



# Food Sensitivity Tests

## Key Clinical Messages

### What are the Food Sensitivity Tests?

Vibrant’s Food Sensitivity Tests are blood panels that detect sensitivities to up to 209 different foods depending on the panel ordered. The panels assess immune response to whole, raw, water-soluble proteins that are commonly consumed to determine an individual’s risk for negative food reactions.

**There are three panel options for The Food Sensitivity Test:**

- Food Sensitivity Profile 1 (96 foods)
- Food Sensitivity Profile 2 (84 foods)
- And Food Sensitivity Complete (209 foods)

Each panel also comes in two antibody type options: IgA and IgG or IgG4 and C3d. Both antibody options can be combined to gain a full assessment of food sensitivity by measuring IgA, IgG, IgG4 antibodies and C3d together.

### What Are Food Sensitivities?

Food sensitivities are immune-mediated, non-allergenic reactions to food protein antigens, in which antigens bind to antibodies and form an antigen-antibody immune complex.

This process can also evoke systemic immune responses. Symptoms of food sensitivities are often delayed and hard to pinpoint or detect.

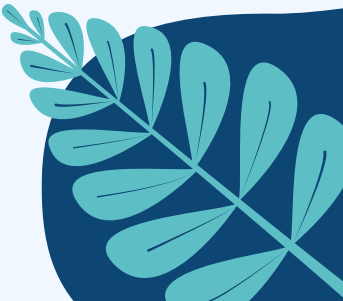
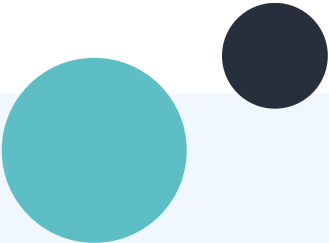
It’s important to note that food intolerances differ from food sensitivities because they do not involve the immune system—rather, they result from a deficiency in proteins or enzymes critical to proper digestion of a food (i.e., lactose intolerance).

Food sensitivities are also referred to as loss of oral tolerance, which is what happens when the intestinal immune system forms immune-based reactions to commonly consumed and typically harmless foods or antigens.

### Which Patients Benefit from This Test?

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

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





Food sensitivities are associated with many chronic diseases and symptoms, including inflammation, gut dysfunction, and other imbalances in the body. However, food sensitivities can be challenging to identify because reactions to sensitive foods may not occur for hours or days after consumption,

Food sensitivity testing provides a specific and targeted list of reactive and non-reactive foods to help patients understand which foods are well-tolerated and which are associated with loss of oral tolerance.

Vibrant Food Sensitivity Tests provide an in depth look at an individual's immune reaction to up to 209 different foods using raw, organic, water-soluble, FDA-approved antigens at the whole protein-level. Using raw antigens helps control for differences in various cooking methods and is more reproducible than cooked antigens.

Testing at the whole protein level can help identify potential gastrointestinal imbalances when there is a high number of positive food reactions.

Patients can customize the panel to their eating habits and symptoms by selecting a panel that encompasses many of the foods that they consume daily to understand their immune reaction to those foods. They can also assess different immunological reactions to tested foods by selecting IgA and IgG or IgG4 and C3d antibodies.

By analyzing different immune reactions to various food proteins, you can gain a fuller understanding of not only if a patient has food sensitivities but also how these foods may be affecting the body.

IgA	IgG
IgA antibodies are one of the body's first line of defense. They're present in areas of the body that contain high mucosa, such as the gastrointestinal tract, lungs, sinus, and bladder, because these are major sites of potential attack from micro-organisms. <sup>1</sup>	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	C3d
IgG4 antibodies are a subclass of immunoglobulin G (IgG) antibodies. They have distinct properties and functions, such as acting as an IgE blocking agent. <sup>2</sup> 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. <sup>3</sup>

## Methodology

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

- **Vibrant uses microarray technology on microchip**
  - Proteins are synthesized on silicon wafers to detect antibody-antigen binding
- **Vibrant peptide microarray technology advantages**
  - Allows for highly precise detection of antibodies to foods
  - High level of sensitivity and specificity
  - Less false positive and negative results
  - High reproducibility

## Which Tests Pair Well With Food Sensitivity Testing?

**Food Zoomer Bundle:** to assess immune reactions (IgA and IgG) to 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 baseline level of total IgA, IgG, IgE, and IgM

**Allergy Panel:** to assess IgE immune reactions to different seafood. If this test is ordered, the results will populate in the food alongside the food sensitivity results.

**Gut Zoomer:** to assess for gastrointestinal imbalances that may potentially increase the risk for food sensitivities.



## What Markers are Included on Vibrant's Food Sensitivity Tests?

Category	Profile 1		Profile 2		Additional Foods Added to Food Sensitivity Complete (209 total foods)	
Dairy	Beta-Casein Casomorphin Cow's Milk	Goat's Milk Whey Protein	Buffalo milk Buttermilk Cheese, cheddar	Kefir Sheep's milk Yoghurt		
Fish	Catfish Codfish Halibut Salmon	Lake Trout Mackerel Perch Tuna	Alaska pollock Anchovy Carp Eel	Flounder Sardine Sea bass Sole		
Meat	Beef Chicken Egg white Egg yolk	Lamb Pork Turkey	Duck meat Goose meat Grapevine snail	Rabbit Veal		
Shellfish	Crab Lobster	Shrimp	Crayfish			
Mollusks	Clam Oyster	Scallops	Blue mussel Octopus	Pacific squid Squid		
Legumes	Kidney Bean Navy Bean	Peanuts Soybean	Chickpea Broad bean	Mung beans	Black Beans Black-eye Peas	Lentil Pinto Bean
Spices	Black Pepper Cinnamon	Nutmeg	Cayenne pepper Common thyme Curry powder Hot paprika powder Woo-hsiang powder	Anise Bay leaf Caraway Dill Oregano Parsley	Cumin Cilantro Turmeric	Habanero pepper Jalapeno pepper
Gluten-containing grains	Barley Malt	Oats Rye Wheat	Spelt	Cous cous		
Gluten-free grains/Starches	Amaranth Brown Rice	Buckwheat Corn	Millet		Cassava Tapioca Tiger nut	Taro Root Arrowroot
Miscellaneous	Cocoa Coffee Hops	Rosemary Vanilla Bean Yeast	Black tea Cane sugar Lemon grass	Molasses Oolong tea	Agave Espresso	Green Tea
Nuts	Almond Black Walnut Cashews	English Walnut Pecan	Pistachio nut Sweet chestnut	Hazelnut Pine nut	Brazilnut Macadamia Nut	
Nightshades	Green Pepper	White Potato	Eggplant			
Seeds	Mustard	Sesame	Coriander seed Sunflower seed Poppy seed	Flaxseed Rape seed	Chia Hemp	
Fruits	Apple Apricot Avocado Banana Blackberry Blueberry Cantaloupe Cherry Coconut Cranberry Grape	Grapefruit Lemon Olive Orange Peach Pear Pineapple Raspberry Strawberry Tomato Watermelon	Fig Guava Honeydew melon Kiwi fruit Litchi	Mandarin Mango Plum Capers Papaya		
Vegetables	Broccoli Cabbage Carrot Cauliflower Celery Cucumber Garlic Green Bean Green Peas	Lettuce Lima Bean Mushrooms Onion Seaweed (Kelp) Spinach Squash Ginger Sweet Potato	Asparagus Bamboo shoots Beet root Endive Leek Roquette Savoy cabbage Shiitake mushroom	Turnip Vine leaf White radish Artichoke Chard Kale Zucchini	Acorn Squash Butternut Squash Green onion/Scallions Parsnip Portabella Mushroom Purple Potato Shallots Spaghetti Squash	
Vegan Foods			Tofu Vegan Cheese	Tempeh		



# Test Prep for Blood and Dried Blood Spot

Blood sample, which require phlebotomy, may be used to test for both IgA and IgG and IgG4 and C3d.

Dried blood spot may be used to test for **IgA and IgG only** (not IgG4 and C3d).

	Blood	Dried Blood Spot
Test	Available for: <ul style="list-style-type: none"><li>IgA and IgG</li><li>IgG4 and C3d</li></ul>	Available for: <ul style="list-style-type: none"><li>IgA and IgG only</li></ul>
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 not 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 individual's 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 Personalization Summary:

The first pages of the report includes the Food Personalization Summary, which lists Non-Reactive Foods vs Reactive Foods.


Food Personalization Summary		
Non-Reactive Foods ✓	Category	Reactive Foods ✗
Apple, Apricot, Banana, Blackberry, Blueberry, Cantaloupe, Cherry, Coconut, Cranberry, Grape, Grapefruit, Orange, Peach, Pear, Pineapple, Raspberry, Watermelon, Tomato, Olive, Lemon, Guava, Honeydew Melon, Kiwi Fruit, Litchi, Mandarin, Mango, Plum, Capers, Papaya	Fruits	Avocado, Fig, Strawberry
Black Pepper, Cinnamon, Nutmeg, Anise, Bay Leaf, Caraway, Cayenne Pepper, Common Thyme, Curry Powder, Hot Paprika Powder, Oregano, Woo-hsiang Powder, Cumin, Jalapeno Pepper, Habanero Pepper	Spices	Turmeric



### Example of Food Sensitivity Summary Results:

The Food Sensitivity Summary then reports all elevated or moderately elevated foods. This is followed by Summary Comments for each food, which includes a food description, common sources, hidden sources, and precautions.

Food Sensitivity Complete					Food Sensitivity - Summary Comments				
Current Result					Lectin Score				
Reference Range:					In Control: ≤10 Moderate: 10.1-20 Risk: >20				
High	IgA	IgG	IgG4	C3D	High	IgA	IgG	IgG4	C3D
Amaranth	5	6	>30	>30	Flax seed	4	3	29	6
Avocado	6	17	12	22	Fig	9	2	7	>30
Turmeric	6	17	14	23	Brazilnut	4	24	2	8
Pistachio nut	6	7	>30	5					
Moderate	IgA	IgG	IgG4	C3D	Moderate	IgA	IgG	IgG4	C3D
Oats	3	6	4	6	Rye	3	6	5	6
Barley	3	6	4	6	Brown Rice	4	6	1	7
Buckwheat	6	8	8	5	Tiger nut	4	6	5	11
Mustard	8	19	<0.1	6	Chia	4	14	3	7
Egg White	8	20	1	16	Egg Yolk	3	8	3	4
Shallots	5	11	6	7	Lentils	2	13	5	6
Mung beans	4	5	6	5	Strawberry	6	16	7	9
Pecan	4	7	5	7	Macadamia Nut	4	6	2	6




**Amaranth**

**FOOD DESCRIPTION**  
A gluten free grain from one of the 70 species of the flowering Amaranthus plant family.

**COMMONLY FOUND IN**  
Gluten-free grains, cereals, trail mix, granola, granola bars, alternative flour mixes.

**HIDDEN SOURCES**  
Squalene (a common oil extracted and used in cosmetics).




**Flax seed**

**FOOD DESCRIPTION**  
Flaxseed (or linseed) is a member of the genus Linum in the family Linaceae. It is a food and fiber crop cultivated in cooler regions of the world. The textiles made from flax are known as linen. Flaxseeds contain 54% omega-3 fatty acids.

**COMMONLY FOUND IN**  
Flax seeds are commonly found in cereals, breads, muffins and other baked goods, vegan protein powders, and gluten free flours and foods.

**HIDDEN SOURCES**  
Hidden sources of flax seed include vegetarian and vegan protein powders and omega-three fatty acid supplements.

**PRECAUTION**  
While less common, flax seeds may have possible cross-reactivity with other seeds.



**Avocado**

**FOOD DESCRIPTION**  
A stone fruit, bright orange in color with a velvety skin and flesh; related to peaches but usually smaller in diameter and not as juicy.

**COMMONLY FOUND IN**  
Whole fruit, salads, guacamole, salad dressings, ceviche, Mexican cuisine (tacos/burritos), sometimes in omelets or egg dishes.

**HIDDEN SOURCES**  
Alligator Pear is an alternative name.

### Example of Food Sensitivity Results:

Finally, the full report lists the antibody levels to all markers. Current and Previous results populate side by side, so you can compare the antibody and/or C3d levels over time.

Food Sensitivity Complete				Reference Range:			
				In Control: ≤10 Moderate: 10.1-20 Risk: >20			
Fruits		IgA	Current	IgG	IgA	Previous	IgG
Pineapple		4		7	9 (06-02-2023)	3 (06-02-2023)	
Raspberry		6		6	8 (06-02-2023)	6 (06-02-2023)	
Strawberry		6		16	9 (06-02-2023)	22 (06-02-2023)	

### 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:

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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

