



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 different immune responses 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.

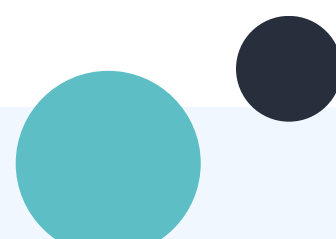
It’s important to note that food intolerances differ from food sensitivities because they do not involve the immune system—rather, they result from a deficiency in proteins or enzymes critical to proper digestion of a food (i.e., lactose intolerance).

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 | | |





Why Order the Food Sensitivity Tests?

Food sensitivities are associated with many chronic diseases and symptoms, including inflammation, gut dysfunction, and other imbalances in the body. However, food sensitives 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.

LgA	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. 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	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. 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

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, Egg Zoomer, Lectin Zoomer, Corn Zoomer, Grain Zoomer, Dairy Zoomer, Peanut Zoomer, Nut Zoomer, Seafood Zoomer, Soy Zoomer, Mammalian Milk 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: - IgA and IgG - IgG4 and C3D	Available for: 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 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 192 relatively healthy samples. 2.5% to 97.5% percentile was determined to calculate the healthy reference range.

Results:

Results are calculated by comparing the average intensity of the individual protein antibody to that of a healthy reference population. The reactivity to the antigens is displayed as High (RED), Moderate (YELLOW) or Negative (BLACK-NO COLOR).

- HIGH:** antibody levels between 21-30
- MODERATE:** antibody levels between 11-20
- NEGATIVE:** antibody levels between 1-10

Vibrant utilizes proprietary reporter-based analysis which is designed to assay specific total IgG (subclasses 1,2,3,4), and total IgA (subclasses 1,2) antibodies C3D and IgG4 alone. The classification of High to Moderate to Negatives denotes the level of antibodies detected. A high result indicates increased antibody/C3D levels to the food antigen (>97.5th percentile of the reference range). A moderate result indicates moderately elevated antibody/C3D levels to the food antigen (92.5-97.5th percentile). A negative result indicates normal antibody/C3D levels (<92.5th percentile of reference range).

Food Summary							Blank Cell - Low High Risk Moderate - Not Ordered or N/A							
High Sensitivity Foods	Food Name	IgA	IgG	IgE	IgG4	C3D	Peptide level sensitivity	Food Name	IgA	IgG	IgE	IgG4	C3D	Peptide level sensitivity
	Amaranth							Cashew	-	-	-	-	-	
	Clam							Corn						
	Dairy	-	-	-	-	-		Egg White						
	Egg Yolk							Goat Milk	-	-	-	-	-	
	Goose meat			-				Intestinal Perm.	-					
	Mackerel							Mustard						
	Oats							Orange						
	Pacific squid			-				Peanut						
	Portabella Mushroom			-				Rape seed						
	Rye							Sorghum	-					
	Soy	-	-	-	-	-		Squid						
	Walnut	-	-	-	-	-		Wheat	-	-		-	-	

Example of Food Summary Results:

The first page of the report includes a summary of foods with high and moderate results.

Moderate Sensitivity Foods

Almond

Black-eye Peas

Cassava

Kale

Navy Bean

Sesame

Black Beans

Brazil Nut

Green Tea

Lemon

Pear



Example of Food Summary Results:

In the detailed report, the previous result for the same food is indicated next to the current result in brackets to visualize how sensitization may have changed since the last time the individual was tested.

The cell is colored based on the level of sensitization: High (RED), Moderate (YELLOW) or Negative (BLACK-NO COLOR).

Legumes					Blank Cell - Low High Risk Moderate - Not Ordered or N/A				
Food Name	IgA	IgG	IgG4	C3D	Food Name	IgE	IgA	IgG4	C3D
Black Beans	<0 (8)	9 (3)	17 (9)	1 (5)	Black-eye Peas	6 (1)	5 (8)	12 (5)	10 (<0)
Broad bean	9 (2)	1 (0)	4 (2)	8 (7)	Chickpea	2 (7)	10 (7)	2 (4)	8 (6)
Kidney Bean	2 (7)	7 (6)	7 (5)	7 (7)	Lentils	<0 (<0)	2 (23)	6 (5)	8 (<0)
Mung beans	10 (10)	3 (4)	2 (2)	9 (1)	Navy Bean	9 (9)	1 (2)	7 (7)	10 (4)
Peanut	9 (6)	6 (7)	6 (6)	1 (4)	Pinto Beans	8 (5)	8 (1)	4 (1)	2 (4)
Soybean	6 (8)	1 (3)	<0 (10)	3 (3)					

Meat					Blank Cell - Low High Risk Moderate - Not Ordered or N/A				
Food Name	IgA	IgG	IgG4	C3D	Food Name	IgE	IgA	IgG4	C3D
Beef	3 (8)	0 (2)	5 (3)	7 (1)	Chicken	3 (0)	6 (9)	6 (2)	5 (2)
Duck meat	1 (2)	10 (1)	10 (5)	4 (1)	Egg White	3 (0)	2 (7)	<0 (7)	7 (10)
Egg Yolk	5 (1)	5 (4)	5 (6)	5 (7)	Goose meat	9 (7)	6 (1)	2 (5)	21 (9)
Grapevine snail	7 (0)	6 (2)	8 (6)	8 (7)	Lamb	0 (6)	2 (8)	3 (10)	4 (4)
Pork	10 (5)	0 (1)	8 (1)	2 (5)	Rabbit	6 (8)	8 (10)	2 (5)	<0 (1)
Turkey	6 (9)	5 (8)	<0 (2)	5 (3)	Veal	3 (1)	0 (8)	<0 (5)	<0 (2)

Example Interpretation of Results

Positive for IgG: Consider elimination diet.

Moderate for IgG: Consider elimination diet or rotation diet.

Positive/Moderate for IgA: Consider elimination diet.

*For all positive and moderate results, there will be information at the end of the report discussing important information about each food, including a food description, common sources, hidden sources, and precautions.

One Click Personalized Report

There is an option on the portal to download a one-click personalized report of food sensitivity test results. This report organizes the results into a simplified Reactive and Non-Reactive food list for patients. This report will also collaborate results from other food test results into a single, easy-to-use document.

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

