WNUTRITION

Functional Health Report

A comprehensive analysis of your test results.

BLOOD CHEMISTRY ANALYSIS

Patient Report

Prepared for	WNutrition SAMPLE REPORT 57 year old female born Aug 11, 1967 Fasting
Requested by	Mrs. Sharon Carius WNutrition
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An introduction to Functional Blood Chemistry Analysis and your Functional Health Report (FHR).

Introduction

Functional Blood Chemistry Analysis (FBCA)

Functional Blood Chemistry Analysis, or FBCA, takes a deep dive into what your blood can tell us about your health. It's a way of sorting through all the different markers in your blood to get a clear picture of how your body's systems are doing. Think of it as a comprehensive health check-up that looks not just at how your body is working right now, but also checks if you're getting all the nutrients you need. Plus, it helps us see if you're moving towards better health or if there are areas we need to work on to get you feeling your best.

Mrs. Sharon Carius
WNutrition

WHY BLOOD TESTING?

Your blood tells a comprehensive story about your health. Among all medical lab tests, the Blood Chemistry and CBC/hematology test stands out as the most frequently ordered. It's a cornerstone of Western clinical medicine, helping doctors make informed diagnostic decisions. You've likely been told that blood testing is a standard procedure for assessing health.

Yet, many people start feeling unwell long before traditional blood tests show anything amiss. Often, you might hear from your doctor that "everything on your blood test looks normal," even when you don't feel right.

NORMAL IS NOT OPTIMAL

If you're feeling "unwell" but your blood test comes back "normal," it doesn't necessarily mean everything is fine. Clinical experience shows that being "normal" is quite different from being functionally optimal. You might not have a diagnosed disease, but it's possible to be dysfunctional, meaning your body's systems aren't operating as well as they should, and you're starting to feel the effects.

The problem isn't with the blood tests themselves—they're powerful diagnostic tools. The issue lies in the reference ranges used, which are based on average populations, not indicators of optimal health or function. "Normal" ranges are often too broad to detect early signs of health issues or to identify when you're moving away from optimal health.

THE FUNCTIONAL APPROACH

The functional approach to blood testing focuses on changes in your body's function rather than looking for disease. We use optimal physiological ranges instead of "normal" population averages. This results in a more precise "Functional Physiological Range." It helps us spot issues within the "normal" range that could indicate your body's systems are starting to struggle. This approach enables us to detect shifts in your physiological function and identify what might be preventing you from reaching your best physiological, biochemical, and metabolic health.

Unlike traditional methods, which examine each biomarker in isolation, Functional Blood Chemistry Analysis uses trends and relationships between biomarkers to uncover hidden risks and opportunities for improving your health.

THE FUNCTIONAL HEALTH REPORT

The Functional Health Report is generated from an in-depth algorithmic analysis of your blood test results. Our software digs into the data, uncovering the intricate patterns and subtle indicators of functional changes in your body, often before you're aware anything's amiss.

SUMMARY

Blood testing has evolved beyond its role in diagnosing disease or managing injury. It's now an essential element of Functional Medicine, offering a critical window into your health. It helps reveal hidden health trends and is a key tool in promoting overall wellness and preventing disease.

Patient Report

Your report is the result of a detailed and proprietary algorithmic analysis of your complex and comprehensive blood biomarkers.

Mrs. Sharon Carius
WNutrition

THE FUNCTIONAL HEALTH REPORT

Your blood test results have been analyzed for their hidden meaning and the subtle, web-like patterns concealed within the numbers that signal the first stages of functional change in your body. The Functional Health Report (FHR) takes all of this analytical information and provides a comprehensive interpretation of the results in a written and graphical format.

The report gives you a window into the state of health in the main functional physiological systems of the body, its supporting accessory systems, and the degree of deficiency in individual nutrients. The report is broken down into 3 main sections:

ASSESSMENT

The Assessment section is at the very heart of the Functional Health Report. It is here that the findings of the risk analysis are presented.

The Functional Body Systems and Accessory reports show the risk of dysfunction in the various physiological and supporting accessory systems in your body.

The Nutrient Status report gives you an indication of your general nutritional status and the Nutrient Deficiencies report shows the risk of deficiency for individual nutrients.

Each of the assessment reports is accompanied by a section that contains detailed descriptions and explanations of the results presented in each of the reports in this section.

ANALYSIS

The Analysis section shows you the actual results of your blood test itself.

The Blood Test Results Report lists your blood test results and shows if an individual biomarker is optimal, outside the optimal range or outside of the standard range.

The Blood Test Results Comparative Report compares results of the latest and previous blood test and gives you a sense of whether or not there has been an improvement in the individual biomarker results.

The Blood Test History report allows you to compare results over time and see where improvement has been made and allows you to track progress in the individual biomarkers.

The Out of Optimal Range report shows all of the biomarkers that are out of the optimal range and gives you some important information as to why each biomarker might be elevated or decreased. Each biomarker in the Out of Optimal Range report hyperlinks back into the Blood Test Results report so you can see a more detailed view of the blood test results.

HEALTH CONCERNS

All the information on the Assessment and Analysis sections of the report are summarized in the Health Concerns section, which focuses on the top areas of need as presented in this report.

2

A full breakdown of all the individual biomarker results, showing if a particular biomarker is outside the optimal range or the standard range, plus a comparative and historical view.

Analytics

Blood Test Results

The Blood Test Results Report lists the results from your Chemistry Screen and CBC and shows you whether or not an individual biomarker is optimal, outside of the optimal range, or outside of the standard range. The biomarkers are grouped into their most common categories.

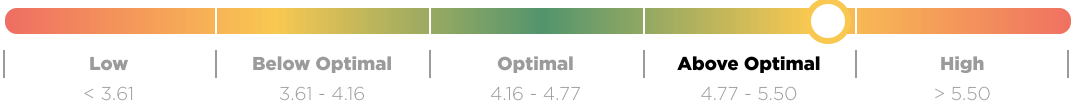
Some biomarkers in the Blood Test Results Report that are above or below the Optimal or marked Low or High may be hyperlinked into the "Out of Optimal Range Report", so you can read some background information on those biomarkers and why they may be high or low.

1	2	11	36	13	9	1	73
Alarm Low	**Low**	**Below Optimal**	**Optimal**	**Above Optimal**	**High**	**Alarm High**	**Total**

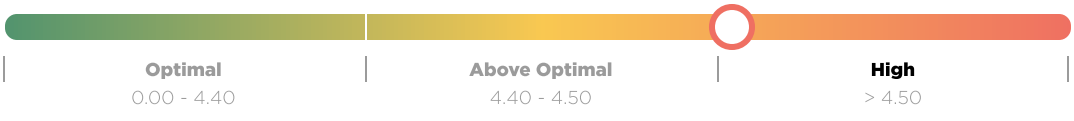
BLOOD GLUCOSE

Keeping your blood sugar balanced is one of the best ways to maintain steady energy and overall wellness. The tests in this category show how well your body handles sugar both day-to-day and over longer periods, helping to catch early signs of trouble before they turn into bigger issues. By taking a functional approach, we can use these results to make simple yet powerful changes to support healthier blood sugar levels.

Glucose Fasting
5.40 mmol/L



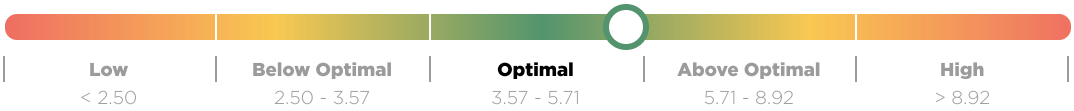
Triglyceride-Glucose Index (TyG)
4.70 Index



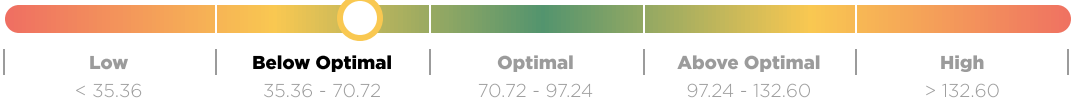
KIDNEY

Your kidneys act as filters, clearing out waste and keeping the right balance of fluids and minerals in your blood. These biomarkers measure how well your kidneys are doing their job, often catching early changes so we can address them before they become bigger problems. A functional approach means looking at the whole picture—from diet and hydration to everyday habits that support kidney health.

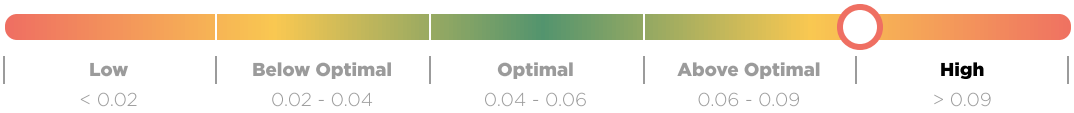
BUN
5.50 mmol/L



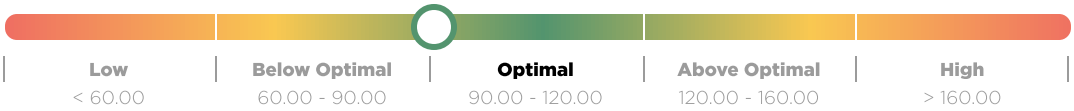
Creatinine
60.00 µmol/L



BUN : Creatinine
0.09 Ratio



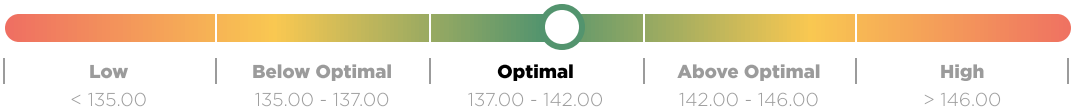
eGFR
90.00 mL/min



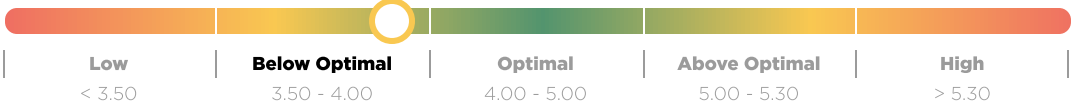
ELECTROLYTES

Electrolytes help your body stay hydrated, regulate blood pressure, and keep your muscles and nerves working properly. When these levels are out of balance, you may feel fatigued, dizzy, or have muscle cramps. By monitoring these important minerals in your blood, we can understand how well your body maintains its internal balance and guide you toward the right choices to help you feel energized and well.

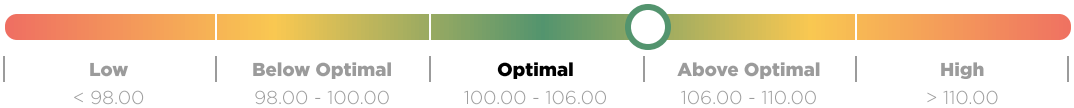
Sodium
140.00 mmol/L



Potassium
3.90 mmol/L

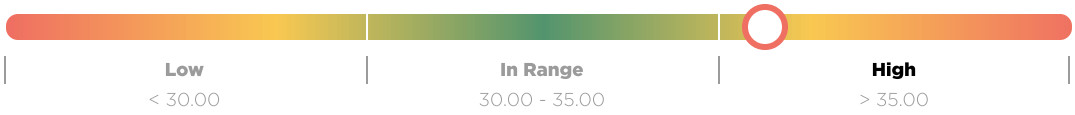


Chloride
106.00 mmol/L



CO2
27.00 mmol/L

Sodium : Potassium
35.90 ratio

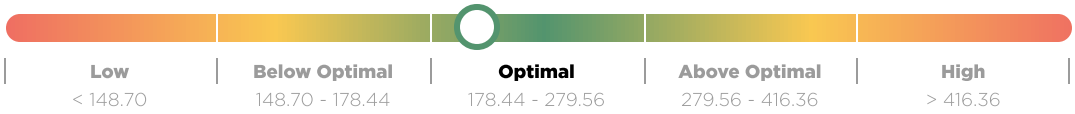


METABOLIC

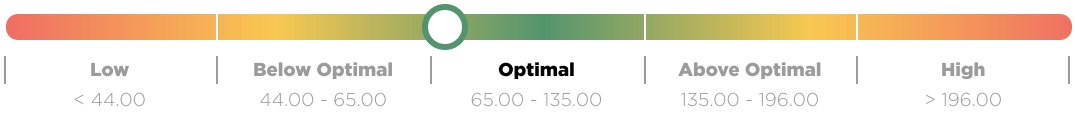
Metabolic biomarker analysis provides key insights into how your body manages energy, muscle function, and electrolyte balance. By spotting early changes in these biomarkers, we can develop appropriate support strategies to keep your metabolism running smoothly.

Anion Gap
10.90 mmol/L

Uric Acid
200.00 µmol/L



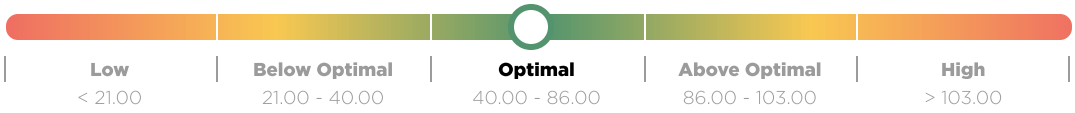
Creatine Kinase (CK)
70.00 IU/L



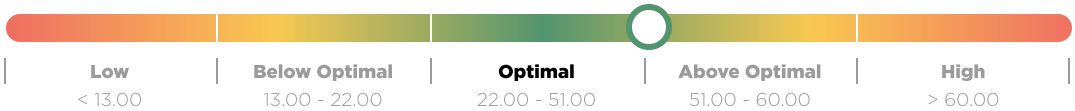
ENZYMES

Your body's enzymes help break down food and convert nutrients into energy. By looking at your enzyme levels, we can identify why you might be experiencing digestive issues or other symptoms and guide you toward choices that support your body's natural enzyme function.

Amylase
61.00 U/L



Lipase
51.00 U/L

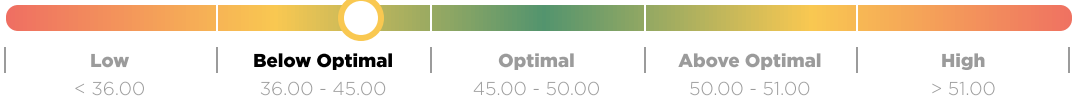


PROTEINS

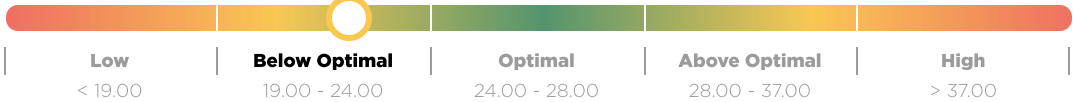
Protein analysis gives us a clear look at the proteins in your blood, which play a vital role in keeping you healthy by supporting everything from your immune system to your overall nutrition. With these insights, we can help you maintain a balanced level of these important proteins and boost your well-being.

Protein - Total
64.00 g/L

Albumin
42.00 g/L



Globulin - Total
22.00 g/L

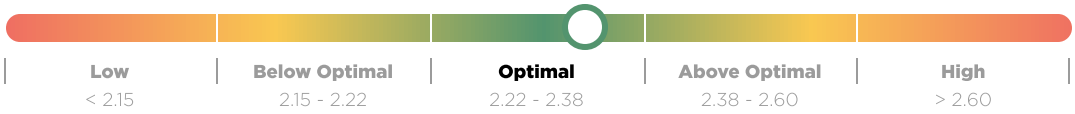


Albumin : Globulin
1.91 ratio

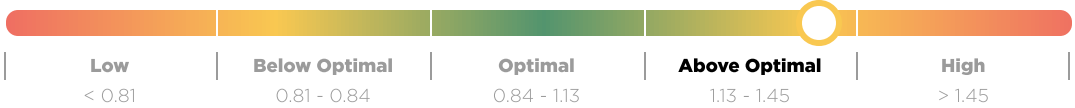
MINERALS

Minerals are essential for everything from bone health to energy production and immune function. By measuring both the minerals in your blood and inside your cells, we can understand if you're getting and properly using these vital nutrients, helping us guide you toward choices that maintain optimal mineral balance for your health.

Calcium
2.33 mmol/L



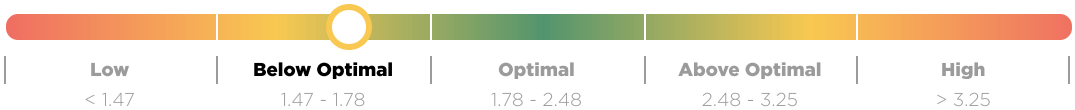
Phosphorus
1.40 mmol/L



Magnesium - RBC
0.80 mmol/L ⚠

Calcium : Albumin
0.06 ratio

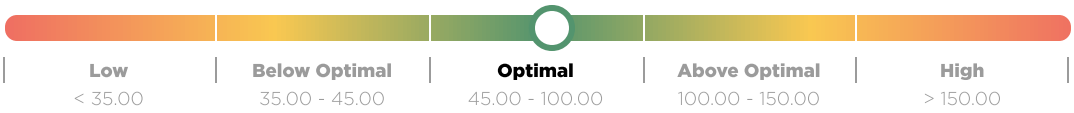
Calcium : Phosphorus
1.66 ratio



LIVER AND GB

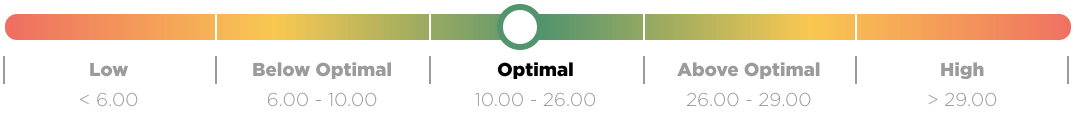
Liver and gallbladder biomarkers give us an indication of how well your liver and gallbladder are working to support your overall health. By spotting early signs of stress or imbalance, we can make appropriate support strategies to help keep these vital organs functioning smoothly and support their optimal function.

Alk Phos
76.00 IU/L



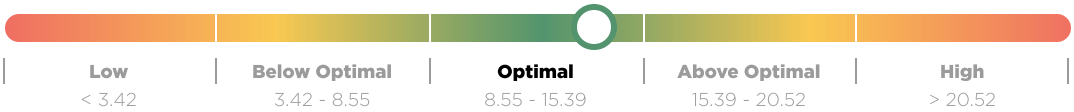
AST
18.00 IU/L

ALT
17.00 IU/L

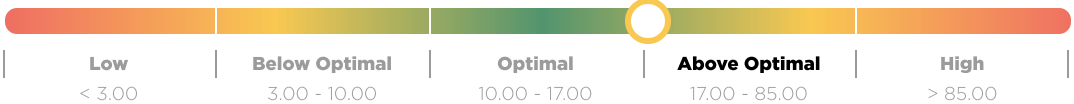


LDH
146.00 IU/L

Bilirubin - Total
14.00 µmol/L



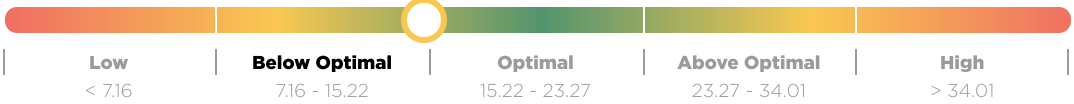
GGT
19.00 IU/L



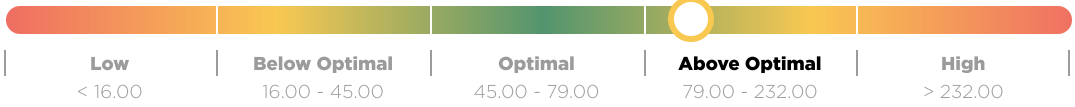
IRON MARKERS

Iron is a key mineral your body relies on to keep you feeling energized and healthy. Around 70% of your total iron is found in red blood cells, where it carries oxygen from your lungs to all the parts of your body that need it. By measuring different aspects of how your body handles iron, we can understand if you're getting and using the right amount – not too little or too much – and guide you toward choices that help maintain healthy iron levels for optimal energy and wellness.

Iron - Serum
15.00 µmol/L

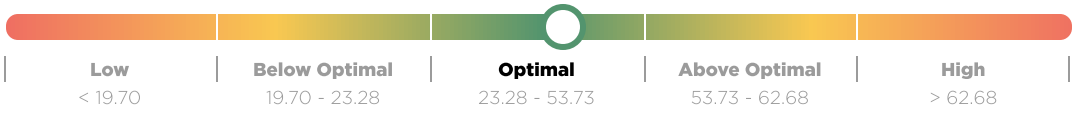


Ferritin
111.00 µg/L

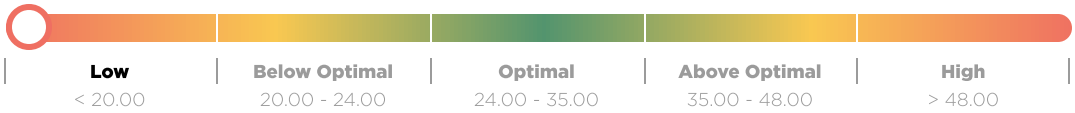


TIBC
57.00 µmol/L

UIBC
42.00 µmol/L



% Transferrin saturation
0.26 %



Transferrin
2.60 g/L

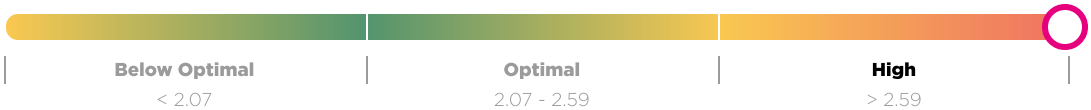
LIPIDS

The lipid panel assesses the distribution and ratios of various lipid fractions. By examining these different markers, we can better understand the role lipids play in your cardiovascular health

Cholesterol - Total
6.80 mmol/L

Triglycerides
1.40 mmol/L

LDL Cholesterol
4.82 mmol/L ⚠



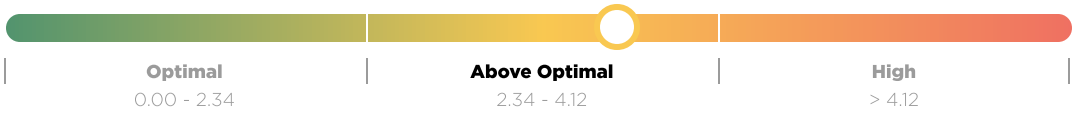
HDL Cholesterol
1.34 mmol/L

Non-HDL Cholesterol
5.46 mmol/L

Cholesterol : HDL
5.07 Ratio

Triglyceride:HDL
1.04 ratio

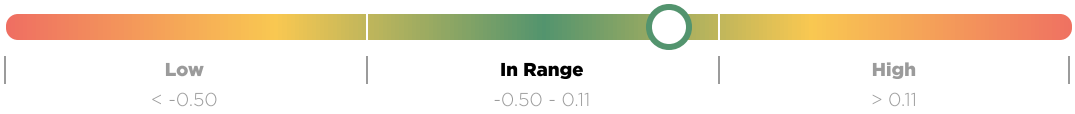
LDL : HDL
3.60 Ratio



CARDIOMETABOLIC

Your heart and blood vessel health depends on many complex factors, and these specialized tests help us understand how your cardiovascular system is working at a deeper level than standard heart tests. By looking at these biomarkers, we can spot potential concerns early and guide you toward specific strategies that best support your long-term heart health and overall wellness.

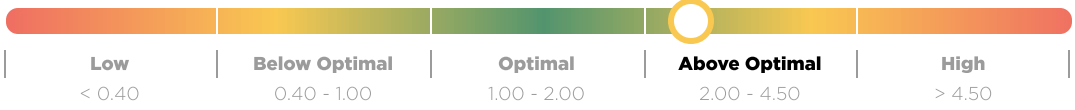
Atherogenic Index of Plasma (AIP)
0.02 Index



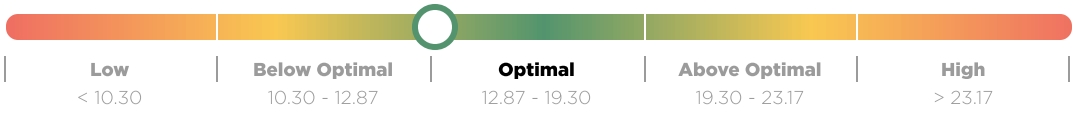
THYROID

Your thyroid is like your body's metabolic thermostat, controlling energy production, temperature regulation, and countless other functions throughout your body. By looking at thyroid biomarkers, we can understand how well your thyroid is working at every stage, helping us guide you toward strategies that support optimal thyroid function.

TSH
2.58 mIU/L

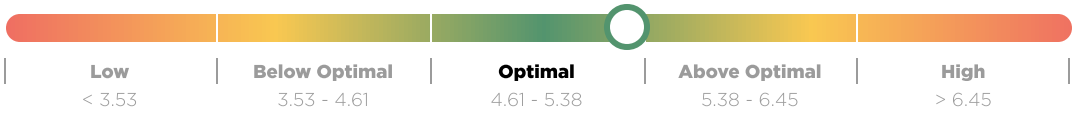


T4 - Free
13.00 pmol/L



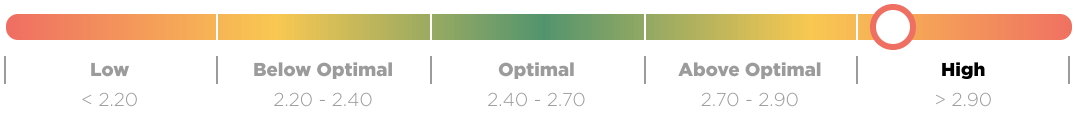
T3 - Free

5.30 pmol/L



Free T3 : Free T4

3.42 Ratio



INFLAMMATION

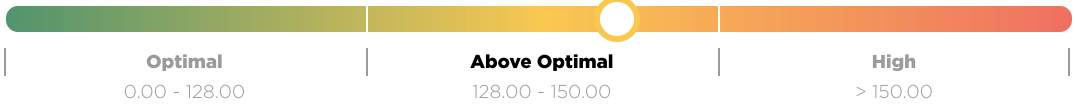
Inflammatory biomarkers enable us to evaluate both acute and chronic systemic inflammation. While some inflammation is normal and helpful, too much can affect your energy, mood, and overall health, which is why we measure these markers to guide personalized recommendations that can help your body maintain a healthy balance.

Hs CRP

1.90 nmol/L

Platelet : Lymphocyte (PLR)

143.50 Ratio

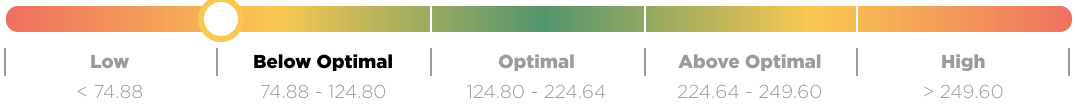


VITAMINS

Vitamin biomarker analysis helps us see if your body is getting the right vitamins to produce energy, support your immune system, and maintain overall health. By measuring both the amounts and active forms of these vital nutrients, we can understand if you're getting and properly using the vitamins you need, helping us guide you toward choices that optimize your nutritional status.

Vitamin D (25-OH)

76.00 nmol/L

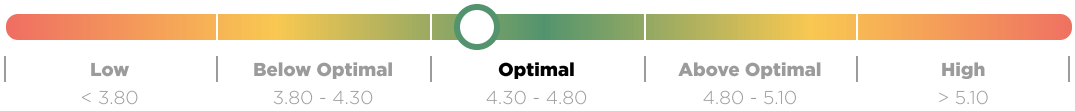


CBC

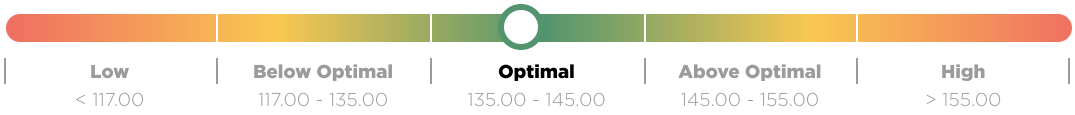
Your blood is responsible for carrying oxygen and supporting your immune system. The biomarkers on the Complete Blood Count (CBC) help us understand how well they're doing their job. By looking at the number, size, and characteristics of the different blood cells in the CBC, we can spot early signs of imbalances that might affect your energy, immune function, or overall health. We can then guide you toward choices that support healthy blood cell production.

RBC

4.40 x10^12/L

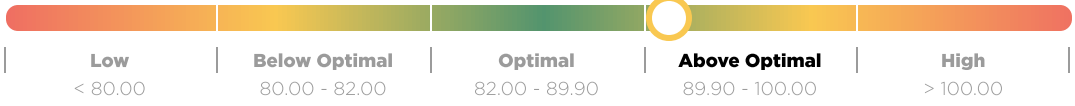


Hemoglobin
139.00 g/L

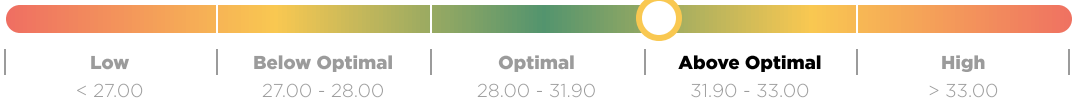


Hematocrit
0.40 L/L

MCV
91.00 fL

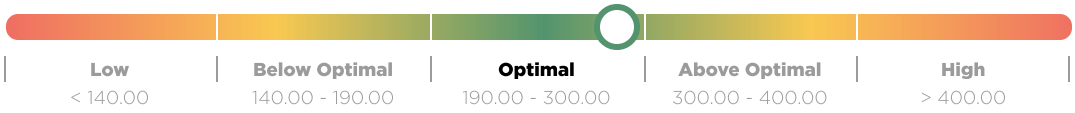


MCH
32.00 pg



MCHC
348.00 g/L

Platelets
287.00 x10^9/L



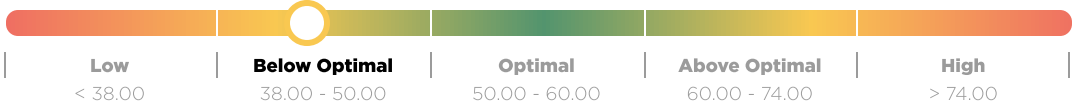
RDW
12.10 %

WBCS

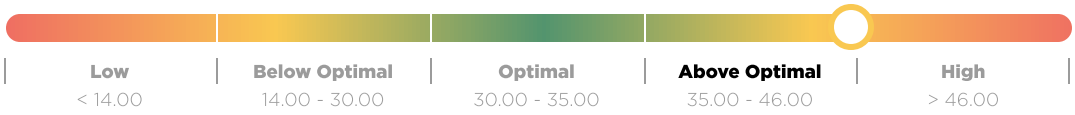
White blood cell analysis checks the different types of cells that help fight off infections and keep your body balanced. With this information, we can spot any early signs of immune-related issues and put together strategies to support your immune health and overall well-being.

Total WBCs
4.40 x10^9/L

Neutrophils - %
43.18 %



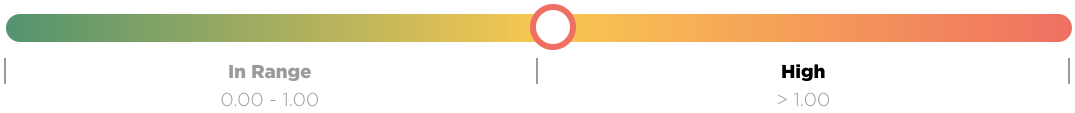
Lymphocytes - %
45.45 %



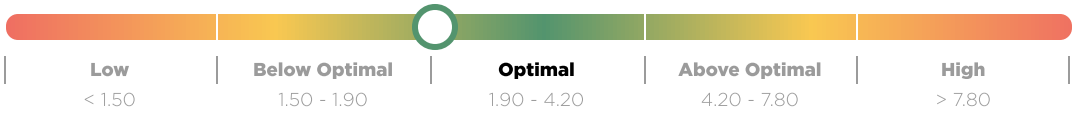
Monocytes - %
9.09 %

Eosinophils - %
2.05 %

Basophils - %
1.14 %



Neutrophils - Absolute
1.90 x10^9/L



Lymphocytes - Absolute
2.00 x10^9/L

Monocytes - Absolute
0.40 x10^9/L

Eosinophils - Absolute
0.09 x10^9/L

Basophils - Absolute
0.05 x10^9/L

Neutrophil : Lymphocyte
0.95 Ratio

Out of Optimal Range

The following report shows all of the biomarkers that are out of the optimal range and gives you some important information as to why each biomarker might be elevated or decreased.

1	2	11	13	9	1
Alarm Low	Low	Below Optimal	Above Optimal	High	Alarm High

BLOOD GLUCOSE

Glucose Fasting

5.40 mmol/L

Low	Below Optimal	Optimal	**Above Optimal**	High
< 3.61	3.61 - 4.16	4.16 - 4.77	4.77 - 5.50	> 5.50

Fasting blood glucose (FBG) measures how much sugar is in your blood after you've gone without eating for several hours. Insulin and glucagon are two key hormones that help keep blood sugar in balance: insulin lowers your blood sugar by helping it move into your cells, and glucagon raises your blood sugar by telling your liver to release stored sugar. When FBG levels are high, it often means your body isn't making enough insulin or isn't using it effectively. This happens in type 1 diabetes, where the pancreas doesn't produce enough insulin, and type 2 diabetes, where the body becomes resistant to insulin over time. High FBG can also be a sign of other conditions, like prediabetes or metabolic syndrome, which both indicate possible trouble with how your body handles sugar and other nutrients.

Triglyceride-Glucose Index (TyG)

4.70 Index

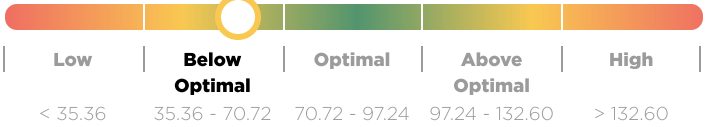
Optimal	Above Optimal	**High**
0.00 - 4.40	4.40 - 4.50	> 4.50

The Triglyceride-Glucose (TyG) Index is a helpful tool for identifying early signs of insulin resistance and related complications. When the TyG Index is elevated, it suggests difficulties in regulating glucose and metabolism. This increase in the TyG Index is associated with a higher risk of developing conditions like diabetes, cardiovascular disease, and stroke, which can affect your heart and overall health. By recognizing these markers early on, the TyG Index can play a vital role in preventing these health issues.

KIDNEY

Creatinine

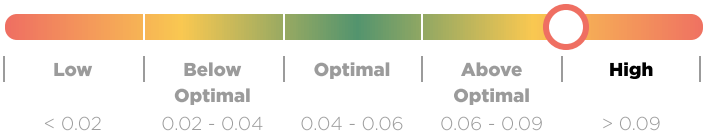
60.00 µmol/L



Creatinine is produced primarily from the contraction of muscle and is removed by the kidneys. Decreased levels are associated with muscle loss.

BUN : Creatinine

0.09 Ratio

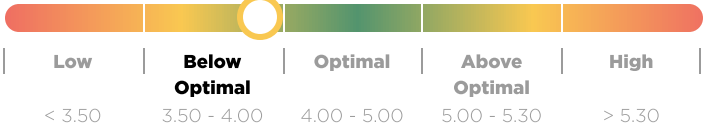


The BUN/Creatinine is a ratio between the BUN and Creatinine levels. An increased level is associated with renal dysfunction.

ELECTROLYTES

Potassium

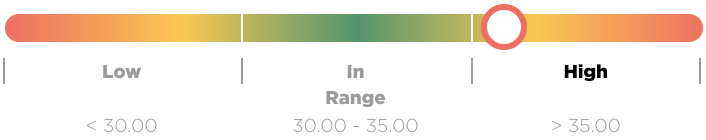
3.90 mmol/L



Potassium is one of the main electrolytes in the body. Due to the critical functions of potassium for human metabolism and physiology, it is essential for the body to maintain optimal serum levels even though a small concentration is found outside of the cell. Potassium levels should always be viewed in relation to the other electrolytes. Potassium concentration is greatly influenced by adrenal hormones. Decreased levels are associated with adrenal stress and may also be decreased with high blood pressure.

Sodium : Potassium

35.90 ratio

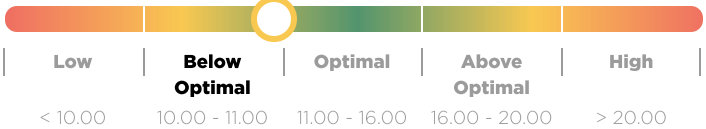


The Sodium:Potassium ratio is determined from the serum sodium and serum potassium levels. Both of these elements are under the influence of the adrenal glands. An increased Sodium:Potassium ratio is associated with acute stress.

METABOLIC

Anion Gap

10.90 mmol/L

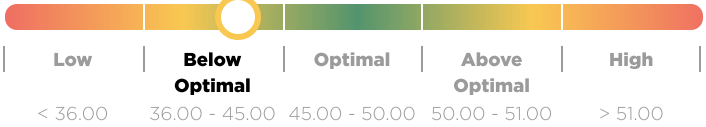


The anion gap is the measurement of the difference between the sum of the sodium and potassium levels and the sum of the serum CO2/bicarbonate and chloride levels.

PROTEINS

Albumin

42.00 g/L



Serum albumin is a protein in your blood that plays several important roles, including maintaining the balance of fluids in your body and transporting substances like hormones and vitamins. When we check your serum albumin levels, we look at how well various parts of your body are functioning, especially your liver and kidneys. If your serum albumin levels are low, it might be a sign that your body isn't getting or absorbing enough nutrients, particularly proteins. This condition can occur due to a variety of reasons, such as poor diet, problems with nutrient absorption in your gut, or more serious issues like liver disease. Low albumin levels can also suggest inflammation or infection somewhere in your body.

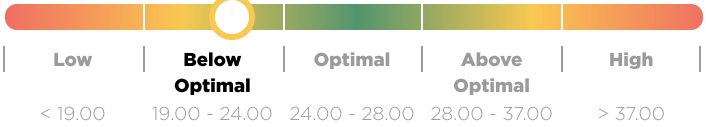
Protein - Total

64.00 g/L

Total serum protein is composed of albumin and total globulin. Conditions that affect albumin and total globulin readings will impact the total protein value. A decreased total protein can be an indication of malnutrition, digestive dysfunction due to HCl need, or liver dysfunction. Malnutrition leads to a decreased total protein level in the serum primarily from lack of available essential amino acids.

Globulin - Total

22.00 g/L

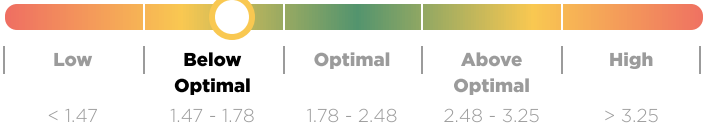


Globulins constitute the body's antibody system and Total globulin is a measurement of all the individual globulin fractions in the blood. Decreased levels are associated with inflammation in the digestive system and immune insufficiency.

MINERALS

Calcium : Phosphorus

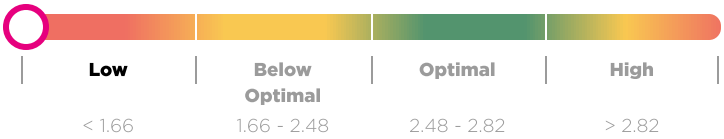
1.66 ratio



The Calcium:Phosphorus ratio is determined from the serum calcium and serum phosphorus levels. This ratio is maintained by the parathyroid glands and is also affected by various foods. Foods high in phosphorus and low in calcium tend to disrupt the balance and shift the body toward metabolic acidity, depleting calcium and other minerals and increasing inflammation.

Magnesium - RBC

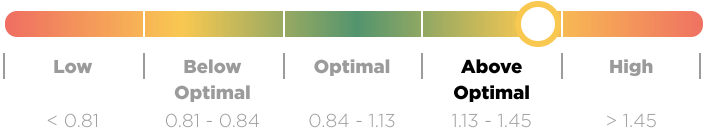
0.80 mmol/L ⚠



Magnesium is important for many different enzymatic reactions, including carbohydrate metabolism, protein synthesis, nucleic acid synthesis, and muscular contraction. Magnesium is also needed for energy production and is used by the body in the blood clotting mechanism. A decreased RBC magnesium is a sign of magnesium deficiency and is a common finding with muscle cramps.

Phosphorus

1.40 mmol/L



Phosphorous levels, like calcium, are regulated by parathyroid hormone (PTH). Phosphate levels are closely tied with calcium, but they are not as strictly controlled as calcium. Serum phosphorous is a general marker for digestion. Serum levels of phosphorous may be increased with a high phosphate consumption in the diet, and with parathyroid hypofunction and renal insufficiency.

Calcium : Albumin

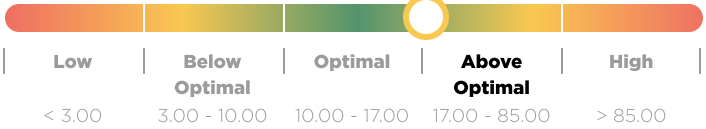
0.06 ratio

The Calcium:Albumin ratio is determined from serum calcium and albumin levels. Elevated levels can be a sign of protein deficiency or protein loss.

LIVER AND GB

GGT

19.00 IU/L



Low	Below Optimal	Optimal	Above Optimal	High
< 3.00	3.00 - 10.00	10.00 - 17.00	17.00 - 85.00	> 85.00

Gamma Glutamyl Transferase, or GGT, is a protein your body makes, mostly in the liver, with smaller amounts in the kidneys, prostate, and pancreas. If your GGT level is high, it can be a sign of damage to these organs or a blockage in the liver. GGT works with a substance called Glutathione, which helps protect your body from harmful substances. If GGT is high, it may mean you have less Glutathione available, which can weaken your body's defenses. Checking GGT levels helps us see how healthy your liver is and how well your body is getting rid of toxins. High GGT levels can also happen if you drink too much alcohol over a long time.

IRON MARKERS

Iron - Serum

15.00 µmol/L

Low	Below Optimal	Optimal	Above Optimal	High
< 7.16	7.16 - 15.22	15.22 - 23.27	23.27 - 34.01	> 34.01

Serum iron reflects iron that is bound to serum proteins such as transferrin. Serum iron levels will begin to fall somewhere between the depletion of the iron stores and the development of anemia. Decreased iron levels are associated with iron deficiency anemia, hypochlorhydria and internal bleeding. The degree of iron deficiency is best appreciated with ferritin, TIBC and % transferrin saturation levels.

% Transferrin saturation

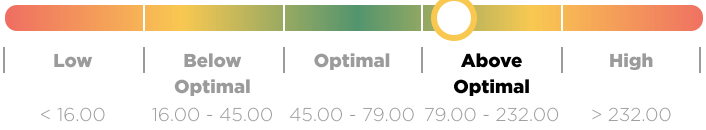
0.26 %

Low	Below Optimal	Optimal	Above Optimal	High
< 20.00	20.00 - 24.00	24.00 - 35.00	35.00 - 48.00	> 48.00

The % Transferrin saturation is a measure that helps us understand how much iron is being carried in your blood. It's an important marker because iron is crucial for making red blood cells, which carry oxygen throughout your body. This test essentially shows how well iron is being transported to where it's needed. Low transferrin saturation levels can be a sign that there's not enough iron being transported in your blood. This might indicate iron deficiency, which can lead to anemia—a condition where you don't have enough healthy red blood cells to carry adequate oxygen to your body's tissues.

Ferritin

111.00 µg/L



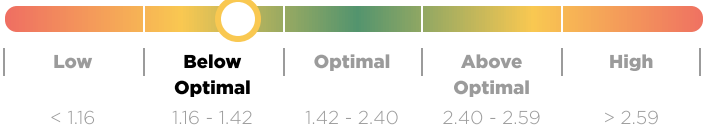
Low	Below Optimal	Optimal	**Above Optimal**	High
< 16.00	16.00 - 45.00	45.00 - 79.00	79.00 - 232.00	> 232.00

Ferritin is the main storage form of iron in the body. Increased levels are associated with iron overload, an increasing risk of cardiovascular disease, inflammation and oxidative stress.

LIPIDS

HDL Cholesterol

1.34 mmol/L

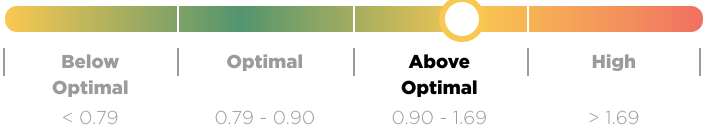


Low	**Below Optimal**	Optimal	Above Optimal	High
< 1.16	1.16 - 1.42	1.42 - 2.40	2.40 - 2.59	> 2.59

HDL functions to transport cholesterol from the peripheral tissues and vessel walls to the liver for processing and metabolism into bile salts. It is known as “good cholesterol” because it is thought that this process of bringing cholesterol from the peripheral tissue to the liver is protective against atherosclerosis. Decreased HDL is considered atherogenic (tending towards the formation of fatty plaques in the artery).

Triglycerides

1.40 mmol/L



Below Optimal	Optimal	**Above Optimal**	High
< 0.79	0.79 - 0.90	0.90 - 1.69	> 1.69

Serum triglycerides are composed of fatty acid molecules that enter the bloodstream either from the liver or from the diet. Levels will be elevated in metabolic syndrome, fatty liver, in people with an increased risk of cardiovascular disease, hypothyroidism, and adrenal dysfunction

LDL : HDL

3.60 Ratio

Optimal	**Above Optimal**	High
0.00 - 2.34	2.34 - 4.12	> 4.12

The calculation of the LDL Cholesterol to HDL Cholesterol ratio provides a better assessment of cardiovascular risk than measuring either biomarker alone. Increased ratios are associated with increased cardiovascular risk.

Non-HDL Cholesterol

5.46 mmol/L

Below Optimal	Optimal	Above Optimal	**High**
< 1.81	1.81 - 2.56	2.56 - 3.37	> 3.37

Non-HDL cholesterol represents the circulating cholesterol not carried by HDL (the protective carrier that collects cholesterol from tissues and blood vessels and transports it back to the liver). Elevated Non-HDL Cholesterol is associated with an increased risk of cardiovascular disease and related events.

Cholesterol - Total

6.80 mmol/L

Low	Below Optimal	Optimal	High
< 3.23	3.23 - 4.14	4.14 - 5.15	> 5.15

Cholesterol is a type of fat in your blood that your body needs to make cells and hormones. It's important to keep cholesterol at a healthy level. When there's too much cholesterol in your blood, it can be a problem. High cholesterol is one of several factors that can increase your risk of heart and blood vessel issues. It can also be linked to other health concerns, including blood sugar dysregulation, thyroid problems, issues with the bile flow in your liver, and a condition where there's too much fat in the liver.

Cholesterol : HDL

5.07 Ratio

Optimal	Above Optimal	High
0.00 - 3.00	3.00 - 5.00	> 5.00

The ratio of total cholesterol to HDL is a far better predictor of cardiovascular disease than cholesterol by itself. A lower ratio is ideal because you want to lower cholesterol (but not too low) and raise HDL. A level below 3.0 would be ideal. Every increase of 1.0, i.e. 3.0 to 4.0 increases the risk of heart attack by 60%.

Triglyceride:HDL

1.04 ratio

Below Optimal	Optimal	Above Optimal	High
< 0.22	0.22 - 0.83	0.83 - 0.87	> 0.87

The Triglyceride:HDL ratio is determined from serum triglyceride and HDL levels. Increased ratios are associated with increased cardiovascular risk and an increased risk of developing insulin resistance and Type II Diabetes.

LDL Cholesterol

4.82 mmol/L ⚠

Below Optimal	Optimal	High
< 2.07	2.07 - 2.59	> 2.59

LDL functions to transport cholesterol and other fatty acids from the liver to the peripheral tissues for uptake and metabolism by the cells. It is known as “bad cholesterol” because it is thought that this process of bringing cholesterol from the liver to the peripheral tissue increases the risk for atherosclerosis. An increased LDL cholesterol is just one of many independent risk factors for cardiovascular disease. It is also associated with metabolic syndrome, oxidative stress, and fatty liver.

THYROID

TSH

2.58 mIU/L

Low	Below Optimal	Optimal	**Above Optimal**	High
< 0.40	0.40 - 1.00	1.00 - 2.00	2.00 - 4.50	> 4.50

TSH or thyroid-stimulating hormone is a hormone produced by the anterior pituitary to control the thyroid gland's production of the thyroid hormone thyroxine (T4). TSH levels can be confusing because TSH levels increase when there is too little thyroid hormone in circulation. An elevated TSH is a sign that the body needs more thyroid hormone. Elevated levels of TSH are associated with primary hypothyroidism.

Free T3 : Free T4

3.42 Ratio

Low	Below Optimal	Optimal	Above Optimal	**High**
< 2.20	2.20 - 2.40	2.40 - 2.70	2.70 - 2.90	> 2.90

The Free T3: Free T4 ratio is a measure that assesses the balance between two important thyroid hormones in your blood: Free T3 (triiodothyronine) and Free T4 (thyroxine). These hormones play vital roles in regulating energy, metabolism, and many other bodily functions. A normal ratio indicates a balanced conversion of T4 (a storage hormone) to T3 (the active hormone). A high ratio, on the other hand, indicates that there might be an excessive conversion of T4 to T3, which can be seen in situations of hyperactive thyroid function where there's excessive T3 production. In certain situations, an elevated ratio may also be associated with an emerging hypothyroidism.

INFLAMMATION

Platelet : Lymphocyte (PLR)

143.50 Ratio

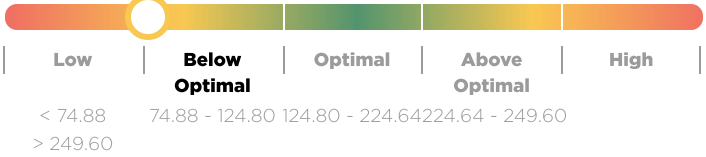
Optimal	**Above Optimal**	High
0.00 - 128.00	128.00 - 150.00	> 150.00

The Platelet-Lymphocyte Ratio, or PLR for short, is a way to look at your blood to get clues about inflammation and clotting in your body. If the PLR is higher than what's typical, it might mean there's more inflammation in your body. This can be linked to various health problems, including issues with the heart and circulation.

VITAMINS

Vitamin D (25-OH)

76.00 nmol/L

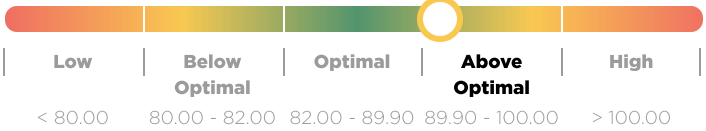


This vitamin D test measures for levels of 25-OH vitamin D and is a very good way to assess vitamin D status. Decreased vitamin D levels are a sign of Vitamin D deficiency.

CBC

MCV

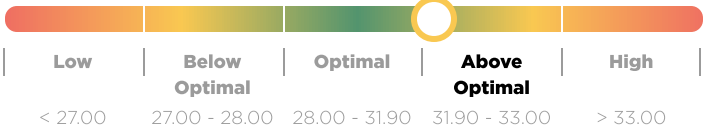
91.00 fL



The MCV is a measurement of the volume in cubic microns of an average single red blood cell. MCV indicates whether the red blood cell size appears normal (normocytic), small (microcytic), or large (macrocytic). An increase or decrease in MCV can help determine the type of anemia present. An increased MCV is associated with B12, folate, or vitamin C deficiency.

MCH

32.00 pg

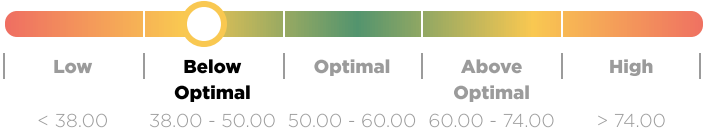


The Mean Corpuscular Hemoglobin (MCH) is a calculated value and is an expression of the average weight of hemoglobin per red blood cell. MCH, along with MCV can be helpful in determining the type of anemia present. It is elevated with B12/folate deficiency and hypochlorhydria.

WBCS

Neutrophils - %

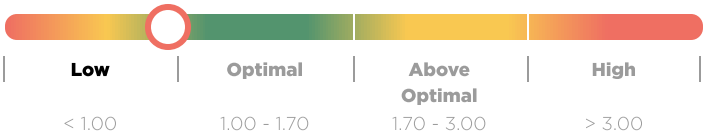
43.18 %



Neutrophils are the white blood cells used by the body to combat bacterial infections and are the most numerous and important white cell in the body's reaction to inflammation. Neutrophils - % tells us the % distribution of neutrophils in the total white blood cell count. Decreased levels are often seen in chronic viral infections.

Neutrophil : Lymphocyte

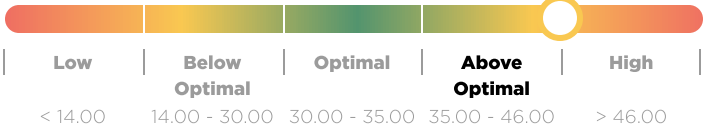
0.95 Ratio



The neutrophil-lymphocyte ratio (NLR) reflects important components of the cell-mediated inflammatory response, i.e. neutrophils and lymphocytes. Decreased levels are an indicator of a trend towards a chronic viral infection.

Lymphocytes - %

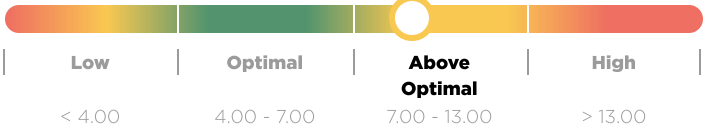
45.45 %



Lymphocytes are a type of white blood cell. An increase in ***Lymphocytes - %*** is usually a sign of a viral infection but can also be a sign of increased toxicity in the body or inflammation.

Monocytes - %

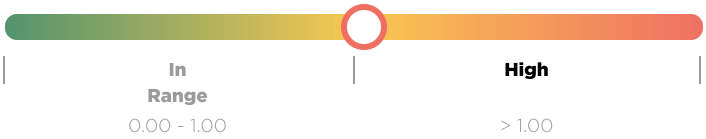
9.09 %



Monocytes are white blood cells that are the body's second line of defense against infection. They are phagocytic cells that are capable of movement and remove dead cells, microorganisms, and particulate matter from circulating blood. Levels tend to rise at the recovery phase of an infection or with chronic infection.

Basophils - %

1.14 %



Basophils are a type of white blood cell that plays a key role in your body's immune response. They are part of the larger family of cells that help protect you from infections and respond to allergies. Basophils are particularly important in fighting parasitic infections and are involved in allergic reactions. When you have an allergic reaction, basophils release chemicals like histamine, which cause inflammation and other symptoms typical of allergies, such as itching, swelling, and redness. In general, basophils make up a very small portion of your white blood cells, and their levels can change based on your health condition. Elevated levels of basophils can indicate an allergic reaction, an ongoing infection with parasites, or certain immune system-related health issues.

3

A comprehensive assessment of Functional Body Systems plus a detailed evaluation of your Nutrient Status, ensuring a holistic understanding of your health and well-being.

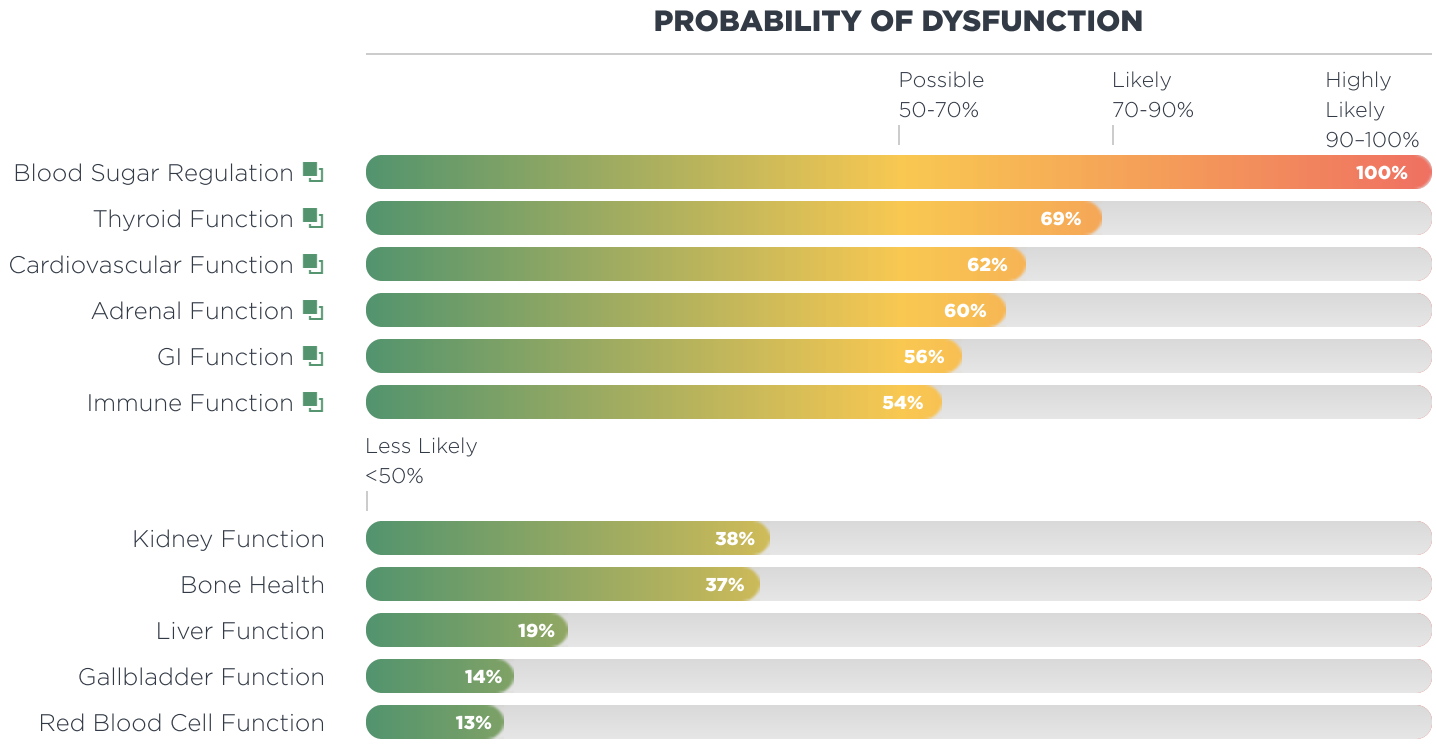
Assessment

Functional Body Systems

The Functional Body System results represent an algorithmic analysis of this blood test. These results have been converted into your individual Functional Body Systems Report based on our latest research.

This report gives you an indication of the level of dysfunction that exists in the various physiological systems in your body.

Each Body System that has a probability of dysfunction above 50% is included in the section that follows so you can read a detailed description and individual explanation of the results shown in this report.



Functional Body Systems Details

This section contains detailed descriptions and explanations of the results presented in the Functional Body Systems Report including all the biomarkers considered in the algorithmic analysis and the rationale behind the interpretation.

Dysfunction Highly Likely.
Much improvement required.

BLOOD SUGAR REGULATION

The Blood Sugar Regulation score looks for clues in your blood test that can help determine how well your body regulates the sugar in your blood. Some factors that affect the regulation of your blood glucose include the type and amount of protein, fat, and carbohydrates in your diet, inactivity, stress, tiredness, and hormones such as insulin released in response to elevated blood sugar levels. A high Blood Sugar Regulation score indicates that you may be at an increased risk of Blood Sugar dysregulation, causing a trend in increasing blood glucose levels. Blood sugar dysregulation is very common, but it doesn't suddenly emerge but develops slowly. In summary, your score is high, which indicates that your blood sugar regulation might not function as optimally as it should and may need support moving forward.

Rationale

Glucose Fasting ↑, Cholesterol - Total ↑, Triglycerides ↑, LDL Cholesterol ↑, HDL Cholesterol ↓

Biomarkers considered

Glucose Fasting, LDH, Cholesterol - Total, Triglycerides, LDL Cholesterol, HDL Cholesterol

Biomarkers not available in this test - consider having run in future tests:

HOMA2-IR, Hemoglobin A1C, Insulin - Fasting, DHEA-S, C-Peptide, Fructosamine, Leptin

Dysfunction Possible
There may be improvement needed in certain areas.

THYROID FUNCTION

It is possible that you may be at risk of an emerging thyroid dysfunction. While this may not require immediate attention, we will want to watch this on future blood tests.

Rationale

TSH ↑

Biomarkers considered

TSH, T4 - Free, T3 - Free

Biomarkers not available in this test - consider having run in future tests:

T4 - Total, T3 - Total, Reverse T3, T3 Uptake, Free Thyroxine Index (T7), Free T3 : Reverse T3

Dysfunction Possible
There may be improvement needed in certain areas.

CARDIOVASCULAR FUNCTION

It is possible that you may be at risk of an emerging cardiometabolic dysfunction. While this may not require immediate attention, we will want to watch this on future blood tests.

Rationale

Triglyceride:HDL ↑, Glucose Fasting ↑, Cholesterol - Total ↑, Triglycerides ↑, LDL Cholesterol ↑, HDL Cholesterol ↓, Vitamin D (25-OH) ↓

Biomarkers considered

Triglyceride:HDL, Glucose Fasting, LDH, Cholesterol - Total, Triglycerides, LDL Cholesterol, HDL Cholesterol, Ferritin, Hs CRP, Vitamin D (25-OH)

Biomarkers not available in this test - consider having run in future tests:

Lipoprotein (a), Fibrinogen Activity, Homocysteine, Hemoglobin A1C, Testosterone Free, Insulin - Fasting, Omega 3 Index

Dysfunction Possible
There may be improvement needed in certain areas.

ADRENAL FUNCTION

It is possible that you may be at risk of an emerging adrenal dysfunction. While this may not require immediate attention, we will want to watch this on future blood tests.

Rationale

Potassium ↓, Sodium : Potassium ↑

Biomarkers considered

Sodium, Potassium, Sodium : Potassium, Chloride

Biomarkers not available in this test - consider having run in future tests:

DHEA-S, Cortisol - Total/AM, Aldosterone, Cortisol - PM

Dysfunction Possible
There may be improvement needed in certain areas.

GI FUNCTION

It is possible that you may be at risk of an emerging dysfunction in your gastrointestinal (GI) system. While this may not require immediate attention, we will want to watch this on future blood tests and consider support.

Rationale

Protein - Total ↓, Globulin - Total ↓, Albumin ↓, MCV ↑, Basophils - % ↑, Iron - Serum ↓, Creatinine ↓

Biomarkers considered

BUN, Protein - Total, Globulin - Total, Albumin, Phosphorus, Alk Phos, MCV, Eosinophils - %, Basophils - %, Iron - Serum, Creatinine, Chloride, Calcium, Total WBCs

Biomarkers not available in this test - consider having run in future tests:

Gastrin

Dysfunction Possible
There may be improvement needed in certain areas.

IMMUNE FUNCTION

It is possible that you may be at risk of an emerging immune dysfunction. While this may not require immediate attention, we will want to watch this on future blood tests.

Rationale

Globulin - Total ↓, Neutrophils - % ↓, Lymphocytes - % ↑, Monocytes - % ↑

Biomarkers considered

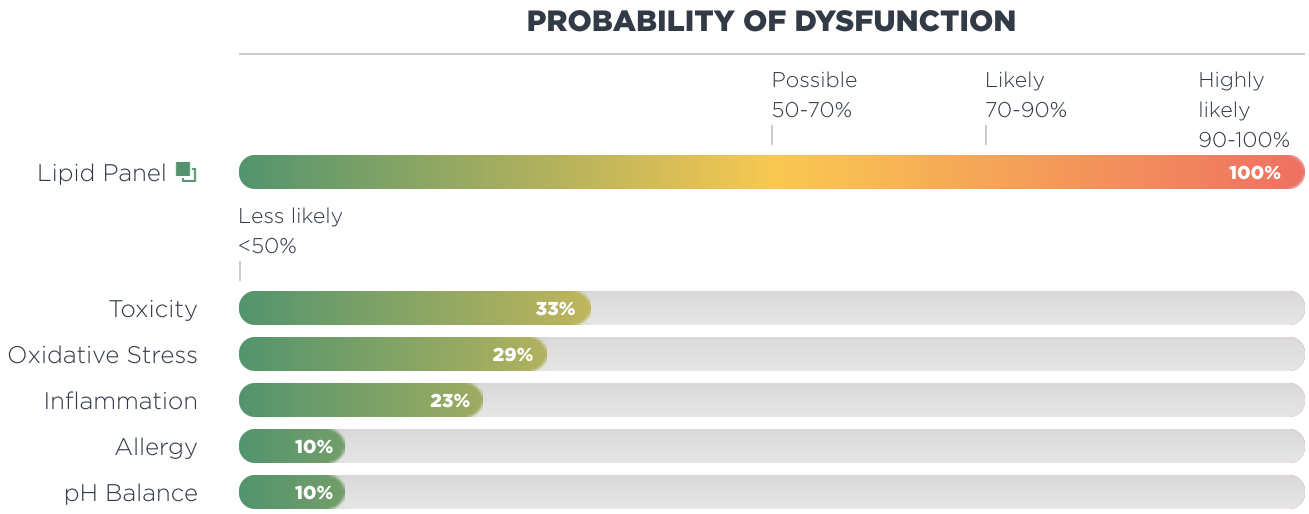
Total WBCs, Globulin - Total, Neutrophils - %, Lymphocytes - %, Monocytes - %, Monocytes - Absolute, Lymphocytes - Absolute, Neutrophils - Absolute, Albumin, Alk Phos, Ferritin

Accessory Systems

The Accessory Systems are additional physiological systems that are not related to individual organs or body systems.

The Accessory Systems Report represents an algorithmic analysis of this blood test. These results have been converted into an individualized risk evaluation based on the latest research.

Each Accessory System that has a probability of dysfunction above 50% is included in the section that follows so you can read a detailed description and individual explanation of the results shown in this report.



Accessory Systems Details

This section contains detailed descriptions and explanations of the results presented in the Accessory Systems report including all the biomarkers considered in the algorithmic analysis and the rationale behind the interpretation.

Dysfunction Highly Likely.
Much improvement required.

LIPID PANEL

The Lipid Panel score looks at biomarkers on this blood test that help evaluate the levels of fats (cholesterol, triglycerides, etc.) in your blood. An increased Lipid Risk score indicates that your blood may have higher than optimal cholesterol and/or fat levels (hyperlipidemia). Hyperlipidemia is associated with an increased risk of heart disease and may be genetic or due to dietary factors, hormonal imbalances, blood sugar dysregulation, and/or other metabolic imbalances. In summary, your Lipid Panel score is high, which indicates that your blood fats are not optimal and may need support.

Rationale

Cholesterol - Total ↑, Triglycerides ↑, LDL Cholesterol ↑, Cholesterol : HDL ↑, Triglyceride:HDL ↑, HDL Cholesterol ↓

Biomarkers considered

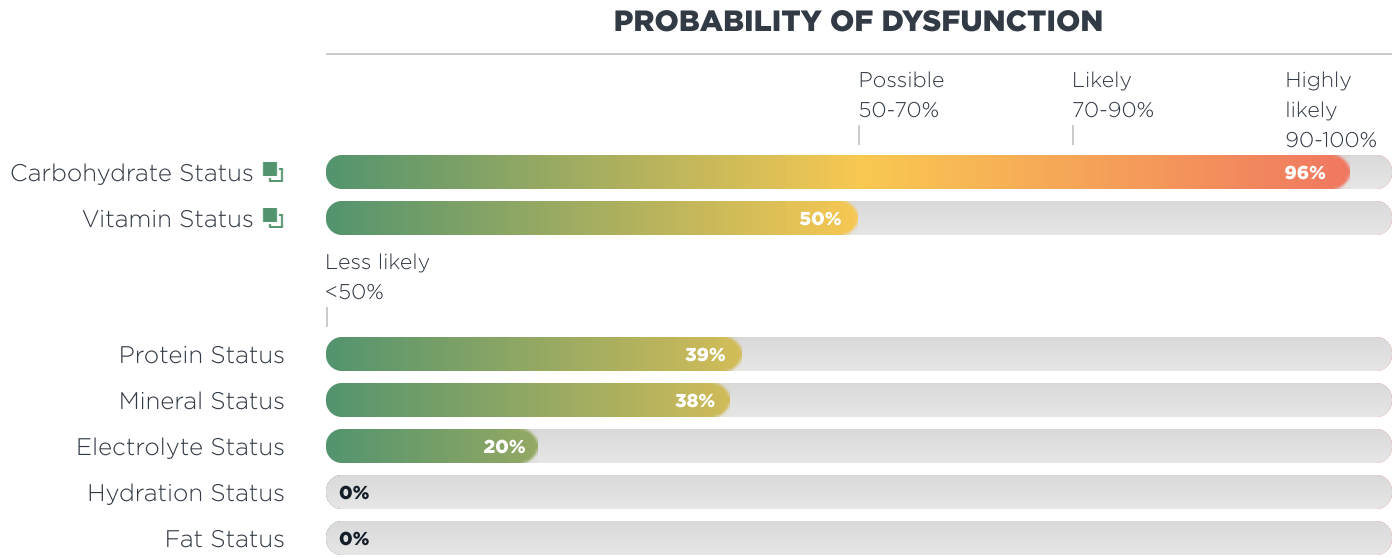
Cholesterol - Total, Triglycerides, LDL Cholesterol, Cholesterol : HDL, Triglyceride:HDL, HDL Cholesterol

Nutrient Status

The Nutrient Status results represent an algorithmic analysis of this blood test. These results have been converted into your individual Nutrient Status Report based on our latest research.

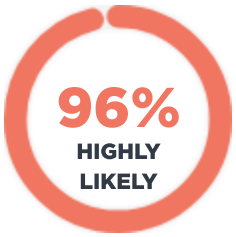
This report gives you an indication of your general nutritional status. The Nutrient Status is influenced by actual dietary intake, digestion, absorption, assimilation, and cellular uptake of the nutrients themselves.

Each Nutrient category that has a probability of dysfunction above 50% is included in the section that follows so you can read a detailed description and individual explanation of the results shown in this report.



Nutrient Status Details

This section contains detailed descriptions and explanations of the results presented in the Nutrient Status report including all the biomarkers considered in the algorithmic analysis and the rationale behind the interpretation.



Dysfunction Highly Likely.
Much improvement required.

CARBOHYDRATE STATUS

The Carbohydrate Status score assesses how your body copes with your dietary intake of carbohydrates, especially refined carbohydrates (white flour, white rice, white pasta, etc.) and sugars. A diet high in refined carbohydrates and sugars will deplete essential nutrients used by the body to handle carbohydrates and may also increase blood glucose and blood fat levels, all of which can be measured in your blood. Your score is high, indicating that you may be experiencing blood sugar dysregulation, and we may need to support this moving forward.

Rationale

Glucose Fasting ↑, Cholesterol - Total ↑, Triglycerides ↑, LDL Cholesterol ↑, HDL Cholesterol ↓

Biomarkers considered

Glucose Fasting, Phosphorus, LDH, Cholesterol - Total, Triglycerides, LDL Cholesterol, HDL Cholesterol, Total WBCs

Dysfunction Possible.
There may be improvement needed in certain areas.

VITAMIN STATUS

You may be in the early stages of vitamin deficiency or need, which may cause an increase in your Vitamin Status score. While this may not require immediate attention, we will want to monitor your vitamin levels on future blood tests.

Rationale

Vitamin D (25-OH) ↓, MCV ↑

Biomarkers considered

Albumin, AST, ALT, GGT, Vitamin D (25-OH), MCV

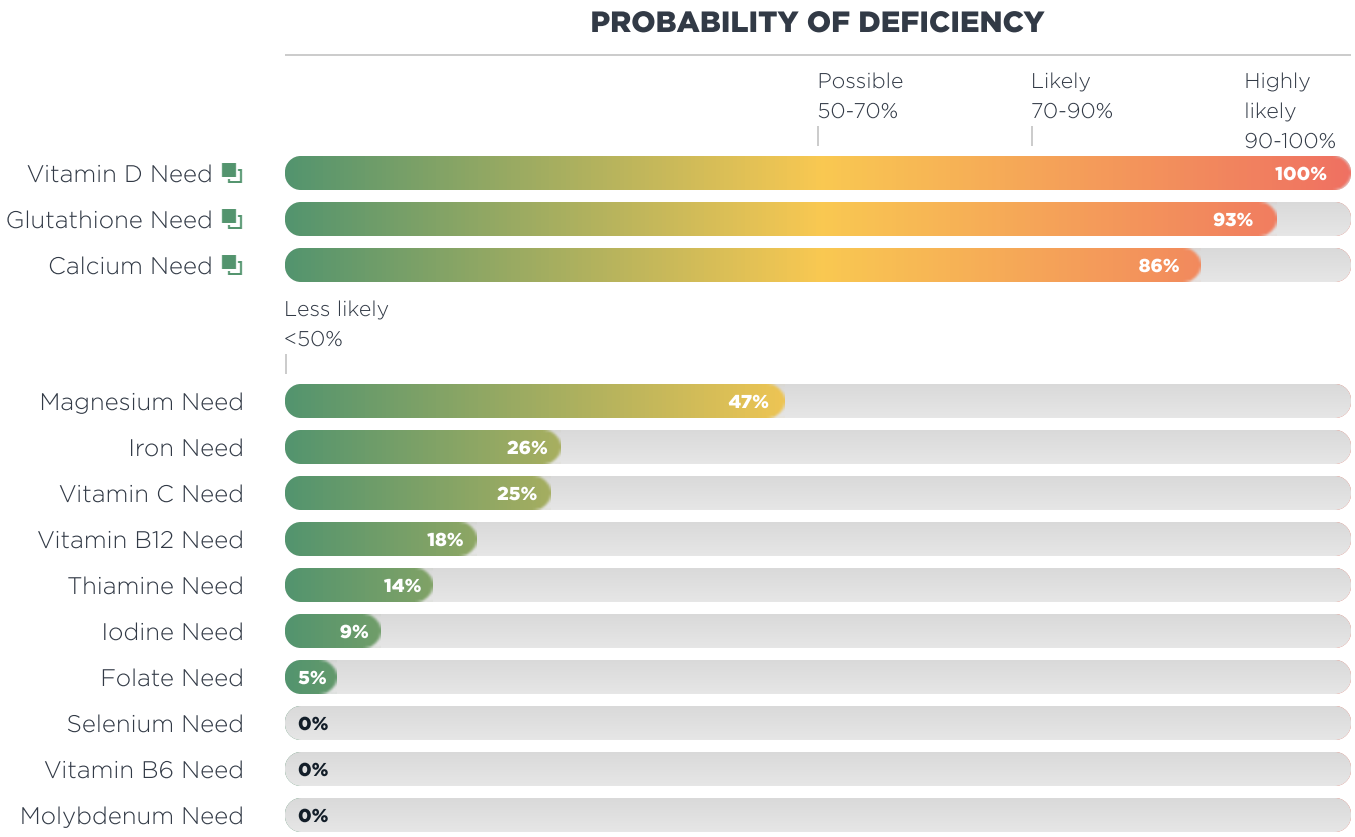
Biomarkers not available in this test - consider having run in future tests:

Homocysteine, Folate - Serum, Vitamin B12, Methylmalonic Acid, Folate - RBC

Individual Nutrient Deficiencies

The scores represent the degree of deficiency for individual nutrients based on your blood results. The status of an individual nutrient is based on a number of factors such as actual dietary intake, digestion, absorption, assimilation and cellular uptake of the nutrients themselves. All of these factors will be taken into consideration before determining whether or not you actually need an individual nutrient.

Each individual Nutrient Deficiency that has a probability of dysfunction above 50% is included in the section that follows so you can read a detailed description and individual explanation of the results shown in this report.



Individual Nutrient Deficiency Details

This section contains detailed descriptions and explanations of the results presented in the Nutrient Deficiencies report including all the biomarkers considered in the algorithmic analysis and the rationale behind the interpretation.

Deficiency Highly Likely. Much improvement required.

VITAMIN D NEED

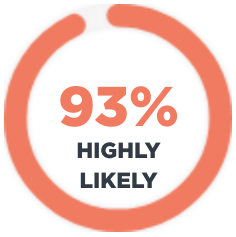
Your blood test results show a high need for vitamin D, indicating that you are very likely not getting enough of this important vitamin. Low vitamin D levels can lead to bone pain, muscle weakness, getting sick more often, and feeling tired. To boost your vitamin D levels, try to spend some time in the sun and eat foods rich in vitamin D, like fatty fish (salmon, mackerel), fortified dairy products, and egg yolks. If you have conditions that limit your sun exposure or affect your ability to absorb vitamin D, or if you have darker skin or are overweight, it might be harder for you to get enough vitamin D.

Rationale

Vitamin D (25-OH) ↓

Biomarkers considered

Vitamin D (25-OH)



Deficiency Highly Likely. Much improvement required.

GLUTATHIONE NEED

Your blood test results show a high need for glutathione, indicating that you are very likely not getting enough of this important antioxidant. Low glutathione levels can lead to problems like increased oxidative stress, fatigue, and a weakened immune system. To help improve your glutathione levels, focus on a diet rich in sulfur-containing foods like garlic, onions, and cruciferous vegetables (broccoli, kale), as well as foods high in antioxidants like fruits and vegetables. If you have conditions that increase oxidative stress or affect your body's ability to produce glutathione, it might be harder to maintain adequate levels.

Rationale

GGT ↑

Biomarkers considered

GGT

Biomarkers not available in this test - consider having run in future tests:

Glutathione - Total

Deficiency Likely.
Improvement required.

CALCIUM NEED

Your blood test results suggest you are likely not getting enough calcium, which can affect your bone health and muscle function. To help prevent further decline in calcium levels, include more calcium-rich foods, such as dairy products, leafy green vegetables, and fortified foods. Some conditions, like digestive issues or a low intake of vitamin D (which helps your body absorb calcium), can make it harder for your body to maintain adequate calcium levels.

Rationale

Calcium : Phosphorus ↓, Phosphorus ↑, Vitamin D (25-OH) ↓

Biomarkers considered

Calcium, Calcium : Phosphorus, Phosphorus, Vitamin D (25-OH)

4

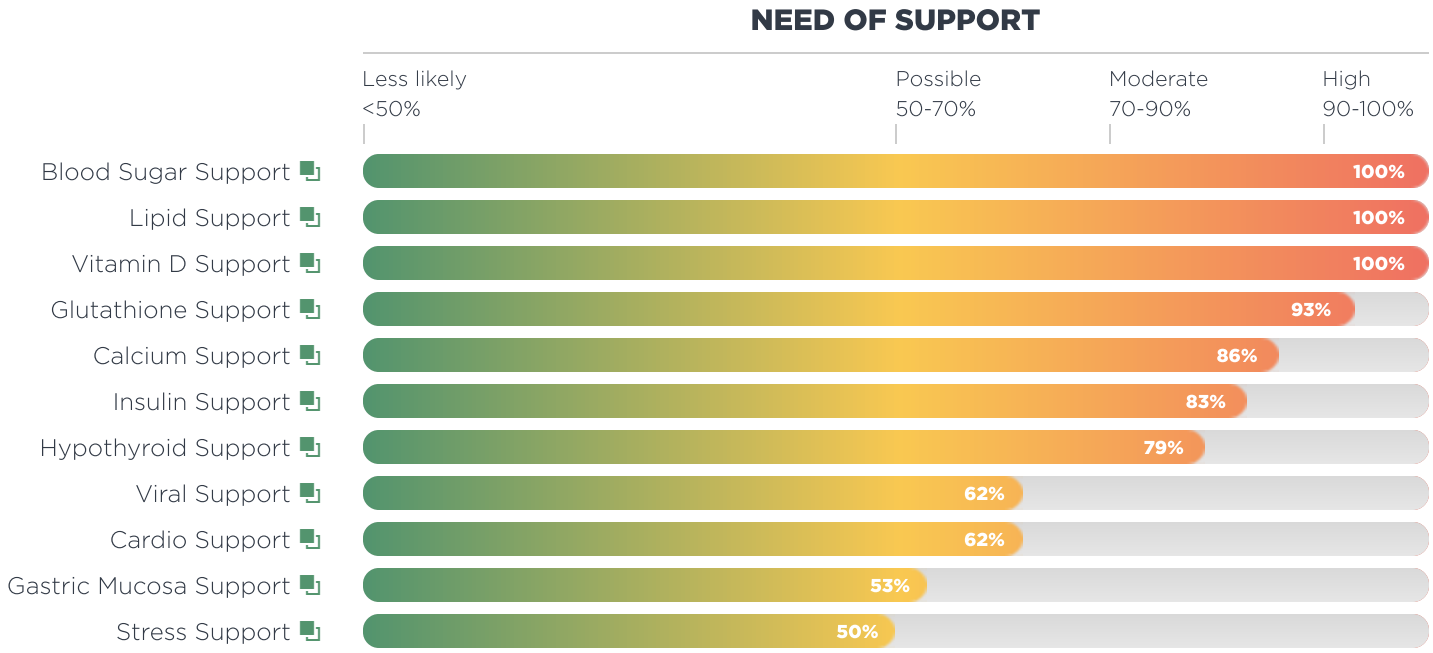
The Health Concerns report takes all the information on this report and focuses on the top areas that need the most support.

Health Concerns

Health Concerns Report

The Health Concerns Report takes all the information in this report and focuses on the top areas that need the most support.

Each health concern is included in the following section so you can read an explanation of the results shown in this report.



Health Concerns Details

This section contains an explanation of the results presented in the Health Concerns Report including all the biomarkers considered in the analysis and the rationale behind the interpretation.

BLOOD SUGAR SUPPORT

The results of your blood test indicate a tendency towards blood sugar dysregulation and a need for blood sugar support.

Rationale

Glucose Fasting ↑, Triglycerides ↑, Cholesterol - Total ↑, LDL Cholesterol ↑, HDL Cholesterol ↓

LIPID SUPPORT

The results of your blood test indicate that you have higher than optimal levels of cholesterol and fat in your blood (a condition called hyperlipidemia), which is associated with an increased risk of cardiovascular disease. There is a need for cardiovascular support, especially support to help lower excessive blood fats.

Rationale

Cholesterol - Total ↑, Triglycerides ↑, LDL Cholesterol ↑, Cholesterol : HDL ↑, Triglyceride:HDL ↑, HDL Cholesterol ↓

VITAMIN D SUPPORT

The results of your blood test indicate that your vitamin D levels might be lower than optimal and shows a need for vitamin D supplementation.

Rationale

Vitamin D (25-OH) ↓

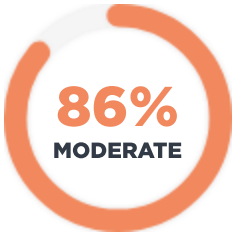
GLUTATHIONE SUPPORT

The results of your blood test indicate that your glutathione levels might be lower than optimal and may show a need for glutathione supplementation.

Rationale

GGT ↑

CALCIUM SUPPORT

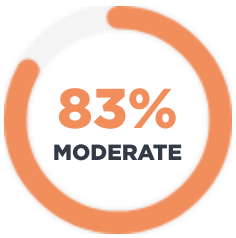


The results of your blood test indicate that your calcium levels might be lower than optimal and shows a need for calcium supplementation.

Rationale

Calcium : Phosphorus ↓, Phosphorus ↑, Vitamin D (25-OH) ↓

INSULIN SUPPORT

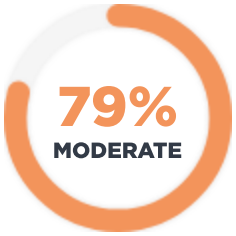


The results of this blood test indicate a tendency towards insulin resistance and a need for insulin support.

Rationale

Triglycerides ↑, Triglyceride:HDL ↑, Glucose Fasting ↑, Cholesterol - Total ↑

HYPOTHYROID SUPPORT



The results of your blood test indicate a tendency towards hypothyroidism and a need for thyroid gland support.

Rationale

TSH ↑, Cholesterol - Total ↑, Triglycerides ↑

VIRAL SUPPORT

The results of your blood test indicate a tendency towards a viral infection and a need for immune support.

Rationale

Lymphocytes - % ↑, Monocytes - % ↑, Neutrophils - % ↓

CARDIO SUPPORT

The results of your blood test indicate a higher than optimal cardiovascular risk and show a need for cardiovascular support.

Rationale

Triglyceride:HDL ↑, Glucose Fasting ↑, Cholesterol - Total ↑, Triglycerides ↑, LDL Cholesterol ↑, HDL Cholesterol ↓, Vitamin D (25-OH) ↓

GASTRIC MUCOSA SUPPORT

The results of your blood test indicate a tendency towards gastric inflammation and a need for support for the stomach lining.

Rationale

Protein - Total ↓, Creatinine ↓, Albumin ↓, Basophils - % ↑

STRESS SUPPORT

The results of your blood test indicate a tendency towards adrenal stress and adrenal hyperfunction and a need for adrenal gland support.

Rationale

Potassium ↓, Sodium : Potassium ↑

5

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