinical testing.