

# ALLERGY REPORT

PATIENT

BIRTH DATE

PROVIDER

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# DIETARY PANEL

The Allergen360 Dietary Panel detects allergic reactivity and sensitivities to foods. It monitors the immune reactivity of human immunoglobulins (IgG4) that compete with IgE for binding sites on specific allergen(s). The IgE antibody response is the most commonly known food allergy response. This response usually occurs immediately and can create severe symptoms such as swelling, hives, itching, and in some cases - anaphylaxis. Even though IgE reactions are immediate, the allergic potential of food-based allergens can remain 1-2 days after ingestion, extending the presence of symptoms during this duration.

## Dietary Allergy Reference Ranges

TYPE	VERY HIGH	HIGH	MODERATE	LOW	EQUIVOCAL/LOW	NEGATIVE	Type	Yes	No
IgE	42.1 - 120	8.41 - 42	1.69 - 8.4	0.817 - 1.68	0.245 - 0.816	0 - 0.244	C3D	•	
TYPE	VERY HIGH	HIGH	MODERATE	LOW	EQUIVOCAL/LOW	NEGATIVE			
IgG4	42.1 - 120	8.41 - 42	1.69 - 8.4	0.817 - 1.68	0.245 - 0.816	0 - 0.244			

## Highlights

Type I hypersensitivity is an IgE mediated allergic reaction. Exposure to the allergen may be by ingestion, inhalation, injection or direct contact. Type III hypersensitivity occurs when there is an excess of antigen that activates complement (measured through C3D).

### Type I & III Hypersensitivity

FOOD	IgE (ng/ml)	INTERPRETATION	C3D	IgG4 (ng/ml)	INTERPRETATION	BLOCKING
<b>Lemon</b>	<b>2</b>	<b>MODERATE</b>	•	<b>2.885</b>	<b>MODERATE</b>	•

### Type I Hypersensitivity

FOOD	IgE (ng/ml)	INTERPRETATION	C3D	IgG4 (ng/ml)	INTERPRETATION	BLOCKING
<b>Almond</b>	<b>1.962</b>	<b>MODERATE</b>		<b>2.077</b>	<b>MODERATE</b>	•
<b>Asparagus</b>	<b>1.731</b>	<b>MODERATE</b>		<b>1.385</b>	<b>LOW</b>	
<b>Crab</b>	<b>2.538</b>	<b>MODERATE</b>		<b>1.462</b>	<b>LOW</b>	
<b>Garlic</b>	<b>1.808</b>	<b>MODERATE</b>		<b>0.308</b>	<b>EQUIVOCAL/LOW</b>	
<b>Green Olive</b>	<b>8.538</b>	<b>HIGH</b>		<b>0.5</b>	<b>EQUIVOCAL/LOW</b>	
<b>Oregano</b>	<b>1.962</b>	<b>MODERATE</b>		<b>0</b>	<b>NEGATIVE</b>	
<b>Pear</b>	<b>2</b>	<b>MODERATE</b>		<b>3.192</b>	<b>MODERATE</b>	•
<b>Spinach</b>	<b>1.923</b>	<b>MODERATE</b>		<b>0</b>	<b>NEGATIVE</b>	
<b>White Potato</b>	<b>2.538</b>	<b>MODERATE</b>		<b>0.308</b>	<b>EQUIVOCAL/LOW</b>	

Foods containing allergens that may trigger Type I Hypersensitivity reactions.

### Type III Hypersensitivity

FOOD	IgE (ng/ml)	INTERPRETATION	C3D	IgG4 (ng/ml)	INTERPRETATION	BLOCKING
<b>Banana</b>	<b>0.154</b>	<b>NEGATIVE</b>	•	<b>0.577</b>	<b>EQUIVOCAL/LOW</b>	•
<b>Blueberry</b>	<b>0</b>	<b>NEGATIVE</b>	•	<b>3.769</b>	<b>MODERATE</b>	•
<b>Dill Seed</b>	<b>0.077</b>	<b>NEGATIVE</b>	•	<b>0.385</b>	<b>EQUIVOCAL/LOW</b>	•
<b>Grapefruit</b>	<b>0</b>	<b>NEGATIVE</b>	•	<b>0.962</b>	<b>LOW</b>	•
<b>Onion</b>	<b>1</b>	<b>LOW</b>	•	<b>0</b>	<b>NEGATIVE</b>	
<b>Sweet Potato</b>	<b>0</b>	<b>NEGATIVE</b>	•	<b>0.308</b>	<b>EQUIVOCAL/LOW</b>	•

## Dietary Allergy Results

FOOD	IgE (ng/ml)	INTERPRETATION	C3D	IgG4 (ng/ml)	INTERPRETATION	BLOCKING
FISH						
Codfish	0.077	NEGATIVE		0	NEGATIVE	
Halibut	0.538	EQUIVOCAL/LOW		0.808	EQUIVOCAL/LOW	•
Salmon	0.154	NEGATIVE		0.231	NEGATIVE	•
Trout	0.577	EQUIVOCAL/LOW		0.308	EQUIVOCAL/LOW	
Tuna	0.423	EQUIVOCAL/LOW		0.769	EQUIVOCAL/LOW	•
FRUITS						
Apple	1.269	LOW		0	NEGATIVE	
Avocado	0.769	EQUIVOCAL/LOW		0.769	EQUIVOCAL/LOW	
<b>Banana</b>	<b>0.154</b>	NEGATIVE	•	<b>0.577</b>	EQUIVOCAL/LOW	•
<b>Blueberry</b>	<b>0</b>	NEGATIVE	•	<b>3.769</b>	MODERATE	•
Cantaloupe	1.269	LOW		1.346	LOW	•
Cherry	0.462	EQUIVOCAL/LOW		0.654	EQUIVOCAL/LOW	•
Coconut	0.731	EQUIVOCAL/LOW		0.077	NEGATIVE	
Cucumber	0.808	EQUIVOCAL/LOW		1.154	LOW	•
<b>Grapefruit</b>	<b>0</b>	NEGATIVE	•	<b>0.962</b>	LOW	•
Grapes	1.385	LOW		0.5	EQUIVOCAL/LOW	
<b>Green Olive</b>	<b>8.538</b>	HIGH		<b>0.5</b>	EQUIVOCAL/LOW	
Green Pepper	0	NEGATIVE		0.846	LOW	•
Honeydew Melon	1.038	LOW		0	NEGATIVE	
<b>Lemon</b>	<b>2</b>	MODERATE	•	<b>2.885</b>	MODERATE	•
Lime	1.462	LOW		1.462	LOW	
Orange	0.615	EQUIVOCAL/LOW		0.962	LOW	•
Peach	1.654	LOW		0	NEGATIVE	
<b>Pear</b>	<b>2</b>	MODERATE		<b>3.192</b>	MODERATE	•
Pineapple	1.538	LOW		0.192	NEGATIVE	
Plum	1.269	LOW		0.462	EQUIVOCAL/LOW	
Squash Mix	0.692	EQUIVOCAL/LOW		0.846	LOW	•
Strawberry	1.077	LOW		0	NEGATIVE	
Tomato	0.808	EQUIVOCAL/LOW		0.615	EQUIVOCAL/LOW	
Watermelon	0.577	EQUIVOCAL/LOW		0.962	LOW	•
FUNGI						
Aspergillus Mix	0	NEGATIVE		0	NEGATIVE	
Brewers Yeast	0.269	EQUIVOCAL/LOW		0.769	EQUIVOCAL/LOW	•
Candida	0.077	NEGATIVE		0	NEGATIVE	
Mushroom	0.654	EQUIVOCAL/LOW		1.115	LOW	•
GRAINS, GRASSES						
Barley	0.962	LOW		0.346	EQUIVOCAL/LOW	
Corn	0.462	EQUIVOCAL/LOW		0.462	EQUIVOCAL/LOW	
Gluten	0.385	EQUIVOCAL/LOW		1.769	MODERATE	•
Oat	0.731	EQUIVOCAL/LOW		0.615	EQUIVOCAL/LOW	

FOOD	IgE (ng/ml)	INTERPRETATION	C3D	IgG4 (ng/ml)	INTERPRETATION	BLOCKING
Rice	0.731	EQUIVOCAL/LOW		0.923	LOW	•
Rye	0	NEGATIVE		0.192	NEGATIVE	•
Wheat	0.231	NEGATIVE		0.5	EQUIVOCAL/LOW	•
HERBS, SPICES, SEASONINGS						
Basil	0.154	NEGATIVE		0.115	NEGATIVE	
Black Pepper	0	NEGATIVE		0.692	EQUIVOCAL/LOW	•
Cinnamon	0	NEGATIVE		0.115	NEGATIVE	•
<b>Dill Seed</b>	<b>0.077</b>	NEGATIVE	•	<b>0.385</b>	EQUIVOCAL/LOW	•
<b>Garlic</b>	<b>1.808</b>	MODERATE		<b>0.308</b>	EQUIVOCAL/LOW	
Mustard	0.385	EQUIVOCAL/LOW		0.231	NEGATIVE	
<b>Oregano</b>	<b>1.962</b>	MODERATE		<b>0</b>	NEGATIVE	
Tea	0.538	EQUIVOCAL/LOW		0.308	EQUIVOCAL/LOW	
Vanilla	0.192	NEGATIVE		0.115	NEGATIVE	
LEGUMES, BEANS						
Kidney/Pinto Bean	0	NEGATIVE		0	NEGATIVE	
Lima Bean	0.115	NEGATIVE		0.115	NEGATIVE	
Navy Bean	0.538	EQUIVOCAL/LOW		4.154	MODERATE	•
Peanut	0.077	NEGATIVE		0.615	EQUIVOCAL/LOW	•
Soybean	1.077	LOW		0.885	LOW	
MEATS, DAIRY						
Beef	0.577	EQUIVOCAL/LOW		0.5	EQUIVOCAL/LOW	
Casein	0.577	EQUIVOCAL/LOW		1.038	LOW	•
Cow Milk	0.692	EQUIVOCAL/LOW		1.462	LOW	•
Goat's Milk	0	NEGATIVE		0	NEGATIVE	
Pork	0.615	EQUIVOCAL/LOW		0.615	EQUIVOCAL/LOW	
POULTRY						
Chicken	0.269	EQUIVOCAL/LOW		0.269	EQUIVOCAL/LOW	
Egg White	0.269	EQUIVOCAL/LOW		0.346	EQUIVOCAL/LOW	•
Egg Yolk	0.615	EQUIVOCAL/LOW		0.115	NEGATIVE	
Turkey	0	NEGATIVE		0	NEGATIVE	
SEEDS, NUTS						
<b>Almond</b>	<b>1.962</b>	MODERATE		<b>2.077</b>	MODERATE	•
Cacao	0.154	NEGATIVE		0	NEGATIVE	
Coffee	0.731	EQUIVOCAL/LOW		0.308	EQUIVOCAL/LOW	
Cottonseed	0.654	EQUIVOCAL/LOW		4.5	MODERATE	•
English Walnut	0.808	EQUIVOCAL/LOW		0	NEGATIVE	
Pecan	0.462	EQUIVOCAL/LOW		0.192	NEGATIVE	
Sesame	0.538	EQUIVOCAL/LOW		0.423	EQUIVOCAL/LOW	
Sunflower Seed	0.846	LOW		1.654	LOW	•
SHELLFISH						
Clam	1.038	LOW		0.769	EQUIVOCAL/LOW	
<b>Crab</b>	<b>2.538</b>	MODERATE		<b>1.462</b>	LOW	

FOOD	IgE (ng/ml)	INTERPRETATION	C3D	IgG4 (ng/ml)	INTERPRETATION	BLOCKING
Lobster	0	NEGATIVE		0.115	NEGATIVE	•
Scallops	1.654	LOW		1.538	LOW	
Shrimp	0.308	EQUIVOCAL/LOW		0.462	EQUIVOCAL/LOW	•
VEGETABLES						
<b>Asparagus</b>	<b>1.731</b>	<b>MODERATE</b>		<b>1.385</b>	<b>LOW</b>	
Broccoli	1.038	LOW		0	NEGATIVE	
Cabbage	0.731	EQUIVOCAL/LOW		1.192	LOW	•
Carrot	0.769	EQUIVOCAL/LOW		0.885	LOW	•
Celery	1	LOW		0.769	EQUIVOCAL/LOW	
Green Bean	0.231	NEGATIVE		0.808	EQUIVOCAL/LOW	•
Green Pea	1.423	LOW		0.192	NEGATIVE	
Lettuce	1.154	LOW		0.962	LOW	
<b>Onion</b>	<b>1</b>	<b>LOW</b>	•	<b>0</b>	<b>NEGATIVE</b>	
<b>Spinach</b>	<b>1.923</b>	<b>MODERATE</b>		<b>0</b>	<b>NEGATIVE</b>	
<b>Sweet Potato</b>	<b>0</b>	<b>NEGATIVE</b>	•	<b>0.308</b>	<b>EQUIVOCAL/LOW</b>	•
<b>White Potato</b>	<b>2.538</b>	<b>MODERATE</b>		<b>0.308</b>	<b>EQUIVOCAL/LOW</b>	

## Food Sensitivity Reference Ranges

TYPE	VERY HIGH	HIGH	MODERATE	LOW	NEGATIVE
IgG	>186.27	134.8 - 186.26	46.57 - 134.79	24.508 - 46.56	<24.508

## Food Sensitivity Results

FOOD	IgG (AU/mL)	INTERPRETATION	FOOD	IgG (AU/mL)	INTERPRETATION
FISH					
Codfish	43.523	LOW	Halibut	38.552	LOW
Salmon	12.147	NEGATIVE	Trout	30.766	LOW
Tuna	34.003	LOW			
FRUITS					
Apple	22.887	NEGATIVE	Avocado	28.515	LOW
Banana	13.32	NEGATIVE	Blueberry	20.261	NEGATIVE
Cantaloupe	26.405	LOW	Cherry	23.403	NEGATIVE
Coconut	22.887	NEGATIVE	Cucumber	31.376	LOW
Grapefruit	23.731	NEGATIVE	Grapes	29.594	LOW
Green Olive	29.031	LOW	Green Pepper	36.394	LOW
Honeydew Melon	25.56	LOW	Lemon	27.624	LOW
Lime	29.688	LOW	Orange	28.937	LOW
Peach	28.421	LOW	Pear	28.14	LOW
Pineapple	18.807	NEGATIVE	Plum	24.623	LOW
Squash Mix	26.311	LOW	Strawberry	30.626	LOW
Tomato	25.185	LOW	Watermelon	29.735	LOW
FUNGI					
Aspergillus Mix	33.956	LOW	Brewers Yeast	30.579	LOW
Candida	43.523	LOW	Mushroom	32.502	LOW
GRAINS, GRASSES					
Barley	27.296	LOW	Corn	23.684	NEGATIVE
Gluten	27.999	LOW	Oat	28.562	LOW
Rice	20.917	NEGATIVE	Rye	24.013	NEGATIVE
Wheat	25.045	LOW			
HERBS, SPICES, SEASONINGS					
Basil	31.658	LOW	Black Pepper	32.971	LOW
Cinnamon	20.167	NEGATIVE	Dill Seed	38.599	LOW
Garlic	26.968	LOW	Mustard	19.651	NEGATIVE
Oregano	26.405	LOW	Tea	28.984	LOW
Vanilla	23.966	NEGATIVE			
LEGUMES, BEANS					
Kidney/Pinto Bean	31.658	LOW	Lima Bean	28.421	LOW
Navy Bean	31.329	LOW	Peanut	34.331	LOW
Soybean	22.184	NEGATIVE			
MEATS, DAIRY					

FOOD	IgG (AU/mL)	INTERPRETATION	FOOD	IgG (AU/mL)	INTERPRETATION
Beef	35.316	LOW	Casein	28.797	LOW
Cow Milk	27.202	LOW	Goat's Milk	44.508	LOW
Pork	22.606	NEGATIVE			
POULTRY					
Chicken	26.827	LOW	Egg White	23.262	NEGATIVE
Egg Yolk	38.364	LOW	Turkey	16.509	NEGATIVE
SEEDS, NUTS					
Almond	31.564	LOW	Cacao	29.594	LOW
Coffee	31.376	LOW	Cottonseed	39.537	LOW
English Walnut	30.813	LOW	Pecan	25.373	LOW
Sesame	36.863	LOW	Sunflower Seed	33.721	LOW
SHELLFISH					
Clam	22.231	NEGATIVE	Crab	34.331	LOW
Lobster	13.507	NEGATIVE	Scallops	32.173	LOW
Shrimp	31.329	LOW			
VEGETABLES					
Asparagus	31.658	LOW	Broccoli	27.155	LOW
Cabbage	29.688	LOW	Carrot	17.259	NEGATIVE
Celery	35.503	LOW	Green Bean	35.41	LOW
Green Pea	39.959	LOW	Lettuce	34.096	LOW
Onion	33.815	LOW	Spinach	31.845	LOW
Sweet Potato	30.297	LOW	White Potato	28.609	LOW

# DIETARY RECOMMENDATIONS

Patients have reported success with elimination diets. There are many types of elimination diets. Listed below are the two most common for reference.

The first type of elimination diet focuses on foods with high or moderate reactivity first. It is only after those foods are eliminated for several weeks (3 weeks) that they begin to introduce one food back into their diet at a time. If physical symptoms return after re-introduction then an individual has identified a food that they are intolerant to and can choose to avoid it. It's good to wait 3 days before moving onto the next food. Simply repeat the process until all of the high or moderate reactivity foods have been reintroduced. Some individuals find that their greatest source of unwanted symptoms is with low reactivity foods. If symptoms persist after high and moderate reactivity foods have been evaluated, it may be necessary to repeat this process for low reactivity foods.

The second type of elimination diet requires removal of ALL food with any amount of reactivity (1, 2, or 3) for 30 days. When one begins to reintroduce foods, it is a slow process that begins with the class 1 foods first followed by classes 2 and 3. The process of reintroduction for each food is the same. Foods are introduced one at a time over a 4-day period. On day #1, eat as much of the food added back as desired. On days #2-4 do not eat that food again but pay close attention to any symptoms. If there are no symptoms after day 4, then start the process over again with the next food. While this type of diet may seem tedious, it can be very accurate at pinpointing which foods are causing the most symptoms.

Figuring out which foods are problematic for you is the ultimate goal. Elimination diets, such as the ones explained above, are the best way to determine which foods that your IgG reacts to are the ones causing the negative symptoms you experience.

## FOODS TO AVOID

Almond	Asparagus	Banana
Blueberry	Crab	Dill Seed
Garlic	Grapefruit	Green Olive
Lemon	Onion	Oregano
Pear	Spinach	Sweet Potato
White Potato		

## NO LIMITATION

Apple	Aspergillus Mix	Avocado
Barley	Basil	Beef
Black Pepper	Brewers Yeast	Broccoli
Cabbage	Cacao	Candida
Cantaloupe	Carrot	Casein
Celery	Cherry	Chicken
Cinnamon	Clam	Coconut
Codfish	Coffee	Corn
Cottonseed	Cow Milk	Cucumber
Egg White	Egg Yolk	English Walnut
Gluten	Goat's Milk	Grapes
Green Bean	Green Pea	Green Pepper
Halibut	Honeydew Melon	Kidney/Pinto Bean
Lettuce	Lima Bean	Lime
Lobster	Mushroom	Mustard
Navy Bean	Oat	Orange
Peach	Peanut	Pecan
Pineapple	Plum	Pork
Rice	Rye	Salmon
Scallops	Sesame	Shrimp
Soybean	Squash Mix	Strawberry
Sunflower Seed	Tea	Tomato
Trout	Tuna	Turkey
Vanilla	Watermelon	Wheat

# CROSS REACTIVITY

For individuals who have removed a food from their diet for more than 12-24 months and have a reactivity above low, hidden sources of that food should be considered (often found in vitamins, supplements, and food sauces or marinades) or a cross-reactivity from an environmental source should be considered.

When the protein of one food or substance (A) looks so similar to another (B), you may see an elevated IgG reactivity for B but it is really measuring the IgG reactivity level for A.

ENVIRONMENTAL ALLERGENS	MAY CROSS REACT WITH
All grasses	Legumes, beans, peas, apple, carrots, celery, grains, cottonseed
Ragweed, weeds	Melon, lettuce, banana, milk, egg, mint, chamomile
Mugwort, sage	Celery, coriander, chamomile, nightshade family of plants
Marsh Elder	Wheat
Amaranth	Pork
Birch tree, alder tree	Hazelnut, apple, carrot, celery, orange, potato, beef, yeast, soy
Cedar	Milk, mint
Elm	Chestnut, egg, apple
Oak	Corn, banana
Pecan	Lettuce
Poison Ivy, oak, or sumac	Pork, black pepper
Pigweed	Pork
Molds and fungal spores	Yeast, mushrooms, aged (hard) cheese, coffee
Latex	Banana, papaya, kiwi, avocado, peanut, fig, melon, walnut, chestnut, pistachio, peach, pineapple, pear
Dust mites	Shellfish, mollusks (clams, scallops), crustaceans

# UNDERSTANDING THE RESULTS

## IgE

The IgE antibody response is the most commonly known food allergy response. This response usually occurs immediately and can create severe symptoms such as swelling, hives, itching, and - in some cases - anaphylaxis. IgE reactions stimulate the release of histamine in the body. The results of IgE may indicate if a patient has a Type I hypersensitivity (or immediate hypersensitivity) which is an allergic reaction provoked by exposure to an allergen (environmental or food). The presence of allergy related symptoms confirms IgE allergy.

## IgG4 and Blocking Potential

IgG4, which is a subclass of IgG, is a distinct antibody in the immune system. IgG4 total antibody is important in relation to IgE because this antibody acts as a blocking agent for an IgE reaction. When the IgG4 reaction is greater than the IgE reaction for a particular antigen, IgG4 may block the IgE antibodies from binding to the receptor sites and releasing histamine, thereby reducing the severity of the symptoms associated with the IgE reaction. This is referred to as the Blocking Potential. Higher IgG4 improves the odds of neutralization IgE reactivity and preventing allergen specific adverse reactions from occurring. The blocking potential value to specific allergens must be used in conjunction with the patient symptoms. Furthermore, IgG4 may also be used to manage the clinical efficacy of immunotherapy for the neutralization of IgE reactions.

## C3D Complement

C3D is a complement antigen and an activator of our complement cascade system. Reaction to the specified food will worsen if C3D activation is present. The C3 protein attaches to the antigen and amplifies the IgG response, increasing the inflammatory potential of IgG titer. The results of C3D may determine Type III hypersensitivity when there is accumulation of immune complexes (antigen-antibody complexes) that have not been adequately cleared by innate immune cells, giving rise to an inflammatory response.

## IgG Food Intolerances or Sensitivities

Confusion about dietary allergy and dietary intolerance can cause misinterpretation. A food intolerance or sensitivity is different than an immediately life-threatening food allergy. Immunoglobulin G (IgG) antibody, the most abundant circulating antibodies in our immune system, can cause a delayed immune reaction and they are never life threatening. IgG reactivities may play a role in food sensitivities. Studies suggest that an IgG immune response may contribute to headaches, joint pain, eczema, and other chronic conditions. Note: reactivity does not always correlate with symptoms, but it can serve as a tool to guide an elimination diet. Misunderstanding food allergy and food intolerance may lead to unnecessary dietary restriction.

**Note:** The performance characteristics of all assays have been verified by Signal Diagnostics. Results are not intended to be used as the sole means for clinical diagnosis.

**Allergen360 Disclaimer**

The information presented on this report is provided as general educational health information. The content is not intended to be a substitute for professional medical advice, diagnosis, or treatment. Only a physician or other healthcare professional should advise a patient on diet or other treatment plans. The software has not been evaluated by the Food and Drug Administration. The software, and the report generated by the software, is not intended to diagnose, treat, cure, or prevent any disease. A qualified designee within the lab uses Allergen360 to generate and subsequently review the report. The allergy report is one of multiple pieces of information that clinicians should consider in guiding their therapeutic choice for each patient. It remains the responsibility of the health-care provider to determine the best course of treatment for a patient. The treating medical professional bears the ultimate responsibility for all treatment decisions made in regards to the patient, including any decisions based on the allergy report.