

Food Sensitivity Testing

Information for Patients

FOOD ALLERGY OR FOOD SENSITIVITY ?

On exposure to foods, the immune system can react by releasing proteins called antibodies. Foods that cause antibodies to be released are called antigens or allergens. Two types of antibodies are commonly produced in response to foods: IgE (immunoglobulin E) and IgG (immunoglobulin G). Food allergies and food sensitivities differ by the type of antibody produced and the speed of the reaction. Food allergy is an immediate reaction caused by the production of IgE antibodies, while food sensitivity is a delayed reaction caused by the production of IgG antibodies to specific foods.

Food Allergy IgE Reactions - Immediate: IgE reactions generally occur within minutes of eating a reactive food and can, on rare occasions, be life-threatening (e.g. peanut allergies). Skin eruptions (hives, eczema), breathing and digestive problems are also common IgE reactions. After first time exposure to an allergen, the body remembers what the allergen "looks like" and keeps a supply of IgE ready for immediate release if it "sees" that allergen again. Referral to a specialist is recommended in the case of serious food allergies (i.e. difficulty breathing, anaphylaxis).

Food Sensitivity IgG Reactions - Delayed: IgG reactions take hours or days to develop, making it difficult to determine the food cause without testing. In an IgG reaction, the IgG antibodies attach themselves to the antigen and create an antibody-antigen complex. These complexes are normally removed by special cells called macrophages. However, if the complexes are present in large numbers and the food antigen is still being consumed, the macrophages are unable to remove all the complexes. The antigen-antibody complexes accumulate and can be deposited in body tissues. Once deposited in tissue, these complexes may cause inflammation, which can contribute to a variety of health conditions.

CONDITIONS ASSOCIATED WITH FOOD SENSITIVITIES

Digestive disorders: Conditions like irritable bowel syndrome (IBS) and Crohn's disease have been linked to IgG food reactions. Research has shown that elimination of IgG reactive foods can alleviate IBS symptoms.

Migraines: A 2007 research study found that 43/65 patients with migraine headaches had complete remission of headaches after one month of eliminating reactive foods. Another study in 2010 found a significant reduction in the number of headache days and migraine attacks with elimination of reactive foods.

Mood/attention deficit disorders: Deposition of antibody-antigen complexes in nervous system tissues may contribute to hyperactivity, depression, anxiety, inability to concentrate and other mood disorders. There is some evidence that eliminating IgG reactive foods can improve attentiveness in children.

Weight gain: Antibody-antigen complexes in tissue cause inflammation, which leads to fluid retention and weight gain. To fight inflammation, the body releases a chemical called ghrelin, which also happens to be an appetite stimulant. Thus, IgG food reactions may contribute to weight gain in two ways: fluid retention and increased appetite.

WHY TEST FOOD SENSITIVITIES?

Take the guesswork of your diet. Since hours or days can pass between the time a reactive food is consumed and occurrence of symptoms, testing is often the only way to determine which foods are responsible for the reaction.

- IgG reactions frequently occur to commonly consumed foods such as dairy, wheat, eggs, yeast, pork and soy.
- Elimination diets (remove suspect foods for a period of time and then reintroduce and check for reactions) are difficult to follow and can take months to complete.



RMA FST™
IgG FOOD SENSITIVITY TEST

DELAYED FOOD REACTIONS

Delayed food reactions are IgG antibody reactions (food sensitivities) that occur hours to days after a food is consumed. The inflammatory reaction triggered by antibody-antigen complexes may have the following effects:

Systemic

Fever, fatigue, chills, sweating and feeling weak, puffiness.

Skin

Itching, redness, swelling, and rashes.

Brain

Mood and memory disturbances, behavioural problems.

Lungs

Food-induced bronchitis and asthma symptoms.

Musculoskeletal

Joint pain, muscle stiffness and swelling.

Digestive tract

Nausea & vomiting, diarrhea, abdominal pain, gas, and bloating.



Rocky Mountain Analytical®

Food Reactions

TEST RESULTS

A sample RMA FST™ report appears at right. Foods with green boxes next to them are considered normal, or non-reactive, while foods with orange boxes are borderline, or close to being reactive. The red shaded box food results are considered reactive. Thus, it is easy to see at a glance which foods are problematic for you. The RMA FST™ also lists results by reactivity, so that all your reactive foods are grouped together. Knowing which foods you react to is an important first step to achieving better health. Your healthcare professional is best qualified to help you interpret the meaning of your results.

RMA FST Basic
Healthcare Professional: Dr. John Smith, 1234 Main Street, Calgary, AB T2C 1A1
Patient: Sally Thomson
Age: 31, Date of Birth: 1985/12/26, Gender: Female
Accession: 111111
R: 403-555-1234
P: 403-245-4567
www.rmalab.com

RESULTS
Normal: The upper limit for assigning Normal status varies by antigen.
Borderline: The upper and lower limits for assigning Borderline status vary by antigen.
Reactive: The lower limit for assigning Elevated status varies by antigen.

FOOD GROUP REPORT

Category	Item	Reactivity
Dairy / Egg	Apple (antibiotics safety)	Normal
	Egg White	Normal
	Milk (Dairy)	Normal
	Yeast	Normal
Grains	Almond	Normal
	Barley	Normal
	Wheat	Normal
	Flax	Normal
Grains (Gluten-Free)	Almond	Normal
	Coconut	Normal
	Flax	Normal
	Millet	Normal
Fruit	Apple	Normal
	Banana	Normal
	Cherry	Normal
	Cranberry	Normal
Vegetables	Asparagus	Normal
	Broccoli	Normal
	Brussels Sprouts	Normal
	Carrot	Normal
Other	Almond	Normal
	Black Currant	Normal
	Cherry	Normal
	Cranberry	Normal
Nuts	Almond	Normal
	Coconut	Normal
	Flax	Normal
	Millet	Normal
Seeds	Almond	Normal
	Coconut	Normal
	Flax	Normal
	Millet	Normal
Spices	Almond	Normal
	Coconut	Normal
	Flax	Normal
	Millet	Normal
Herbs	Almond	Normal
	Coconut	Normal
	Flax	Normal
	Millet	Normal
Legumes	Almond	Normal
	Coconut	Normal
	Flax	Normal
	Millet	Normal
Oils	Almond	Normal
	Coconut	Normal
	Flax	Normal
	Millet	Normal
Sweeteners	Almond	Normal
	Coconut	Normal
	Flax	Normal
	Millet	Normal
Alcohols	Almond	Normal
	Coconut	Normal
	Flax	Normal
	Millet	Normal
Miscellaneous	Almond	Normal
	Coconut	Normal
	Flax	Normal
	Millet	Normal

ELIMINATING REACTIVE FOODS

Once you receive your results, your healthcare professional will help you formulate a plan to eliminate the problem foods from your diet. Most people see improvement of symptoms within a few weeks of eliminating the reactive foods. However, it is important to understand that symptom improvement may take some time, and results vary from individual to individual. Removing reactive foods from the diet can sometimes result in withdrawal symptoms like headaches, tiredness, irritability and hunger.

HOW "LEAKY GUT" CONTRIBUTES TO FOOD REACTIONS

Leaky gut syndrome is caused by inflammation in the gut lining. Inflammation can be caused by food allergies or sensitivities, abnormal gut flora, stress, certain drugs, and alcohol. An inflamed gut lining causes more food particles to leak into the bloodstream where they may come in contact with food-specific immunoglobulins. Therefore, a test report that shows multiple food reactions to foods regularly eaten may be an indication of leaky gut. If so, your healthcare professional may suggest treatments for your digestive system in addition to dietary changes.

UNEXPECTED RESULTS

- If you have not eaten a particular food for many months, you are less likely to have circulating antibodies to that food. In that case, a lack of reaction is most probably due to lack of exposure and does not necessarily mean the food is non-reactive.
- Sometimes reactions appear for foods seldom or never eaten. For example: a child reacting to coffee. This may be due to cross-sensitivity with a related food, or may result from inadvertent exposure to that food (hidden ingredient in packaged food item or sauce). Elevated IgG may also have a role in protecting against more serious IgE reactions. It's important to understand that having elevated IgG antibodies is not a concern if the reactive food is rarely eaten.
- Non-immune food reactions: Food reactions can also arise from a lack of digestive enzymes or stomach acid, chemicals naturally present in food and artificial additives. For example: lactose intolerance is due to lactase enzyme deficiency; histamine is found in wine, cheese, spinach and tomatoes; and MSG is an additive that can produce symptoms in some people. These are not immune reactions, and therefore will not result in antibody production.
- Food reactions can also arise from previous negative experiences with a specific food (e.g. food poisoning), in that physical reactions to subsequent exposures are possible.

WHY TEST?

Good health has a lot to do with maintaining balance: the right balance of work and play, the right balance of nutrients in the diet, and the right balance of hormones.

Hormone imbalance may be a result of illness, or may produce symptoms and biochemical changes that contribute to illness.

Rocky Mountain Analytical is committed to offering laboratory tests that identify hormone imbalances and other conditions - so they can be corrected before disease develops!

ABOUT US

Rocky Mountain Analytical was founded in 2002 with a mission to offer tests that focus on early identification and prevention of disease.

Rocky Mountain Analytical is an accredited medical laboratory located in Calgary, Alberta. Accreditation means tests performed by Rocky Mountain Analytical are regularly reviewed for quality, accuracy and reproducibility by the College of Physicians & Surgeons of Alberta.

Ask your healthcare professional whether a test is right for you.

Information is for educational purposes only. It is not meant as medical advice and any treatment decisions should be made with the knowledge or consent of your healthcare professional.



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Rocky Mountain Analytical®

Antigens List

By Category

Category	RMA FST™ Basic		RMA FST™ Enhanced (Everything in the Basic panel, plus)		RMA FST™ Vegetarian Panel		
Dairy/Eggs	Alpha-lactalbumin Beta-lactoglobulin Casein Egg White	Egg Yolk Milk (Cow) Milk (Goat) Milk (Sheep)	Milk (Buffalo)		Alpha-Lactalbumin Beta-Lactoglobulin Casein	Egg White Egg Yolk Milk (Buffalo)	Milk (Cow) Milk (Goat) Milk (Sheep)
Grains	Barley Durum Wheat Gliadin Oat	Rye Wheat Wheat Bran	Couscous Malt	Spelt	Barley Couscous Durum Wheat Gliadin	Malt Oat Rye	Spelt Wheat Wheat Bran
Grains (gluten-free)	Buckwheat Corn	Millet Rice	Amaranth Polenta	Tapioca	Amaranth Buckwheat Corn	Millet Polenta	Rice Tapioca
Fruit	Apple Apricot Avocado Banana Blackberry Blackcurrant Cherry Cranberry Grape Grapefruit Kiwi Lemon	Lime Melon (Honeydew) Nectarine Olive Orange Peach Pear Pineapple Plum Raspberry Strawberry	Blueberry Date Fig Guava Lychee Mango Mulberry	Papaya Pomegranate Raisin Redcurrant Rhubarb Tangerine Watermelon	Apple Apricot Avocado Banana Blackberry Blackcurrant Blueberry Cherry Cranberry Date Fig Grape Grapefruit	Guava Kiwi Lemon Lime Lychee Mango Melon (Honeydew) Mulberry Nectarine Olive Orange Papaya	Peach Pear Pineapple Plum Pomegranate Raisin Raspberry Redcurrant Rhubarb Strawberry Tangerine Watermelon
Vegetables	Asparagus Beet Bell Peppers Broccoli Brussel Sprout Cabbage (Savoy/White) Carrot Cauliflower Celery	Chicory Cucumber Eggplant Leek Lettuce Onion Potato Soy Bean Spinach Tomato	Artichoke Arugula Cabbage (Red) Chard Fennel (Leaf) Quinoa Radish Shallot	Squash (Butternut) Squash (Summer) Sweet Potato Turnip Watercress Yucca	Artichoke Arugula Asparagus Beet Broccoli Brussel Sprout Cabbage (Red) Cabbage (Savoy/White) Caper Carrot	Cauliflower Celery Chard Chicory Cucumber Eggplant Fennel (Leaf) Leek Lettuce Onion Potato	Bell Peppers Quinoa Radish Shallot Soy Bean Spinach Squash (Butternut) Squash (Summer) Sweet Potato Tomato Turnip Watercress

Antigens List

By Category

Category	RMA FST™ Basic		RMA FST™ Enhanced (Everything in the Basic panel, plus)			RMA FST™ Vegetarian Panel		
Fish/ Seafood	Cod	Salmon	Anchovy	Eel	Sardine			
	Crab	Scallop	Barnacle	Espaguettes	Sea Bream (Gilthead)			
	Haddock	Shrimp/Prawn	Bass	Hake	Sea Bream (Red)			
	Herring	Sole	Carp	Monkfish	Snail (Winkle)			
	Lobster	Swordfish	Caviar	Octopus	Spirulina			
	Mackerel	Trout	Clam	Perch	Squid			
	Mussel	Tuna	Cockle	Pike	Wakame			
	Oyster	Turbot	Cuttlefish	Clam (Razor)				
	Plaice							
Meat	Beef	Pork	Goat	Partridge				
	Chicken	Turkey	Horse	Quail				
	Duck	Veal	Ostrich	Rabbit				
	Lamb	Venison	Ox	Wild Boar				
Herbs/ Spices	Basil	Mint	Aniseed	Liquorice	Aniseed	Garlic	Nutmeg	
	Chilli (Red)	Mustard Seed	Bayleaf	Marjoram	Basil	Ginger	Parsley	
	Cinnamon	Nutmeg	Camomile	Nettle	Bayleaf	Ginkgo	Peppercorn (Black/White)	
	Clove	Parsley	Cayenne	Peppermint	Camomile	Ginseng	Peppermint	
	Coriander (Leaf)	Peppercorn (Black/White)	Curry	Rosemary	Cayenne	Hops	Peppermint	
	Cumin	Sage	Ginkgo	Saffron	Chilli (Red)	Liquorice	Rosemary	
	Dill	Thyme	Ginseng	Tarragon	Cinnamon	Marjoram	Saffron	
	Garlic	Vanilla			Clove	Mint	Sage	
	Ginger				Coriander (Leaf)	Mustard Seed	Tarragon	
	Hops				Cumin	Nettle	Thyme	
Nuts/Seeds	Almond	Hazelnut	Bean (Broad)	Pine Nut	Almond	Canola	Pine Nut	
	Bean (Green)	Lentil	Chickpea	Tiger Nut	Bean (Broad)	Chickpea	Pistachio	
	Bean (Red Kidney)	Pea	Flax Seed		Bean (Green)	Coconut	Macadamia Nut	
	Bean (White Haricot)	Peanut	Macadamia Nut		Bean (Red Kidney)	Flax Seed	Sesame Seed	
	Brazil Nut	Pistachio			Bean (White Haricot)	Hazelnut	Sunflower Seed	
	Cashew Nut	Sesame Seed			Brazil Nut	Lentil	Tiger Nut	
	Canola	Sunflower Seed			Cashew Nut	Pea	Walnut	
	Coconut	Walnut				Peanut		
Misc	Cane Sugar	Tea (Black)	Agar Agar	Cola Nut	Agar Agar	Cocoa Bean	Tea (Black)	
	Carob	Tea (Green)	Aloe Vera	Honey	Aloe Vera	Coffee	Tea (Green)	
	Cocoa Bean	Yeast (Baker's)	Caper	Chestnut	Cane Sugar	Cola Nut	Yeast (Baker's)	
	Coffee	Yeast (Brewer's)	Transglutaminase		Carob	Honey	Yeast (Brewer's)	
	Mushroom				Chestnut	Mushroom	Transglutaminase	

Which RMA FST™ Panel Is Right for You?

There are three panel options available to meet your needs:

RMA FST™ Basic

Over 125 foods

RMA FST™ Vegetarian

Over 160 foods

RMA FST™ Enhanced

Over 220 foods

You want to choose a panel that best reflects you and your eating habits, and is the best value for money. Don't eat meat, fish or seafood? Try the Vegetarian panel. Mainly interested in your reactivity to the most common food sensitivities? Perhaps the Basic panel will do. Wondering if you should select the Enhanced panel? To make a confident choice, it is important to consider all of the foods that you consume on a regular basis.

When to Select RMA FST™ Enhanced

Below is a list of foods included in the **RMA FST™ Enhanced** panel *only*. If your diet includes **four* or more foods**, the **RMA FST™ Enhanced** panel is the best option of you.

Note: This is a condensed list. See the **Antigen List** for the full list of foods.

Fruit

- Blueberry
- Mango
- Pomegranate
- Raisin
- Tangerine
- Watermelon
- Date
- Fig
- Papaya

Vegetables

- Sweet Potato
- Shallot
- Arugula
- Zucchini (also known as Summer Squash)
- Butternut Squash
- Red Cabbage
- Radish
- Chard

Nuts/Seeds

- Flax Seed
- Chickpea (commonly used in hummus and falafel)
- Macadamia Nut
- Fava Bean (also known as Broad Bean)

Fish/Seafood

- Anchovy (commonly found in caesar dressing)
- Squid (used for calamari)
- Wakame (commonly used in miso soup)
- Spirulina

Grains

- Quinoa
- Couscous
- Beer or Whiskey (often has Malt)
- Spelt or Amaranth (flours commonly used to replace wheat)
- Gluten-Free Breads (often has Tapioca)

Meat

- Goat
- Rabbit
- Ox

Herbs/Spices

- Herbal teas: Peppermint or Camomile (also spelled Chamomile)
- Rosemary
- Ginseng
- Cayenne
- Curry
- Ginkgo

Miscellaneous

- Honey
- Jams, Jellies or Canned Soup (often has Agar Agar)
- Deli Meats or Chicken Nuggets (often has Transglutaminase)

* Each of these antigens are available to order by your Healthcare Provider through Rocky Mountain Analytical, as an add-on to the Basic and Vegetarian panels. They are a minimum of \$25 each.

Learn more at: rmlab.com

Food Reintroduction - Symptoms Tracker

- Remove the foods that are reactive, following your Healthcare Provider's guidance and advice.
- Track your symptoms, and if they have improved, you may want to test yourself for reactions by slowly reintroducing foods into your diet. Consult with your Healthcare Provider before doing this.
- Choose one test food to reintroduce into your diet at a time.
- Using the tracker below, take detailed notes on how you feel, and make a point to notice everything you're feeling.

	Day 1	Day 2	Day 3	Day 4	Day 5
Time					
Food					
Digestion/Bowel Function					
Joint/Muscle Aches					
Headache/Pressure					
Nasal or Chest Congestion					
Kidney/Bladder Function					
Skin					
Energy Level					
Sleep					
Other Symptoms					