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Rocky Mountain Analytical®
Changing lives, one test at a time

Date of Collection: 2016/10/03
Time of Collection: 12:00AM
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RMA FST Enhanced **Accession: 123456**

Healthcare Professional

Patient

Age: 7
Date of Birth: 2009/04/25
Gender: Male

RMA FST™
IgG FOOD SENSITIVITY TEST

FOOD GROUP Report

RESULT STATUS	NOTE: The limits assigned to individual antigens are based on a statistical analysis of a Canadian population
NORMAL	The upper limit for assigning **Normal** status varies by antigen.
BORDERLINE	The upper and lower limits for assigning **Borderline** status vary by antigen.
ELEVATED	The lower limit for assigning **Elevated** status varies by antigen.

Dairy / Egg

1	Alpha-Lactalbumin (whey)	9	Beta-Lactoglobulin (whey)	99	Casein
80	Egg White	21	Egg Yolk	0	Milk (Buffalo)
112	Milk (Cow)	86	Milk (Goat)	94	Milk (Sheep)

Grains

39	Barley	26	Couscous	31	Durum Wheat
62	Gliadin	5	Malt	70	Oat
24	Rye	37	Spelt	53	Wheat
26	Wheat Bran				

Grains (Gluten-Free)

5	Amaranth	0	Buckwheat	10	Corn
1	Millet	6	Polenta	3	Quinoa
19	Rice	0	Tapioca		

Fruit

2	Apple	23	Apricot	9	Avocado
6	Banana	7	Black Currant	21	Blackberry
0	Blueberry	25	Cherry	3	Cranberry
8	Date	10	Fig	6	Grape (Black/Red/White)
5	Grapefruit	21	Guava	6	Kiwi
3	Lemon	7	Lime	5	Lychee
8	Mango	2	Melon (Galia/Honeydew)	2	Mulberry
73	Nectarine	1	Olive	33	Orange
6	Papaya	17	Peach	3	Pear
4	Pineapple	2	Plum	42	Pomegranate

Co-Signing Physician:
Clare Westmacott, MD
Calgary, AB
Phone (403) 278-1405

Fruit

10	Raisin	13	Raspberry	10	Red Currant
0	Rhubarb	2	Strawberry	26	Tangerine
18	Watermelon				

Vegetables

5	Artichoke	2	Arugula	3	Asparagus
4	Beet	2	Bell Peppers	13	Broccoli
7	Brussels Sprout	4	Cabbage (Red)	28	Cabbage (Savoy/White)
5	Carrot	5	Cauliflower	12	Celery
2	Chard	2	Chicory	3	Cucumber
3	Eggplant	13	Fennel (Leaf)	9	Leek
4	Lettuce	5	Onion	30	Potato
21	Radish	4	Shallot	14	Spinach
20	Squash (Butternut/Carnival)	2	Squash, Summer	3	Sweet Potato
33	Tomato	8	Turnip	5	Watercress
27	Yuca				

Fish / Seafood

10	Alga Espaguette	5	Alga Wakame	2	Anchovy
2	Barnacle	6	Bass	2	Carp
0	Caviar	4	Clam	1	Cockle
11	Cod	12	Crab	3	Cuttlefish
0	Eel	8	Haddock	2	Hake
2	Herring	2	Lobster	4	Mackerel
2	Monkfish	10	Mussel	1	Octopus
3	Oyster	0	Perch	9	Pike
4	Plaice	3	Razor Clam	4	Salmon
1	Sardine	8	Scallop	0	Sea Bream (Gilthead)
6	Sea Bream (Red)	2	Shrimp/Prawn	9	Snail (Sea Snail/Winkle)
8	Sole	0	Spirulina	2	Squid
0	Swordfish	3	Trout	4	Tuna
0	Turbot				

Meat

2	Beef	2	Chicken	0	Duck
2	Goat	3	Horse	3	Lamb
0	Ostrich	6	Ox	0	Partridge
3	Pork	1	Quail	12	Rabbit
3	Turkey	1	Veal	5	Venison
0	Wild Boar				

Herbs / Spices

0	Aniseed	6	Basil	0	Bayleaf
0	Camomile	9	Cayenne	2	Cinnamon
0	Clove	0	Coriander (Leaf)	1	Cumin
6	Curry (Mixed Spices)	1	Dill	0	Garlic
0	Ginger	7	Ginkgo	2	Ginseng
4	Hops	0	Licorice	0	Marjoram

Herbs / Spices

1	Mint	21	Mustard Seed	3	Nettle
5	Nutmeg	5	Parsley	1	Peppercorn (Black/White)
3	Peppermint	3	Red Chili Pepper	0	Rosemary
0	Saffron	0	Sage	0	Tarragon
0	Thyme	0	Vanilla		

Nuts / Seeds / Legumes

38	Almond	34	Bean (Broad)	3	Bean (Green)
32	Bean (Red Kidney)	63	Bean (White Haricot)	23	Brazil Nut
4	Canola	27	Cashew Nut	15	Chickpea
6	Coconut	2	Flax Seed	24	Hazelnut
15	Lentil	0	Macadamia Nut	58	Pea
39	Peanut	24	Pine Nut	56	Pistachio
4	Sesame Seed	26	Soy Bean	32	Sunflower Seed
19	Tiger Nut	7	Walnut		

Miscellaneous

26	Agar Agar	16	Aloe Vera	3	Cane Sugar
0	Caper	3	Carob	4	Chestnut
2	Cocoa Bean	6	Coffee	20	Cola Nut
1	Honey	33	Mushroom	1	Tea (Black)
0	Tea (Green)	1	Transglutaminase	0	Yeast (Baker's)
13	Yeast (Brewer's)				

George Gillson MD, PhD
Medical Director

Note: The College of Physicians and Surgeons of Alberta considers some forms of testing for food reactions to be complementary medicine. Specific IgG quantification has been utilized in research settings to assess and investigate Type I and Type III allergies respectively. However, the assessment of human IgG antibodies specific for individual food antigens is not a recognized diagnostic indicator of allergy. Rocky Mountain Analytical does not diagnose or make treatment recommendations. Data is provided for research and educational purposes only.

IgG FOOD REACTIONS VS IgE FOOD ALLERGIES: IgG food reactions differ significantly from classic IgE food allergies. IgE food allergies are immediate reactions that occur within minutes or hours of consuming a food and may include serious reactions like hives, difficulty breathing and anaphylaxis. In contrast, an IgG food sensitivity is a delayed reaction that occurs hours to days after the food is consumed, with symptoms that may not appear for days or months. Lack of an IgG antibody response to a specific food does not rule out the possibility that the food may elicit an IgE reaction (food allergy). Patients should continue to avoid foods to which they have a known IgE food allergy. Conversely, elevated IgG to a specific food is not diagnostic of IgE food allergy. If symptoms (e.g. hives, difficult breathing) are suggestive of food allergy, the patient should be referred to an Allergist Specialist for specific IgE testing via ImmunoCAP.

IgG REACTIONS: IgG reactions are food sensitivities, not food allergies. When a reactive food is consumed, the IgG antibody forms a complex with the food antigen. Normally, the body is able to eliminate these antibody-antigen complexes, but with excess antigen, small complexes tend to deposit in blood vessel walls where they can cause tissue injury via the release of inflammatory mediators [Brantzaeg 1997]. Over time, this tissue injury may contribute to the development of a variety of health conditions. Research has shown that elimination of IgG reactive foods from the diet improves a variety of health conditions including irritable bowel syndrome and migraine headaches [Atkinson, Alpay]. Eliminating IgG reactive foods has also been reported to help with eczema, mood disturbances, weight gain and other digestive disturbances [Mullin, Lewis, Bentz].

NORMAL REACTIONS: A normal reaction to a food antigen may indicate lack of recent exposure to that food. Therefore, under circumstances of complete avoidance, it is impossible to determine whether the food(s) avoided would elicit a reaction if consumed recently. It is important to note that a normal reaction to a specific food does not mean it can be safely consumed by someone who has previously had a serious reaction to that specific food. Serious reactions to foods (e.g. anaphylaxis or hives) are caused by IgE antibodies, not IgG. Therefore, a normal IgG reaction to a known food allergen is not an indication the tested food is safe to consume.

PATIENT HAS A REACTION TO ONE OR MORE FOOD ANTIGENS NOT CONSUMED REGULARLY. It is possible to have elevated IgG to foods not recently consumed, or to foods that have been specifically avoided (i.e. due to serious previous IgE reaction). Elevated IgG in this circumstance may be due to panallergen reactions [refer to the RMA FST Food Sensitivities and Cross-Reactions document], or to an abundance of the IgG4 subtype antibody, which acts on mast cells and may have a protective effect for IgE reactions and antibodies may remain in circulation for 18 months even with no exposure [Mullin].

GOAT'S MILK AND/OR SHEEP'S MILK ARE BORDERLINE OR ELEVATED but patient may have never consumed: In vitro studies have shown extensive cross reactivity between milks from ruminant species. Significant amino acid sequence homology between milk from cows, goats and sheep mean cross-reactivity is highly probable [URL: www.uptodate.com/contents/milk-allergy-management. Accessed June 11, 2016]. Clinical research has found that a significant percentage of cow's milk allergic patients also react to goat and sheep milks [Pediatr Allergy Immunol. 2012 Mar;23(2):128-32].

SEVERAL LIPID TRANSFER PROTEIN CONTAINING FOODS ARE ELEVATED. Lipid transfer proteins (LTPs) are heat and acid stable, and therefore retain potential allergenicity after cooking or upon ingestion. Foods that have documented cross-reactivity via LTPs include: apple, celery, corn/maize, grape, hazelnut, kiwi, legumes, lettuce, peach, peanut, rice, soy, sunflower, and walnut. Refer to the RMA FST Food Sensitivities and Cross-Reactions document for more information on cross-reactions.

ELEVATED REACTIONS TO FOODS: Interpretation comments are provided for certain foods. Comments appear when related foods give seemingly inconsistant results (e.g. casein normal and cow's milk high) and for reactive foods that are not commonly found in the North American diet. Refer to the RMA Food Reaction Guide for commentary on sources of individual foods or food categories.

Provider: **Client:**

DOB: 25-Apr-2009

RMA FST™
IgG FOOD SENSITIVITY TEST

ORDER BY REACTIVITY Report

ELEVATED FOODS

99	Casein	94	Milk (Sheep)	86	Milk (Goat)
73	Nectarine	70	Oat	63	Bean (White Haricot)
62	Gliadin	56	Pistachio	42	Pomegranate
37	Spelt	34	Bean (Broad)	33	Mushroom
33	Orange	33	Tomato	32	Sunflower Seed
31	Durum Wheat	30	Potato		

BORDERLINE FOODS

112	Milk (Cow)	39	Peanut	28	Cabbage (Savoy/White)
27	Cashew Nut	27	Yuca	26	Couscous
26	Soy Bean	26	Tangerine	26	Wheat Bran
25	Cherry	24	Pine Nut	24	Rye
80	Egg White	58	Pea	53	Wheat
39	Barley	38	Almond	32	Bean (Red Kidney)

NORMAL FOODS

26	Agar Agar	24	Hazelnut	23	Apricot
23	Brazil Nut	21	Blackberry	21	Egg Yolk
21	Guava	21	Mustard Seed	21	Radish
20	Cola Nut	20	Squash (Butternut/Carnival)	19	Rice
19	Tiger Nut	18	Watermelon	17	Peach
16	Aloe Vera	15	Chickpea	15	Lentil
14	Spinach	13	Broccoli	13	Fennel (Leaf)
13	Raspberry	13	Yeast (Brewer's)	12	Celery
12	Crab	12	Rabbit	11	Cod
10	Alga Espaguette	10	Corn	10	Fig
10	Mussel	10	Raisin	10	Red Currant
9	Avocado	9	Beta-Lactoglobulin (whey)	9	Cayenne
9	Leek	9	Pike	9	Snail (Sea Snail/Winkle)
8	Date	8	Haddock	8	Mango
8	Scallop	8	Sole	8	Turnip
7	Black Currant	7	Brussels Sprout	7	Ginkgo
7	Lime	7	Walnut	6	Banana
6	Basil	6	Bass	6	Coconut
6	Coffee	6	Curry (Mixed Spices)	6	Grape (Black/Red/White)
6	Kiwi	6	Ox	6	Papaya
6	Polenta	6	Sea Bream (Red)	5	Alga Wakame
5	Amaranth	5	Artichoke	5	Carrot

NORMAL FOODS

5	Cauliflower	5	Grapefruit	5	Lychee
5	Malt	5	Nutmeg	5	Onion
5	Parsley	5	Venison	5	Watercress
4	Beet	4	Cabbage (Red)	4	Canola
4	Chestnut	4	Clam	4	Hops
4	Lettuce	4	Mackerel	4	Pineapple
4	Plaice	4	Salmon	4	Sesame Seed
4	Shallot	4	Tuna	3	Asparagus
3	Bean (Green)	3	Cane Sugar	3	Carob
3	Cranberry	3	Cucumber	3	Cuttlefish
3	Eggplant	3	Horse	3	Lamb
3	Lemon	3	Nettle	3	Oyster
3	Pear	3	Peppermint	3	Pork
3	Quinoa	3	Razor Clam	3	Red Chili Pepper
3	Sweet Potato	3	Trout	3	Turkey
2	Anchovy	2	Apple	2	Arugula
2	Barnacle	2	Beef	2	Bell Peppers
2	Carp	2	Chard	2	Chicken
2	Chicory	2	Cinnamon	2	Cocoa Bean
2	Flax Seed	2	Ginseng	2	Goat
2	Hake	2	Herring	2	Lobster
2	Melon (Galia/Honeydew)	2	Monkfish	2	Mulberry
2	Plum	2	Shrimp/Prawn	2	Squash, Summer
2	Squid	2	Strawberry	1	Alpha-Lactalbumin (whey)
1	Cockle	1	Cumin	1	Dill
1	Honey	1	Millet	1	Mint
1	Octopus	1	Olive	1	Peppercorn (Black/White)
1	Quail	1	Sardine	1	Tea (Black)
1	Transglutaminase	1	Veal	0	Aniseed
0	Bayleaf	0	Blueberry	0	Buckwheat
0	Camomile	0	Caper	0	Caviar
0	Clove	0	Coriander (Leaf)	0	Duck
0	Eel	0	Garlic	0	Ginger
0	Licorice	0	Macadamia Nut	0	Marjoram
0	Milk (Buffalo)	0	Ostrich	0	Partridge
0	Perch	0	Rhubarb	0	Rosemary
0	Saffron	0	Sage	0	Sea Bream (Gilthead)
0	Spirulina	0	Swordfish	0	Tapioca
0	Tarragon	0	Tea (Green)	0	Thyme
0	Turbot	0	Vanilla	0	Wild Boar
0	Yeast (Baker's)				