
VibrantWellness

# Food Additives Test

## *Key Clinical Messages*

## What are the Food Additives Test?

The Vibrant Wellness Food Additives Test is a blood test that detects sensitivities to 57 different food additives. It assesses different immune responses to common food additives to determine an individual's risk for negative reactions.

There are two Food Additive tests available: the **IgA and IgG antibodies** or the **IgG4 antibodies and C3d.** Both tests can be ordered together for a fuller view of food additive sensitivity. This test can be ordered as a blood draw or an at-home dried blood spot finger-prick test.

## Which Patients Benefit from This Test?

Conditions and symptoms which may benefit from food additives testing include:

- Gastrointestinal dysfunction
- Diarrhea
- Constipation
- IBS
- Neurological disorders
- Autoimmune diseases
- Inflammatory conditions
- Skin manifestations
- Eczema
- Headaches/migraines
- Joint pain
- Asthma
- Cognitive impairments
- Brain fog
- Fatigue
- History of food sensitivities

## Why Order the Food Additives Test?

Ordering a Food Additives Test provides valuable insights into an individual's immune reaction to 57 different food additives. Food additive sensitivities have been linked to various chronic diseases and symptoms, such as inflammation, gut dysfunction, and other imbalances.

To assess the immune response, you have the option to choose between two types of tests: IgA and IgG, or IgG4 and C3d. This selection allows you to delve into specific aspects of the immune system and gain a comprehensive understanding of whether your patients have food additive sensitivities and how these additives may be impacting their bodies.

Food additive sensitivities are immune-mediated reactions that are not allergic in nature. However, identifying symptoms of food additive sensitivities can be challenging due to their delayed onset and elusive nature—reactions may occur hours or days after consumption. Food additives testing can eliminate guesswork and provide a precise and targeted list of additives that trigger immune reactions, as well as those that are well-tolerated. This knowledge can greatly assist you in identifying and managing potentially problematic food additives.

## What are the differences between each antibody tested?

| LgA | IgG | IgG4 | C3d |
|---|---|---|---|
| IgA antibodies are one of the body's first line of defense. They're present in areas of the body that contain mucosal linings, such as the gastrointestinal tract, lungs, sinus, and bladder, because these are major sites of potential attack from micro-organisms.[1] | IgG antibodies are the most abundant class of antibodies found in the bloodstream. They play an important role in immune response by recognizing and binding to foreign substances, such as pathogens or food antigens. | IgG4 antibodies are a subclass of immunoglobulin G (IgG) antibodies. They have distinct properties and functions, such as acting as an IgE blocking agent.[2] IgG4 has also been identified as an anti-inflammatory antibody that is increased in states of immune tolerance. | C3d immune response is measured to determine complement system activation to various foods. When the complement system is activated, there is an exaggerated immune response and inflammation is triggered in the body.[3] |

## What Markers Are Included on the Food Additives Test?

The Food Additives Sensitivity test measures immune responses to 57 different food additives.

**TESTS OFFERED:**

- IgA and IgG antibodies
- IgG4 antibodies & C3d
- Both IgA and IgG antibodies and IgG4 antibodies & C3d

### Food Additives Tested

| | | |
|---|---|---|
| Acesulfame K | Cottonseed | Red #2 (Amaranth Red) |
| Acid Blue #3 (Patent Blue V) | Deltamethrin | Red #3 (Erythrosine) |
| Acid Red #14 (Carmoisine) | Erythritol | Red #4 (Carmine) |
| Ammonium Chloride | Fluoride | Red #40 (Allura Red) |
| Annatto | Formaldehyde | Saccharin |
| Arabic Gum | Glyphosate | Sodium Benzoate |
| Aspartame | Green #3 (Fast Green) | Sodium Citrate |
| Benzoic Acid | Guar Gum | Sodium Nitrate |
| Beta-Carotene | Gum Tragacanth | Sodium Sulfite |
| Beta-Glucan | Ispaghula/Psyllium | Sorbic Acid |
| Bisphenol A (BPA) | Lecithin (Egg yolk) | Sorbitol |
| Blue #1 (Brilliant Blue) | Lecithin (Soy) | Stevia |
| Blue #2 (Indigo Carmine) | Locust Bean Gum | Sucralose (Splenda) |
| Brilliant Black | Mannitol | Titanium dioxide |
| Butylated Hydroxyanisole (BHA) | Mastic Gum | Xanthan Gum |
| Butylated Hydroxytoluene (BHT) | Monk Fruit | Xylitol |
| Carrageenan | Monosodium Glutamate (MSG) | Yellow #5 (Tartrazine) |
| Citric Acid | Nickel Sulfate | Yellow #6 (Sunset Yellow) |
| Cochineal Extract | Polysorbate 80 | |

## Methodology

Vibrant Wellness is a CLIA-certified and CAP-accredited lab.

- **Microarray technology on microchip**
  - Additives are synthesized on silicon wafers to detect antibody-antigen binding
- **Key advantages of peptide microarray technology**
  - Highly precise detection of antibodies to additives
  - High sensitivity and specificity
  - Fewer false positive and negative results
  - High reproducibility

## Which Tests Pair Well with the Food Additives Test?

**Food Sensitivity Test:** to assess for immune reactions to up to 209 different foods to determine food sensitivities.
Food Zoomer Bundle: to assess immune reactions (IgA and IgG) to other peptides in commonly consumed foods.

- Wheat Zoomer, Corn Zoomer, Dairy Zoomer, Egg Zoomer, Grain Zoomer, Lectin Zoomer, Nut Zoomer, Peanut Zoomer, Soy Zoomer

**Total Immunoglobulins:** to evaluate a patient's baseline level of (total) IgA, IgG and IgE.
**Allergy Panel:** to assess IgE immune reactions to different foods.
**Gut Zoomer:** to assess for gastrointestinal imbalances that may potentially increase the risk for food sensitivities.
**Wheat Zoomer:** to assess for intestinal hyperpermeability that may increase the risk for food sensitivities.

# Test Prep for Blood and Dried Blood Spot Collection

Blood draw collection may be used to test for IgA and IgG as well as IgG4 and C3d.  Dried blood spot is available for the IgA and IgG test only.

| | Blood | Dried Blood Spot |
|---|---|---|
| **Test** | Available for:<br>• IgA and IgG<br>• IgG4 and C3d | Available for:<br>• IgA and IgG only |
| **Collection** | One (1) EDTA specimen tube | One (1) blood specimen collection card |
| **Hydration Restriction** | None | None |
| **Fasting Restriction** | Not required | Not required |
| **Diet Restrictions** | None. Food challenges not recommended. | None. Food challenges are recommended. |
| **Medication Restrictions** | None | None |
| **Dietary Supplement Restrictions** | None | None |

# Reference Ranges and Interpretation of Results

### Reference Ranges:

Reference ranges have been established using a sample cohort comprising of 2,000 relatively healthy samples.

### Results:

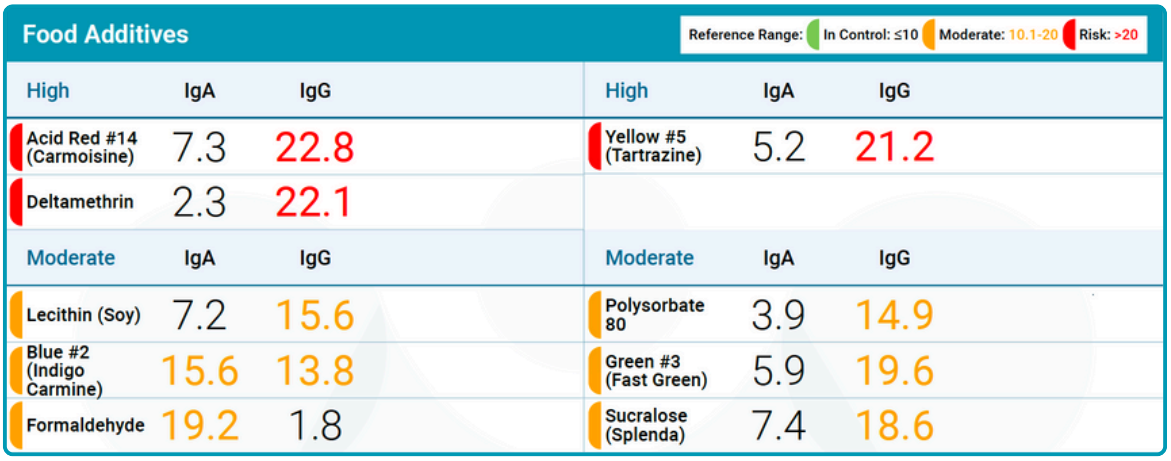
Results are calculated by comparing the average intensity of the individuals antibody levels to that of a healthy reference population. A classification of green denotes a results that is within the normal reference range (<92.5th %), the classification of yellow denotes a result that has a moderately elevated titer with respect to the reference range (92.5-97/5th %), and the classification of red denotes a result that is elevated with respect to the normal reference range (>97.5th %).

- **HIGH:** antibody levels >20
- **MODERATE:** antibody levels between 10.1-20
- **IN CONTROL:** antibody levels ≤10

Vibrant utilizes proprietary reporter-based analysis which is designed to assay specific IgG pooled antibodies (subclasses 1,2,3,4), specific IgA pooled antibodies (subclasses 1,2), C3d, and specific IgG4 subclass alone.

### Example of Food Summary Results:

The first page of the report includes a summary of the additives with elevated (red) or moderately (yellow) elevated antibody levels.




**For all positive and moderate results, there will be information populated at the end of the report discussing important information about each food. The information includes a food description, commonly found in information, hidden sources, and precautions.*

## Example of Food Additives Test results:

Following the summary section is the complete list of the food additives along with antibody levels. Current and Previous results populate side by side, so you can compare the antibody and/or C3d levels over time.

| Food Additives | Reference Range: In Control: ≤10 Moderate: 10.1-20 Risk: >20 | | | |
|---|---|---|---|---|
| Elements | Current IgA | Current IgG | Previous IgA | Previous IgG |
| Fluoride | 1.8 | 7.0 | | |
| Nickel Sulfate | 3.4 | 7.1 | | |
| Titanium dioxide | 1.7 | 5.9 | | |
| Emulsifiers and Surfactants | Current IgA | Current IgG | Previous IgA | Previous IgG |
| Lecithin (Egg yolk) | 5.7 | 7.4 | | |
| Lecithin (Soy) | 7.2 | 15.6 | | |
| Polysorbate 80 | 3.9 | 14.9 | | |
| Fibrous Additives | Current IgA | Current IgG | Previous IgA | Previous IgG |
| Ispaghula | 4.7 | 4.5 | | |
| Flavor Enhancers | Current IgA | Current IgG | Previous IgA | Previous IgG |
| Ammonium Chloride | 7.0 | 4.1 | | |
| Monosodium Glutamate (MSG) | 2.7 | 8.9 | | |
| Sodium Citrate | 5.0 | 3.5 | | |
| Food Dyes and Pigments | Current IgA | Current IgG | Previous IgA | Previous IgG |
| Acid Blue #3 (Patent Blue V) | 3.3 | 7.5 | | |
| Acid Red #14 (Carmoisine) | 7.3 | 22.8 | | |
| Annatto | 4.9 | 8.9 | | |
| Beta-Carotene | 3.9 | 1.2 | | |
| Blue #1 (Brilliant Blue) | 4.4 | 8.3 | | |
| Blue #2 (Indigo Carmine) | 15.6 | 13.8 | | |
| Brilliant Black | 6.4 | 1.7 | | |
| Cochineal Extract | 7.4 | 9.0 | | |
| Green #3 (Fast Green) | 5.9 | 19.6 | | |

**Regulatory Statement:**

This test has been laboratory developed and their performance characteristics determined by Vibrant America LLC, a CLIA-certified laboratory performing the test CLIA#:05D2078809. The test has not been cleared or approved by the U.S. Food and Drug Administration (FDA). Although FDA does not currently clear or approve laboratory-developed tests in the U.S., certification of the laboratory is required under CLIA to ensure the quality and validity of the tests.


**References:**

1. Woof JM, Kerr MA. The function of immunoglobulin A in immunity. *J Pathol.* 2006;208(2):270-282. doi:10.1002/path.1877
2. James LK, Till SJ. Potential mechanisms for IgG4 inhibition of immediate hypersensitivity reactions. *Curr Allergy Asthma Rep.* 2016;16(3):23. doi:10.1007/s11882-016-0600-2
3. Toapanta FR, Ross TM. Complement-mediated activation of the adaptive immune responses: Role of C3d in linking the innate and adaptive immunity. *Immunol Res.* 2006;36(1-3):197-210. doi:10.1385/IR:36:1:197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