

Healthcare Professional DR TEST BRLHEMATOLOGY 3680 GILMORE WAY BURNABY BC V1V 1V1 CAN Sample type: SERUM Accession No: 2025_981400019 Date of Collection: 2025/02/03 Date of Report: 2025/02/04 Date of Receipt: 2025/02/03

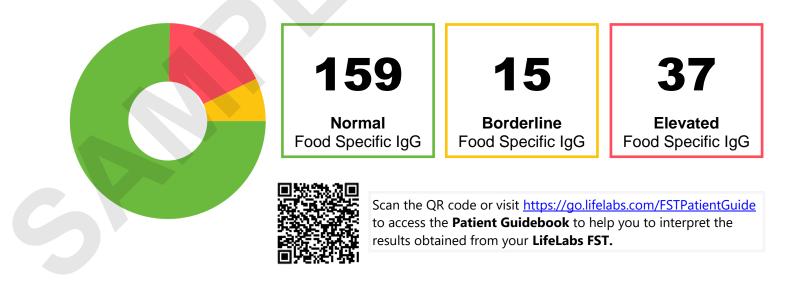
IgG Food Sensitivity Test Individual Summary Report

LifeLabs FST[™] Enhanced+

Patient: Sample 3 846283

Date of Birth:2001/01/01 • Age: 24 • Accession No: 2025_981400019 Address: UNK Phone:

YOUR PERSONAL RESULTS



E: ContractServices@lifelabs.com | P: 1-866-370-5227 | F: 1-866-370-5223 | www.rmalab.com



Result Status

Results are reported in μ g/mL. The ranges assigned to individual antigens are based on a statistical analysis of a Canadian population. Ranges vary for each antigen; ranges are provided beside each antigen for your reference.

Normal

Your result falls below the reference range, this is a normal result.



Your result is moderately elevated, but remains below the lower limit to be classified as elevated.



Fish and Seafood

Type of Food

Your result exceeds the lower limit to be categorized as elevated.

ua/mL laG



Fish and Seafood

Type of Food		µg/mL lgG
Anchovy	3	7 11
Barnacle	3	13 23
Carp	3	10 17
Cod	3	10 17
Crab	3	15 25
Crayfish	3	15 20
Flounder	3	10 14
Gilthead bream	3	12 16
Haddock	3	12 19
Herring	2	8 15
Lobster	3	21 27
Mackerel	2	23 30
Monkfish	4	15 23
Mussels	6	18 29
Ocean perch	3	9 16

Type of Food		μg/mL lgG
Octopus	3	18 30
Oysters	9	13 19
Pike	3	13 23
Pollock	3	16 30
Salmon	3	8 15
Sardine	2	11 19
Scallop	5	15 23
Sea bass	3	12 21
Shrimp, prawn	3	15 25
Squid/cuttlefish	3	6 13
Swai fish	3	21 38
Trout	3	8 13
Tuna	3	11 23
Turbut	3	13 23
Zander	4	11 19

LyfeLabs[®]

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Meat

Type of Food		µg/mL lgG
Beef	5	11 21
Chicken	3	18 26
Duck	3	8 13
Goat	12	18 25
Goose	3	11 19
Lamb	3	14 22
Ostrich meat	3	9 18
Pork	11	10 18
Rabbit/hare	2	9 15
Roe deer	3	17 27
Turkey	2	10 25
Veal	38	11 26
Wild boar	16	18 28



Milk Products

Type of Food	μg/mL lgG	
Cow's milk	41	37 60
Fermented dairy	104	26 53
Goat dairy	15	22 36
Rennet	3	27 42
Ricotta	86	20 43
Sheep dairy	10	27 42

Mushrooms

Type of Food	μg/mL lgG	
Chanterelle	4	16 28
Meadow mushrooms	4	11 20
Oyster mushrooms	6	10 14
Porcini mushroom	7	16 24
Shiitake	13	17 28

Eggs

Type of Food		µg/mL lgG
Egg white	3	17 42
Egg yolk	4	30 43
Quail eggs	3	14 28



Vegetables

Type of Food		µg/mL lgG
Artichoke	19	11 22
Arugula	4	8 12
Asparagus	29	9 15
Beetroot	7	10 16
Bok Choi	7	26 36
Broccoli	32	11 17
Brussels sprouts	176	13 25
Butterhead lettuce	3	7 12
Carrots	98	17 29
Cauliflower	61	12 17
Celeriac	104	18 30
Celery	26	17 22
Chard	2	11 15
Chili	5	18 26
Cucumber	7	18 23
Eggplant	6	17 25
Endive	12	▼ 11 18
Fennel	49	11 17
Iceberg lettuce	11	12 18
Kohlrabi	119	12 22



Vegetables

Type of Food		μg/mL lgG
Lamb's lettuce	13	20 28
Leek	3	9 16
Olive	3	10 15
Onion	7	24 30
Parsnip	75	17 24
Potato	10	9 15
Pumpkin	148	11 17
Radish	95	8 15
Red cabbage	23	13 19
Savoy cabbage	19	9 16
Spinach	16	15 20
Sweet pepper	7	15 20
Sweet potato	5	13 19
Tomato	3	9 16
White cabbage	121	12 18
Zucchini	10	13 24



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Fruits

Type of Food		μg/mL lgG
Apple	3	7 10
Apricot	9	7 10
Avocado	3	9 14
Banana	3	21 27
Blackberry	3	6 11
Blueberry	7	8 13
Cherry	75	15 21
Cranberry	3	10 17
Currant	2	11 18
Date	14	8 11
Fig	10	8 24
Grape	6	16 23
Grapefruit	13	13 21
Guava	5	6 10
Kiwi	26	25 31
Lemon	2	8 13
Lime	123	9 15
Lychee	5	18 27



Type of Food	μg/mL lgG	
Mandarin	78	13 19
Mango	3	6 10
Mulberry	3	14 24
Nectarine	20	7 10
Orange	16	14 24
Рарауа	3	8 13
Peach	35	12 17
Pear	3	7 11
Pineapple	38	23 33
Plum	37	8 14
Pomegranate	26	28 47
Raspberry	3	15 26
Rhubarb	3	6 12
Strawberry	2	12 18
Watermelon	62	20 37





Spices and Herbs

Type of Food	μg/mL lgG		
Basil	3	8 13	
Bay leaf	4	10 15	
Black cumin	3	13 23	
Capers	3	10 13	
Caraway	4	8 13	
Cardamom	3	10 16	
Chive	3	12 17	
Cinnamon	4	10 15	
Clove	3	9 15	
Coriander	3	11 17	
Cumin	8	15 22	
Curry	3	21 32	
Garden cress	102	34 67	
Garlic	14	26 32	
Ginger	4	30 40	
Horseradish	14	32 38	
Marjoram	3	15 23	
Mustard seed	3	15 21	
Nutmeg	3	10 15	



Spices and Herbs

Type of Food	μg/mL lgG		
Oregano	3	10 16	
Paprika	40	21 32	
Parsley	18	8 10	
Pepper, black	20	36 65	
Rosemary	4	12 15	
Saffron	28	9 15	
Sage	13	38 54	
Thyme	3	7 10	
Vanilla	30	35 58	



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Seeds, Legumes and Nuts

Type of Food		µg/mL lgG
Almond	4	31 45
Brazil nut	8	18 34
Broad bean	37	14 22
Cashew	3	12 21
Chia seeds	3	10 17
Chickpeas	20	26 32
Cocoa bean	5	8 17
Coconut	3	9 13
Flax	3	18 27
Green bean	23	39 47
Hazelnut	3	25 38
Kidney bean	3	15 25
Lentil	13	22 32
Macadamia nut	11	42 50
Mung bean	3	8 13
Реа	14	15 29
Peanut	6	27 36



Seeds, Legumes and Nuts

Type of Food	μg/mL lgG		
Pine nut	18	8 13	
Pistachio	3	17 27	
Poppy seeds	3	16 21	
Pumpkin seeds	5	19 26	
Sesame	4	20 25	
Soybean	23	8 16	
Sunflower seeds	8	18 26	
Sweet chestnut	106	20 31	
Walnut	2	8 15	
White beans	3	19 29	



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Gluten-Free Grains

Type of Food	μg/mL lgG		
Amaranth	3	7 10	
Buckwheat	3	7 12	
Cassava	17	13 23	
Corn	42	24 30	
Lupini bean	15	23 42	
Millet	26	25 42	
Oats	7	23 31	
Quinoa	6	26 33	
Rice	8	24 29	
Teff	26	36 50	

Grains Containing Gluten

Type of Food	µg/mL lgG		
Barley	4	10 17	
Gluten	7	35 49	
Rye	5	16 25	
Spelt	3	15 23	
Wheat	6	34 46	



Miscellaneous

Type of Food	μg/mL lgG		
Aspergillus niger	10	25 37	
Black tea	3	11 15	
Camomile	4	12 21	
Candida albicans	96	45 56	
Cane sugar	3	12 19	
Carob bean	3	16 26	
Coffee	9	19 24	
Ginkgo biloba	3	15 25	
Green tea	4	9 16	
Guar flour	6	25 36	
Honey	14	25 38	
Nori	12	40 71	
Peppermint	9	15 22	
Wakame	17	16 26	
Yeast	23	21 30	



Order by Reactivity Report

Elevated

Asparagus	Broad bean	Broccoli	Brussels sprouts
Candida albicans	Carrots	Cauliflower	Celeriac
Celery	Cherry	Corn	Date
Fennel	Fermented dairy	Garden cress	Kohlrabi
Lime	Mandarin	Nectarine	Paprika
Parsley	Parsnip	Peach	Pine nut
Pineapple	Plum	Pumpkin	Radish
Red cabbage	Ricotta	Saffron	Savoy cabbage
Soybean	Sweet chestnut	Veal	Watermelon
White cabbage			

Borderline

Apricot	Artichoke	Cassava	Cow's milk
Endive	Fig	Grapefruit	Kiwi
Millet	Orange	Pork	Potato
Spinach	Wakame	Yeast	

Normal

Almond	Amaranth	Anchovy	Apple
Arugula	Aspergillus niger	Avocado	Banana
Barley	Barnacle	Basil	Bay leaf
Beef	Beetroot	Black cumin	Black tea
Blackberry	Blueberry	Bok Choi	Brazil nut
Buckwheat	Butterhead lettuce	Camomile	Cane sugar
Capers	Caraway	Cardamom	Carob bean
Carp	Cashew	Chanterelle	Chard



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Chia seeds	Chicken	Chickpeas	Chili
Chive	Cinnamon	Clove	Cocoa bean
Coconut	Cod	Coffee	Coriander
Crab	Cranberry	Crayfish	Cucumber
Cumin	Currant	Curry	Duck
Egg white	Egg yolk	Eggplant	Flax
Flounder	Garlic	Gilthead bream	Ginger
Ginkgo biloba	Gluten	Goat	Goat dairy
Goose	Grape	Green bean	Green tea
Guar flour	Guava	Haddock	Hazelnut
Herring	Honey	Horseradish	Iceberg lettuce
Kidney bean	Lamb	Lamb's lettuce	Leek
Lemon	Lentil	Lobster	Lupini bean
Lychee	Macadamia nut	Mackerel	Mango
Marjoram	Meadow mushrooms	Monkfish	Mulberry
Mung bean	Mussels	Mustard seed	Nori
Nutmeg	Oats	Ocean perch	Octopus
Olive	Onion	Oregano	Ostrich meat
Oyster mushrooms	Oysters	Рарауа	Pea
Peanut	Pear	Pepper, black	Peppermint
Pike	Pistachio	Pollock	Pomegranate
Poppy seeds	Porcini mushroom	Pumpkin seeds	Quail eggs
Quinoa	Rabbit/hare	Raspberry	Rennet
Rhubarb	Rice	Roe deer	Rosemary
Rye	Sage	Salmon	Sardine
Scallop	Sea bass	Sesame	Sheep dairy
Shiitake	Shrimp, prawn	Spelt	Squid/cuttlefish



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Strawberry	Sunflower seeds	Swai fish	Sweet pepper
Sweet potato	Teff	Thyme	Tomato
Trout	Tuna	Turbut	Turkey
Vanilla	Walnut	Wheat	White beans
Wild boar	Zander	Zucchini	



Interpretation

IgG FOOD REACTIONS are food sensitivities, rather than true IgE food allergies. IgE food allergies are immediate reactions, usually occurring 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. 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. [Immunobiology 5th ed Janeway CA Jr et al.New York: Garland Science: 2001] 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 both irritable bowel syndrome and migraine headaches. [Gut 2004:53, Cephalalgia 2010:30, Revista Alergia Mexico. 2007:54(5)]. Eliminating IgG reactive foods has also been reported to help with eczema, mood disturbances, weight gain, and other digestive disturbances [Nutr Clin Pract. 2010:25(2)].

IgG 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. IMPORTANT: 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 (anaphylactic reactions, hives) are are mediated by IgE antibodies, not IgG. Therefore, a normal IgG reaction to a known food allergen is NOT an indication that 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 LifeLabs 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].

REACTION TO MORE THAN ONE DAIRY FOOD: a borderline or elevated reaction to more than one Dairy food is present. Dairy foods come from animals in the Bovideae family and include: alpha-lactalbumin, beta-lactoglobulin, caseins, cheeses, cottage cheese, cow's milk, goat milk, whey proteins, and yogurt. Because a reaction to more than one food in this family occurred, cross-sensitivity seems likely. It may be advisable to avoid other foods in the Dairy or Bovideae families.

LOW TO MODERATE REACTIONS: One or more foods is borderline or elevated. Depending on how frequently a low or moderately reactive food is consumed, elimination from the diet may result in clinical improvement. The treating clinician must consider patient history and diet when deciding which foods to eliminate.

CANDIDA IS BORDERLINE OR ELEVATED: According to research by Lewith et al., elevated IgG antibodies to Candida are suggestive of fungalrelated illness [J Alt Comp Med. 2007:13(10):1129-33]. Although IgG reactivity to Candida does not necessarily correlate with Candida burden, it does suggest that the individual is experiencing an immunological response to Candida. Reducing the burden of Candida in the gut may help to reduce the immunologic response.

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 LifeLabs FST Food Sensitivities and Cross-Reactions document for more information on cross- reactions.

SEVERAL BIRCH POLLEN PROFILIN CONTAINING FOODS ARE ELEVATED: Profilins are small proteins in the plant cell cytoplasm that play a significant role in sensitizing individuals to pollens. Profilins are responsible for Oral Allergy Syndrome, a condition that results in burning or tingling in the mouth when cross- reactive foods are consumed. Different pollens are associated with specific foods. Foods that contain BIRCH POLLEN PROFILIN include: almond, apple, carrot, celery, cherry, hazelnut, kiwi, peach, peanut, pear, plum, potato, and soy. A reaction to several of these foods may indicate general reactivity to BIRCH POLLEN PROFILIN rather than reactivity to specific food antigens or families. Refer to the LifeLabs Food Sensitivities and Cross-Reactions document for more information on cross-reactions.

SEED STORAGE PROTEIN-CONTAINING FOOD(S) ARE ELEVATED: Seed storage proteins are heat and acid stable, and therefore retain their potential allergenicity after cooking or upon ingestion. The three categories of seed storage proteins are based on sedimentation rates: 2S, 7/8S and 11S. The 2S category includes: Brazil nut, buckwheat, canola, chickpea, mustard, peanut, pistachio, poppy seed, sesame seed, sunflower, and walnut. The 7/8S category includes: lentil, pea, peanut, soy and walnut, and the 11S category contains: cashew, chickpea, hazelnut, peanut, pistachio, and soy. Refer to the LifeLabs FST Food Sensitivities and Cross-Reactions document for more information on cross-reactions.

CARBOHYDRATE CROSS-REACTIVE DETERMINANTS: When there are many reactive fruits, vegetables and grains, carbohydrate cross-reactive determinants should be considered. (CCDs) are the carbohydrate portion of glycoproteins known to induce antibody production. CCDs are most commonly found in glycoproteins of plants and invertebrates (insects). Exposure to grass pollens appears to be a common cause of IgE reactions to CCDs. When significant IgG reactions to multiple fruits, vegetables and grains are present, it is possible that CCDs are responsible as the antibody-CCD interaction is very similar for both IgE and IgG. Reactions to carbohydrate cross-reactive determinants are generally thought to have little or no clinical significance. Nevertheless, the possibility that there is a clinically relevant reaction to one or more of these foods cannot be completely ruled out. Particular attention should be paid to wheat and related grains (Grass Family) when assessing clinical significance.

SEVERAL MUGWORT PROFILIN CONTAINING FOODS ARE ELEVATED: Profilins are small proteins in the plant cell cytoplasm that play a significant role in sensitizing individuals to pollens. Profilins are responsible for Oral Allergy Syndrome, a condition that results in burning or tingling in the mouth when cross-reactive foods are consumed. Different pollens are associated with specific foods. Foods that contain MUGWORT PROFILIN include: anise, broccoli, cabbage, caraway, carrots, cauliflower, celery, coriander, fennel, mango, parsley, and members of the Liliaceae, Rosaceae and Solanaceae families. A reaction to several of these foods may indicate general reactivity to MUGWORT PROFILIN rather than reactivity to specific food antigens or families. Refer to the LifeLabs FST Food Sensitivities and Cross-Reactions document for more information on cross-reactions.

SEVERAL RAGWEED/TIMOTHY CONTAINING FOODS ARE ELEVATED: Profilins are small proteins in the plant cell cytoplasm that play a significant role in sensitizing individuals to pollens. Profilins are responsible for Oral Allergy Syndrome, a condition that results in burning or tingling in the mouth when cross- reactive foods are consumed. Different pollens are associated with specific foods. Foods that contain TIMOTHY OR RAGWEED PROFILIN include: banana, cucumber, melon, orange, tomato, watermelon and zucchini squash. A reaction to several of these foods may indicate general reactivity to TIMOTHY OR RAGWEED PROFILIN rather than reactivity to specific food antigens or families. Refer to the LifeLabs FST Food Sensitivities and Cross-Reactions document for more information on cross- reactions.

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REACTION TO MORE THAN ONE LEGUME/PEA FAMILY FOOD: a borderline or elevated reaction to one or more foods from the Legume/Pea (Fabaceae) family occurred. Food groups in this family include: beans, carob, lentils, peas, soybeans and peanuts. Because a reaction to more than one food in this family occurred, cross-sensitivity seems likely. It may be advisable to avoid other foods within a specific group. For example, within the bean group are: anasazi, Barlotti (cranberry)beans, common, kidney, lima, mung, navy, pink, pinto, shell, string (green), white, and yellow beans. Fava beans(broadbeans) are part of the bean group, but are less closely related to to common garden beans. Within the pea group are: astragalus, black-eyed peas, chickpeas, Crowder peas, green peas, split yellow peas, and purple-hull peas. Medicinal plants in this family include: acacia, alfalfa, astragalus, fenugreek, licorice, scotch broom, senna, sweet clover and tolu balsam. A reaction to one food in the pea group may increase the likelihood of a reaction to other peas. If reactions occur in multiple groups, it may be advisable to avoid other foods in the Legume/Pea family.

REACTION TO MORE THAN ONE MEMBER OF THE CARROT FAMILY: a borderline of elevated reaction to more than one food from the the Carrot (Apiaceae) family is present. Foods in this family include: anise, caraway, carrot, celeriac(celery root), celery, celery seed, celeriac, chervil, cilantro (coriander), cumin, dill, fennel, ferula gum, kummel, parsley, parsnip, samphire, sweet cicily and water celery. Medicinal plants include: dong quai and sumbul. Because a reaction to more than one food in the Carrot family occurred, cross-sensitivity seems likely. It may be advisable to avoid other foods in the Carrot family.

REACTION TO MORE THAN ONE GOURD FAMILY FOOD: a borderline or elevated reaction to more than one food from the Gourd (Cucurbiticeae) family is present. The curbiticeae family includes the genuses: cucumis, citrullus, and cucurbita. The Cucumis genus includes: cucumber, bitter melon, cantaloupe, casaba melon, crenshaw melon, galia, hali melon, honeydew melon, horned melon, muskmelon, persian melon, Piel de Sapo, sugar melon and winter melon. The Cucurbita genus includes the following squash: acorn, butternut, gem, pattypan, pumpkin, red kuri, spaghetti, summer, winter, yellow crookneck, yellow summer, and zucchini squash, plus cucurbita maxa and kabocha. The only significant food in the genus Citrullus is watermelon. Because a reaction to more than one food in this family occurred, cross-sensitivity seems likely. It may be advisable to avoid other foods in the Gourd family.

REACTION TO MORE THAN ONE MUSTARD FAMILY FOOD: a borderline or elevated reaction to more than one food from the Mustard (Brassicaceae) family is present. Foods in this family include: bok choy, broccoflower (green cauliflower, Romanesco broccoli), broccoli, brussels sprouts, cabbage (red, white, Savoy), canola, cauliflower, collard greens, horseradish, kale, kohlrabi, mustard, mustard greens, radish, rutabaga, turnip, turnip greens, wasabi and watercress. Because a reaction to more than one food in this family occurred, cross- sensitivity seems likely. It may be advisable to avoid other foods in the Mustard family.

REACTION TO MORE THAN ONE PRUNUS GENUS FOOD: a borderline or elevated reaction to more than one food from the Prunus genus of the Rose (Rosaceae) family is present. Foods in the Prunus genus include: almond, apricot, cherry, nectarine, peach, plum and prune. Because a reaction to more than one food in this genus occurred, cross- sensitivity seems likely. It may be be advisable to avoid other foods in the Prunus genus, and possibly foods in the Maloideae and Rosoideae subfamilies as well.

REACTION TO MORE THAN ONE ROSE FAMILY FOOD: an elevated reaction to more than one subfamily of the Rosaceae family occurred. The three subfamilies are Maloideae, Prunoideae and Rosoideae. Almond, apricot, cherry, nectarine, peach, plum and prune are part of the subfamily Prunoideae. Apples, quince, loquat and pear are part of the subfamily Maloideae. Blackberry, boysenberry, loganberry, raspberry, rose hip, strawberry, and youngberry are members of the Rosoideae subfamily. Because more than one subfamily had reactive foods, it may be advisable to avoid all foods from the Rosaceae (Rose) family, particularly if the reaction is clinically significant.



Scan the QR code or visit <u>https://go.lifelabs.com/FSTCrossReactivity</u> to access the **Cross-Reactivity Summary** to help you to interpret the results obtained from your **LifeLabs FST**.

Understanding the reference ranges

Each antigen has its own unique reference interval. These were derived by studying many samples across a broad population. A threshold is given that represents the threshold between 'normal' result, borderline or elevated. These are illustrated as coloured bars with the numerical values in black. These were determined by examining the results across a Canadian population. A borderline or elevated reaction does not mean that any patient is assured to have symptoms, but that there is a level of reaction that is higher than what is typical in the population. The relevance to any individual, or illness must be understood in the context of each patient. Your ordering clinician will be able to provide further information on your individual situation.

