

A Comprehensive Analysis Of Your Test Results

AI Based Personalized Report For You.



YOUR

Functional Health

Report

Patient Report

Name

Christina whetsel

Age

Female, 55 Years

Sample Collection Date

Dec 06, 2025

Lab

Quest

Powered By

VITALSVault

01



An Introduction To Functional Blood Chemistry Analysis And Your Functional Health Report (FHR).

INTRODUCTION

———— What's Inside

———— FBCA Introduction

———— Patient Report

INTRODUCTION

What's Inside

SECTION 1: INTRODUCTION

An Introduction To Functional Blood Chemistry Analysis And Your Functional Health Report

- What's Inside
- FBCA Introduction
- Patient Report

SECTION 3: ASSESSMENT

An In-Depth Functional System And Nutrient Evaluation.

- Functional Blood Systems
- Accessory Systems
- Nutrient Status
- Nutrient Deficiencies

SECTION 5: DISCLAIMER

Additional Information Pertinent To This Report.

- Disclaimer

SECTION 2: ANALYSIS

An In-Depth Analysis If Your Biomarker Results.

- Blood Test Results
- Out Of Optimal Range
- Blood Test Comparative

SECTION 4: HEALTH CONCERNS

The Health Concerns That Need The Most Support.

- Health Concerns

Functional blood chemistry analysis (FBCA)

Functional Blood Chemistry Analysis (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 Clearer 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 At How It Could Be Working Better. 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.

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 Comprehensive. It's A Cornerstone Of Wellness Diagnostics And 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're Told "Your Blood Test Looks Normal," Even When You Don't Feel Right.

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 To Identify Biomarkers That Could Indicate A Shift In Your Physiological Function And Identify What Might Be Preventing You From Reaching Your Best Physiological Biochemical Health. Unlike Traditional Methods, Which Often Wait Until A Problem Becomes Severe, Functional Blood Chemistry Analysis Uses Trends And Relationships Between Biomarkers To Uncover Hidden Risks And Opportunities For Improving Your Health.

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 Be Experiencing Symptoms—Fatigue, Brain Fog, Or Digestive Issues—That Are Rooted In Functional Imbalances, 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—But With 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 Your Best 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 Indications 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 summary

Your Report Is The Result Of A Detailed And Proprietary Algorithmic Analysis Of Your Complex And Comprehensive Blood Biomarkers.

THE FUNCTIONAL HEALTH REPORT

Your Report Provides A Comprehensive Interpretation Of The Results In Written And Graphical Format. The Report Gives You A Roadmap To Understand Your Health In Its Most Accessible And Physiological Systems Of The Body. In 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 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.



02



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

———— Out Of Optimal Range

———— Blood Test Comparative

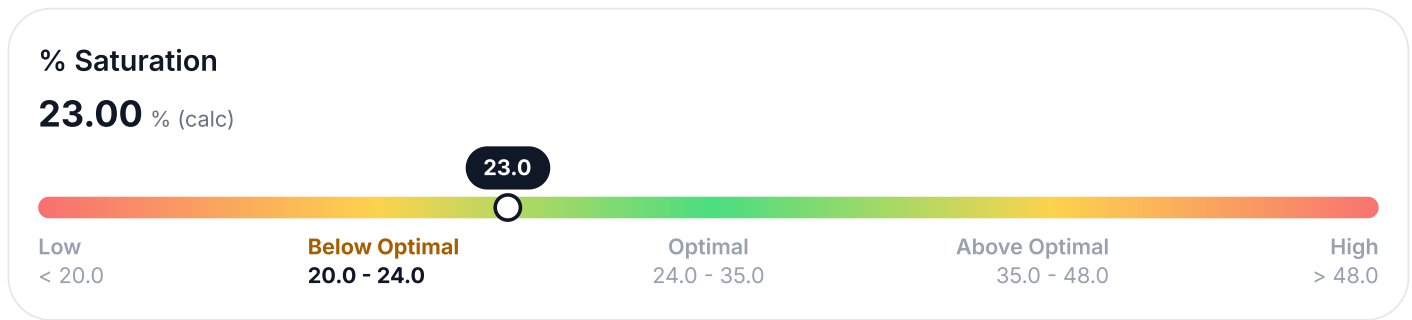
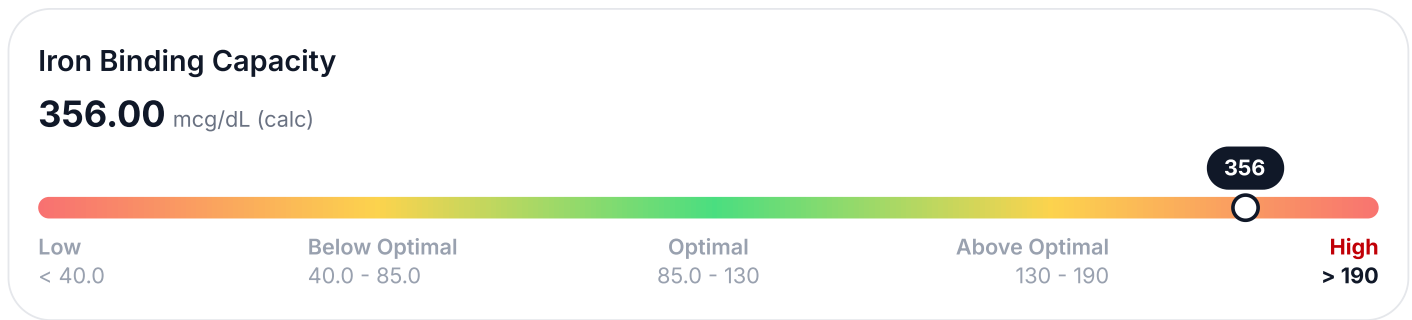
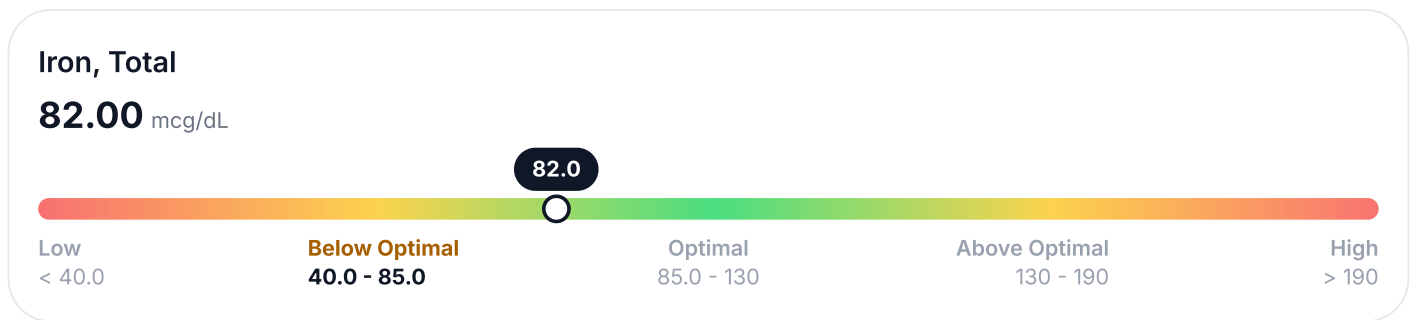
The Blood Test Results Report Lists The Results From Your Chemistry Screen And CBC And Shows You Whether Or Not An Individual Biomarker Is Optimal, Outside Of The Optimal Range, Or Outside Of The Standard Range. The Biomarkers Are Grouped In Their Most Common Categories.

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

Total Biomarkers 117 :

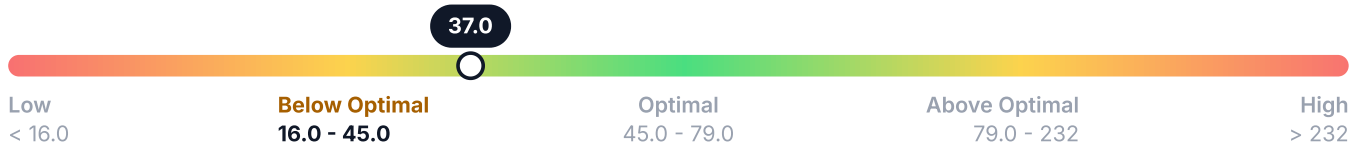


Nutrients, Vitamins & Minerals



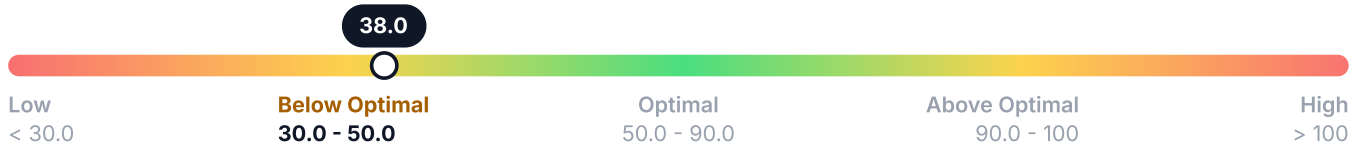
Ferritin

37.00 ng/mL



Vitamin D, 25-Oh, Total

38.00 ng/mL



Vitamin B12

258.00 pg/mL



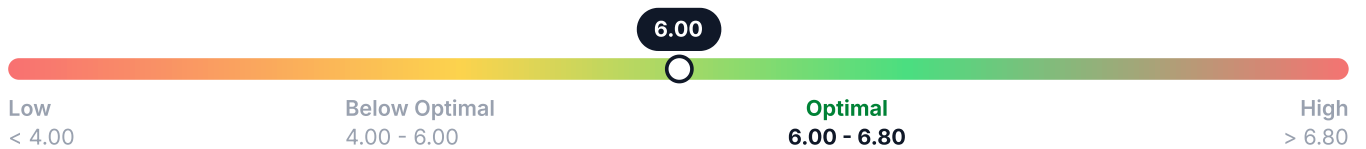
Folate, Serum

9.20 ng/mL



Magnesium, RBC

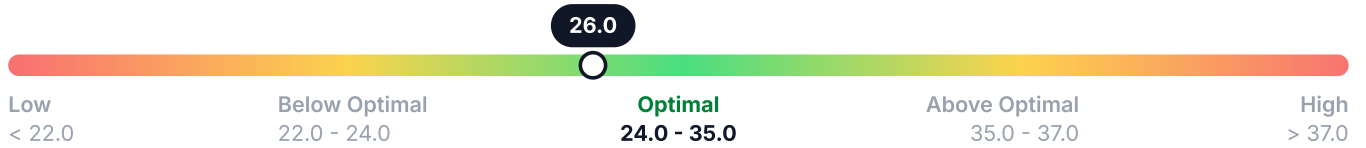
6.00 mg/dL



Thyroid Health

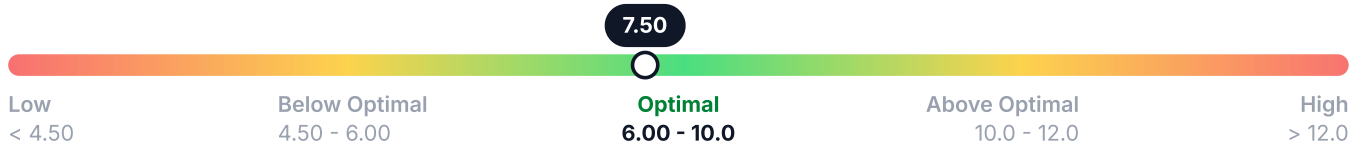
T3 Uptake

26.00 %



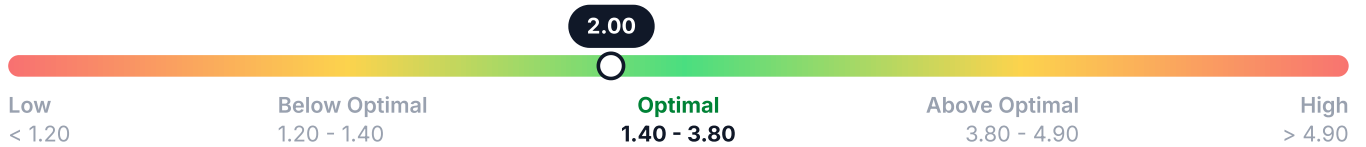
T4 (THYROXINE), Total

7.50 mcg/dL



Free T4 Index (T7)

2.00



TSH

1.69 mIU/L



Heart Health

Cholesterol, Total

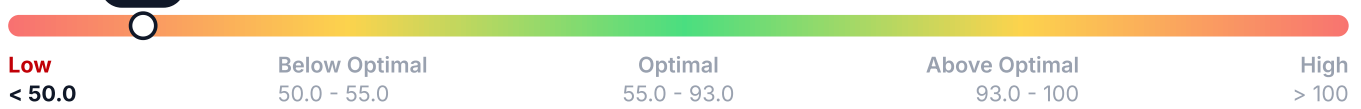
182.00 mg/dL



HDL Cholesterol

44.00 mg/dL

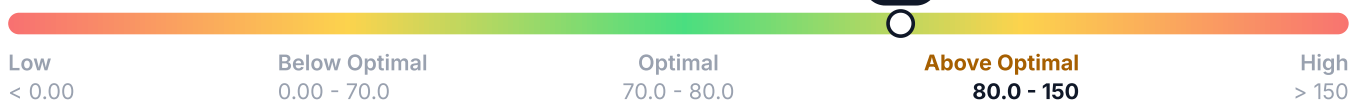
44.0



Triglycerides

103.00 mg/dL

103



LDL-Cholesterol

117.00 mg/dL (calc)

117



Chol/Hdlc Ratio

4.10 calc

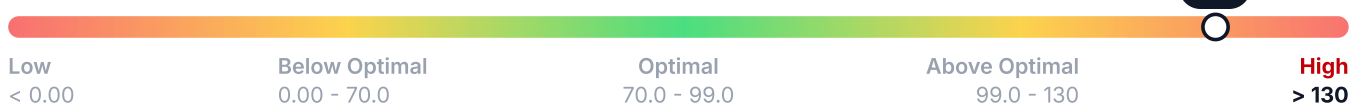
4.10



Non HDL Cholesterol

138.00 mg/dL (calc)

138

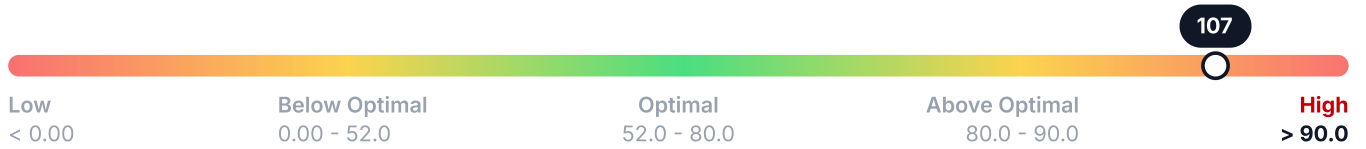


Lipoprotein (A)

<10

Apolipoprotein B

107.00 mg/dL



Hormonal Health

Testosterone, Total, Ms

9.00 ng/dL



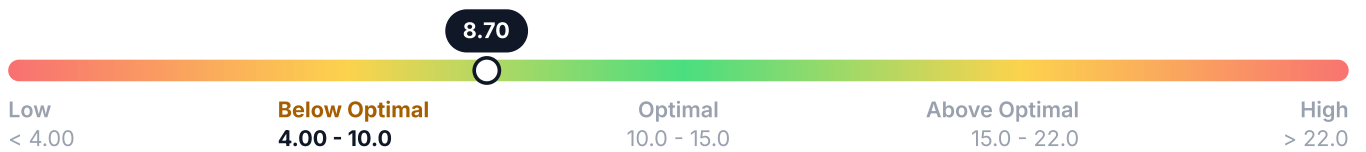
Testosterone, Free

1.00 pg/mL



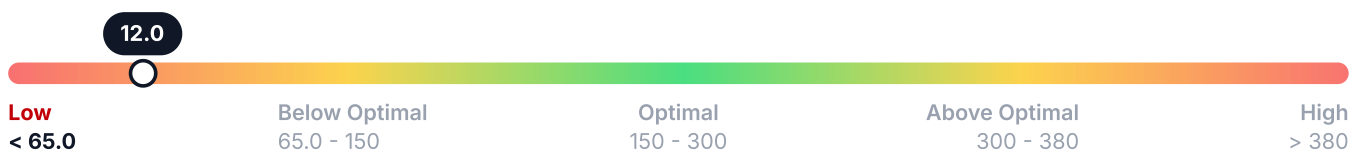
Cortisol, Total

8.70 mcg/dL



DHEA Sulfate

12.00 mcg/dL

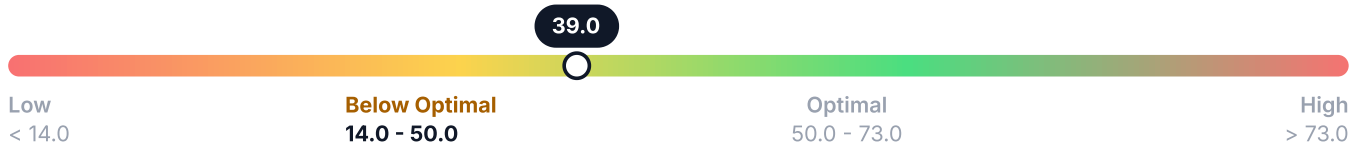


Estradiol

<30

Sex Hormone Binding Globulin

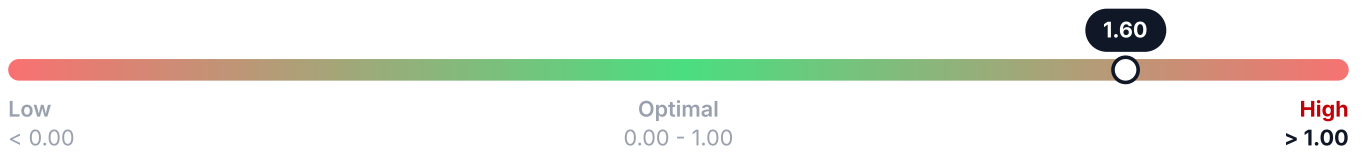
39.00 nmol/L



Inflammation & Immunity

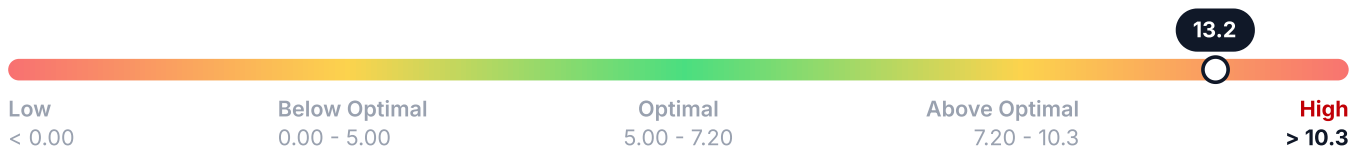
Hs CRP

1.60 mg/L



Homocysteine

13.20 umol/L



Sed Rate By Modified Westergren

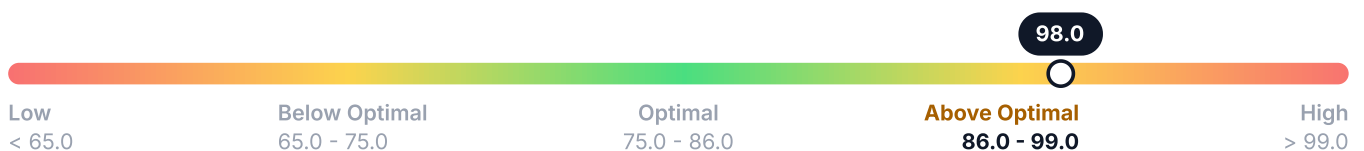
6.00 mm/h



Kidney Health

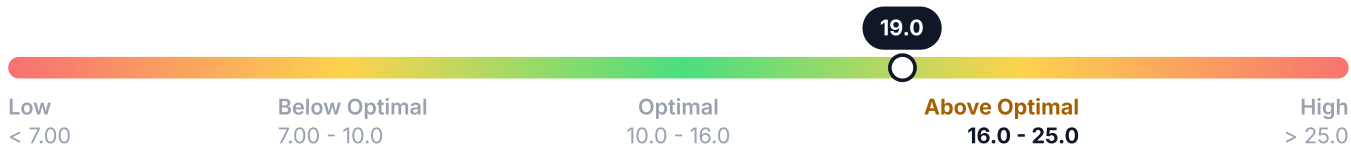
Glucose

98.00 mg/dL



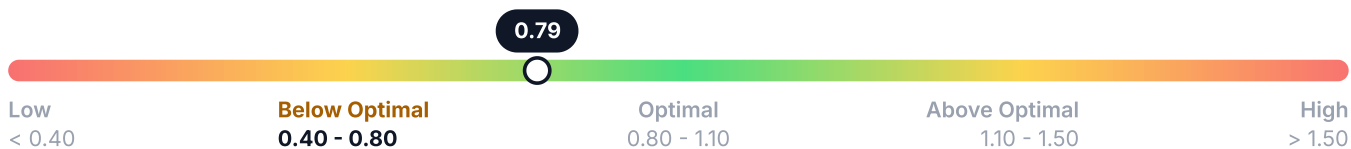
Urea Nitrogen (BUN)

19.00 mg/dL



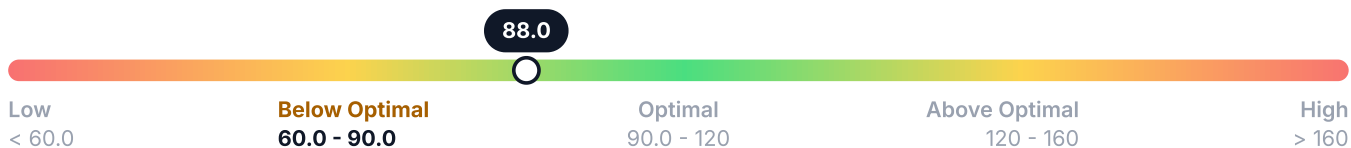
Creatinine

0.79 mg/dL



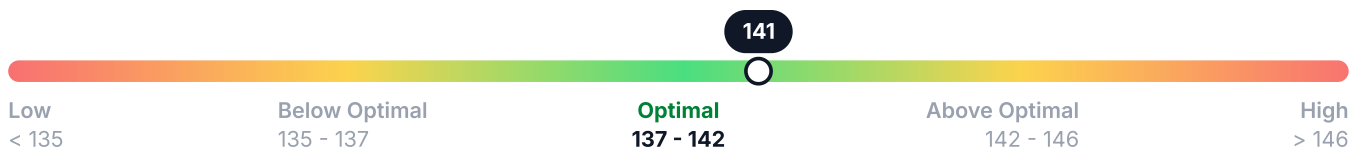
eGFR

88.00 mL/min/1.73m²



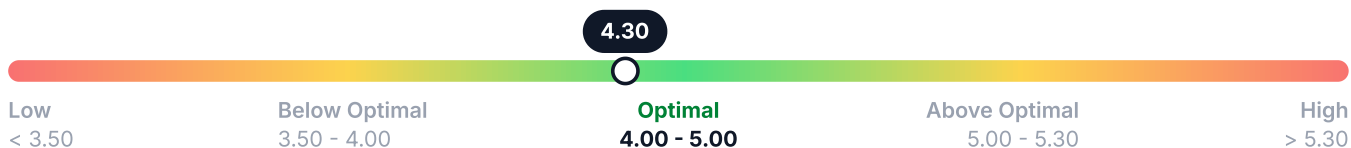
Sodium

141.00 mmol/L



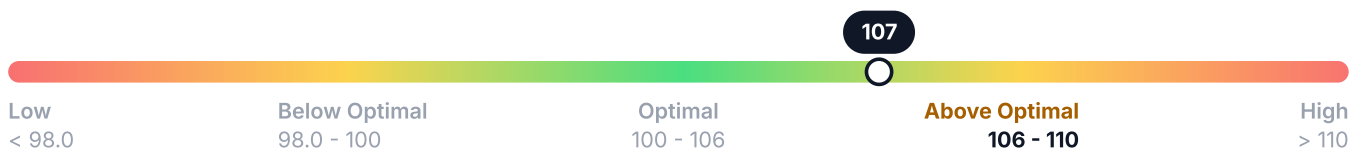
Potassium

4.30 mmol/L



Chloride

107.00 mmol/L



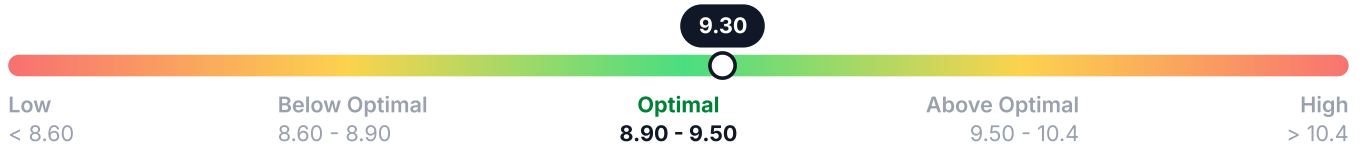
Carbon Dioxide

27.00 mmol/L



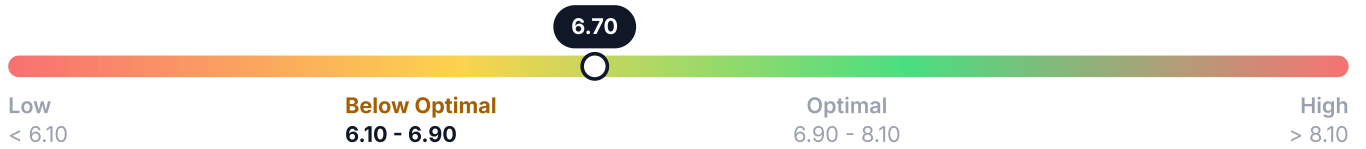
Calcium

9.30 mg/dL



Protein, Total

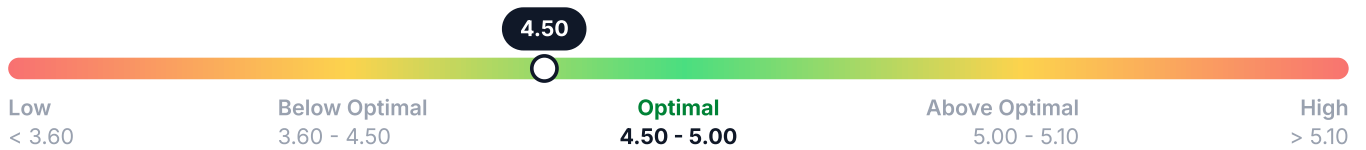
6.70 g/dL



Liver Health

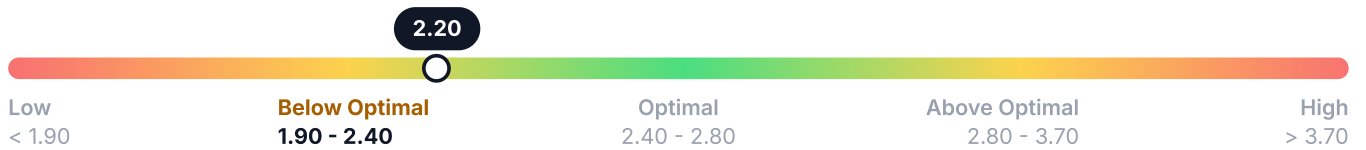
Albumin

4.50 g/dL



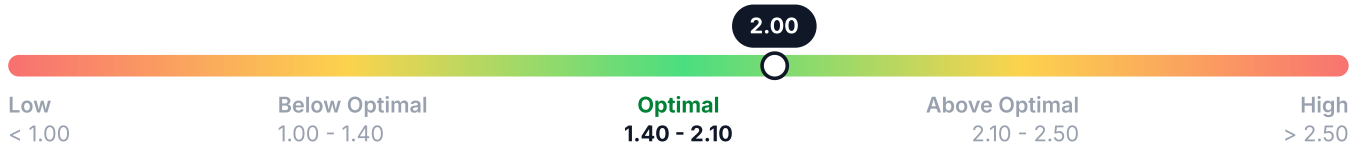
Globulin

2.20 g/dL (calc)



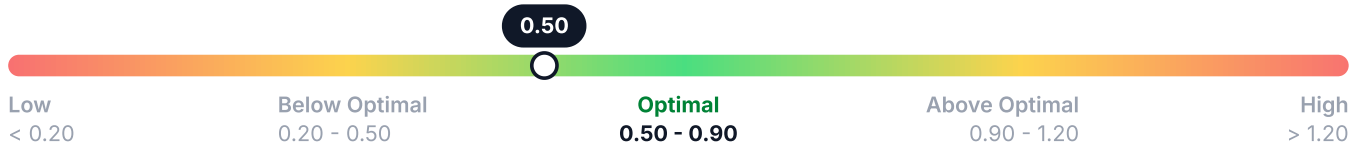
Albumin/Globulin Ratio

2.00 (calc)



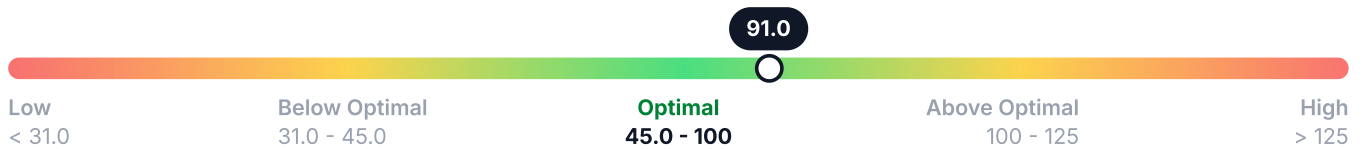
Bilirubin, Total

0.50 mg/dL



Alkaline Phosphatase

91.00 U/L



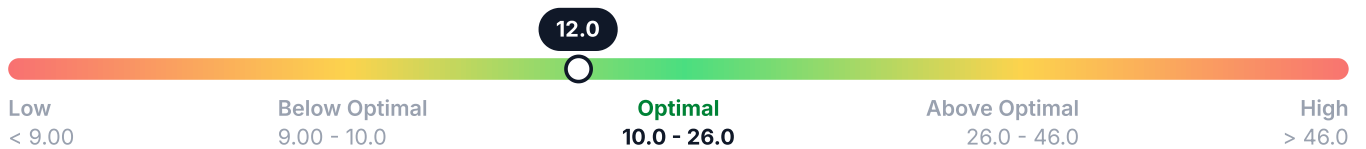
AST

12.00 U/L



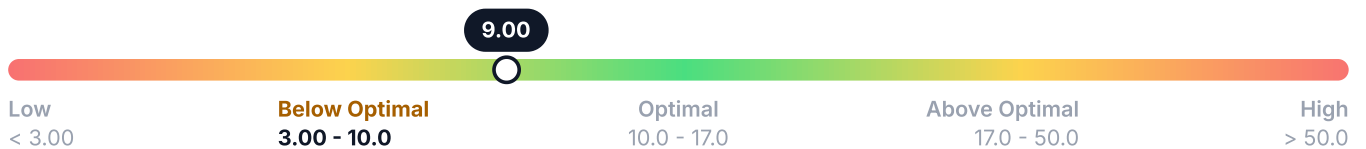
ALT

12.00 U/L



GGT

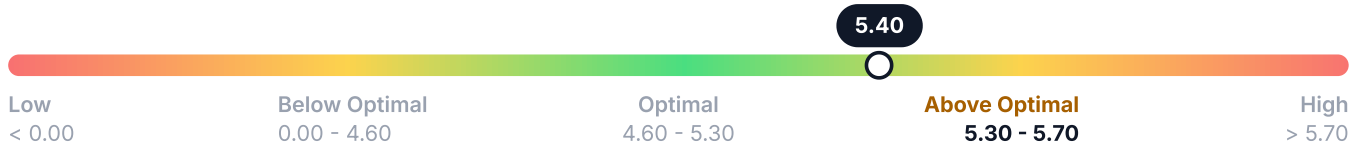
9.00 U/L



Energy & Metabolism

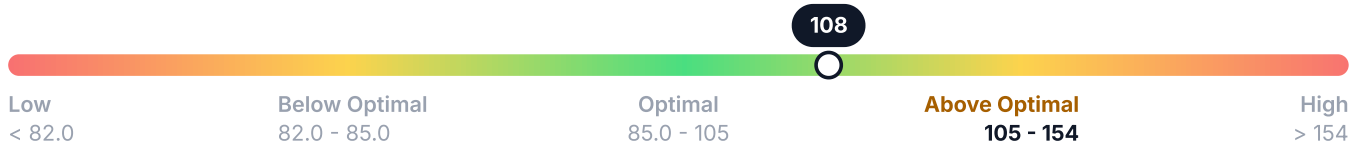
Hemoglobin A1c

5.40 %



Eag (MG/DL)

108.00 mg/dL



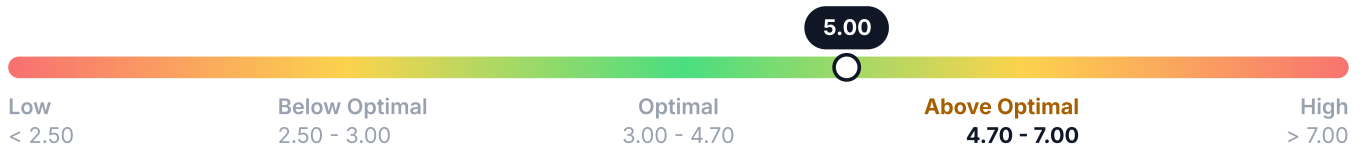
Eag (MMOL/L)

6.00 mmol/L

No range data available

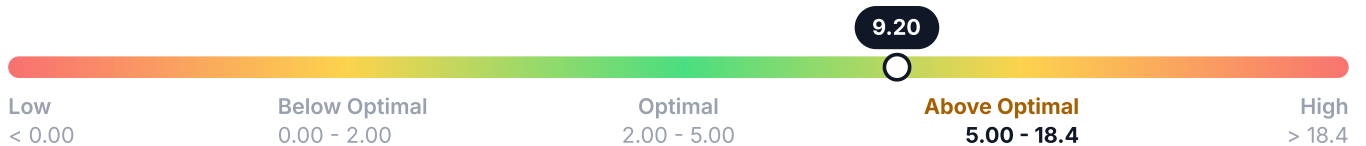
Uric Acid

5.00 mg/dL



Insulin

9.20 uIU/mL



Blood Health

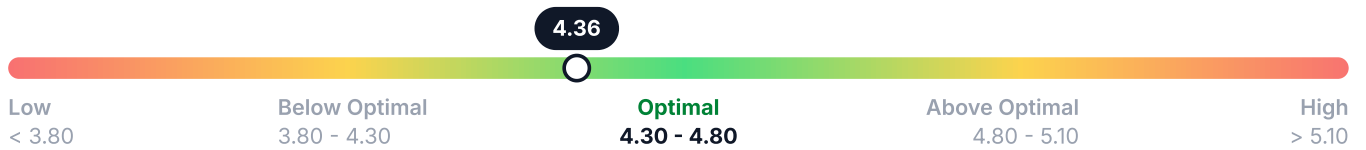
White Blood Cell Count

4.30 Thousand/uL



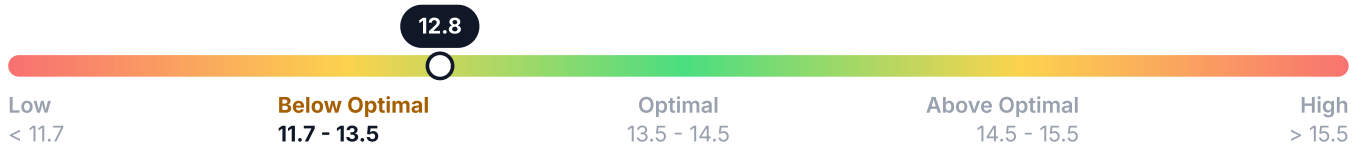
Red Blood Cell Count

4.36 Million/uL



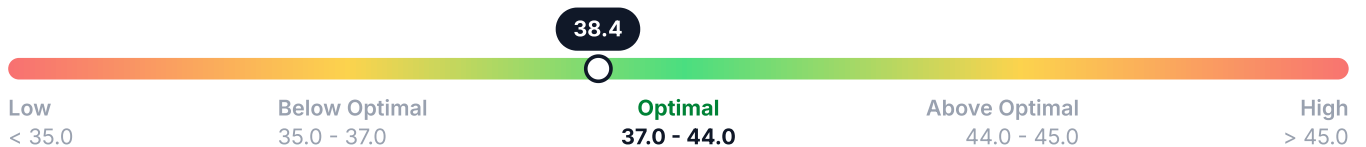
Hemoglobin

12.80 g/dL



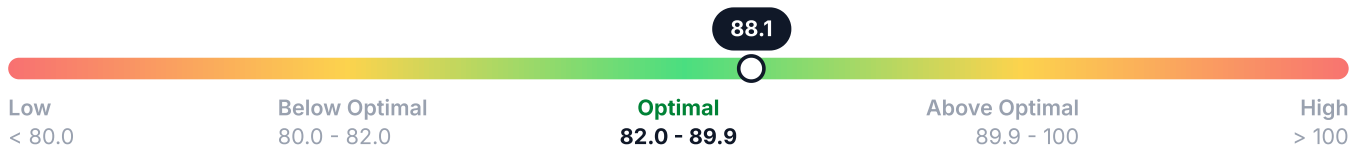
Hematocrit

38.40 %



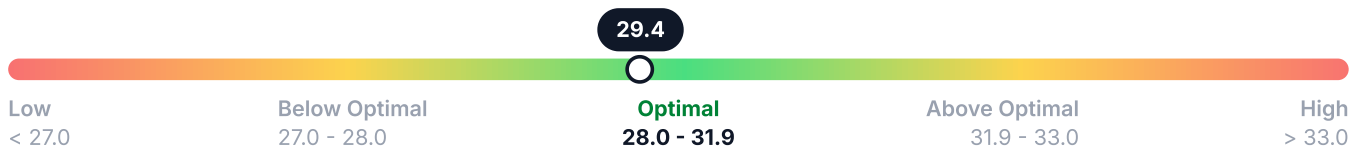
MCV

88.10 fL



MCH

29.40 pg



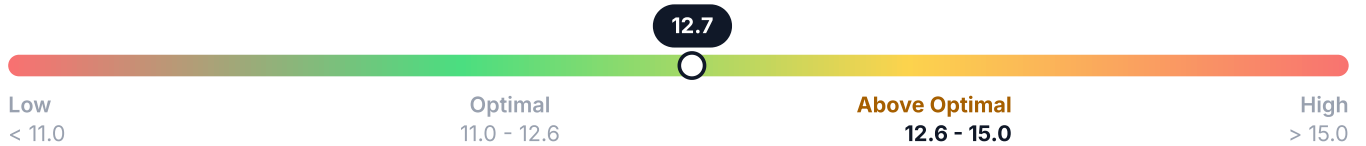
MCHC

33.30 g/dL



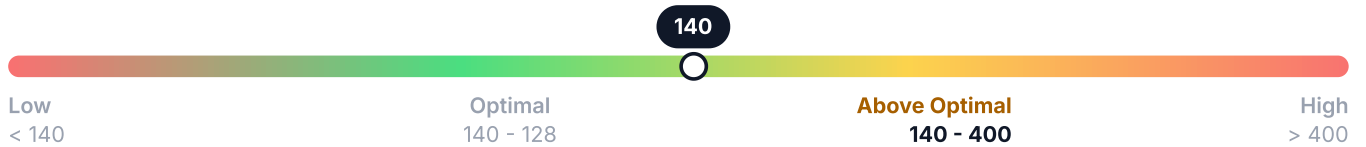
RDW

12.70 %



Platelet Count

140.00 Thousand/uL



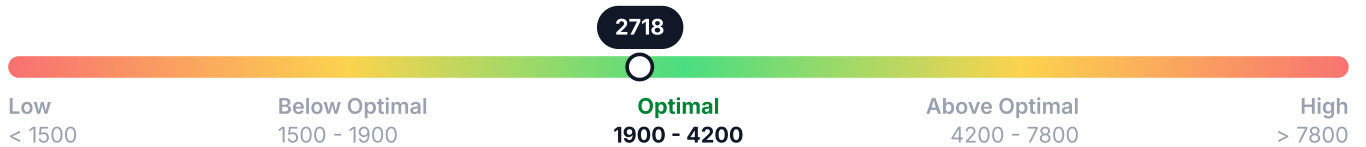
MPV

14.40 fL



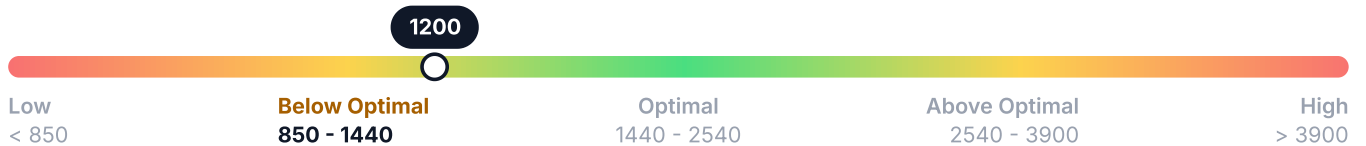
Absolute Neutrophils

2718.00 cells/uL



Absolute Lymphocytes

1200.00 cells/uL



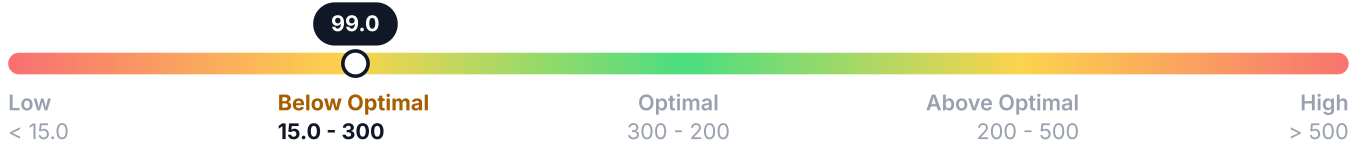
Absolute Monocytes

262.00 cells/uL



Absolute Eosinophils

99.00 cells/uL



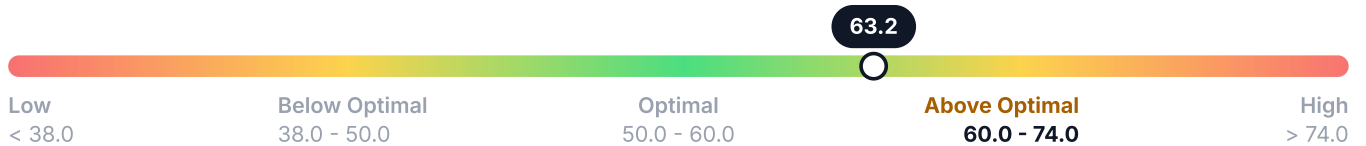
Absolute Basophils

22.00 cells/uL



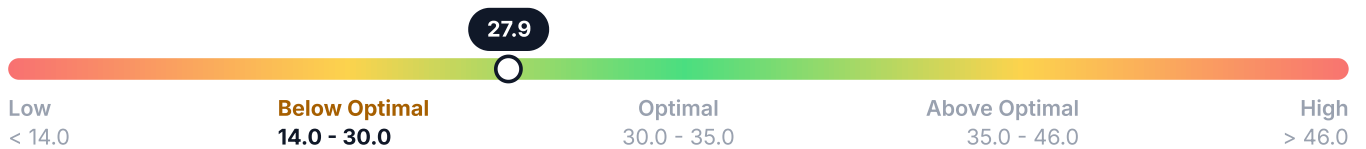
Neutrophils

63.20 %



Lymphocytes

27.90 %



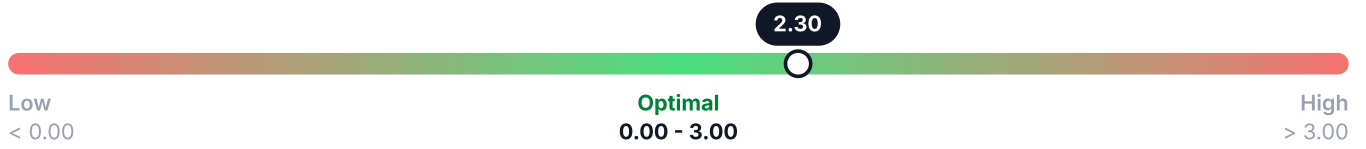
Monocytes

6.10 %



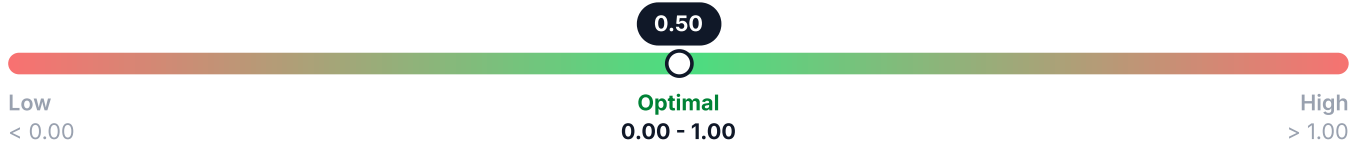
Eosinophils

2.30 %



Basophils

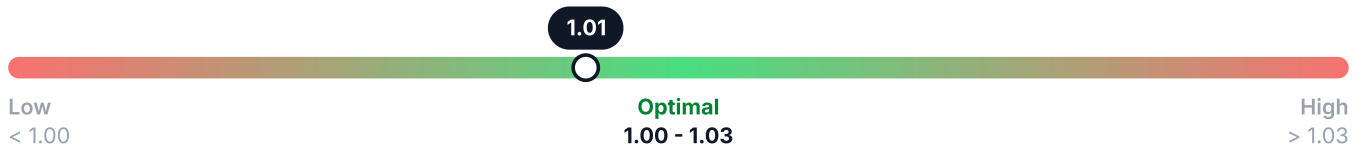
0.50 %



Urine

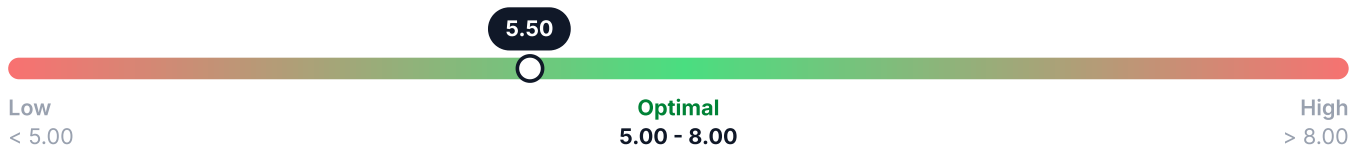
Specific Gravity

1.01



Ph

5.50



Leukocyte Esterase

1+

WBC

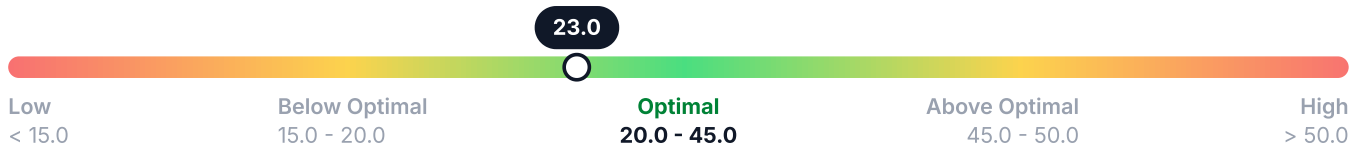
6-10

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

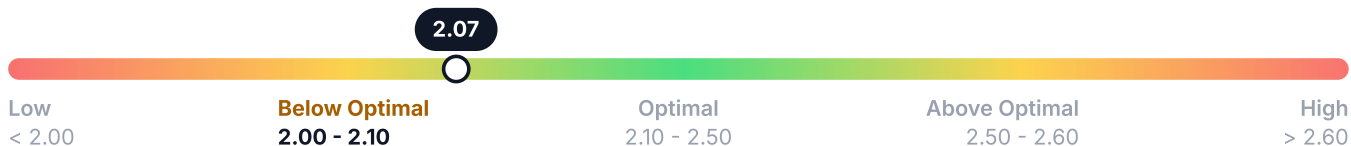
% Saturation

23.03 %



Calcium:Albumin Ratio

2.07 ratio



Ferritin-To-Albumin Ratio (FAR)

8.22 ratio

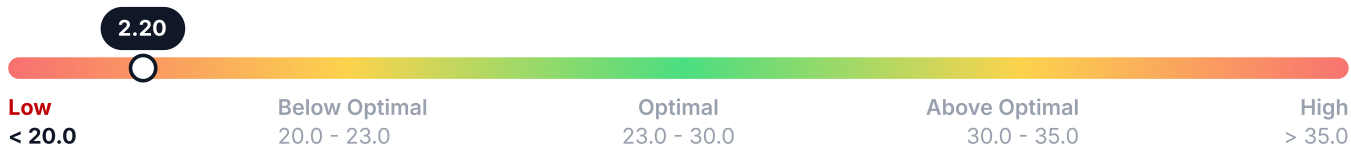


LIVER AND GB

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.

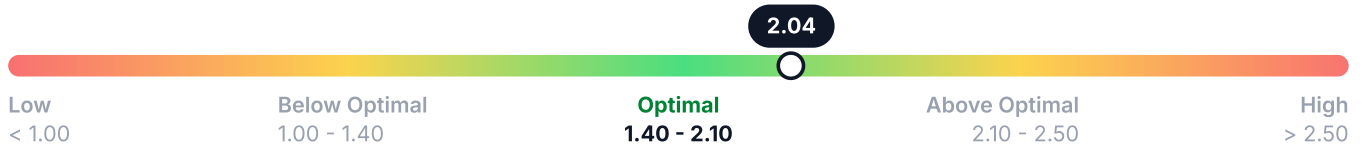
Globulin

2.20 g/L



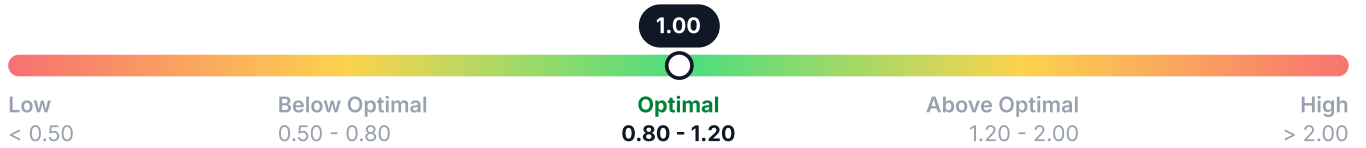
Albumin/Globulin Ratio

2.04 ratio



AST:ALT Ratio

1.00 ratio



Bilirubin-To-Albumin Ratio (BAR)

0.11 ratio



GGT/HDL Ratio

0.20 ratio

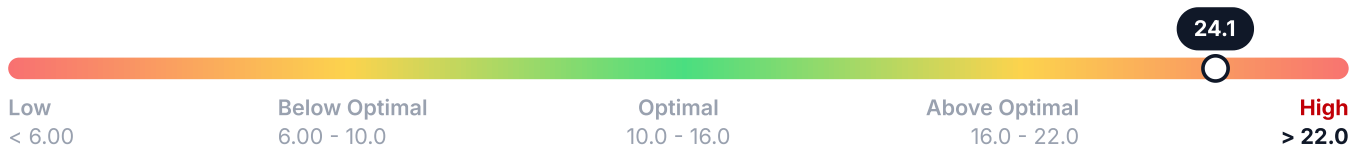


KIDNEY

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.

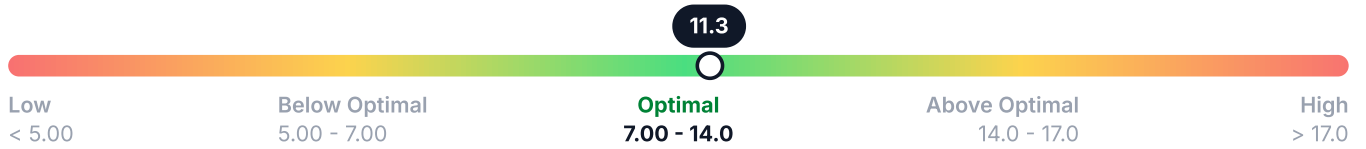
BUN/Creatinine Ratio

24.05 mg/mg{creat}



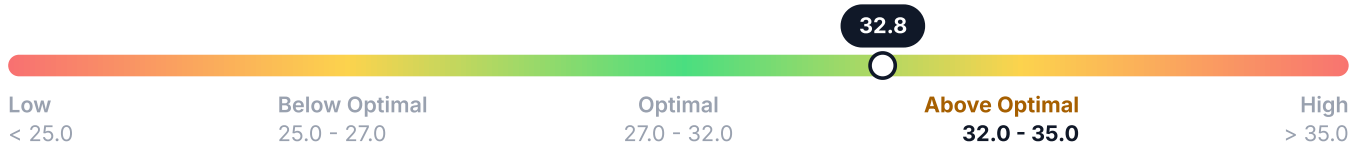
Anion Gap

11.30 mmol/L



Sodium:Potassium Ratio

32.79 ratio



IMMUNE SYSTEM

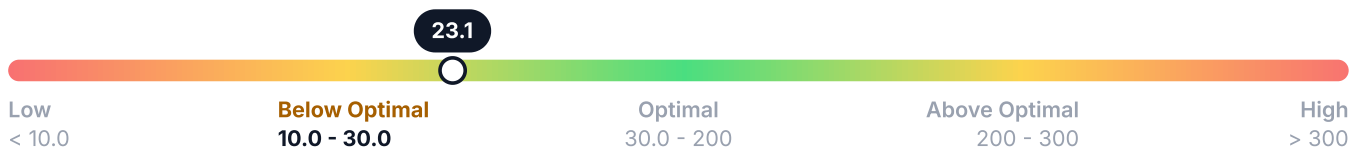
CRP/Albumin Ratio (CAR)

0.36 ratio



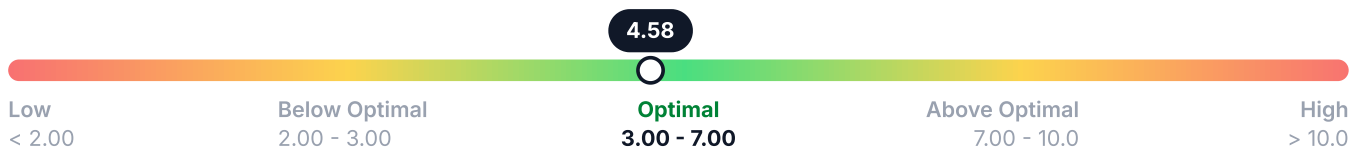
Ferritin/CRP Ratio

23.13 ratio



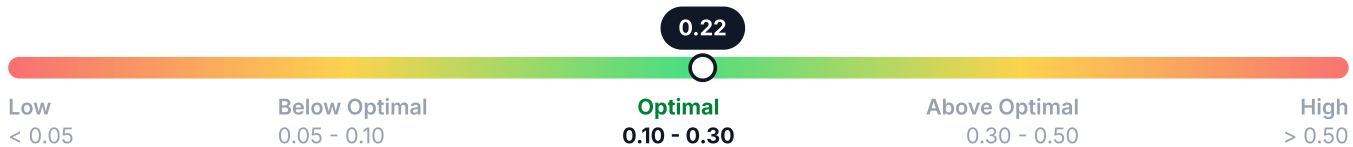
Lymphocyte-To-Monocyte Ratio (LMR)

4.58 ratio



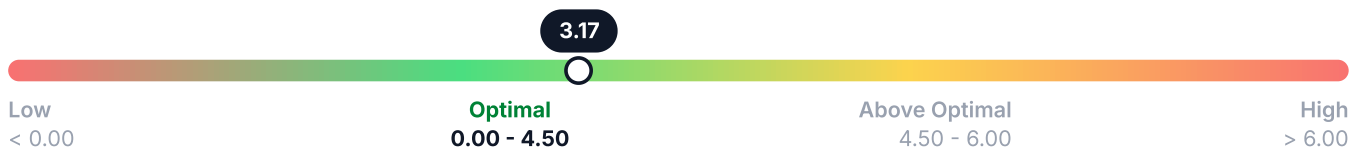
Monocyte-To-Lymphocyte Ratio (MLR)

0.22 ratio



Neutrophil-To-Lymphocyte & Platelet Ratio (NLPR)

3.17 ratio



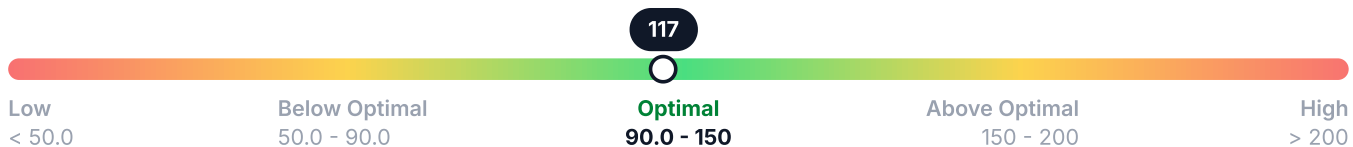
Nlr (NEUTROPHIL:LYMPHOCYTE)

2.27 ratio



Plr (PLATELET:LYMPHOCYTE)

116.67 ratio



Systemic Immune-Inflammation Index (SII)

317.10 ratio



Systemic Inflammation Response Index (SIRI)

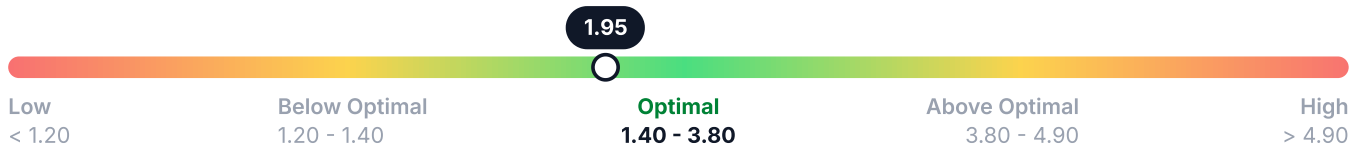
0.59 ratio



HORMONES

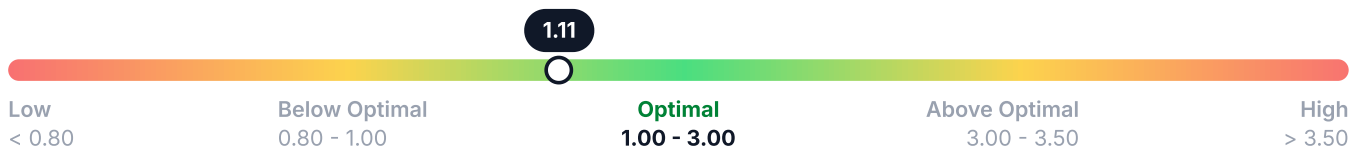
Free T4 Index (T7)

1.95 {Index_val}



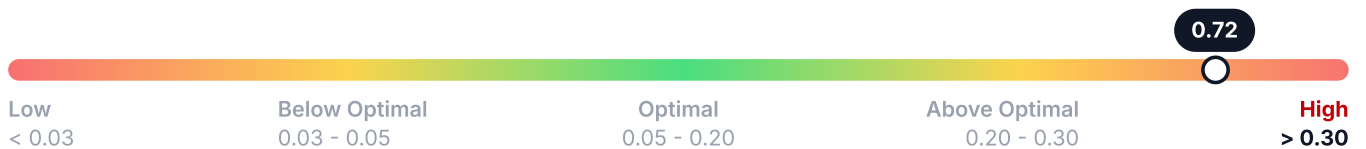
% Testosterone Free

1.11 %



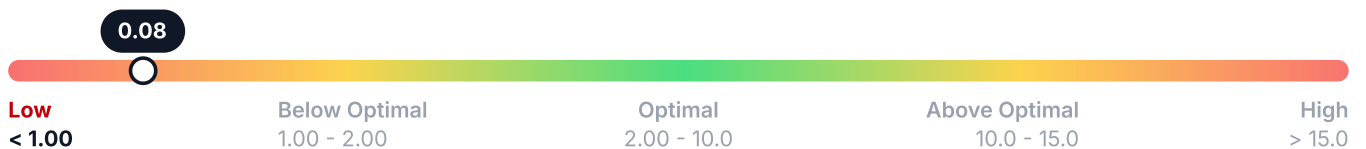
Cortisol:dhea-S Ratio

0.72 ratio



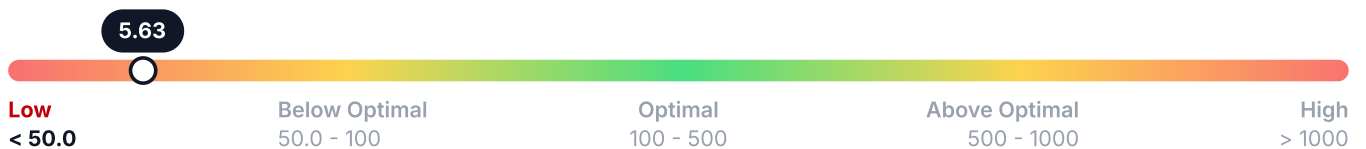
Testosterone/APOB Ratio

0.08 ratio



Testosterone/CRP Ratio

5.63 ratio



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.

LDL Cholesterol

117.40 mg/dL



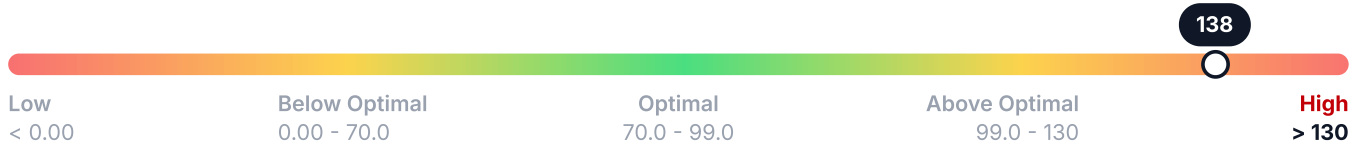
Chol/hdl-C Ratio

4.14 ratio



Non-HDL Cholesterol

138.00 mg/dL



Cholesterol VLDL

20.60 mg/dL



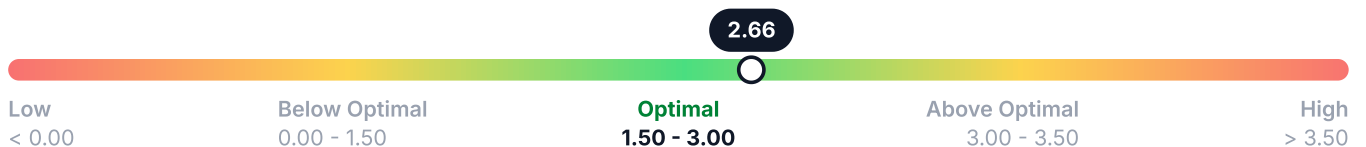
Atherogenic Index (AIP)

0.37 ratio



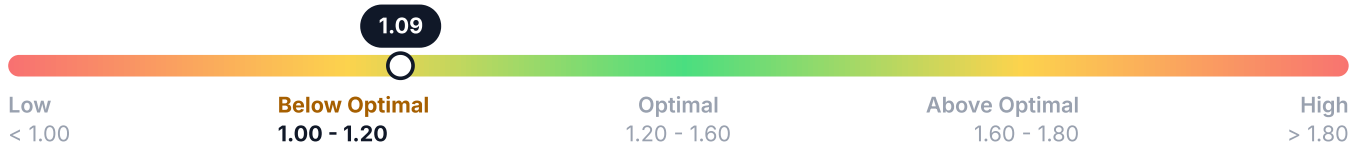
LDL:HDL Ratio

2.66 ratio



LDL-C/apob Ratio

1.09 ratio



Non-Hdl/total Cholesterol Ratio

0.76 ratio



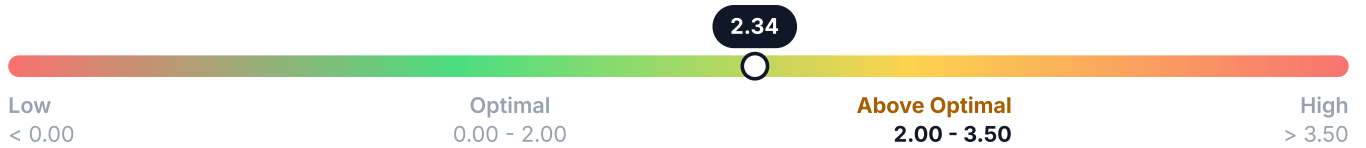
Total Cholesterol/HDL Ratio

4.14 ratio



Triglyceride:HDL Ratio

2.34 ratio

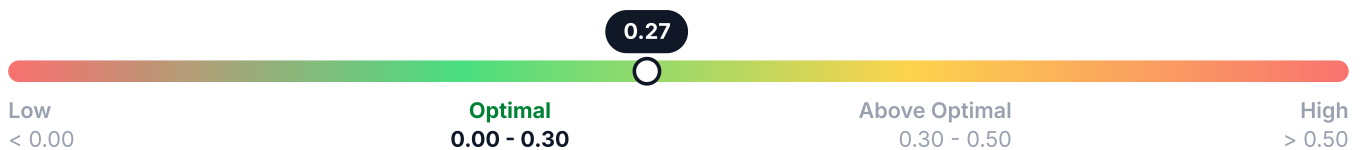


METABOLIC

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.

Glycation Gap

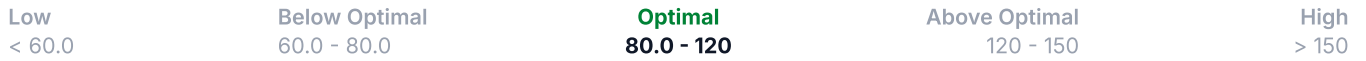
0.27 %



Homa2-%b

94.63 %

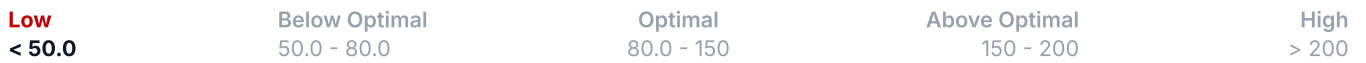
94.6



Homa2-%s

44.92 %

44.9



Homa2-Ir

2.23 ratio

2.23



Quicki

0.34 ratio

0.34



Tyg Index

8.53 ratio

8.53

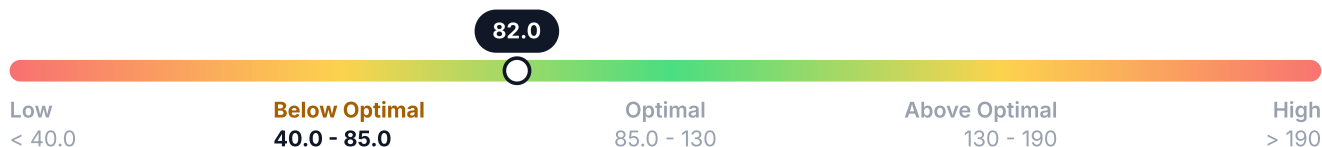


The Following Report Shows All Of The Biomarkers That Are Out Of The Optimal Range And Gives You Some Important Information As To Why Each Biomarker Might Be Elevated Or Decreased.

Nutrients, Vitamins & Minerals

Iron, Total

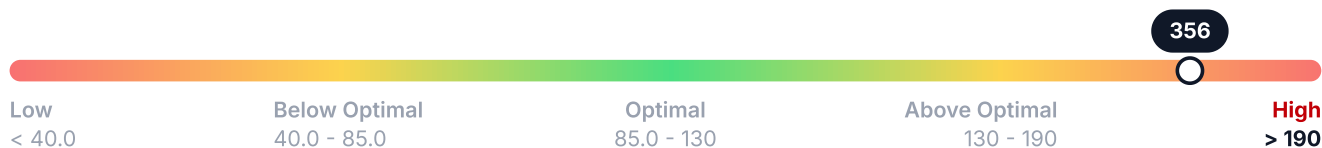
82.00 mcg/dL



Total iron measures the amount of iron circulating in the blood, which is crucial for producing hemoglobin and supporting oxygen transport throughout the body. When total iron levels are below optimal, it may indicate insufficient iron availability for these critical physiological processes.

Iron Binding Capacity

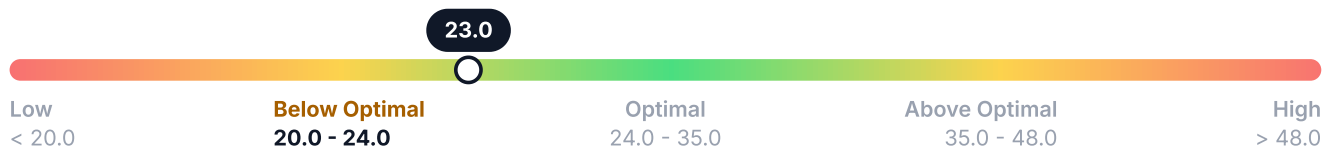
356.00 mcg/dL (calc)



Iron Binding Capacity (IBC) measures the blood's capacity to bind iron with transferrin, a protein that transports iron. An 'alarm_high' level indicates that there is a higher than normal capacity for iron binding, often suggesting that there is insufficient iron available in the bloodstream to saturate transferrin. This condition is typically reflective of the body's response to low iron stores.

% Saturation

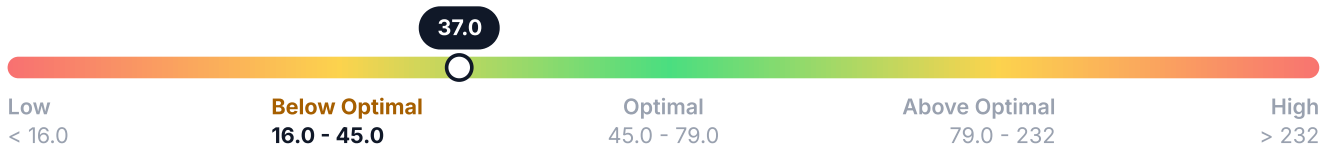
23.00 % (calc)



% Saturation is a biomarker that measures the proportion of transferrin, a blood protein, that is bound with iron. When % Saturation is below optimal levels, it may indicate that there is insufficient iron available for critical bodily functions, such as oxygen transport and DNA synthesis.

Ferritin

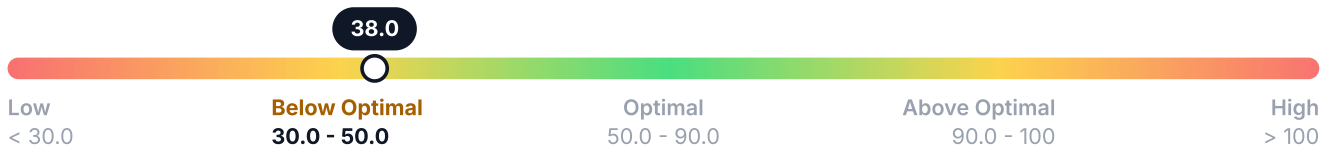
37.00 ng/mL



Ferritin is a protein that stores iron in the body, and its levels reflect the amount of stored iron. When ferritin is at a below optimal level, it may indicate depleted iron stores, which can affect the body's ability to produce healthy red blood cells.

Vitamin D, 25-Oh, Total

38.00 ng/mL



Vitamin D, 25-Oh, Total is a measure of the total concentration of vitamin D in the blood, reflecting both dietary intake and sunlight exposure. When this biomarker is at a below_optimal level, it suggests that the body may not have sufficient vitamin D to maintain normal physiological functions, such as calcium absorption and bone health.

Vitamin B12

258.00 pg/mL



Vitamin B12 is a crucial water-soluble vitamin that plays a vital role in red blood cell formation, neurological function, and DNA synthesis. When levels are below optimal, it may indicate insufficient availability for these critical physiological processes, potentially leading to suboptimal cellular and neurological health.

Folate, Serum

9.20 ng/mL

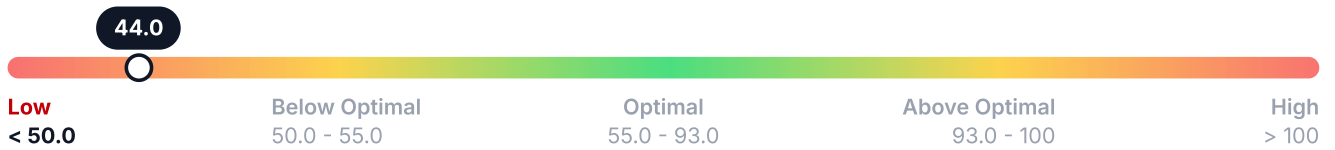


Folate, also known as vitamin B9, is a water-soluble vitamin crucial for DNA synthesis, repair, and methylation, as well as red blood cell production. When serum folate levels are below optimal, it indicates a potential deficiency in the body's ability to perform these critical functions efficiently, which may affect overall cellular health.

Heart Health

HDL Cholesterol

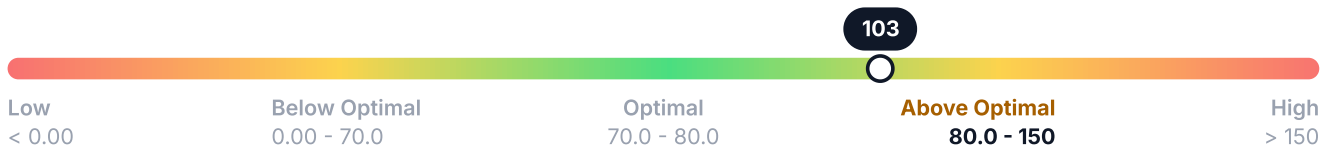
44.00 mg/dL



HDL cholesterol, often referred to as 'good' cholesterol, helps transport cholesterol from other parts of your body back to the liver, where it can be removed. A low level of HDL cholesterol means there is less of this beneficial transport occurring, which can lead to an accumulation of cholesterol in the bloodstream.

Triglycerides

103.00 mg/dL



Triglycerides are a type of fat (lipid) found in your blood. When triglyceride levels are above optimal, it indicates that there is an excess of these fats circulating in the bloodstream, which can be a sign of metabolic imbalance. This level suggests that the body may be storing more calories as fat than it is using for energy.

LDL-Cholesterol

117.00 mg/dL (calc)



LDL Cholesterol, often referred to as 'bad' cholesterol, is a type of lipoprotein responsible for transporting cholesterol to cells throughout the body. When LDL Cholesterol levels are high, it indicates an excess of cholesterol in the bloodstream, which can accumulate on artery walls and form plaques.

Chol/Hdlc Ratio

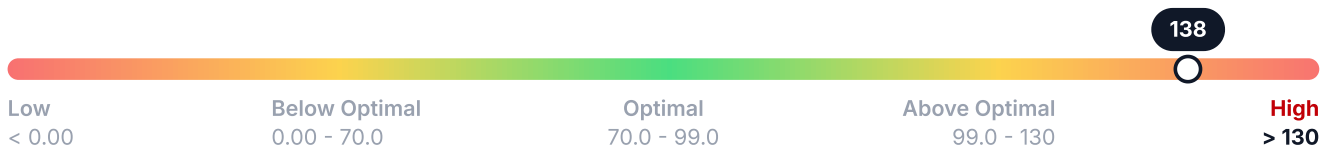
4.10 calc



The Chol/HDL-C Ratio is a measure of the balance between total cholesterol and high-density lipoprotein cholesterol (HDL-C) in the blood. An 'above_optimal' level indicates a higher proportion of total cholesterol relative to HDL-C, which may suggest an imbalance in lipid metabolism.

Non HDL Cholesterol

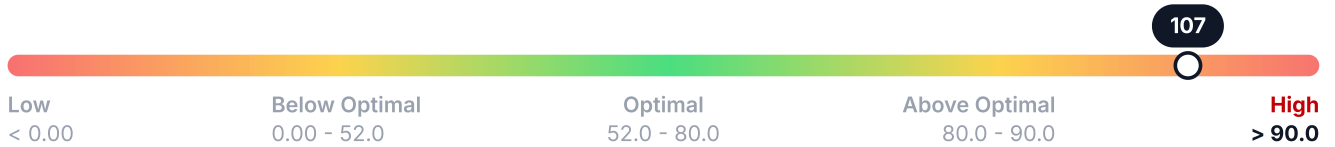
138.00 mg/dL (calc)



Non-HDL cholesterol is a measure of all the 'bad' types of cholesterol in your blood, excluding HDL, which is considered 'good' cholesterol. A high level of non-HDL cholesterol indicates an excess of lipoproteins that can contribute to plaque buildup in the arteries, potentially leading to cardiovascular issues.

Apolipoprotein B

107.00 mg/dL



Apolipoprotein B (ApoB) is a primary protein component of low-density lipoproteins (LDL), which are often referred to as 'bad cholesterol'. A high level of ApoB indicates an increased number of LDL particles in the blood, which can contribute to the buildup of cholesterol in the arteries.

Hormonal Health

Testosterone, Total, Ms

9.00 ng/dL



Testosterone, Total, Ms measures the total amount of testosterone in the blood, including both free and protein-bound testosterone. When levels are below optimal, it indicates a deficiency in this key hormone, which plays a crucial role in various bodily functions, including muscle mass maintenance, bone density, and sexual health.

Testosterone, Free

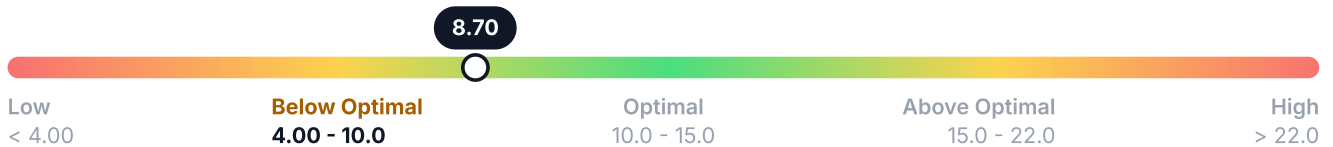
1.00 pg/mL



Testosterone, Free measures the amount of testosterone not bound to proteins in the blood, which is available to tissues. When levels are below optimal, it may indicate reduced androgenic activity, affecting various physiological functions such as muscle mass, bone density, and mood regulation.

Cortisol, Total

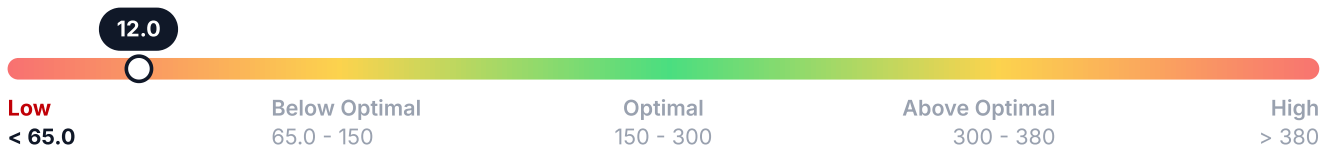
8.70 mcg/dL



Cortisol, often referred to as the 'stress hormone,' is produced by the adrenal glands and plays a crucial role in regulating metabolism, immune response, and stress. A below optimal level of total cortisol may indicate insufficient production by the adrenal glands, which can affect the body's ability to respond to stress and maintain homeostasis.

DHEA Sulfate

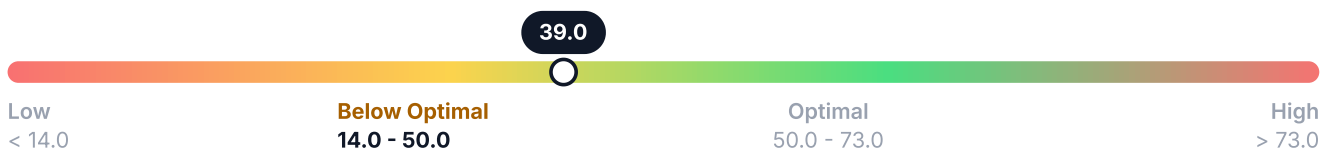
12.00 mcg/dL



Dehydroepiandrosterone sulfate (DHEA-S) is a hormone produced by the adrenal glands and serves as a precursor to male and female sex hormones. A low level of DHEA-S may indicate reduced adrenal function or a decrease in the body's ability to produce this hormone, which can affect the balance of other hormones in the body.

Sex Hormone Binding Globulin

39.00 nmol/L

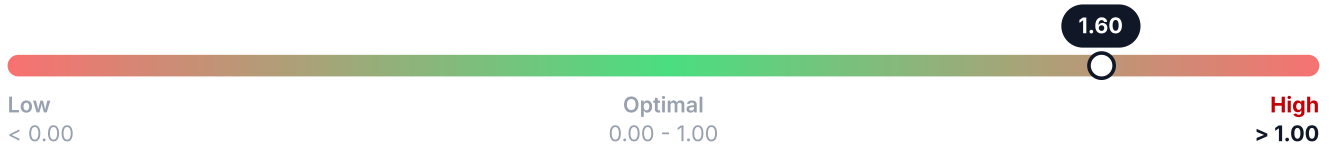


Sex Hormone Binding Globulin (SHBG) is a protein that binds to sex hormones, such as testosterone and estrogen, regulating their bioavailability in the body. When SHBG levels are below optimal, it may indicate an increased availability of these hormones, which can affect various physiological processes.

Inflammation & Immunity

Hs CRP

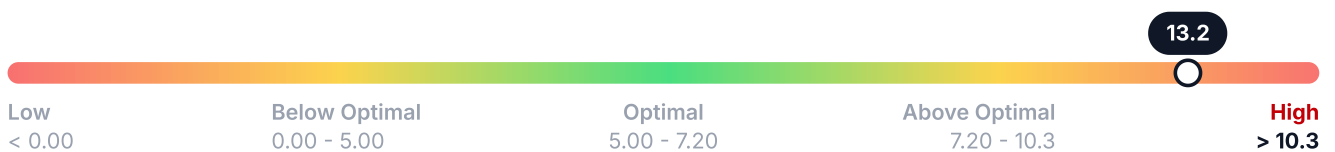
1.60 mg/L



High-sensitivity C-reactive protein (Hs-CRP) is a biomarker that measures low levels of inflammation in the body. When Hs-CRP is at an 'alarm_high' level, it indicates a significant inflammatory response, which may be a sign of acute or chronic inflammation. This elevation suggests that the body is responding to some form of stress or injury, potentially affecting various physiological systems.

Homocysteine

13.20 umol/L

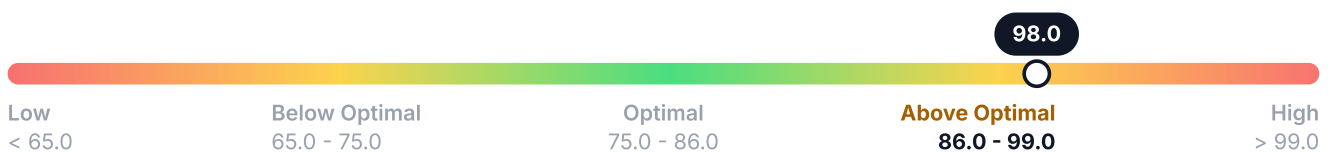


Homocysteine is an amino acid in the blood that is typically broken down by vitamins B6, B12, and folate. When homocysteine levels are high, it may indicate that the body is not processing this amino acid efficiently, which can be due to nutritional deficiencies or other metabolic issues.

Kidney Health

Glucose

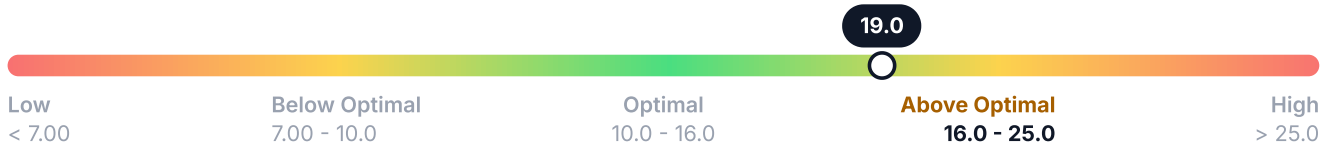
98.00 mg/dL



Glucose is a simple sugar that serves as a primary energy source for the body's cells. When glucose levels are above optimal, it indicates that there is more glucose in the bloodstream than is typically considered healthy, which may suggest an imbalance in how the body is processing sugar.

Urea Nitrogen (BUN)

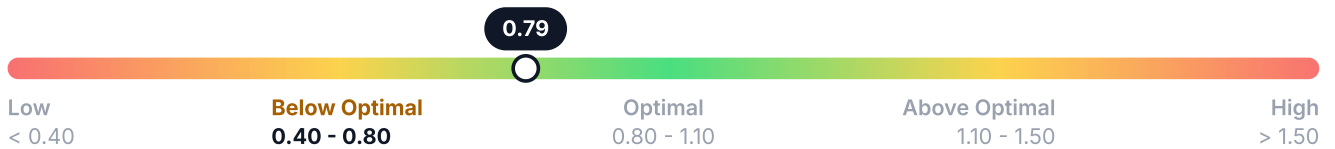
19.00 mg/dL



Urea Nitrogen (BUN) is a waste product formed in the liver from the breakdown of proteins and is excreted by the kidneys. When BUN levels are above optimal, it may indicate that the kidneys are not efficiently removing urea from the blood, or there may be an increased production of urea due to various factors.

Creatinine

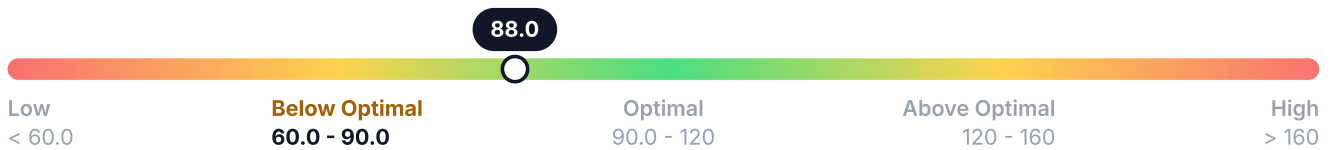
0.79 mg/dL



Creatinine is a waste product formed by the normal breakdown of muscle tissue and is filtered out of the blood by the kidneys. A below optimal level of creatinine may indicate reduced muscle mass or decreased production of creatinine, which can occur in certain physiological or pathological conditions.

eGFR

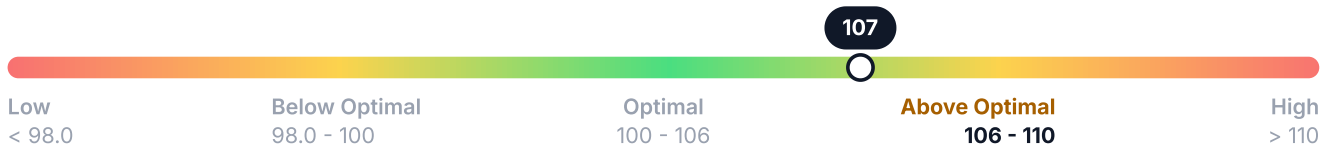
88.00 mL/min/1.73m²



The estimated glomerular filtration rate (eGFR) is a measure of how well your kidneys are filtering blood. A below_optimal level of eGFR indicates that the kidneys are not functioning at their full capacity, which may suggest decreased kidney function.

Chloride

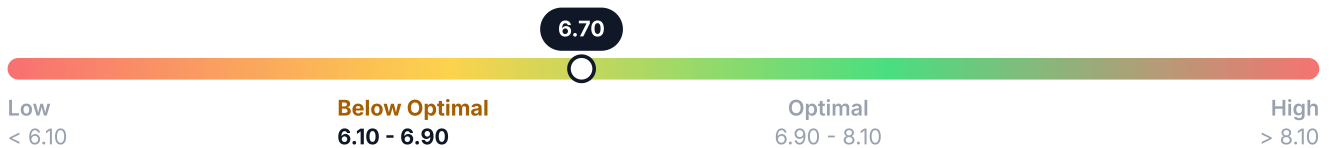
107.00 mmol/L



Chloride is an essential electrolyte that helps maintain fluid balance, acid-base balance, and proper nerve and muscle function. When chloride levels are above optimal, it may indicate an electrolyte imbalance, often referred to as hyperchloremia. This condition can affect the body's ability to maintain proper pH levels and fluid distribution.

Protein, Total

6.70 g/dL

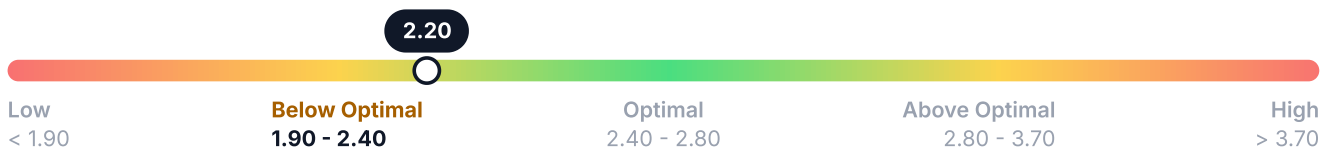


Total protein is a measure of the combined amount of two classes of proteins, albumin and globulin, in the blood. When total protein levels are below optimal, it may indicate a deficiency in one or both of these protein types, reflecting potential issues with protein synthesis or increased protein loss.

Liver Health

Globulin

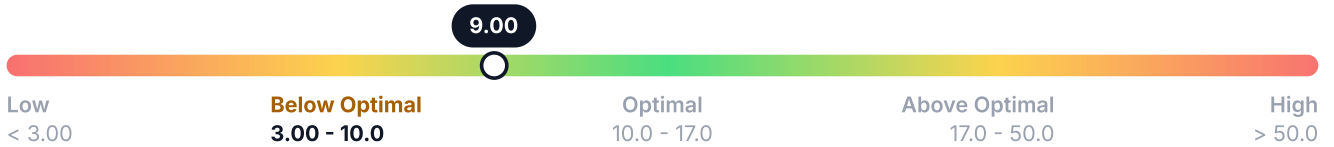
2.20 g/dL (calc)



Globulin is a group of proteins in the blood that play a crucial role in liver function, blood clotting, and fighting infections. A below optimal level of globulin may indicate a disruption in these physiological processes, potentially affecting the body's ability to maintain homeostasis.

GGT

9.00 U/L

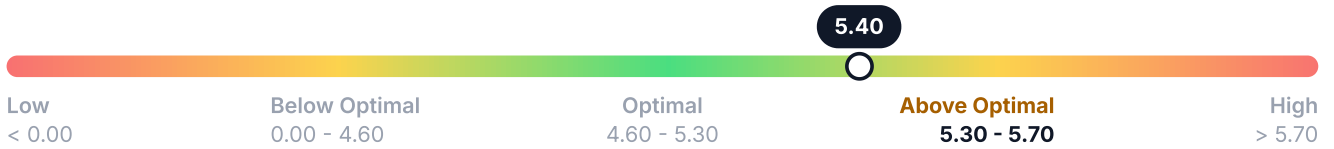


Gamma-glutamyl transferase (GGT) is an enzyme found in many organs throughout the body, with the highest concentrations in the liver. A below optimal level of GGT may suggest a lower than average enzyme activity, which is generally not a cause for concern but could indicate certain physiological conditions.

Energy & Metabolism

Hemoglobin A1c

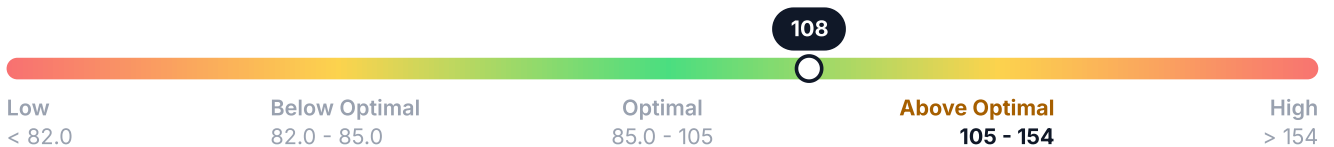
5.40 %



Hemoglobin A1C is a biomarker that reflects the average blood glucose levels over the past two to three months by measuring the percentage of glycated hemoglobin in the blood. An 'above_optimal' level suggests that blood glucose levels have been consistently higher than normal, indicating potential issues with glucose metabolism.

Eag (MG/DL)

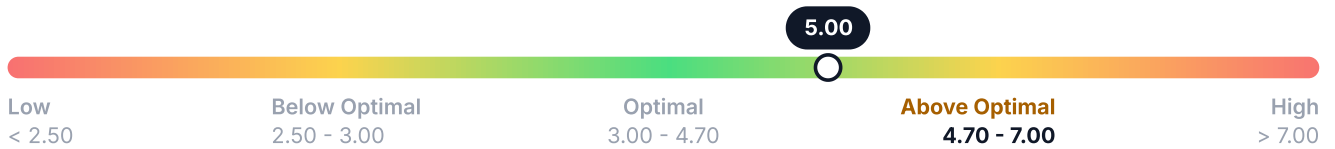
108.00 mg/dL



Estimated Average Glucose (eAG) is a biomarker that provides an average level of blood glucose over a period of time, typically reflecting the same time frame as the HbA1c test. When eAG is at an 'above_optimal' level, it suggests that blood glucose levels have been consistently higher than the recommended range, indicating potential issues with glucose metabolism.

Uric Acid

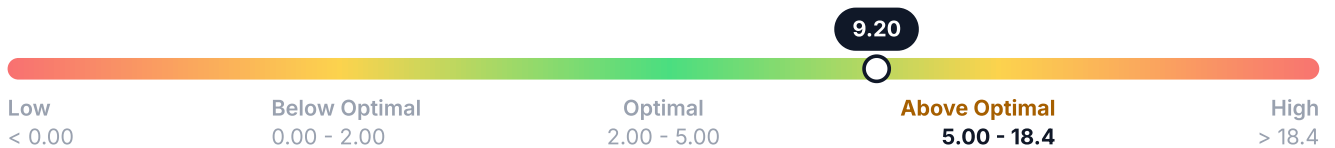
5.00 mg/dL



Uric acid is a waste product formed from the breakdown of purines, which are found in certain foods and drinks. When uric acid levels are above optimal, it indicates that the body may be producing too much uric acid or not excreting enough through the kidneys. This imbalance can lead to the accumulation of uric acid in the blood.

Insulin

9.20 uIU/mL

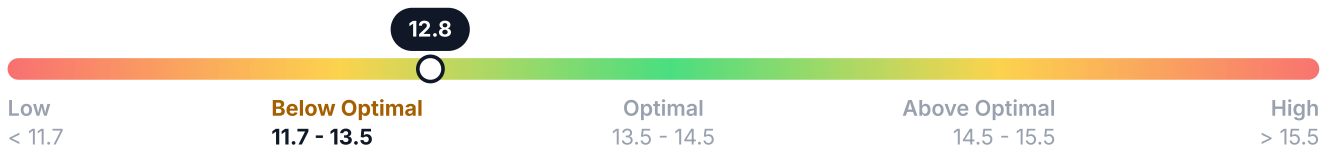


Insulin is a hormone produced by the pancreas that helps regulate blood glucose levels by facilitating the uptake of glucose into cells. When insulin levels are above optimal, it may indicate that the body is producing more insulin than necessary to maintain normal blood sugar levels, often as a compensatory response to insulin resistance.

Blood Health

Hemoglobin

12.80 g/dL



Hemoglobin is a protein in red blood cells responsible for transporting oxygen throughout the body. When hemoglobin levels are below optimal, it indicates that the blood may not be carrying sufficient oxygen to tissues and organs, which can affect overall cellular function and energy levels.

MCHC

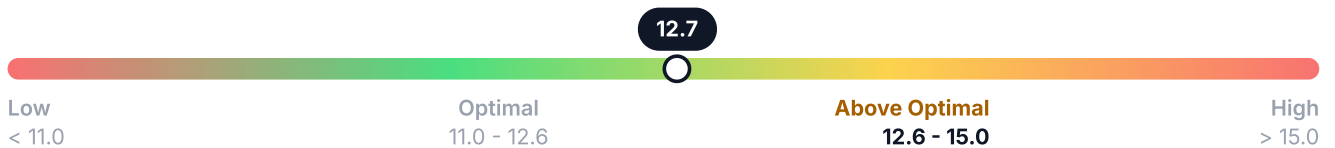
33.30 g/dL



Mean Corpuscular Hemoglobin Concentration (MCHC) measures the average concentration of hemoglobin in a given volume of red blood cells. When MCHC is below optimal levels, it indicates that the red blood cells have a lower than normal concentration of hemoglobin, which can affect their ability to transport oxygen efficiently throughout the body.

RDW

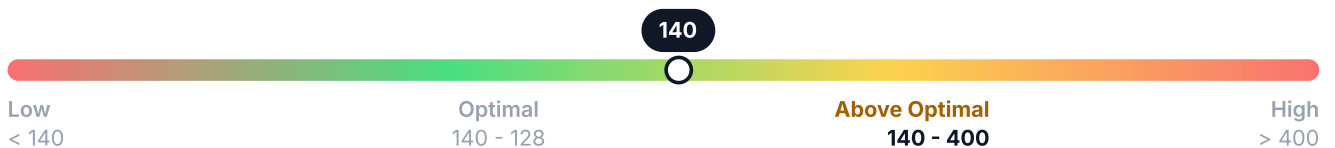
12.70 %



Red cell distribution width (RDW) is a measure of the variation in size of your red blood cells. An 'above optimal' RDW level indicates a higher degree of variability in red blood cell size, which can reflect underlying issues with red blood cell production or lifespan. This variability may suggest that the body is responding to a condition affecting red blood cell turnover or production.

Platelet Count

140.00 Thousand/uL



Platelet count measures the number of platelets in your blood, which are crucial for blood clotting and wound healing. An above-optimal platelet count, known as thrombocytosis, indicates that there are more platelets than normal circulating in the bloodstream. This can affect the blood's ability to clot properly, potentially leading to complications.

MPV

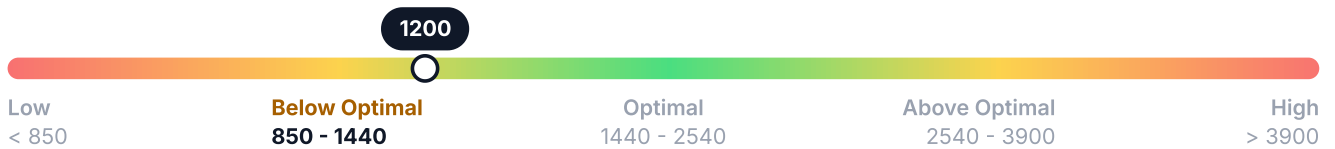
14.40 fL



Mean Platelet Volume (MPV) is a measure of the average size of platelets in the blood. An 'alarm_high' MPV level indicates that the platelets are larger than normal, which may reflect increased platelet production or activation. Larger platelets are often more reactive, which can have various physiological implications.

Absolute Lymphocytes

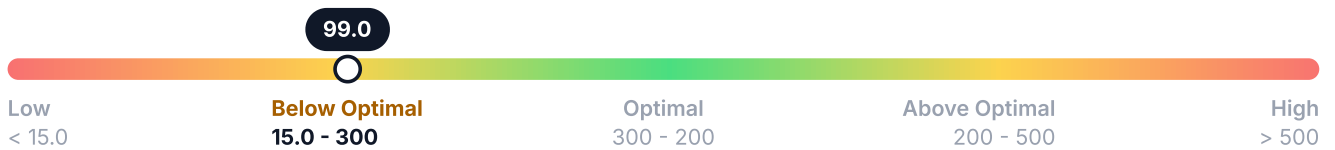
1200.00 cells/uL



Absolute lymphocytes measure the number of lymphocytes, a type of white blood cell, in the blood. When levels are below optimal, it indicates a lower than normal count of these immune cells, which play a crucial role in the body's defense against infections.

Absolute Eosinophils

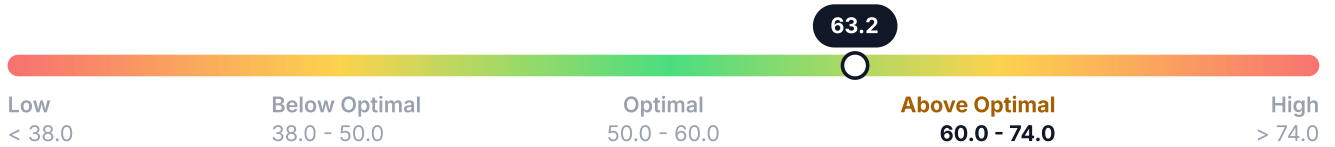
99.00 cells/uL



Absolute eosinophils measure the number of eosinophil cells in the blood, which are a type of white blood cell involved in the body's immune response, particularly in combating parasitic infections and in allergic reactions. When absolute eosinophil levels are below optimal, it may indicate a reduced capacity to respond to certain types of infections or allergic stimuli.

Neutrophils

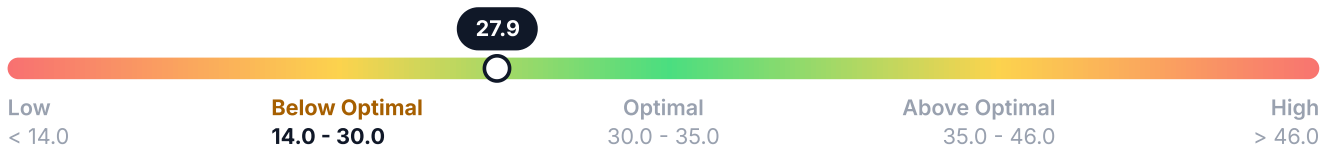
63.20 %



Neutrophils are a type of white blood cell that play a crucial role in the body's immune response by fighting infections. When neutrophil levels are above optimal, it may indicate an ongoing inflammatory process or infection, as the body is producing more of these cells to combat pathogens.

Lymphocytes

27.90 %

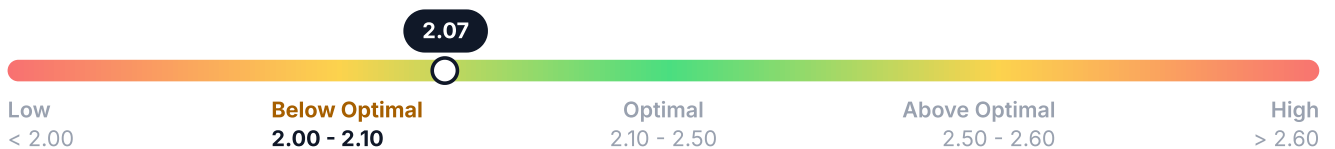


Lymphocytes are a type of white blood cell that play a crucial role in the immune system by helping the body fight off infections. A below_optimal level of lymphocytes, known as lymphocytopenia, indicates a reduced capacity of the immune system to respond to pathogens. This may suggest an underlying issue with immune function or bone marrow activity.

MINERALS

Calcium:Albumin Ratio

2.07 ratio



The Calcium to Albumin ratio helps interpret calcium levels by accounting for albumin-bound calcium, providing a more accurate assessment of calcium status. A lower Calcium:Albumin Ratio can indicate an imbalance or unusual pattern, depending on the underlying inputs.

Ferritin-To-Albumin Ratio (FAR)

8.22 ratio

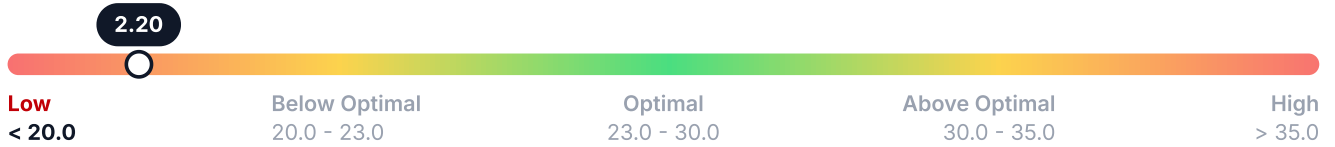


The Ferritin-to-Albumin Ratio (FAR) is a marker that combines iron storage status with nutritional/inflammatory assessment. A lower Ferritin-to-Albumin Ratio (FAR) can indicate an imbalance or unusual pattern, depending on the underlying inputs.

LIVER AND GB

Globulin

2.20 g/L

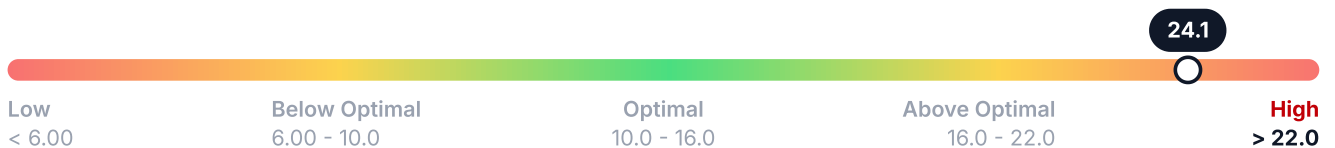


Globulin is a group of proteins in the blood that play a crucial role in liver function, blood clotting, and fighting infections. A below optimal level of globulin may indicate a disruption in these physiological processes, potentially affecting the body's ability to maintain homeostasis.

KIDNEY

BUN/Creatinine Ratio

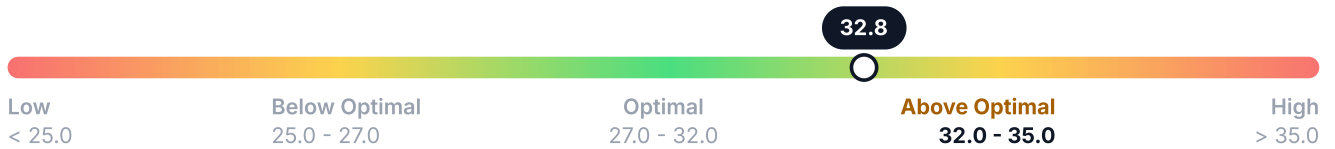
24.05 mg/mg{creat}



The BUN/Creatinine Ratio is a measure of kidney function and hydration status, comparing blood urea nitrogen (BUN) to creatinine levels. An 'above_optimal' level may indicate a disproportionate increase in BUN relative to creatinine, suggesting possible dehydration or other physiological imbalances.

Sodium:Potassium Ratio

32.79 ratio



The Sodium to Potassium ratio reflects electrolyte balance and has implications for cardiovascular health, blood pressure regulation, and cellular function. A higher sodium-to-potassium ratio may reflect relatively higher sodium and/or lower potassium intake and can be seen with dehydration, high-sodium diets, or certain medications.

IMMUNE SYSTEM

CRP/Albumin Ratio (CAR)

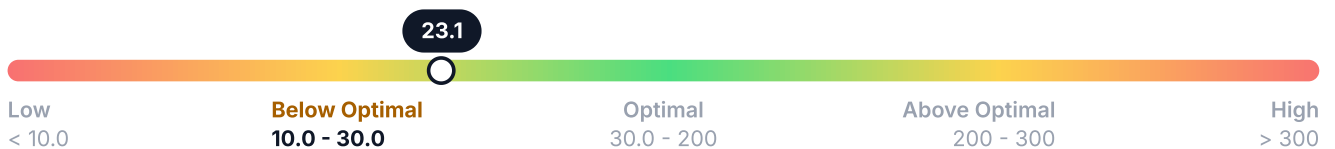
0.36 ratio



The C-Reactive Protein to Albumin Ratio (CAR) combines inflammatory (CRP) and nutritional (albumin) markers to assess overall inflammatory-nutritional status. A higher CRP/Albumin Ratio (CAR) can indicate an imbalance or increased physiological stress, depending on the underlying inputs.

Ferritin/CRP Ratio

23.13 ratio



The Ferritin to CRP ratio helps distinguish between iron deficiency and inflammation-related ferritin elevation, since ferritin is an acute phase reactant. A lower Ferritin/CRP Ratio can indicate an imbalance or unusual pattern, depending on the underlying inputs.

Nlr (NEUTROPHIL:LYMPHOCYTE)

2.27 ratio

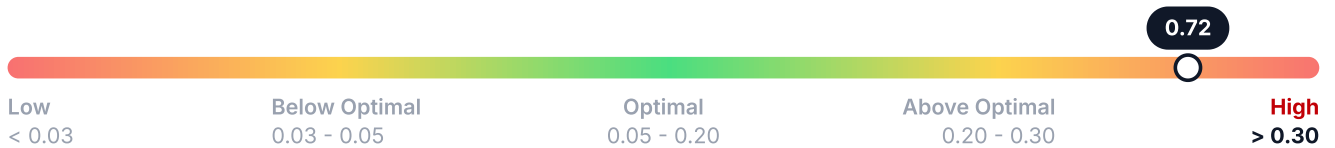


The Neutrophil-to-Lymphocyte Ratio (NLR) is a simple, cost-effective marker of systemic inflammation and immune function. It reflects the balance between innate immunity (neutrophils) and adaptive immunity (lymphocytes). A higher NLR (Neutrophil:Lymphocyte) can indicate an imbalance or increased physiological stress, depending on the underlying inputs.

HORMONES

Cortisol:dhea-S Ratio

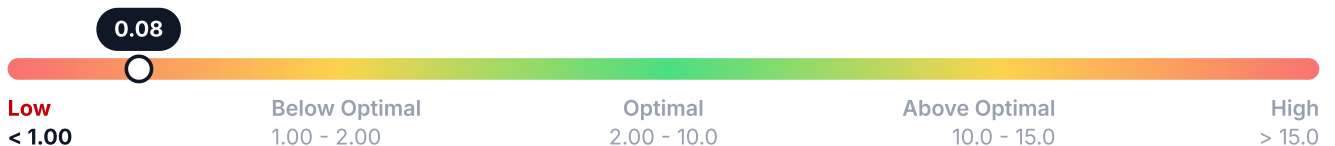
0.72 ratio



The Cortisol to DHEA-S ratio reflects the balance between stress hormones (cortisol) and anabolic/protective hormones (DHEA-S), indicating adrenal function and stress adaptation. A higher cortisol:DHEA-S ratio can reflect higher stress load (higher cortisol and/or lower DHEA-S) and is often seen with chronic stress, sleep disruption, or aging.

Testosterone/APOB Ratio

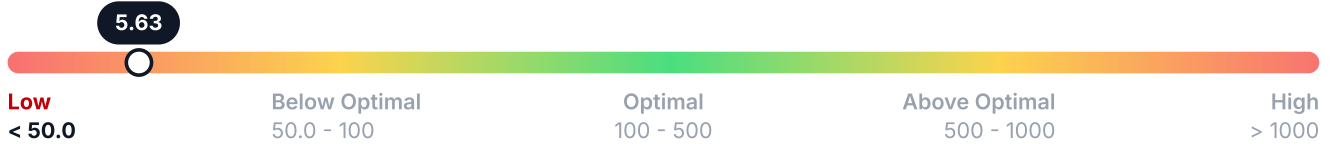
0.08 ratio



The Testosterone to Apolipoprotein B ratio combines hormonal status with cardiovascular risk markers, reflecting metabolic and cardiometabolic health. A lower Testosterone/ApoB Ratio can indicate an imbalance or unusual pattern, depending on the underlying inputs.

Testosterone/CRP Ratio

5.63 ratio



The Testosterone to CRP ratio combines hormonal status with inflammatory markers, providing insight into the relationship between androgen levels and systemic inflammation. A lower Testosterone/CRP Ratio can indicate an imbalance or unusual pattern, depending on the underlying inputs.

LIPIDS

LDL Cholesterol

117.40 mg/dL



LDL Cholesterol, often referred to as 'bad cholesterol,' is a type of lipoprotein responsible for transporting cholesterol to cells throughout the body. When LDL Cholesterol is at an 'above optimal' level, it indicates that there is more LDL in the blood than is considered ideal for maintaining cardiovascular health. This level suggests a potential for cholesterol to build up in the walls of arteries, which can lead to narrowing and reduced blood flow.

Chol/hdl-C Ratio

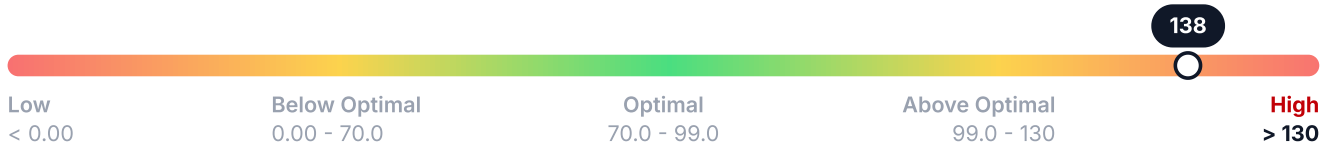
4.14 ratio



The Chol/HDL-C Ratio is a measure of the balance between total cholesterol and high-density lipoprotein cholesterol (HDL-C) in the blood. An 'above_optimal' level indicates a higher proportion of total cholesterol relative to HDL-C, which may suggest an imbalance in lipid metabolism.

Non-HDL Cholesterol

138.00 mg/dL



Non-HDL cholesterol is a measure of all the 'bad' types of cholesterol in the blood, excluding HDL, which is considered 'good' cholesterol. When non-HDL cholesterol is at an 'above optimal' level, it suggests that there is a higher amount of potentially harmful cholesterol circulating in the bloodstream than is ideal for cardiovascular health.

Cholesterol VLDL

20.60 mg/dL



VLDL Cholesterol is estimated as triglycerides divided by 5, representing triglyceride-rich lipoproteins produced by the liver. A higher Cholesterol VLDL can indicate an imbalance or increased physiological stress, depending on the underlying inputs.

Atherogenic Index (AIP)

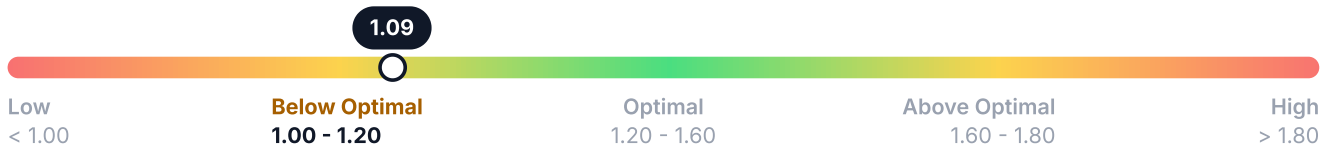
0.37 ratio



The Atherogenic Index of Plasma (AIP) is calculated as $\log_{10}(\text{Triglycerides}/\text{HDL})$ and serves as a marker of plasma atherogenicity and cardiovascular risk. A higher Atherogenic Index (AIP) can indicate an imbalance or increased physiological stress, depending on the underlying inputs.

LDL-C/apob Ratio

1.09 ratio



The LDL-C to ApoB ratio indicates the cholesterol content per LDL particle, helping identify whether particles are large (cholesterol-enriched) or small and dense. A lower LDL-C/ApoB Ratio can indicate an imbalance or unusual pattern, depending on the underlying inputs.

Non-Hdl/total Cholesterol Ratio

0.76 ratio



This ratio expresses atherogenic cholesterol (non-HDL) as a proportion of total cholesterol, indicating what fraction of cholesterol contributes to cardiovascular risk. A higher Non-HDL/Total Cholesterol Ratio can indicate an imbalance or increased physiological stress, depending on the underlying inputs.

Total Cholesterol/HDL Ratio

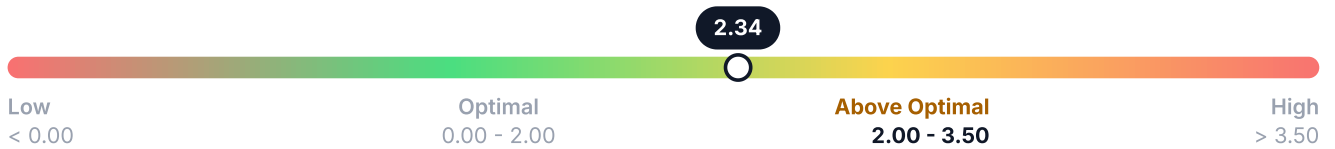
4.14 ratio



The Total Cholesterol to HDL ratio is a widely used cardiovascular risk marker that compares total cholesterol burden to protective HDL cholesterol. A higher Total Cholesterol/HDL Ratio can indicate an imbalance or increased physiological stress, depending on the underlying inputs.

Triglyceride:HDL Ratio

2.34 ratio

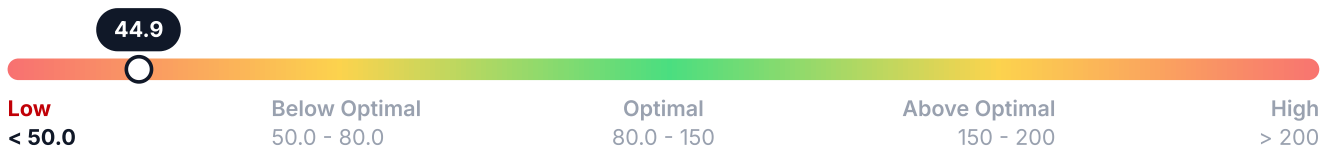


The Triglyceride to HDL ratio is a powerful predictor of cardiovascular risk and insulin resistance, often considered superior to individual lipid measurements. A higher Triglyceride:HDL Ratio can indicate an imbalance or increased physiological stress, depending on the underlying inputs.

METABOLIC

Homa2-%s

44.92 %



HOMA2-%S measures insulin sensitivity as a percentage of a reference population, indicating how effectively insulin lowers blood glucose. A lower HOMA2-%S can indicate an imbalance or unusual pattern, depending on the underlying inputs.

Homa2-Ir

2.23 ratio



HOMA2-IR (Homeostatic Model Assessment 2 - Insulin Resistance) is an updated computer model estimating insulin resistance from fasting glucose and insulin levels. A higher HOMA2-IR generally indicates greater insulin resistance.

Quicki

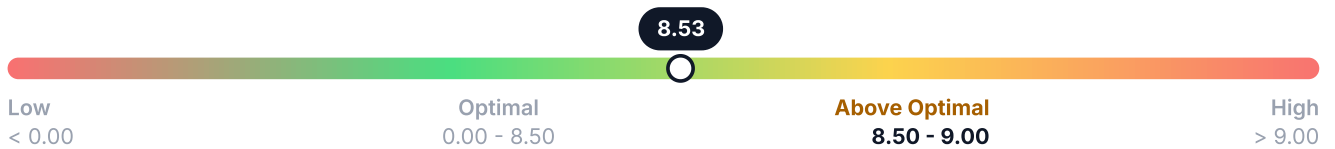
0.34 ratio



QUICKI (Quantitative Insulin Sensitivity Check Index) is a logarithmic transformation of fasting insulin and glucose that estimates insulin sensitivity. A lower QUICKI value generally reflects reduced insulin sensitivity (insulin resistance).

Tyg Index

8.53 ratio



The Triglyceride-Glucose (TyG) Index is a simple surrogate marker for insulin resistance calculated from fasting triglycerides and glucose levels. A higher TyG index is associated with insulin resistance and higher cardiometabolic risk.

The Blood Test Results Comparative Report Lists The Results Of This Blood Test And Compares It To A Previous Blood Test Thus Allowing You To Visualize Change In Your Biomarker Results. The Thumbs Up And Down Icons Help To Show Change, Whether It Is Moving In The Right Direction Or Further Away From Optimal. Even Though A Result May Be Out Of The Optimal Or Standard Range, A Thumbs Up Indicates That The Most Recent Result Is Moving Toward Optimal.

A Comparison Of The Total Number Of Biomarkers By Optimal Range

All 117
Low 2
Below Optimal 29
Optimal 52
Above Optimal 27

High 7

Nutrients, Vitamins & Minerals

Biomarker	Quest (Current Aug 06 2025)	Optimal Range	Standard Range	Units
Iron, Total	● 82.00 ↓	85.00 - 130.00	40.00 - 190.00	mcg/dL
Iron Binding Capacity	● 356.00 ↑	85.00 - 130.00	40.00 - 190.00	mcg/dL (calc)
% Saturation	● 23.00 ↓	24.00 - 35.00	20.00 - 48.00	% (calc)
Ferritin	● 37.00 ↓	45.00 - 79.00	16.00 - 232.00	ng/mL
Vitamin D, 25-Oh, Total	● 38.00 ↓	50.00 - 90.00	30.00 - 100.00	ng/mL
Vitamin B12	● 258.00 ↓	545.00 - 1100.00	200.00 - 1100.00	pg/mL
Folate, Serum	● 9.20 ↓	15.00 - 27.00	5.50 - 27.00	ng/mL
Magnesium, RBC	● 6.00 —	6.00 - 6.80	4.00 - 6.80	mg/dL

Thyroid Health

Biomarker	Quest (Current Aug 06 2025)	Optimal Range	Standard Range	Units
T3 Uptake	● 26.00 —	24.00 - 35.00	22.00 - 37.00	%
T4 (THYROXINE), Total	● 7.50 —	6.00 - 10.00	4.50 - 12.00	mcg/dL
Free T4 Index (T7)	● 2.00 —	1.40 - 3.80	1.20 - 4.90	

Biomarker	Quest (Current Aug 06 2025)	Optimal Range	Standard Range	Units
TSH	● 1.69 —	1.00 - 2.00	0.40 - 4.50	mIU/L

Heart Health

Biomarker	Quest (Current Aug 06 2025)	Optimal Range	Standard Range	Units
Cholesterol, Total	● 182.00 —	160.00 - 199.00	125.00 - 199.00	mg/dL
HDL Cholesterol	● 44.00 ↓	55.00 - 93.00	50.00 - 100.00	mg/dL
Triglycerides	● 103.00 ↑	70.00 - 80.00	0.00 - 149.99	mg/dL
LDL-Cholesterol	● 117.00 ↑	80.00 - 99.99	0.00 - 99.99	mg/dL (calc)
Chol/Hdlc Ratio	● 4.10 ↑	0.00 - 2.34	0.00 - 5.00	calc
Non HDL Cholesterol	● 138.00 ↑	70.00 - 99.00	0.00 - 129.99	mg/dL (calc)
Lipoprotein (A)	● NaN —	0.00 - 18.00	0.00 - 74.99	nmol/L
Apolipoprotein B	● 107.00 ↑	52.00 - 80.00	0.00 - 90.00	mg/dL

Hormonal Health

Biomarker	Quest (Current Aug 06 2025)	Optimal Range	Standard Range	Units
Testosterone, Total, Ms	● 9.00 ↓	35.00 - 45.00	2.00 - 45.00	ng/dL
Testosterone, Free	● 1.00 ↓	3.25 - 4.60	0.20 - 3.70	pg/mL
Cortisol, Total	● 8.70 ↓	10.00 - 15.00	4.00 - 22.00	mcg/dL
DHEA Sulfate	● 12.00 ↓	150.00 - 300.00	65.00 - 380.00	mcg/dL
Estradiol	● NaN —	24.00 - 39.00	19.00 - 144.00	pg/mL
Sex Hormone Binding Globulin	● 39.00 ↓	50.00 - 80.00	14.00 - 73.00	nmol/L

Inflammation & Immunity

Biomarker	Quest (Current Aug 06 2025)	Optimal Range	Standard Range	Units
Hs CRP	● 1.60 ↑	0.00 - 1.00	0.00 - 1.00	mg/L
Homocysteine	● 13.20 ↑	5.00 - 7.20	0.00 - 10.30	umol/L
Sed Rate By Modified Westergren	● 6.00 —	0.00 - 10.00	0.00 - 30.00	mm/h

Kidney Health

Biomarker	Quest (Current Aug 06 2025)	Optimal Range	Standard Range	Units
Glucose	● 98.00 ↑	75.00 - 86.00	65.00 - 99.00	mg/dL
Urea Nitrogen (BUN)	● 19.00 ↑	10.00 - 16.00	7.00 - 25.00	mg/dL
Creatinine	● 0.79 ↓	0.80 - 1.10	0.40 - 1.50	mg/dL
eGFR	● 88.00 ↓	90.00 - 120.00	60.00 - 160.00	mL/min/1.73m2
Sodium	● 141.00 —	137.00 - 142.00	135.00 - 146.00	mmol/L
Potassium	● 4.30 —	4.00 - 5.00	3.50 - 5.30	mmol/L
Chloride	● 107.00 ↑	100.00 - 106.00	98.00 - 110.00	mmol/L
Carbon Dioxide	● 27.00 —	25.00 - 30.00	19.00 - 30.00	mmol/L
Calcium	● 9.30 —	8.90 - 9.50	8.60 - 10.40	mg/dL
Protein, Total	● 6.70 ↓	6.90 - 8.10	6.10 - 8.10	g/dL

Liver Health

Biomarker	Quest (Current Aug 06 2025)	Optimal Range	Standard Range	Units
Albumin	● 4.50 —	4.50 - 5.00	3.60 - 5.10	g/dL
Globulin	● 2.20 ↓	2.40 - 2.80	1.90 - 3.70	g/dL (calc)

Biomarker	Quest (Current Aug 06 2025)	Optimal Range	Standard Range	Units
Albumin/Globulin Ratio	● 2.00 —	1.40 - 2.10	1.00 - 2.50	(calc)
Bilirubin, Total	● 0.50 —	0.50 - 0.90	0.20 - 1.20	mg/dL
Alkaline Phosphatase	● 91.00 —	45.00 - 100.00	31.00 - 125.00	U/L
AST	● 12.00 —	10.00 - 26.00	10.00 - 35.00	U/L
ALT	● 12.00 —	10.00 - 26.00	9.00 - 46.00	U/L
GGT	● 9.00 ↓	10.00 - 17.00	3.00 - 50.00	U/L

Energy & Metabolism

Biomarker	Quest (Current Aug 06 2025)	Optimal Range	Standard Range	Units
Hemoglobin A1c	● 5.40 ↑	4.60 - 5.30	0.00 - 5.70	%
Eag (MG/DL)	● 108.00 ↑	85.00 - 105.00	82.00 - 154.00	mg/dL
Eag (MMOL/L)	● 6.00 —	0.00 - 100.00	0.00 - 100.00	mmol/L
Uric Acid	● 5.00 ↑	3.00 - 4.70	2.50 - 7.00	mg/dL
Insulin	● 9.20 ↑	2.00 - 5.00	0.00 - 18.40	uIU/mL

Blood Health

Biomarker	Quest (Current Aug 06 2025)	Optimal Range	Standard Range	Units
White Blood Cell Count	● 4.30 —	3.80 - 6.00	3.80 - 10.80	Thousand/uL
Red Blood Cell Count	● 4.36 —	4.30 - 4.80	3.80 - 5.10	Million/uL
Hemoglobin	● 12.80 ↓	13.50 - 14.50	11.70 - 15.50	g/dL
Hematocrit	● 38.40 —	37.00 - 44.00	35.00 - 45.00	%
MCV	● 88.10 —	82.00 - 89.90	80.00 - 100.00	fL
MCH	● 29.40 —	28.00 - 31.90	27.00 - 33.00	pg

Biomarker	Quest (Current Aug 06 2025)	Optimal Range	Standard Range	Units
MCHC	● 33.30 ↓	34.00 - 36.00	32.00 - 36.00	g/dL
RDW	● 12.70 ↑	11.00 - 12.60	11.00 - 15.00	%
Platelet Count	● 140.00 ↑	0.00 - 128.00	140.00 - 400.00	Thousand/uL
MPV	● 14.40 ↑	7.50 - 8.20	7.50 - 11.50	fL
Absolute Neutrophils	● 2718.00 —	1900.00 - 4200.00	1500.00 - 7800.00	cells/uL
Absolute Lymphocytes	● 1200.00 ↓	1440.00 - 2540.00	850.00 - 3900.00	cells/uL
Absolute Monocytes	● 262.00 —	200.00 - 400.00	200.00 - 950.00	cells/uL
Absolute Eosinophils	● 99.00 ↓	300.00 - 200.00	15.00 - 500.00	cells/uL
Absolute Basophils	● 22.00 —	0.00 - 100.00	0.00 - 200.00	cells/uL
Neutrophils	● 63.20 ↑	50.00 - 60.00	38.00 - 74.00	%
Lymphocytes	● 27.90 ↓	30.00 - 35.00	14.00 - 46.00	%
Monocytes	● 6.10 —	4.00 - 7.00	4.00 - 13.00	%
Eosinophils	● 2.30 —	0.00 - 3.00	0.00 - 3.00	%
Basophils	● 0.50 —	0.00 - 1.00	0.00 - 1.00	%

Urine

Biomarker	Quest (Current Aug 06 2025)	Optimal Range	Standard Range	Units
Specific Gravity	● 1.01 —	1.00 - 1.03	1.00 - 1.03	
Ph	● 5.50 —	5.00 - 8.00	5.00 - 8.00	
Leukocyte Esterase	● NaN —	0.00 - 100.00	0.00 - 100.00	
WBC	● NaN —	0.00 - 5.00	0.00 - 5.00	/HPF

MINERALS

Biomarker	Quest (Current Aug 06 2025)	Optimal Range	Standard Range	Units
% Saturation	● 23.03 —	20.00 - 45.00	15.00 - 50.00	%
Calcium:Albumin Ratio	● 2.07 ↓	2.10 - 2.50	2.00 - 2.60	ratio
Ferritin-To-Albumin Ratio (FAR)	● 8.22 ↓	10.00 - 30.00	10.00 - 40.00	ratio

LIVER AND GB

Biomarker	Quest (Current Aug 06 2025)	Optimal Range	Standard Range	Units
Globulin	● 2.20 ↓	23.00 - 30.00	20.00 - 35.00	g/L
Albumin/Globulin Ratio	● 2.04 —	1.40 - 2.10	1.00 - 2.50	ratio
AST:ALT Ratio	● 1.00 —	0.80 - 1.20	0.50 - 2.00	ratio
Bilirubin-To-Albumin Ratio (BAR)	● 0.11 —	0.00 - 0.20	0.00 - 0.30	ratio
GGT/HDL Ratio	● 0.20 —	0.00 - 0.50	0.00 - 1.00	ratio

KIDNEY

Biomarker	Quest (Current Aug 06 2025)	Optimal Range	Standard Range	Units
BUN/Creatinine Ratio	● 24.05 ↑	10.00 - 16.00	6.00 - 22.00	mg/mg{creat}
Anion Gap	● 11.30 —	7.00 - 14.00	5.00 - 17.00	mmol/L
Sodium:Potassium Ratio	● 32.79 ↑	27.00 - 32.00	25.00 - 35.00	ratio

IMMUNE SYSTEM

Biomarker	Quest (Current Aug 06 2025)	Optimal Range	Standard Range	Units
CRP/Albumin Ratio (CAR)	● 0.36 ↑	0.00 - 0.10	0.00 - 0.30	ratio
Ferritin/CRP Ratio	● 23.13 ↓	30.00 - 200.00	10.00 - 300.00	ratio
Lymphocyte-To-Monocyte Ratio (LMR)	● 4.58 —	3.00 - 7.00	2.00 - 10.00	ratio
Monocyte-To-Lymphocyte Ratio (MLR)	● 0.22 —	0.10 - 0.30	0.05 - 0.50	ratio
Neutrophil-To-Lymphocyte & Platelet Ratio (NLPR)	● 3.17 —	0.00 - 4.50	0.00 - 6.00	ratio
Nlr (NEUTROPHIL:LYMPHOCYTE)	● 2.27 ↑	1.00 - 1.70	1.00 - 3.00	ratio
Plr (PLATELET:LYMPHOCYTE)	● 116.67 —	90.00 - 150.00	50.00 - 200.00	ratio
Systemic Immune-Inflammation Index (SII)	● 317.10 —	0.00 - 500.00	0.00 - 900.00	ratio
Systemic Inflammation Response Index (SIRI)	● 0.59 —	0.30 - 1.00	0.30 - 1.50	ratio

HORMONES

Biomarker	Quest (Current Aug 06 2025)	Optimal Range	Standard Range	Units
Free T4 Index (T7)	● 1.95 —	1.40 - 3.80	1.20 - 4.90	{Index_val}
% Testosterone Free	● 1.11 —	1.00 - 3.00	0.80 - 3.50	%
Cortisol:dhea-S Ratio	● 0.72 ↑	0.05 - 0.20	0.03 - 0.30	ratio
Testosterone/APOB Ratio	● 0.08 ↓	2.00 - 10.00	1.00 - 15.00	ratio
Testosterone/CRP Ratio	● 5.63 ↓	100.00 - 500.00	50.00 - 1000.00	ratio

LIPIDS

Biomarker	Quest (Current Aug 06 2025)	Optimal Range	Standard Range	Units
LDL Cholesterol	● 117.40 ↑	0.00 - 100.00	0.00 - 130.00	mg/dL
Chol/hdl-C Ratio	● 4.14 ↑	0.00 - 3.50	0.00 - 5.00	ratio
Non-HDL Cholesterol	● 138.00 ↑	70.00 - 99.00	0.00 - 129.99	mg/dL
Cholesterol VLDL	● 20.60 ↑	0.00 - 15.00	0.00 - 30.00	mg/dL
Atherogenic Index (AIP)	● 0.37 ↑	0.00 - 0.10	0.00 - 0.30	ratio
LDL:HDL Ratio	● 2.66 —	1.50 - 3.00	0.00 - 3.50	ratio
LDL-C/apob Ratio	● 1.09 ↓	1.20 - 1.60	1.00 - 1.80	ratio
Non-Hdl/total Cholesterol Ratio	● 0.76 ↑	0.00 - 0.70	0.00 - 0.80	ratio
Total Cholesterol/HDL Ratio	● 4.14 ↑	0.00 - 3.50	0.00 - 5.00	ratio
Triglyceride:HDL Ratio	● 2.34 ↑	0.00 - 2.00	0.00 - 3.50	ratio

METABOLIC

Biomarker	Quest (Current Aug 06 2025)	Optimal Range	Standard Range	Units
Glycation Gap	● 0.27 —	0.00 - 0.30	0.00 - 0.50	%
Homa2-%b	● 94.63 —	80.00 - 120.00	60.00 - 150.00	%
Homa2-%s	● 44.92 ↓	80.00 - 150.00	50.00 - 200.00	%
Homa2-Ir	● 2.23 ↑	0.00 - 1.40	0.00 - 2.00	ratio
Quicki	● 0.34 ↓	1.00 - 4.00	1.00 - 10.00	ratio
Tyg Index	● 8.53 ↑	0.00 - 8.50	0.00 - 9.00	ratio

03



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

———— Accessory Systems

———— Nutrient Status

———— Nutrient Deficiencies

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

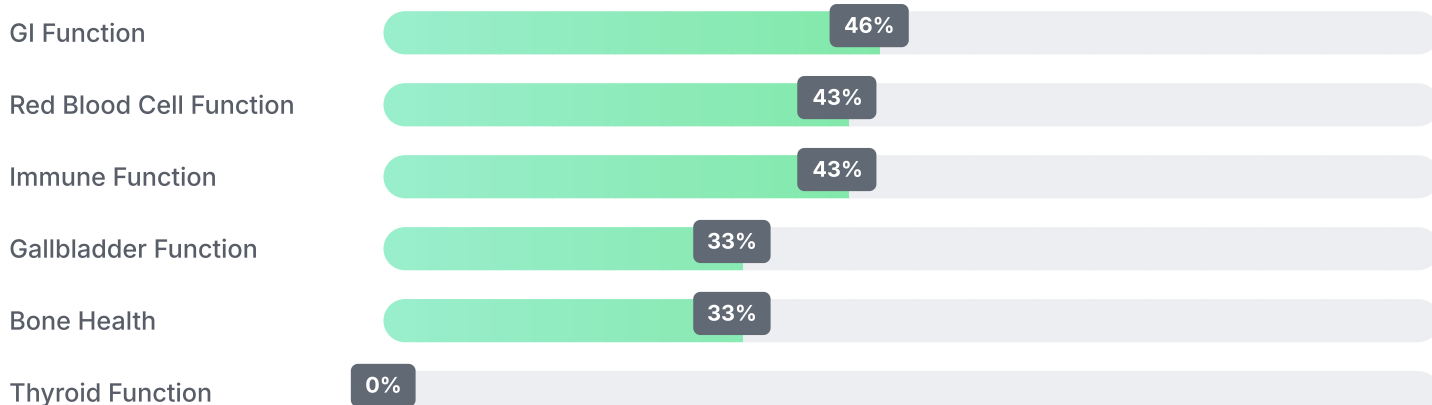
PROBABILITY OF DYSFUNCTION

Less Likely <50% Possible 50-70% Likely 70-90% Highly Likely 90-100%

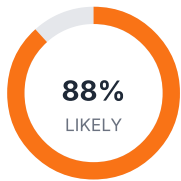
Systems Requiring Attention (≥50% Dysfunction)



Systems Functioning Well (<50% Dysfunction)



Functional Body Systems Details



▶ BLOOD SUGAR REGULATION

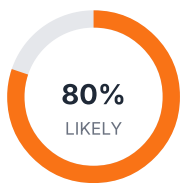
The Blood Sugar Regulation score tells us how well your body regulates the sugar in your blood. Your score indicates that your blood sugar regulation is not functioning as well as it should and may need support moving forward. Blood sugar dysregulation is widespread but doesn't suddenly emerge but develops slowly. The Blood Sugar Regulation score looks for clues in your blood test that can help us determine if there's dysregulation and, if so, what it is. In summary, your score is high (88%), which indicates that your blood sugar regulation might not function as optimally as it should and may need support moving forward.

Rationale

GLUCOSE ↑, HEMOGLOBIN A1c ↑, INSULIN ↑, TRIGLYCERIDES ↑, HDL CHOLESTEROL ↓, LDL-CHOLESTEROL ↑, DHEA SULFATE ↓

Biomarkers considered

Glucose Fasting, Hemoglobin A1c, Insulin Fasting, Triglycerides, HDL-C, LDL-C, DHEA-S, Cholesterol Total



▶ SEX HORMONE FUNCTION

The Sex Hormone Risk score helps us assess levels of essential hormones in your body: testosterone, DHEA, progesterone, and estradiol, and whether these important hormones are being regulated properly. Your Sex Hormone Risk score is high, indicating that the regulation of these hormones is not functioning as well as it should and needs support moving forward to ensure optimal levels for your continued health and wellness. Blood levels of these crucial hormones diminish with age, contributing to age-related dysfunctions such as low libido, blood sugar problems, excess weight, heart disease, etc. The risk score looks for clues in your blood test that can help determine whether there is hormonal dysregulation. In summary, your score is high (80%), which indicates that your sex hormone function might not function as optimally as it should and may need support moving forward.

Rationale

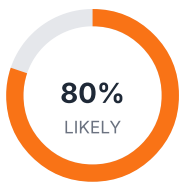
TESTOSTERONE, FREE ↓, TESTOSTERONE, TOTAL, MS ↓, SEX HORMONE BINDING GLOBULIN ↓, DHEA SULFATE ↓

Biomarkers considered

Estradiol, Testosterone Free, Testosterone Total, SHBG, DHEA-S

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

Progesterone



▶ **CARDIOVASCULAR FUNCTION**

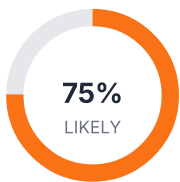
The Cardiovascular Function score looks at biomarkers on this blood test that reflect the degree of risk in the function of your cardiovascular system: your heart and vascular system. A high Cardiovascular Function score indicates that you may be trending toward an increased risk of developing dysfunction in your cardiovascular system. A high Cardiovascular Function score indicates that you may be trending toward an increased risk of developing dysfunction in your cardiovascular system and a trend toward developing diabetes, obesity, and/or high blood pressure. In summary, your score is high (80%), which indicates that your cardiovascular function might not function as optimally as it should and may need support moving forward.

Rationale

GLUCOSE ↑, TRIGLYCERIDES ↑, LDL-CHOLESTEROL ↑, HDL CHOLESTEROL ↓, FERRITIN ↓, HS CRP ↑↑, HOMOCYSTEINE ↑, HEMOGLOBIN A1c ↑, TESTOSTERONE, TOTAL, MS ↓, INSULIN ↑, VITAMIN D,25-OH,TOTAL,IA ↓, TESTOSTERONE, FREE ↓

Biomarkers considered

Lipoprotein (A), Glucose Fasting, Cholesterol Total, Triglycerides, LDL-C, HDL-C, Ferritin, hs-CRP, Homocysteine, Hemoglobin A1c, Estradiol, Testosterone Total, Insulin Fasting, Vitamin D (25-OH), Testosterone Free



▶ **PROSTATE FUNCTION**

The Prostate Function score assesses the health of the prostate gland. A high Prostate Function score indicates that you may be at an increased risk of prostate dysfunction. The prostate is a small gland that produces fluid for semen. Monitoring prostate health is important for detecting early signs of enlargement or dysfunction. In summary, your score is high (75%), which indicates that your prostate function might not function as optimally as it should and may need support moving forward.

Rationale

TESTOSTERONE, TOTAL, MS ↓, DHEA SULFATE ↓, CREATININE ↓

Biomarkers considered

Testosterone Total, DHEA-S, Creatinine, Monocytes %

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

PSA, Free PSA



▶ **KIDNEY FUNCTION**

The Kidney Function score looks at biomarkers that reflect the health and efficiency of your kidneys. A high Kidney Function score indicates that you may be at an increased risk of kidney dysfunction. The kidneys filter waste products from the blood, regulate fluid balance, control blood pressure, and maintain electrolyte balance. They are essential for removing toxins and maintaining overall health. In summary, your score is moderate (63%), which indicates that there may be some areas of your kidney function that could benefit from attention.

Rationale

UREA NITROGEN (BUN) ↑, CREATININE ↓, EGFR ↓, URIC ACID ↑, CHLORIDE ↑

Biomarkers considered

BUN, Creatinine, eGFR, Uric Acid, Sodium, Potassium, Chloride, AST



▶ ADRENAL FUNCTION

The Adrenal Function score assesses the health of your adrenal glands and stress response. A high Adrenal Function score indicates that your adrenal glands may not be functioning optimally and may need support. The adrenal glands produce hormones that help regulate metabolism, immune system, blood pressure, and response to stress. They produce cortisol, DHEA, and other hormones essential for energy and stress management. In summary, your score is moderate (60%), which indicates that there may be some areas of your adrenal function that could benefit from attention.

Rationale

DHEA SULFATE ↓, CORTISOL, TOTAL ↓, CHLORIDE ↑

Biomarkers considered

DHEA-S, Cortisol, Sodium, Potassium, Chloride



▶ LIVER FUNCTION

The Liver Function score assesses the health and efficiency of your liver. It is possible that you may be at risk of an emerging liver dysfunction. While this may not require immediate attention, you will want to watch this on future blood tests. The liver is responsible for detoxification, protein synthesis, bile production, and metabolizing nutrients. It plays a crucial role in maintaining overall health and metabolic balance. In summary, your score is moderate (50%), which indicates that there may be some areas of your liver function that could benefit from attention.

Rationale

GGT ↓, PROTEIN, TOTAL ↓, UREA NITROGEN (BUN) ↑, GLOBULIN ↓, IRON, TOTAL ↓, FERRITIN ↓

Biomarkers considered

ALT, AST, GGT, Alk Phos, Bilirubin Total, Albumin, Protein Total, BUN, Globulin Total, Cholesterol Total, Iron Serum, Ferritin

ACCESSORY SYSTEMS OVERVIEW

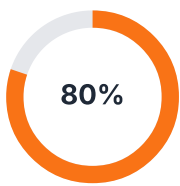
Systems Requiring Attention ($\geq 50\%$ Dysfunction)



Systems Functioning Well ($< 50\%$ Dysfunction)



ACCESSORY SYSTEMS DETAILS



► OXIDATIVE STRESS

The oxidative stress system is crucial for maintaining cellular integrity by balancing free radicals and antioxidants. Free radicals are unstable molecules that can cause cellular damage, while antioxidants neutralize them to prevent harm. Dysfunction in this system occurs when there's an imbalance, leading to excessive free radical activity and insufficient antioxidant defense, which can damage cells, proteins, and DNA. A dysfunction score between 70–90% in the oxidative stress system indicates a significant imbalance between free radical production and antioxidant capacity. This suggests that the body is experiencing excessive oxidative stress, which can lead to cellular damage and contribute to various health issues. In summary, your score is high (80%), which indicates that your oxidative stress might not function as optimally as it should and may need support moving forward.

Rationale

GGT ↓, URIC ACID ↑, IRON, TOTAL ↓, FERRITIN ↓, GLOBULIN ↓, PLATELET COUNT ↑, LYMPHOCYTES ↓, HDL CHOLESTEROL ↓, ABSOLUTE LYMPHOCYTES ↓, LDL-CHOLESTEROL ↑, NEUTROPHILS ↑, HOMOCYSTEINE ↑

Biomarkers considered

GGT, Uric Acid, Iron Serum, Ferritin, Albumin, Globulin Total, Cholesterol Total, Platelets, Lymphocytes %, Bilirubin Total, HDL Cholesterol, Lymphocytes Absolute, LDL Cholesterol, Neutrophils %, Homocysteine



▶ LIPID PANEL

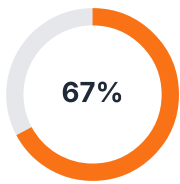
The lipid panel is a critical component of the metabolic system, responsible for measuring cholesterol and triglyceride levels, which are essential for cell membrane integrity, hormone production, and energy storage. When there is dysfunction or suboptimal function in this area, it indicates an imbalance in lipid metabolism, which can lead to the accumulation of harmful cholesterol types and an increased risk of cardiovascular disease. Dysfunction in lipid metabolism is often characterized by abnormal levels of LDL (low-density lipoprotein), HDL (high-density lipoprotein), and triglycerides, signaling potential underlying health issues. A dysfunction score between 70-90% in the lipid panel indicates significant and established imbalances in cholesterol and lipid metabolism, indicating an increased risk for cardiovascular diseases and other metabolic disorders. This score reflects potential issues such as elevated LDL cholesterol, low HDL cholesterol, or high triglycerides, all of which can contribute to atherosclerosis and other health complications. In summary, your score is high (80%), which indicates that your lipid panel might not function as optimally as it should and may need support moving forward.

Rationale

TRIGLYCERIDES ↑, LDL-CHOLESTEROL ↑, HDL CHOLESTEROL ↓, NON HDL CHOLESTEROL ↑

Biomarkers considered

Cholesterol Total, Triglycerides, LDL-C, HDL-C, Non-HDL



▶ TOXICITY

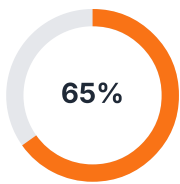
The supporting metabolic system of toxicity involves the body's ability to manage and eliminate harmful substances, both from external sources and internal metabolic processes. Dysfunction in this area means the body is struggling to effectively detoxify, leading to an accumulation of toxins that can impair cellular function and overall health. When this system is compromised, it can result in increased oxidative stress and inflammation, further exacerbating health issues. A dysfunction score of between 50-70% in this area indicates moderate challenges in the body's detoxification pathways, suggesting an overload of toxins or a reduced capacity to eliminate them. This can compromise the body's ability to maintain homeostasis and protect against environmental and internal toxic threats. In summary, your score is moderate (67%), which indicates that there may be some areas of your toxicity that could benefit from attention.

Rationale

GGT ↓, CREATININE ↓, URIC ACID ↑, GLOBULIN ↓, HDL CHOLESTEROL ↓, PLATELET COUNT ↑, LYMPHOCYTES ↓, ABSOLUTE LYMPHOCYTES ↓, MCHC ↓, HOMOCYSTEINE ↑

Biomarkers considered

GGT, ALT, AST, Bilirubin Total, Creatinine, Uric Acid, Globulin Total, Cholesterol Total, HDL Cholesterol, Platelets, Lymphocytes %, Lymphocytes Absolute, MCH, MCHC, Homocysteine



▶ INFLAMMATION

The inflammation system is a critical component of the body's immune response, designed to protect against infections and facilitate healing. However, when inflammation becomes chronic or systemic, it can lead to tissue damage and contribute to various diseases. Dysfunction in this system indicates that the body's inflammatory response is overactive or misregulated, potentially leading to ongoing immune activation and harm to healthy tissues. A dysfunction score between 50-70% in this area suggests that the patient is experiencing moderate systemic inflammation and immune activation. This indicates an imbalance in the body's ability to regulate inflammation, which may be contributing to or exacerbating health issues. In summary, your score is moderate (65%), which indicates that there may be some areas of your inflammation that could benefit from attention.

Rationale

HS CRP ↑↑, HOMOCYSTEINE ↑, FERRITIN ↓, URIC ACID ↑, RDW ↑, TRIGLYCERIDES ↑, HDL CHOLESTEROL ↓, IRON, TOTAL ↓, FERRITIN ↓, LYMPHOCYTES ↓, VITAMIN D,25-OH,TOTAL,IA ↓

Biomarkers considered

hs-CRP, Homocysteine, Ferritin, Total Wbcs, Uric Acid, RDW, Cholesterol Total, Triglycerides, HDL Cholesterol, Iron Serum, Ferritin, ESR, Lymphocytes %, Basophils %, Vitamin D (25-OH), ALT, Albumin

NUTRIENT STATUS OVERVIEW

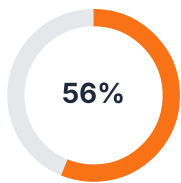
Nutrients Requiring Attention ($\geq 50\%$ Deficiency Risk)

Carbohydrate Status		67%
Vitamin Status		56%
Protein Status		55%
Fat Status		50%

Nutrients Functioning Well ($< 50\%$ Deficiency Risk)

Mineral Status		43%
Hydration Status		43%
Electrolyte Status		20%

NUTRIENT STATUS DETAILS



▶ VITAMIN STATUS

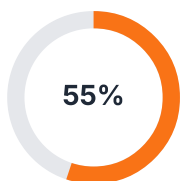
Vitamin status refers to the levels and metabolism of essential vitamins in the body, which are crucial for numerous biochemical processes, including energy production, immune function, and cellular repair. Dysfunction in this area indicates that the body is not receiving or utilizing these vitamins effectively, leading to potential deficiencies or imbalances. Such dysfunction can compromise metabolic pathways, reduce the efficiency of bodily functions, and increase vulnerability to various health issues. Deficiency Possible. There may be improvement needed in certain areas.

Rationale

GGT ↓, HOMOCYSTEINE ↑, VITAMIN D,25-OH,TOTAL,IA ↓, FOLATE, SERUM ↓, VITAMIN B12 ↓

Biomarkers considered

Albumin, AST, ALT, GGT, Homocysteine, Vitamin D,25-Oh,total,ia, MCV, Folate, Serum, Vitamin B12



▶ PROTEIN STATUS

Protein status is crucial for maintaining the body's structural, enzymatic, and hormonal functions, as proteins are composed of amino acids that serve as building blocks for tissues and organs. Dysfunction in protein metabolism or amino acid balance indicates that the body is not efficiently utilizing or synthesizing proteins, which can lead to a variety of health issues. This dysfunction may result from inadequate protein intake, poor digestion, or impaired absorption, leading to insufficient amino acid availability for critical bodily functions. Deficiency Possible. There may be improvement needed in certain areas.

Rationale

PROTEIN, TOTAL ↓, UREA NITROGEN (BUN) ↑, CREATININE ↓, HS CRP ↑↑, GGT ↓, IRON BINDING CAPACITY ↑↑

Biomarkers considered

Protein, Total, Urea Nitrogen (BUN), Albumin, Creatinine, Hs CRP, ALT, AST, Carbon Dioxide, GGT, White Blood Cell Count, Iron Binding Capacity



▶ FAT STATUS

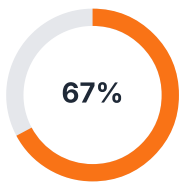
The 'Fat Status' nutritional category is crucial for maintaining essential fatty acid levels and efficient fat metabolism, which are vital for cellular function, hormone production, and inflammation regulation. Dysfunction in this area indicates that the body is not effectively utilizing or processing fats, which can lead to imbalances in essential fatty acids and impaired metabolic processes. This dysfunction can result in inadequate production of anti-inflammatory compounds and disrupted cell membrane integrity, affecting overall health. Deficiency Possible. There may be improvement needed in certain areas.

Rationale

TRIGLYCERIDES ↑, GGT ↓

Biomarkers considered

Cholesterol, Total, Triglycerides, GGT, Bilirubin, Total



▶ CARBOHYDRATE STATUS

Carbohydrate status is crucial for maintaining blood sugar regulation and efficient glucose metabolism, which are vital for providing energy to cells and supporting overall metabolic health. When dysfunction occurs in this area, it indicates that the body is struggling to manage blood sugar levels effectively, leading to potential energy imbalances and metabolic stress. This dysfunction can result in insulin resistance, impaired glucose tolerance, and other metabolic disturbances that compromise health. Deficiency Possible. There may be improvement needed in certain areas.

Rationale

GLUCOSE ↑, TRIGLYCERIDES ↑, LDL-CHOLESTEROL ↑, HDL CHOLESTEROL ↓

Biomarkers considered

Glucose, Cholesterol, Total, Triglycerides, LDL-Cholesterol, HDL Cholesterol, White Blood Cell Count

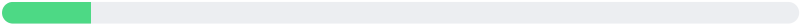
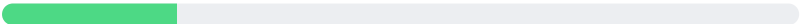
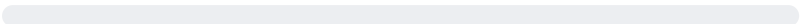
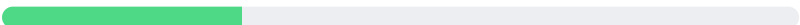
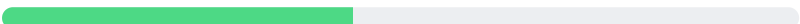
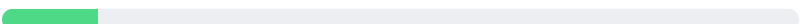
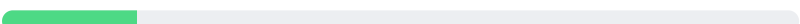
The Individual Nutrient Deficiency Results Represent An Algorithmic Analysis Of Key Biomarkers Related To Each Nutrient.

INDIVIDUAL NUTRIENT DEFICIENCIES OVERVIEW

Nutrients Requiring Attention ($\geq 50\%$ Deficiency Risk)

DHEA Need		100%
Vitamin D Need		100%
Iron Need		100%

Nutrients Functioning Well ($< 50\%$ Deficiency Risk)

Vitamin C Need		11%
Vitamin B6 Need		22%
Magnesium Need		0%
Folate Need		30%
Vitamin B12 Need		44%
Calcium Need		12%
Thiamine (B1) Need		17%

INDIVIDUAL NUTRIENT DEFICIENCY DETAILS



▶ DHEA NEED

Dehydroepiandrosterone (DHEA) is a hormone produced by the adrenal glands, playing a crucial role in the synthesis of androgens and estrogens, the male and female sex hormones. It is vital for maintaining energy levels, immune function, and overall hormonal balance. When DHEA levels are suboptimal, it can indicate adrenal insufficiency or hormonal imbalances, leading to a cascade of health issues. Dysfunction in DHEA production can disrupt the body's ability to regulate stress, metabolism, and reproductive health. Deficiency Highly Likely. Immediate attention and supplementation recommended.

Rationale

DHEA SULFATE ↓

Biomarkers considered

DHEA Sulfate



▶ VITAMIN D NEED

Vitamin D is essential for maintaining bone health, supporting immune function, and regulating inflammation. It plays a critical role in calcium absorption and bone mineralization. Dysfunction or suboptimal function in this area means that the body is not able to effectively utilize or maintain adequate levels of vitamin D, leading to potential deficiencies that can impair these vital processes. When vitamin D levels are insufficient, it can result in weakened bones, increased susceptibility to infections, and chronic inflammation. Deficiency Highly Likely. Immediate attention and supplementation recommended.

Rationale

VITAMIN D,25-OH,TOTAL,IA ↓

Biomarkers considered

Vitamin D,25-Oh,total,ia



▶ IRON NEED

Iron is a crucial mineral that plays a vital role in the production of hemoglobin, the protein in red blood cells responsible for oxygen transport throughout the body. Dysfunction in iron metabolism can lead to inadequate oxygen delivery to tissues, resulting in fatigue and impaired cellular function. Suboptimal iron levels may indicate issues with absorption, storage, or utilization, which can have widespread effects on health and well-being. Deficiency Highly Likely. Immediate attention and supplementation recommended.

Rationale

IRON, TOTAL ↓, FERRITIN ↓, RED BLOOD CELL COUNT, HEMOGLOBIN ↓, HEMATOCRIT, MCHC ↓, % SATURATION ↓, IRON BINDING CAPACITY ↓↓, RDW ↓

Biomarkers considered

Iron, Total, Ferritin, Red Blood Cell Count, Hemoglobin, Hematocrit, MCV, MCHC, % Saturation, MCH, Iron Binding Capacity, RDW

04



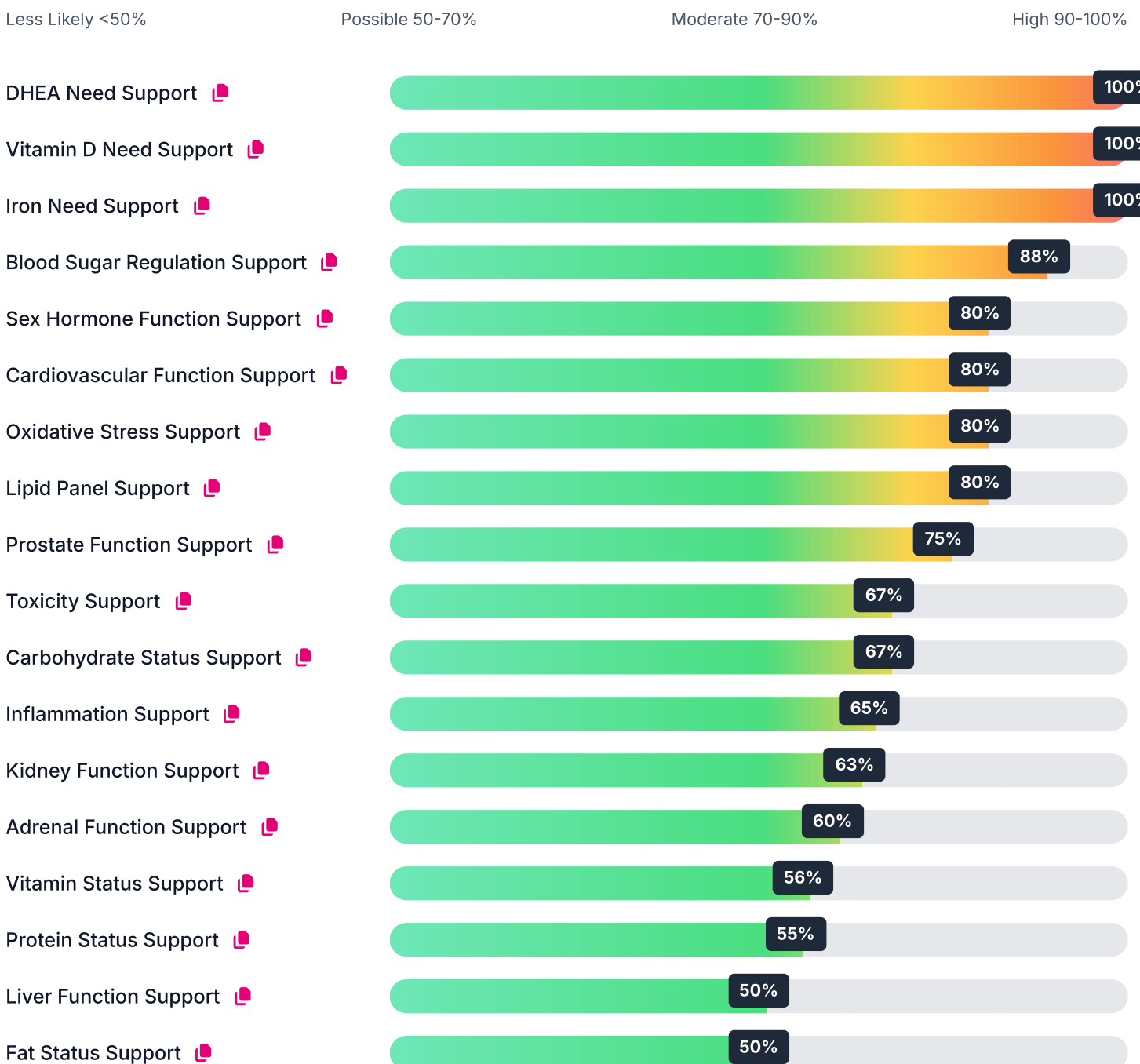
The Health Concerns Report Takes All The Information On This Report And Focuses On The Top Areas That Need The Most Support.

HEALTH CONCERNS

Health Concerns

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

NEED OF SUPPORT



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.



► DHEA NEED SUPPORT

Dehydroepiandrosterone (DHEA) is a hormone produced by the adrenal glands, playing a crucial role in the synthesis of androgens and estrogens, the male and female sex hormones. It is vital for maintaining energy levels, immune function, and overall hormonal balance. When DHEA levels are suboptimal, it can indicate adrenal insufficiency or hormonal imbalances, leading to a cascade of health issues. Dysfunction in DHEA production can disrupt the body's ability to regulate stress, metabolism, and reproductive health. Deficiency Highly Likely. Immediate attention and supplementation recommended.

Rationale

DHEA SULFATE ↓

Biomarkers Considered

DHEA SULFATE



► VITAMIN D NEED SUPPORT

Vitamin D is essential for maintaining bone health, supporting immune function, and regulating inflammation. It plays a critical role in calcium absorption and bone mineralization. Dysfunction or suboptimal function in this area means that the body is not able to effectively utilize or maintain adequate levels of vitamin D, leading to potential deficiencies that can impair these vital processes. When vitamin D levels are insufficient, it can result in weakened bones, increased susceptibility to infections, and chronic inflammation. Deficiency Highly Likely. Immediate attention and supplementation recommended.

Rationale

VITAMIN D,25-OH,TOTAL,IA ↓

Biomarkers Considered

VITAMIN D,25-OH,TOTAL,IA



► IRON NEED SUPPORT

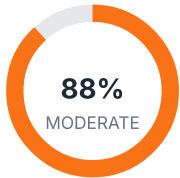
Iron is a crucial mineral that plays a vital role in the production of hemoglobin, the protein in red blood cells responsible for oxygen transport throughout the body. Dysfunction in iron metabolism can lead to inadequate oxygen delivery to tissues, resulting in fatigue and impaired cellular function. Suboptimal iron levels may indicate issues with absorption, storage, or utilization, which can have widespread effects on health and well-being. Deficiency Highly Likely. Immediate attention and supplementation recommended.

Rationale

IRON, TOTAL ↓, FERRITIN ↓, RED BLOOD CELL COUNT, HEMOGLOBIN ↓, HEMATOCRIT, MCHC ↓, % SATURATION ↓, IRON BINDING CAPACITY ↓↓, RDW ↓

Biomarkers Considered

IRON, TOTAL, FERRITIN, RED BLOOD CELL COUNT, HEMOGLOBIN, HEMATOCRIT, MCV, MCHC, % SATURATION, MCH, IRON BINDING CAPACITY, RDW



▶ BLOOD SUGAR REGULATION SUPPORT

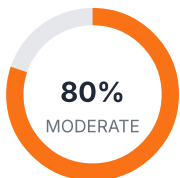
The Blood Sugar Regulation score tells us how well your body regulates the sugar in your blood. Your score indicates that your blood sugar regulation is not functioning as well as it should and may need support moving forward. Blood sugar dysregulation is widespread but doesn't suddenly emerge but develops slowly. The Blood Sugar Regulation score looks for clues in your blood test that can help us determine if there's dysregulation and, if so, what it is. In summary, your score is high (88%), which indicates that your blood sugar regulation might not function as optimally as it should and may need support moving forward.

Rationale

GLUCOSE ↑, HEMOGLOBIN A1c ↑, INSULIN ↑, TRIGLYCERIDES ↑, HDL CHOLESTEROL ↓, LDL-CHOLESTEROL ↑, DHEA SULFATE ↓

Biomarkers Considered

Glucose Fasting, Hemoglobin A1C, Insulin Fasting, Triglycerides, HDL-C, LDL-C, DHEA-S, Cholesterol Total



▶ SEX HORMONE FUNCTION SUPPORT

The Sex Hormone Risk score helps us assess levels of essential hormones in your body: testosterone, DHEA, progesterone, and estradiol, and whether these important hormones are being regulated properly. Your Sex Hormone Risk score is high, indicating that the regulation of these hormones is not functioning as well as it should and needs support moving forward to ensure optimal levels for your continued health and wellness. Blood levels of these crucial hormones diminish with age, contributing to age-related dysfunctions such as low libido, blood sugar problems, excess weight, heart disease, etc. The risk score looks for clues in your blood test that can help determine whether there is hormonal dysregulation. In summary, your score is high (80%), which indicates that your sex hormone function might not function as optimally as it should and may need support moving forward.

Rationale

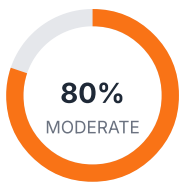
TESTOSTERONE, FREE ↓, TESTOSTERONE, TOTAL, MS ↓, SEX HORMONE BINDING GLOBULIN ↓, DHEA SULFATE ↓

Biomarkers Considered

Estradiol, Testosterone Free, Testosterone Total, SHBG, DHEA-S

Biomarkers Not Available

Progesterone



▶ **CARDIOVASCULAR FUNCTION SUPPORT**

The Cardiovascular Function score looks at biomarkers on this blood test that reflect the degree of risk in the function of your cardiovascular system: your heart and vascular system. A high Cardiovascular Function score indicates that you may be trending toward an increased risk of developing dysfunction in your cardiovascular system. A high Cardiovascular Function score indicates that you may be trending toward an increased risk of developing dysfunction in your cardiovascular system and a trend toward developing diabetes, obesity, and/or high blood pressure. In summary, your score is high (80%), which indicates that your cardiovascular function might not function as optimally as it should and may need support moving forward.

Rationale

GLUCOSE ↑, TRIGLYCERIDES ↑, LDL-CHOLESTEROL ↑, HDL CHOLESTEROL ↓, FERRITIN ↓, HS CRP ↑↑, HOMOCYSTEINE ↑, HEMOGLOBIN A1c ↑, TESTOSTERONE, TOTAL, MS ↓, INSULIN ↑, VITAMIN D,25-OH,TOTAL,IA ↓, TESTOSTERONE, FREE ↓

Biomarkers Considered

Lipoprotein (a), Glucose Fasting, Cholesterol Total, Triglycerides, LDL-C, HDL-C, Ferritin, hs-CRP, Homocysteine, Hemoglobin A1C, Estradiol, Testosterone Total, Insulin Fasting, Vitamin D (25-OH), Testosterone Free



▶ **OXIDATIVE STRESS SUPPORT**

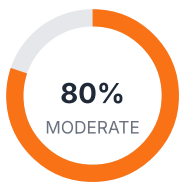
The oxidative stress system is crucial for maintaining cellular integrity by balancing free radicals and antioxidants. Free radicals are unstable molecules that can cause cellular damage, while antioxidants neutralize them to prevent harm. Dysfunction in this system occurs when there's an imbalance, leading to excessive free radical activity and insufficient antioxidant defense, which can damage cells, proteins, and DNA. A dysfunction score between 70-90% in the oxidative stress system indicates a significant imbalance between free radical production and antioxidant capacity. This suggests that the body is experiencing excessive oxidative stress, which can lead to cellular damage and contribute to various health issues. In summary, your score is high (80%), which indicates that your oxidative stress might not function as optimally as it should and may need support moving forward.

Rationale

GGT ↓, URIC ACID ↑, IRON, TOTAL ↓, FERRITIN ↓, GLOBULIN ↓, PLATELET COUNT ↑, LYMPHOCYTES ↓, HDL CHOLESTEROL ↓, ABSOLUTE LYMPHOCYTES ↓, LDL-CHOLESTEROL ↑, NEUTROPHILS ↑, HOMOCYSTEINE ↑

Biomarkers Considered

GGT, Uric Acid, Iron Serum, Ferritin, Albumin, Globulin Total, Cholesterol Total, Platelets, Lymphocytes %, Bilirubin Total, HDL Cholesterol, Lymphocytes Absolute, LDL Cholesterol, Neutrophils %, Homocysteine



▶ **LIPID PANEL SUPPORT**

The lipid panel is a critical component of the metabolic system, responsible for measuring cholesterol and triglyceride levels, which are essential for cell membrane integrity, hormone production, and energy storage. When there is dysfunction or suboptimal function in this area, it indicates an imbalance in lipid metabolism, which can lead to the accumulation of harmful cholesterol types and

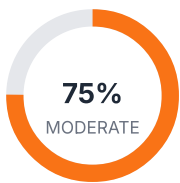
an increased risk of cardiovascular disease. Dysfunction in lipid metabolism is often characterized by abnormal levels of LDL (low-density lipoprotein), HDL (high-density lipoprotein), and triglycerides, signaling potential underlying health issues. A dysfunction score between 70-90% in the lipid panel indicates significant and established imbalances in cholesterol and lipid metabolism, indicating an increased risk for cardiovascular diseases and other metabolic disorders. This score reflects potential issues such as elevated LDL cholesterol, low HDL cholesterol, or high triglycerides, all of which can contribute to atherosclerosis and other health complications. In summary, your score is high (80%), which indicates that your lipid panel might not function as optimally as it should and may need support moving forward.

Rationale

TRIGLYCERIDES ↑, LDL-CHOLESTEROL ↑, HDL CHOLESTEROL ↓, NON HDL CHOLESTEROL ↑

Biomarkers Considered

Cholesterol Total, Triglycerides, LDL-C, HDL-C, Non-HDL



► PROSTATE FUNCTION SUPPORT

The Prostate Function score assesses the health of the prostate gland. A high Prostate Function score indicates that you may be at an increased risk of prostate dysfunction. The prostate is a small gland that produces fluid for semen. Monitoring prostate health is important for detecting early signs of enlargement or dysfunction. In summary, your score is high (75%), which indicates that your prostate function might not function as optimally as it should and may need support moving forward.

Rationale

TESTOSTERONE, TOTAL, MS ↓, DHEA SULFATE ↓, CREATININE ↓

Biomarkers Considered

Testosterone Total, DHEA-S, Creatinine, Monocytes %

Biomarkers Not Available

PSA, Free PSA



► TOXICITY SUPPORT

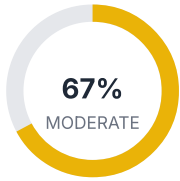
The supporting metabolic system of toxicity involves the body's ability to manage and eliminate harmful substances, both from external sources and internal metabolic processes. Dysfunction in this area means the body is struggling to effectively detoxify, leading to an accumulation of toxins that can impair cellular function and overall health. When this system is compromised, it can result in increased oxidative stress and inflammation, further exacerbating health issues. A dysfunction score of between 50-70% in this area indicates moderate challenges in the body's detoxification pathways, suggesting an overload of toxins or a reduced capacity to eliminate them. This can compromise the body's ability to maintain homeostasis and protect against environmental and internal toxic threats. In summary, your score is moderate (67%), which indicates that there may be some areas of your toxicity that could benefit from attention.

Rationale

GGT ↓, CREATININE ↓, URIC ACID ↑, GLOBULIN ↓, HDL CHOLESTEROL ↓, PLATELET COUNT ↑, LYMPHOCYTES ↓, ABSOLUTE LYMPHOCYTES ↓, MCHC ↓, HOMOCYSTEINE ↑

Biomarkers Considered

GGT, ALT, AST, Bilirubin Total, Creatinine, Uric Acid, Globulin Total, Cholesterol Total, HDL Cholesterol, Platelets, Lymphocytes %, Lymphocytes Absolute, MCH, MCHC, Homocysteine



▶ CARBOHYDRATE STATUS SUPPORT

The results indicate a need for carbohydrate status support.



▶ INFLAMMATION SUPPORT

The inflammation system is a critical component of the body's immune response, designed to protect against infections and facilitate healing. However, when inflammation becomes chronic or systemic, it can lead to tissue damage and contribute to various diseases. Dysfunction in this system indicates that the body's inflammatory response is overactive or misregulated, potentially leading to ongoing immune activation and harm to healthy tissues. A dysfunction score between 50-70% in this area suggests that the patient is experiencing moderate systemic inflammation and immune activation. This indicates an imbalance in the body's ability to regulate inflammation, which may be contributing to or exacerbating health issues. In summary, your score is moderate (65%), which indicates that there may be some areas of your inflammation that could benefit from attention.

Rationale

HS CRP ↑↑, HOMOCYSTEINE ↑, FERRITIN ↓, URIC ACID ↑, RDW ↑, TRIGLYCERIDES ↑, HDL CHOLESTEROL ↓, IRON, TOTAL ↓, FERRITIN ↓, LYMPHOCYTES ↓, VITAMIN D,25-OH,TOTAL,IA ↓

Biomarkers Considered

hs-CRP, Homocysteine, Ferritin, Total WBCs, Uric Acid, RDW, Cholesterol Total, Triglycerides, HDL Cholesterol, Iron Serum, Ferritin, ESR, Lymphocytes %, Basophils %, Vitamin D (25-OH), ALT, Albumin



▶ KIDNEY FUNCTION SUPPORT

The Kidney Function score looks at biomarkers that reflect the health and efficiency of your kidneys. A high Kidney Function score indicates that you may be at an increased risk of kidney dysfunction. The kidneys filter waste products from the blood, regulate fluid balance, control blood pressure, and maintain electrolyte balance. They are essential for removing toxins and maintaining overall health. In summary, your score is moderate (63%), which indicates that there may be some areas of your kidney function that could benefit from attention.

Rationale

UREA NITROGEN (BUN) ↑, CREATININE ↓, EGFR ↓, URIC ACID ↑, CHLORIDE ↑

Biomarkers Considered

BUN, Creatinine, eGFR, Uric Acid, Sodium, Potassium, Chloride, AST



▶ ADRENAL FUNCTION SUPPORT

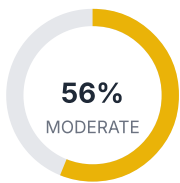
The Adrenal Function score assesses the health of your adrenal glands and stress response. A high Adrenal Function score indicates that your adrenal glands may not be functioning optimally and may need support. The adrenal glands produce hormones that help regulate metabolism, immune system, blood pressure, and response to stress. They produce cortisol, DHEA, and other hormones essential for energy and stress management. In summary, your score is moderate (60%), which indicates that there may be some areas of your adrenal function that could benefit from attention.

Rationale

DHEA SULFATE ↓, CORTISOL, TOTAL ↓, CHLORIDE ↑

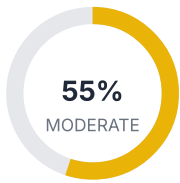
Biomarkers Considered

DHEA-S, Cortisol, Sodium, Potassium, Chloride



▶ VITAMIN STATUS SUPPORT

The results indicate a need for vitamin status support.



▶ PROTEIN STATUS SUPPORT

The results indicate a need for protein status support.



▶ LIVER FUNCTION SUPPORT

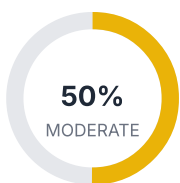
The Liver Function score assesses the health and efficiency of your liver. It is possible that you may be at risk of an emerging liver dysfunction. While this may not require immediate attention, you will want to watch this on future blood tests. The liver is responsible for detoxification, protein synthesis, bile production, and metabolizing nutrients. It plays a crucial role in maintaining overall health and metabolic balance. In summary, your score is moderate (50%), which indicates that there may be some areas of your liver function that could benefit from attention.

Rationale

GGT ↓, PROTEIN, TOTAL ↓, UREA NITROGEN (BUN) ↑, GLOBULIN ↓, IRON, TOTAL ↓, FERRITIN ↓

Biomarkers Considered

ALT, AST, GGT, Alk Phos, Bilirubin Total, Albumin, Protein Total, BUN, Globulin Total, Cholesterol Total, Iron Serum, Ferritin



▶ FAT STATUS SUPPORT

The results indicate a need for fat status support.

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— Disclaimer

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