VibrantWellness

Wheat Zoomer

Key Clinical Messages

What is the Wheat Zoomer?

The Wheat Zoomer is a blood test that provides high sensitivity and comprehensive assessment of wheat sensitivity and intestinal barrier permeability, as well as early and sensitive detection of celiac disease.

Why order Wheat Zoomer?

The Wheat Zoomer can be utilized for the detection of celiac disease, non-celiac gluten sensitivity, wheat lectin sensitivity, non-gluten wheat sensitivity, increased intestinal permeability, intestinal damage associated with celiac disease, and gluten-related autoimmunity.

The Wheat Zoomer can also be utilized for people already following a gluten-free or wheat free diet to gain insight on diet compliance and/or to help identify accidental exposure. Research suggests that a single exposure from gluten can elevate antibodies anywhere from 2-6 months in a person (varies individually). Therefore, the Wheat Zoomer can be used to track gluten exposure over time. The Celiac Disease Foundation recommends testing annually for celiac disease, even after a celiac disease diagnosis, as a way of monitoring disease activity and dietary compliance.

What types of patients are good candidates for Wheat Zoomer testing?

- Suspected Gluten or Wheat Sensitivity
- Suspected Intestinal Permeability (Leaky Gut Syndrome)
- Gastrointestinal inflammation (diarrhea or constipation; cramping; nausea; discomfort after eating)
- Headaches, including migraines
- Neurological symptoms (memory loss, balance problems, numbness, tingling, anxiety)
- Skin rashes
- Joint pain
- Diagnoses of autoimmune conditions
- Low Vitamin D status
- Multiple Food Sensitivities
- Excessive fatigue after meals

What tests are important to combine with the Wheat Zoomer test?

- **Celiac Genetics:** detects mutations in the HLA-DQ2 and HLA-DQ8 genes to analyze a patient's risk of developing celiac disease.
- **Total Immunoglobulins:** assesses total immunoglobulin levels, which is an important assessment when testing antibody levels.
- **Gut Zoomer:** assesses gastrointestinal function and the microbiome, which is important because intestinal permeability may be due to poor digestive output, gut pathogen infections and dysbiosis.
- **Neural Zoomer Plus:** a leaky gut can often be associated with a leaky brain. Lipopolysaccharides can cross the blood brain barrier and induces neural inflammation, neural toxicity, and neural autoimmunity. Additionally, tissue transglutaminase 6 (tTG6) is associated with central nervous system (CNS) development and motor function.
- **Lectin Zoomer**: assesses the body's immune response to the lectins in many other foods. If there's an immune response to Wheat Germ Agglutinin (WGA), the lectin component of wheat, it may be important to assess the immune response to other lectin containing foods.
- **Autoimmune Zooomer:** Studies have found that there is an overlap between wheat sensitivity and autoimmune diseases such as thyroid disease and rheumatoid arthritis due to molecular mimicry.

Test Preparation

- **Fasting:** Not required.
- **Diet Restrictions:** None. Vibrant does not recommend a "gluten challenge" to a patient who is already aware they have adverse symptoms driven by gluten. However, with any antibody testing, if the antigen (gluten, wheat) has been removed for a significant amount of time (highly variable among individuals), the body may no longer mount an IgA/IgG antibody response.
- **Dietary Supplement Restrictions:** None.
- **Medication Restrictions:** None; however, steroids, immunosuppressive medications, biologic agents, or other immunomodulating medications (e.g. IV IgG therapy), may cause low or high total immunoglobulins. Low or high total immunoglobulins (e.g. low total IgA or high total IgG) may cause a false low or a false high of specific-immunoglobulin (e.g. anti-gliadin IgA or anti-wheat germ agglutinin IgG) results.
    - Practitioners ordering the Wheat Zoomer for patients on these medications may order Total Immunoglobulins (at no charge) when ordering the Wheat Zoomer. This will enable the practitioner to critically examine the Wheat Zoomer results, compare to the Total Immunoglobulins results, and identify if a result reflects true antigen-antibody reaction or if the results are skewed lower or higher due to medication interference.

Reference Ranges

- **Adults:** Three hundred serum samples from healthy donors including 150 males ranging in age from 17-86 and 150 females ranging in age from 19-69 were tested with Wheat Zoomer IgG and IgA kit.
- **Children:** The Wheat Zoomer is validated in the pediatric population. When the Wheat Zoomer is ordered for a person aged less than 18 years, the test report will automatically be age-adjusted to reflect the pediatric reference ranges

Methodology

- The Wheat Zoomer aids in the specific recognition of antibodies to wheat peptides – including gluten and non-gluten components, along with antibodies that indicate the presence of intestinal permeability. It is also a highly sensitive peptides-based array designed to detect autoimmune reactions to gluten.
- By testing at the peptide level, common drawbacks of other food sensitivity tests can be eliminated such as confounding by water-soluble protein whole protein limitations, extract cross-reactivity, and cooked vs raw effects on proteolysis.
- With a 99% specificity and 100% sensitivity to accurately identify false negatives and false positives, respectively, clinical recommendations can be made from the consistently reliable results

What markers are included on the Wheat Zoomer test?

Panels	Specific Markers	Significance
Wheat Allergy Panel	• Wheat IgE	To assess for an allergy for a wheat
Celiac Panel	• Transglutaminase 2 (IgG + IgA) • Deaminated gliadin peptide (DGP)	To assess for celiac disease and celiac progression
Tissue transglutaminase/ deaminated gliadin peptide complex (tTG/DGP Complex)	• tTG/DGP Fusion Peptide (IgG + IgA)	To assess for early indications of celiac disease development
Intestinal Permeability Panel	• Zonulin • Anti-Zonulin (IgG + IgA) • Anti-Actin (IgG + IgA) • Anti-LPS (IgG + IgM)	To assess for intestinal permeability
Transglutaminase Panel	• Transglutaminase 3 (IgG + IgA) • Transglutaminase 6 (IgG + IgA)	To assess for antibodies associated with gluten-mediated autoimmunity such as dermatitis herpetiformis and gluten ataxia
Wheat Germ Panel	• Wheat Germ Agglutinin (IgG + IgA)	To assess for antibodies to the lectin component of wheat
Gliadin Panel	• Alpha Gliadin (IgG + IgA) • Alpha-Beta Gliadin (IgG + IgA) • Gamma Gliadin (IgG + IgA) • Omega Gliadin (IgG + IgA) • Gluteomorphin (IgG + IgA) • Prodynorphin (IgG + IgA)	To assess for antibodies to gliadin peptides indicating gluten sensitivity
Glutenin Panel	• HMW Glutenin (IgG + IgA) • LMW Glutenin (IgG + IgA)	To assess for antibodies to glutenin peptides indicating gluten sensitivity
Non-Gluten Wheat Panel	• Serpin (IgG + IgA) • Farinins (IgG + IgA) • Amylase/Protease Inhibitors (IgG + IgA) • Globulins (IgG + IgA) • Purinin (IgG + IgA)	To assess for antibodies indicating wheat sensitivity

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