

Blood Chemistry Analysis

Functional Health Report



Client Report

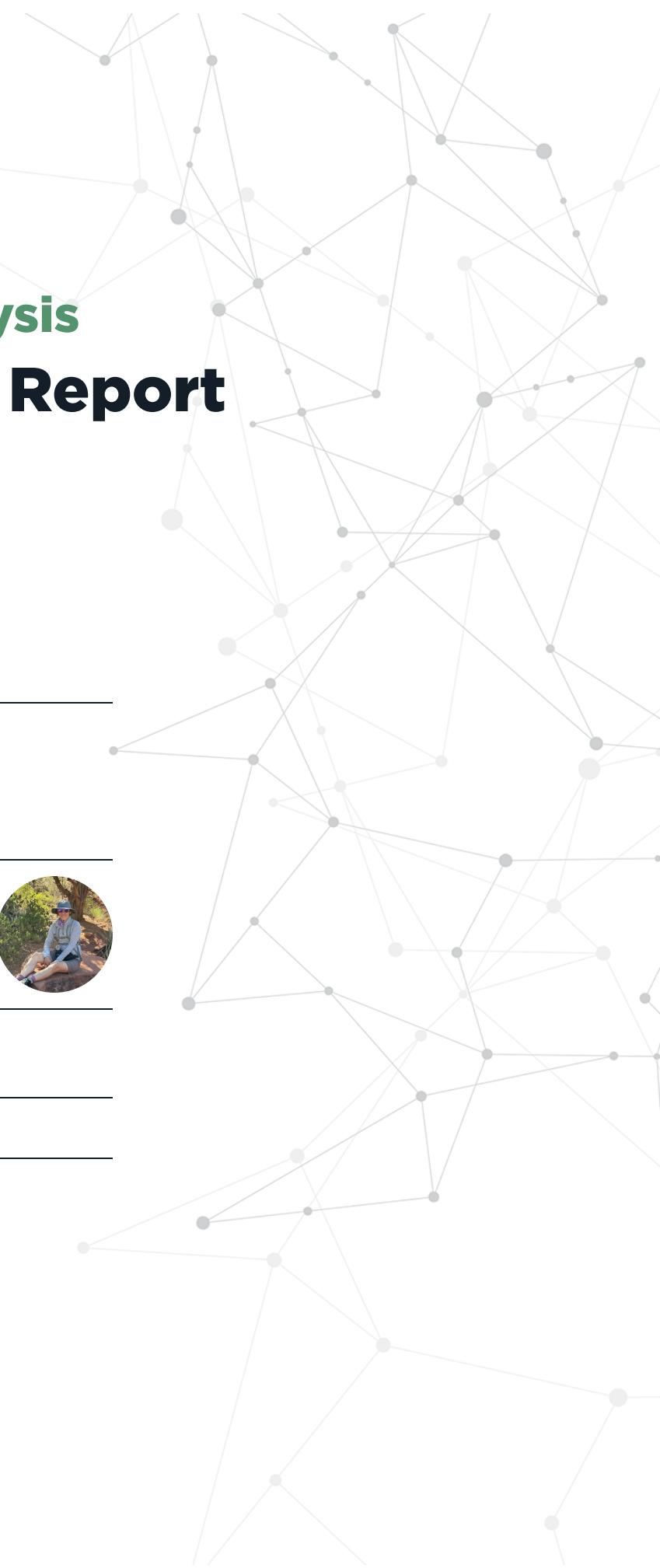
Prepared for Betty Boop
54 year old female born Jan 01, 1969
Fasting

Requested by Michelle Hernandez
Michelle Hernandez Health and Wellness



Collected Date Jun 09, 2023

Lab Quest



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An introduction to Functional Blood Chemistry Analysis and your Functional Health Report (FHR).



Introduction

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Functional Blood Chemistry Analysis (FBCA)

Functional Blood Chemistry Analysis is the process by which blood biomarkers are organized, analyzed, and interpreted. It provides a comprehensive assessment of the state of health in the body's main physiological systems. It also gives a window into the body's nutrient status and whether you are trending toward or away from optimal health.



Michelle Hernandez

Michelle Hernandez Health and Wellness

WHY BLOOD TESTING?

Blood has a lot to say about your state of health. The Blood Chemistry and CBC / hematology test is the world's most commonly ordered medical lab test. Blood testing is an integral part of Western clinical medicine and is used to aid in the diagnostic decision-making process. Clients understand and are educated that blood testing is the norm for health assessment.

However, many people start to feel unwell long before a traditional blood test result becomes diagnostic, and more often than not, clients like you are told by their physician that "everything on your blood test looks normal."

NORMAL IS NOT OPTIMAL

Most people who feel "unwell" will come out "normal" on a blood test. Clinical experience suggests that these people are by no means "normal" and are a far cry from being functionally optimal. They may not yet have progressed to a known disease state but they are what we call dys-functional, i.e. their physiological systems are no longer functioning properly and they are starting to feel un-well.

The issue is not that the blood test is a poor diagnostic tool, far from it. The issue is that the reference ranges used on a traditional lab test are based on statistics, not on whether a certain value represents good health or optimal physiological function. The problem is that "normal" ranges represent "average" populations rather than the optimal level required to maintain good health. Most "normal" reference ranges are too broad to adequately detect health problems before they become pathology and are not useful for detecting the emergence of dysfunction.

THE FUNCTIONAL APPROACH

The functional approach to blood test analysis is oriented around functional changes in your body and not pathology. We use ranges that are based on optimal physiology and not the "normal" population. This results in a tighter "Functional Physiological Range", which allows us to evaluate the area within the "Normal" reference range that indicates that something is not quite right in the physiological systems associated with this biomarker. This gives us the ability to detect changes in your physiological "function". We can identify the factors that obstruct you from achieving optimal physiological, biochemical, and metabolic functioning in your body.

Another thing that separates Functional Blood Chemistry Analysis from the Traditional approach is we are not simply looking at one individual biomarker at a time in a linear report of the data. Rather, we use trend analysis between the individual biomarkers to establish hidden risk trends towards or away from optimal health.

THE FUNCTIONAL HEALTH REPORT

The Functional Health Report results from a detailed algorithmic analysis of your blood test results. Our analytical and interpretive software analyzes the blood test data for its hidden meaning and reveals the subtle, web-like patterns hidden within the numbers that signal the first stages of functional change in your body.

SUMMARY

In closing, Blood testing is no longer simply a part of disease or injury management. It's a vital component of a comprehensive Functional Medicine work up and plays a vital role in uncovering hidden health trends, comprehensive health promotion and disease prevention.

Client Report

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



Michelle Hernandez

Michelle Hernandez Health and Wellness

THE FUNCTIONAL HEALTH REPORT

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

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

ASSESSMENT

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

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

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

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

ANALYSIS

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

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

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

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

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

HEALTH CONCERNS

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



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

Analytics

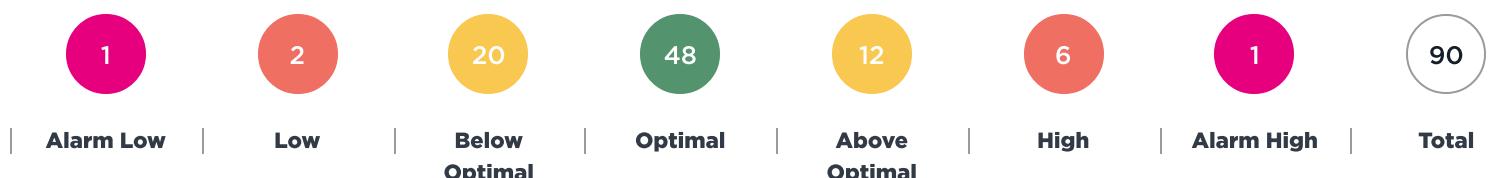
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Blood Test Results	Blood Test Comparative	Blood Test History	Out of Optimal Range	
Blood Glucose	Kidney	Electrolytes	Metabolic	Proteins
Essential Fatty Acids	Minerals	Liver and GB	Iron Markers	Lipids
Lipoproteins	Cardiometabolic	Thyroid	Inflammation	Vitamins
Hormones	CBC	WBCs	Cardio IQ (ION)	

Blood Test Results

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

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



BLOOD GLUCOSE

Glucose - Fasting

76.00 mg/dL



Hemoglobin A1C

5.20 %



eAG

102.54 mg/dl



Insulin - Fasting

1.40 μ IU/ml



QUICKI

0.49 Index



Triglyceride-Glucose Index (TyG)

4.40 Index



KIDNEY

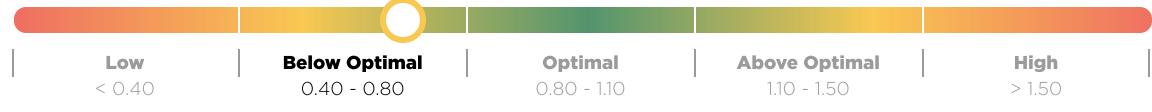
BUN

9.00 mg/dL



Creatinine

0.69 mg/dL



BUN : Creatinine

13.04 Ratio



eGFR

104.00 mL/min/1.73m2



ELECTROLYTES

Sodium

139.00 mEq/L



Potassium

3.80 mEq/L



Chloride

101.00 mEq/L



CO2

24.00 mEq/L



Sodium : Potassium

36.58 ratio



METABOLIC

Anion Gap  17.80 mEq/L



Uric Acid - Female  6.00 mg/dL



Creatine Kinase  57.00 u/l



PROTEINS

Protein - Total  7.70 g/dL



Albumin  4.30 g/dL



Globulin - Total  3.40 g/dL

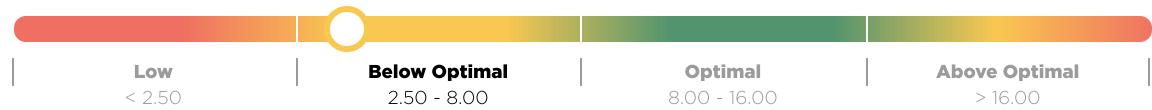


Albumin : Globulin  1.30 ratio



ESSENTIAL FATTY ACIDS

Omega 3 Index  3.50 %



MINERALS

Calcium  9.30 mg/dL



Magnesium - RBC  6.00 mg/dL



Selenium - Serum  144.00 ug/L



Zinc - Serum

95.00 $\mu\text{g}/\text{dL}$



Calcium : Albumin

2.16 ratio



LIVER AND GB

Alk Phos

41.00 IU/L



AST

18.00 IU/L



ALT

14.00 IU/L



Bilirubin - Total

0.40 mg/dL



AST : ALT

1.29 Ratio



IRON MARKERS

Ferritin

50.00 ng/mL



LIPIDS

Cholesterol - Total

184.00 mg/dL



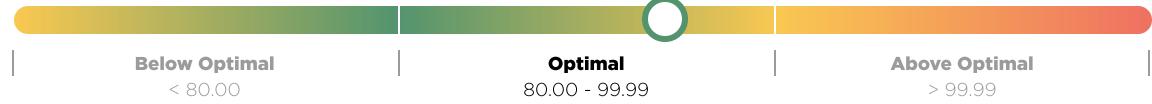
Triglycerides

87.00 mg/dL



LDL Cholesterol

94.00 mg/dL



HDL Cholesterol

72.00 mg/dL



Non-HDL Cholesterol

112.00 mg/dl



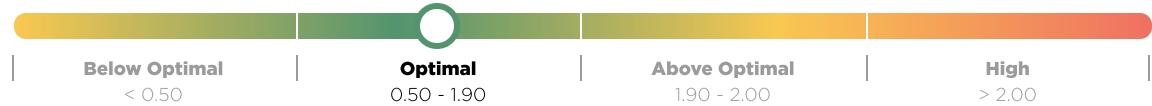
LDL : HDL - Female

1.31 Ratio



Triglyceride:HDL

1.21 ratio



Cholesterol : HDL

2.56 Ratio



LIPOPROTEINS

Lipoprotein (a)

9.00 nmol/L



Apolipoprotein B

77.00 mg/dl



CARDIOMETABOLIC

Homocysteine

6.70 μ mol/L



THYROID

TSH

1.74 μ U/mL



T4 - Free

1.10 ng/dL



T3 - Free

2.40 pg/ml



Thyroid Peroxidase (TPO) Abs

1.00 IU/ml



Free T3 : Free T4

2.18 Ratio



INFLAMMATION

Hs CRP - Female

1.40 mg/L



Platelet : Lymphocyte (PLR)

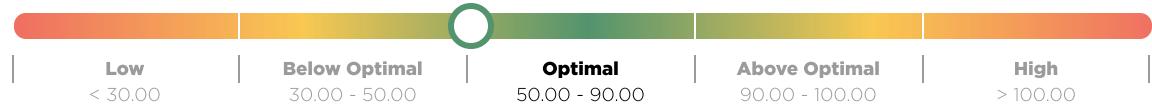
141.38 Ratio



VITAMINS

Vitamin D (25-OH)

51.00 ng/ml



Vitamin B12

680.00 pg/ml



Folate - Serum

25.00 ng/ml



HORMONES

FSH - Female

Unknown

124.60 mIU/ml

Follicular	2.50-10.20	Luteal	1.50-9.10
Ovulation	3.10-17.70	Post Menopausal	23.00-116.30

LH - Female

Unknown

31.70 mIU/ml

Follicular	1.90-12.50	Luteal	0.50-16.90
Ovulation	8.70-76.30	Post Menopausal	10.00-54.70

Testosterone Total - Female

14.00 ng/dl



Testosterone Free - Female

0.60 pg/ml



Sex Hormone Binding

Globulin - Female

116.60 nmol/L



Estradiol - Female

Unknown

14.90 pg/ml

Follicular	19.00-144.00	Luteal	56.00-214.00
Ovulation	64.00-357.00	Post Menopausal	0.00-31.00

Progesterone - Female

Unknown

0.49 ng/ml

Follicular	0.00-1.00	Luteal	2.60-21.50
Ovulation	0.10-12.00	Post Menopausal	0.00-0.50

Cortisol - Total/AM

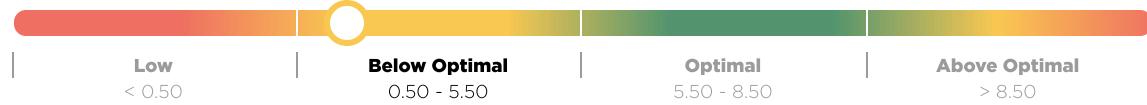
15.70 µg/dL



Testosterone Bioavailable -

Female

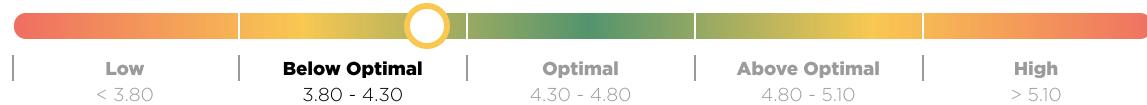
1.40 ng/dl



CBC

RBC - Female

4.21 m/cumm



Hemoglobin - Female

13.10 g/dl



Hematocrit - Female

40.30 %



MCV

95.70 fL



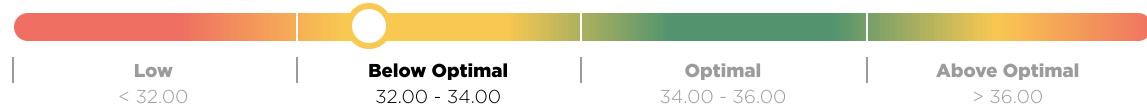
MCH

31.10 pg



MCHC

32.50 g/dL



Platelets

287.00 10E3/µL



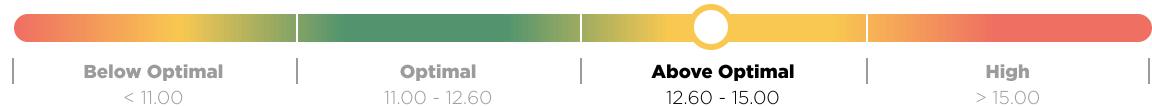
MPV

10.70 fL



RDW 

13.70 %

**WBCS**

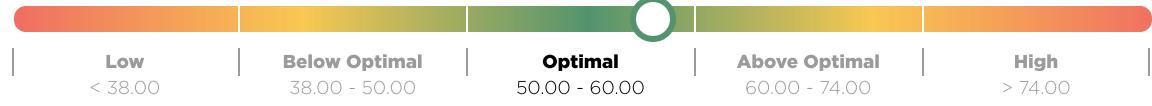
Total WBCs

5.90 k/cumm



Neutrophils - %

58.00 %



Lymphocytes - %

34.40 %



Monocytes - %

6.60 %



Eosinophils - %

0.30 %



Basophils - %

0.70 %



Neutrophils - Absolute

3.42 k/cumm



Lymphocytes - Absolute

2.03 k/cumm



Monocytes - Absolute

0.38 k/cumm



Eosinophils - Absolute

0.01 k/cumm



Basophils - Absolute

0.04 k/cumm

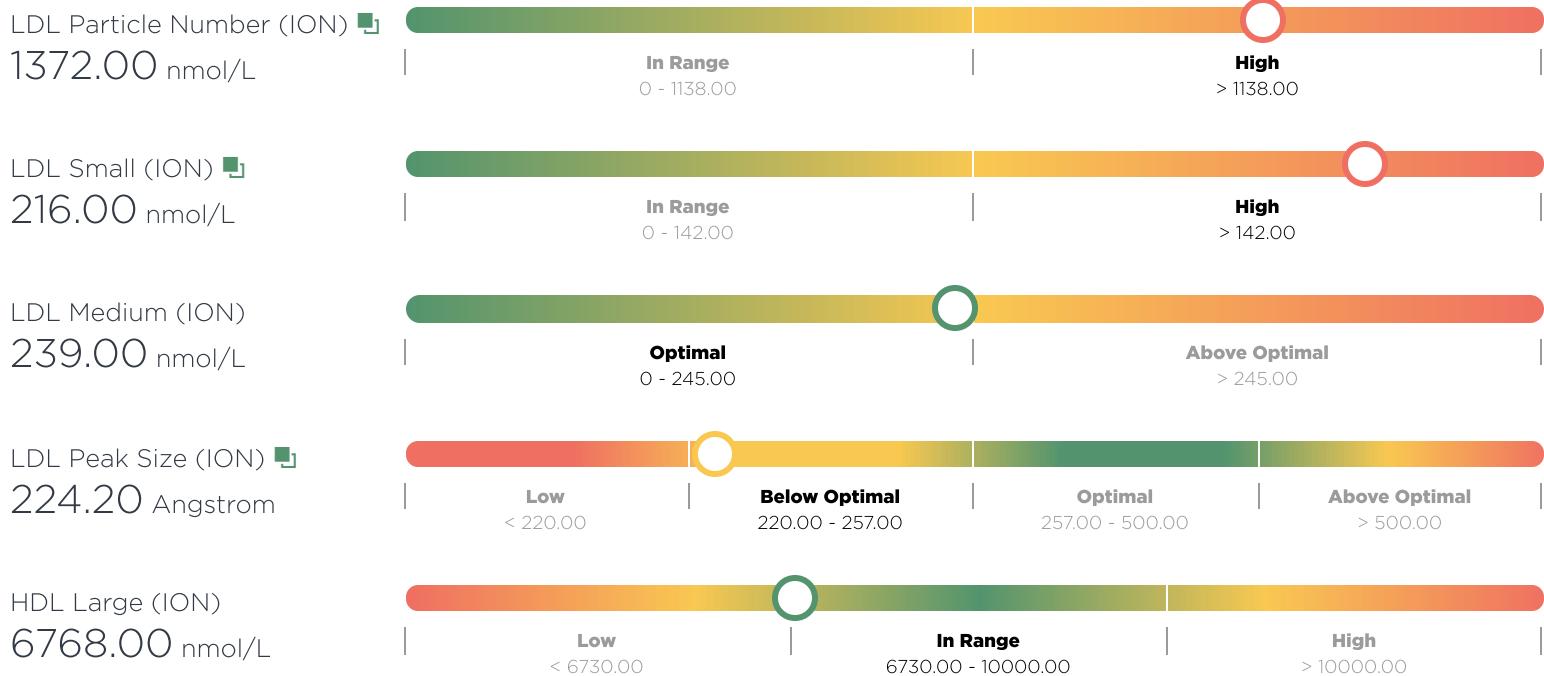


Neutrophil : Lymphocyte

1.68 Ratio



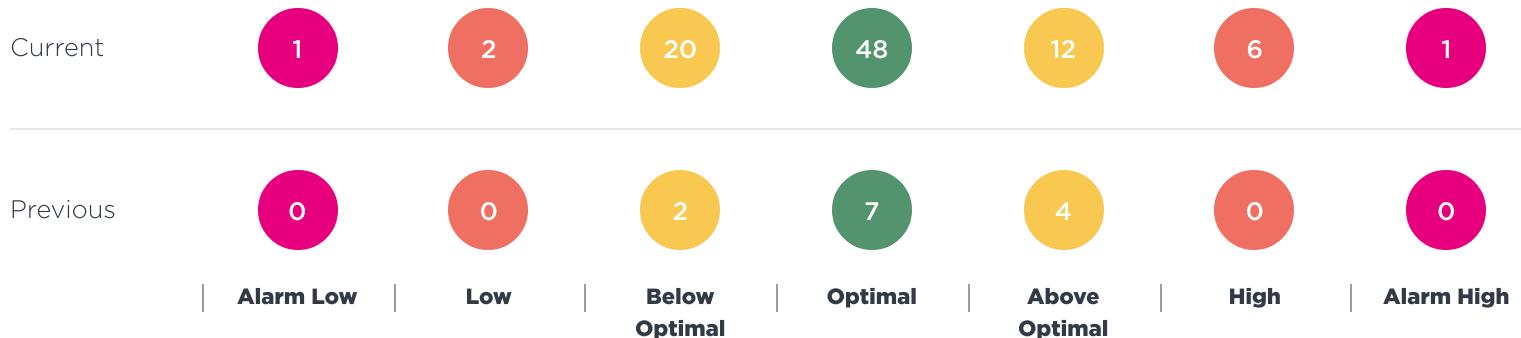
CARDIO IQ (ION)



Blood Test Results Comparative

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



Biomarker	Quest	Quest	Optimal range	Standard range	Units
	Previous Mar 08 2023	Current Jun 09 2023			

BLOOD GLUCOSE

Glucose - Fasting 	94.00 	76.00	75.00 - 86.00	65.00 - 99.00	mg/dL
Hemoglobin A1C 	5.60 	5.20	4.60 - 5.30	0 - 5.70	%
eAG 	114.02 	102.54	85.00 - 105.00	82.00 - 154.00	mg/dl
Insulin - Fasting 	3.10	1.40 	2.00 - 5.00	0 - 19.60	μIU/ml
QUICKI 	0.41 	0.49	0.45 - 5.00	0.34 - 5.00	Index
Triglyceride-Glucose Index (TyG) 		4.40	0 - 4.40	0 - 4.50	Index

KIDNEY

BUN 	9.00 	10.00 - 16.00	7.00 - 25.00	mg/dL
Creatinine 	0.69 	0.80 - 1.10	0.40 - 1.50	mg/dL
BUN : Creatinine 	13.04	10.00 - 16.00	6.00 - 22.00	Ratio
eGFR 	104.00	90.00 - 120.00	60.00 - 160.00	mL/min/1.73m ²

Biomarker	Quest	Quest	Optimal range	Standard range	Units
	Previous Mar 08 2023	Current Jun 09 2023			
ELECTROLYTES					
Sodium		139.00	137.00 - 142.00	135.00 - 146.00	mEq/L
Potassium		3.80 ↓	4.00 - 5.00	3.50 - 5.30	mEq/L
Chloride		101.00	100.00 - 106.00	98.00 - 110.00	mEq/L
CO2		24.00 ↓	25.00 - 30.00	19.00 - 30.00	mEq/L
Sodium : Potassium		36.58 ↑ ↑	30.00 - 35.00		ratio
METABOLIC					
Anion Gap		17.80 ↑↑	7.00 - 12.00	6.00 - 16.00	mEq/L
Uric Acid - Female	👉 4.70	6.00 ↑	3.00 - 4.70	2.50 - 7.00	mg/dL
Creatine Kinase		57.00 ↓	65.00 - 135.00	29.00 - 143.00	u/l
PROTEINS					
Protein - Total		7.70	6.90 - 8.10	6.10 - 8.10	g/dL
Albumin		4.30 ↓	4.50 - 5.00	3.60 - 5.10	g/dL
Globulin - Total		3.40 ↑	2.40 - 2.80	1.90 - 3.70	g/dL
Albumin : Globulin		1.30 ↓	1.40 - 2.10	1.00 - 2.50	ratio
ESSENTIAL FATTY ACIDS					
Omega 3 Index		3.50 ↓	8.00 - 16.00	2.50 - 16.00	%
MINERALS					
Calcium		9.30	8.90 - 9.50	8.60 - 10.40	mg/dL
Magnesium - RBC	6.00	6.00	6.00 - 6.80	4.00 - 6.80	mg/dL
Selenium - Serum		144.00 ↑	70.00 - 121.00	63.00 - 160.00	ug/L
Zinc - Serum		95.00 ↓	99.00 - 130.00	50.00 - 130.00	μg/dL
Calcium : Albumin		2.16	0 - 2.18	0 - 2.60	ratio
LIVER AND GB					
Alk Phos		41.00 ↓	45.00 - 100.00	31.00 - 125.00	IU/L
AST		18.00	10.00 - 26.00	10.00 - 35.00	IU/L
ALT		14.00	10.00 - 26.00	6.00 - 29.00	IU/L
Bilirubin - Total		0.40 ↓	0.50 - 0.90	0.20 - 1.20	mg/dL
AST : ALT		1.29 ↑↑	0 - 1.00		Ratio
IRON MARKERS					
Ferritin	47.00	50.00	45.00 - 79.00	16.00 - 232.00	ng/mL
LIPIDS					
Cholesterol - Total		184.00	160.00 - 199.00	125.00 - 199.00	mg/dL
Triglycerides		87.00 ↑	70.00 - 80.00	0 - 149.99	mg/dL
LDL Cholesterol		94.00	80.00 - 99.99	0 - 99.99	mg/dL
HDL Cholesterol		72.00	55.00 - 93.00	50.00 - 100.00	mg/dL

Biomarker	Quest	Quest	Optimal range	Standard range	Units
	Previous Mar 08 2023	Current Jun 09 2023			
Non-HDL Cholesterol 		112.00 	70.00 - 99.00	0 - 129.99	mg/dl
LDL : HDL - Female 		1.31	0 - 2.34	0 - 4.12	Ratio
Triglyceride:HDL 		1.21	0.50 - 1.90	0 - 2.00	ratio
Cholesterol : HDL 		2.56	0 - 3.00	0 - 5.00	Ratio
LIPOPROTEINS					
Lipoprotein (a) 		9.00	0 - 18.00	0 - 74.99	nmol/L
Apolipoprotein B 		77.00	52.00 - 90.00		mg/dl
CARDIOMETABOLIC					
Homocysteine 	7.20	6.70	5.00 - 7.20	0 - 10.30	μmol/L
THYROID					
TSH 		1.74	1.00 - 2.00	0.40 - 4.50	μU/mL
T4 - Free 		1.10	1.00 - 1.50	0.80 - 1.80	ng/dL
T3 - Free 		2.40 	3.00 - 3.50	2.30 - 4.20	pg/ml
Thyroid Peroxidase (TPO) Abs 		1.00	0 - 6.80	0 - 9.00	IU/ml
Free T3 : Free T4 		2.18 	2.40 - 2.70	2.20 - 2.90	Ratio
INFLAMMATION					
Hs CRP - Female 	 1.50 	1.40 	0 - 1.00	0 - 2.90	mg/L
Platelet : Lymphocyte (PLR) 		141.38 	0 - 128.00	0 - 150.00	Ratio
VITAMINS					
Vitamin D (25-OH) 	 38.00 	51.00	50.00 - 90.00	30.00 - 100.00	ng/ml
Vitamin B12 	736.00	680.00	545.00 - 1100.00	200.00 - 1100.00	pg/ml
Folate - Serum 	24.00	25.00	15.00 - 27.00	5.50 - 27.00	ng/ml
HORMONES					
FSH - Female 		124.60 <i>UNKNOWN</i>	Follicular Luteal Ovulation Post Menopausal	2.50 - 10.20 1.50 - 9.10 3.10 - 17.70 23.00 - 116.30	miU/ml
LH - Female 		31.70 <i>UNKNOWN</i>	Follicular Luteal Ovulation Post Menopausal	1.90 - 12.50 0.50 - 16.90 8.70 - 76.30 10.00 - 54.70	miU/ml
Testosterone Total - Female 		14.00 	35.00 - 45.00	2.00 - 45.00	ng/dl
Testosterone Free - Female 		0.60 	3.25 - 4.60	0.10 - 6.40	pg/ml
Sex Hormone Binding Globulin - Female 		116.60 	50.00 - 80.00	17.00 - 124.00	nmol/L
Estradiol - Female 		14.90 <i>UNKNOWN</i>	Follicular Luteal Ovulation Post Menopausal	19.00 - 144.00 56.00 - 214.00 64.00 - 357.00 0.00 - 31.00	pg/ml

Biomarker	Quest	Quest	Optimal range	Standard range	Units
	Previous Mar 08 2023	Current Jun 09 2023			
Progesterone - Female	0.49 UNKNOWN		Follicular Luteal Ovulation Post Menopausal	0.00 - 1.00 2.60 - 21.50 0.10 - 12.00 0.00 - 0.50	ng/ml
Cortisol - Total/AM	15.70 ↑		10.00 - 15.00	4.00 - 22.00	µg/dL
Testosterone Bioavailable - Female	1.40 ↓		5.50 - 8.50	0.50 - 8.50	ng/dl

CBC

RBC - Female	4.21 ↓	4.30 - 4.80	3.80 - 5.10	m/cumm
Hemoglobin - Female	13.10 ↓	13.50 - 14.50	11.70 - 15.50	g/dl
Hematocrit - Female	40.30	37.00 - 44.00	35.00 - 45.00	%
MCV	95.70 ↑	82.00 - 89.90	80.00 - 100.00	fL
MCH	31.10	28.00 - 31.90	27.00 - 33.00	pg
MCHC	32.50 ↓	34.00 - 36.00	32.00 - 36.00	g/dL
Platelets	287.00	190.00 - 300.00	140.00 - 400.00	10E3/µL
MPV	10.70 ↑	7.50 - 8.20	7.50 - 11.50	fL
RDW	13.70 ↑	11.00 - 12.60	11.00 - 15.00	%

WBCS

Total WBCs	5.90	3.80 - 6.00	3.80 - 10.80	k/cumm
Neutrophils - %	58.00	50.00 - 60.00	38.00 - 74.00	%
Lymphocytes - %	34.40	30.00 - 35.00	14.00 - 46.00	%
Monocytes - %	6.60	4.00 - 7.00	4.00 - 13.00	%
Eosinophils - %	0.30	0 - 3.00		%
Basophils - %	0.70	0 - 1.00		%
Neutrophils - Absolute	3.42	1.90 - 4.20	1.50 - 7.80	k/cumm
Lymphocytes - Absolute	2.03	1.44 - 2.54	0.85 - 3.90	k/cumm
Monocytes - Absolute	0.38	0.20 - 0.40	0.20 - 0.95	k/cumm
Eosinophils - Absolute	0.01	0 - 0.20	0 - 0.50	k/cumm
Basophils - Absolute	0.04	0 - 0.10	0 - 0.20	k/cumm
Neutrophil : Lymphocyte	1.68	1.00 - 1.70	1.00 - 3.00	Ratio

CARDIO IQ (ION)

LDL Particle Number (ION)	1372.00 ↑↑	0 - 1138.00	nmol/L
LDL Small (ION)	216.00 ↑ ↑	0 - 142.00	nmol/L
LDL Medium (ION)	239.00	0 - 245.00	0 - 215.00
LDL Peak Size (ION)	224.20 ↓	257.00 - 500.00	220.00 - 500.00
HDL Large (ION)	6768.00	6730.00 - 10000.00	nmol/L

Blood Test History

The Blood Test History Report lists the results of your blood test results side by side with the latest test listed on the right-hand side. This report allows you to compare results over time and see where improvement has been made, allowing you to track your progress towards optimal health.

Key

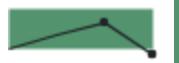
- Optimal
- Above / Below Optimal
- Above / Below Standard
- Alarm High / Alarm Low

Biomarker	Latest 7 Test Results						
	Quest	Quest	Quest	Quest	Quest	Quest	Quest
	Aug 31 2021	Dec 30 2021	Feb 10 2022	Aug 23 2022	Aug 31 2022	Mar 08 2023	Jun 09 2023

BLOOD GLUCOSE

Glucose - Fasting		88.00 ↑	92.00 ↑	95.00 ↑		94.00 ↑	76.00
Hemoglobin A1C		5.40 ↑	5.20	5.50 ↑		5.60 ↑	5.20
eAG		108.28 ↑	102.54	111.15 ↑		114.02 ↑	102.54
Insulin - Fasting		2.50		1.80 ↓		3.10	1.40 ↓
C-Peptide						0.90 ↓	
Fructosamine						250.00 ↑	
HOMA2-%B						65.90 ↓ ↓	
HOMA2-%S						149.40	
HOMA2-IR						0.66 ↓	
QUICKI		0.45		0.41 ↓	0.49		
Triglyceride-Glucose Index (TyG)		4.27	4.27	4.46 ↑	4.40		

KIDNEY

BUN		10.00	12.00	14.00		9.00 ↓
Creatinine		0.71 ↓	0.67 ↓	0.78 ↓		0.69 ↓
BUN : Creatinine		14.08	17.91 ↑	17.95 ↑		13.04
eGFR		98.00	101.00	91.00		104.00

ELECTROLYTES

Biomarker	Latest 7 Test Results						
	Quest	Quest	Quest	Quest	Quest	Quest	Quest
	Aug 31 2021	Dec 30 2021	Feb 10 2022	Aug 23 2022	Aug 31 2022	Mar 08 2023	Jun 09 2023
Sodium		137.00		137.00	137.00		139.00
Potassium		4.10		4.20	4.10		3.80
Chloride		101.00		100.00	103.00		101.00
CO2		26.00		29.00	23.00		24.00
Sodium : Potassium		33.41		32.62	33.41		36.58

METABOLIC

Anion Gap		14.10		12.20	15.10		17.80
Uric Acid - Female		6.20		4.60	4.50	4.70	6.00
Creatine Kinase							57.00

PROTEINS

Protein - Total		7.30		7.40	7.00		7.70
Albumin		4.30		4.40	4.30		4.30
Globulin - Total		3.00		3.00	2.70		3.40
Albumin : Globulin		1.40		1.50	1.60		1.30

ESSENTIAL FATTY ACIDS

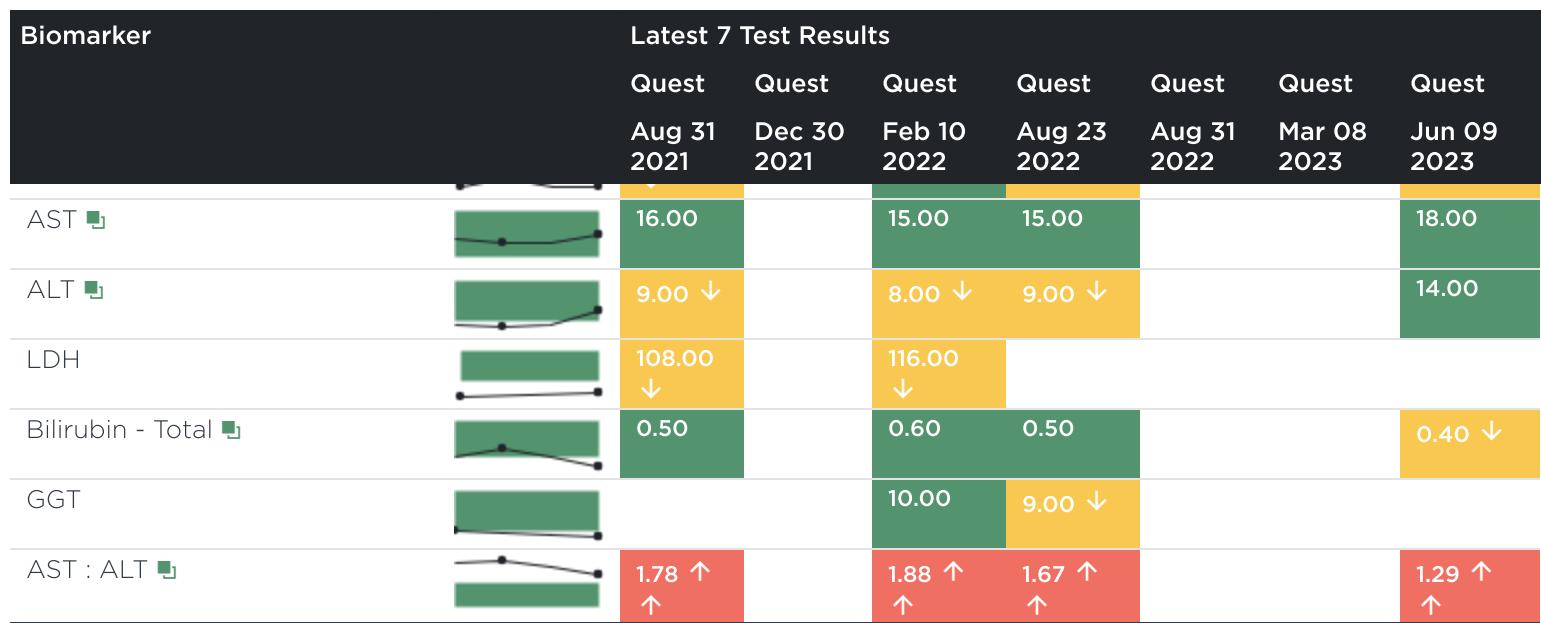
Omega 3 Index							3.50
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MINERALS

Calcium		9.40		9.60	9.20		9.30
Phosphorus		3.70		4.00	4.20		
Magnesium - RBC				5.60		6.00	6.00
Selenium - Serum							144.00
Zinc - Serum							95.00
Calcium : Albumin		2.19		2.18	2.14		2.16
Calcium : Phosphorus		2.54		2.40	2.19		

LIVER AND GB

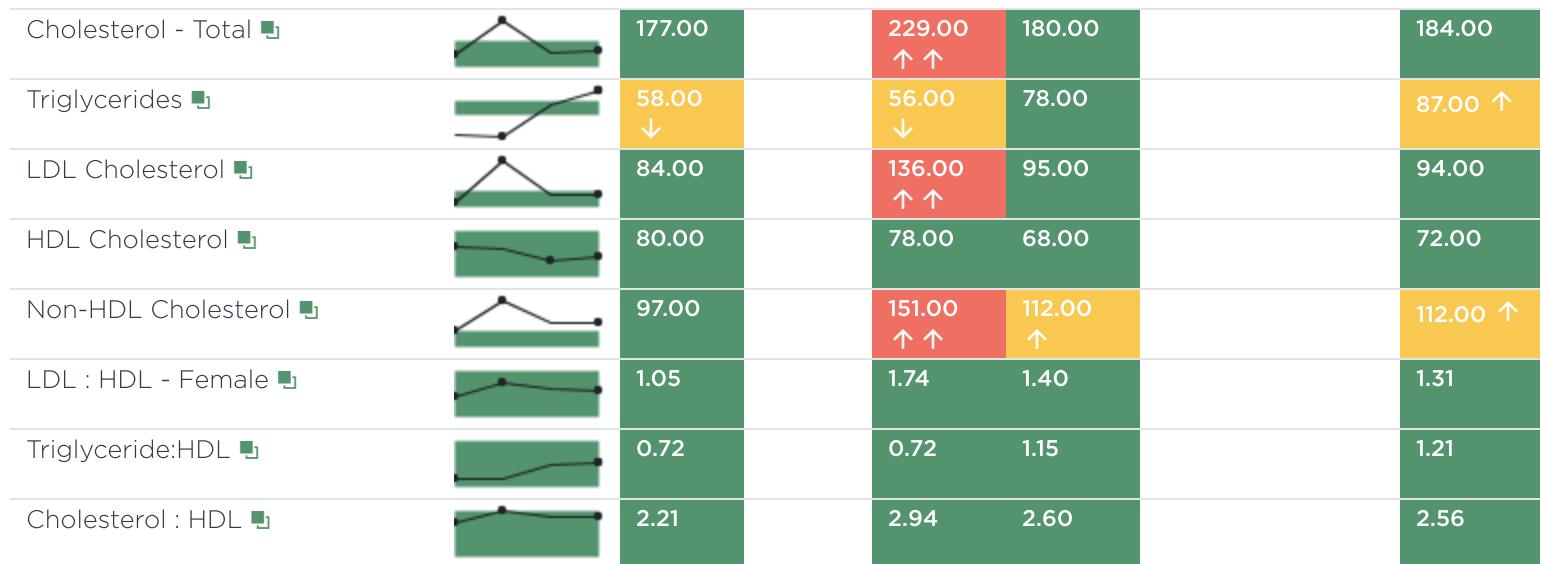
Alk Phos		41.00		52.00	41.00		41.00
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IRON MARKERS



LIPIDS



LIPOPROTEINS



NMR LIPOPROFILE

LDL-P (NMR)

2256.00

Biomarker	Latest 7 Test Results						
	Quest	Quest	Quest	Quest	Quest	Quest	Quest
	Aug 31 2021	Dec 30 2021	Feb 10 2022	Aug 23 2022	Aug 31 2022	Mar 08 2023	Jun 09 2023
				↑			
CARDIOMETABOLIC							
Homocysteine 		8.40 ↑	6.90	8.20 ↑		7.20	6.70
THYROID							
TSH 		0.71 ↓	1.24	1.80		1.74	
T4 - Total		9.40		7.40			
T4 - Free 		1.30		1.10		1.10	
T3 - Total				105.00			
T3 - Free 		3.20		2.80 ↓		2.40 ↓	
Reverse T3				16.00			
Thyroid Peroxidase (TPO) Abs 		0.90		<1.00		1.00	
Thyroglobulin Abs		0.90		<1.00		1.00	
Free T3 : Reverse T3				17.50			
Free T3 : Free T4 		2.46		2.55		2.18 ↓	↓
INFLAMMATION							
Hs CRP - Female 		1.30 ↑	1.90 ↑	1.10 ↑		1.50 ↑	1.40 ↑
ESR - Female				9.00		11.00 ↑	
Fibrinogen		419.00 ↑	369.00 ↑				
Platelet : Lymphocyte (PLR) 	109.84	119.57	110.38	102.23	79.88		141.38 ↑
VITAMINS							
Vitamin D (25-OH) 		66.00		92.00 ↑	48.00 ↓	38.00 ↓	51.00
Vitamin B12 		402.00 ↓		490.00 ↓		736.00	680.00
Folate - Serum 		15.50		>24.00		>24.00	25.00
Folate - RBC						689.00	
HORMONES							
DHEA-S - Female				160.00 ↓			

Biomarker	Latest 7 Test Results							
	Quest	Quest	Quest	Quest	Quest	Quest	Quest	
	Aug 31 2021	Dec 30 2021	Feb 10 2022	Aug 23 2022	Aug 31 2022	Mar 08 2023	Jun 09 2023	
FSH - Female							124.60 UNKNOWN	
LH - Female							31.70 UNKNOWN	
Testosterone Total - Female			22.00 ↓				14.00 ↓	
Testosterone Free - Female			8.00 ↑ ↑				0.60 ↓	
Sex Hormone Binding Globulin - Female							116.60 ↑	
Estradiol - Female			24.00 UNKNOWN				14.90 UNKNOWN	
Progesterone - Female			0.40 UNKNOWN				0.49 UNKNOWN	
IGF-1				127.00				
Cortisol - Total/AM							15.70 ↑	
Testosterone Bioavailable - Female			19.17 ▲				1.40 ↓	
CBC								
RBC - Female		4.37	4.23 ↓ 4.27 ↓ 4.25 ↓ 4.13 ↓				4.21 ↓	
Hemoglobin - Female		13.50	13.20 ↓ 13.30 ↓ 13.50	12.90 ↓			13.10 ↓	
Hematocrit - Female		40.40	39.80	40.30	40.10	38.30		40.30
MCV		92.40 ↑	94.10 ↑	94.40 ↑	94.40 ↑	92.70 ↑		95.70 ↑
MCH		30.90	31.20	31.10	31.80	31.20		31.10
MCHC		33.40 ↓	33.20 ↓	33.00 ↓	33.70 ↓ 33.70 ↓			32.50 ↓
Platelets		268.00	275.00	287.00	275.00	274.00		287.00
MPV					11.40 ↑ 11.20 ↑			10.70 ↑
RDW		13.10 ↑ ↑	12.90 ↑	13.50 ↑ ↑	12.90 ↑ ↑	12.80 ↑		13.70 ↑
WBCS								
Total WBCs		5.90	6.40 ↑ 6.10 ↑	5.70	8.10 ↑			5.90
Neutrophils - %		28.85 ↓ ↓	55.90	50.90	44.60 ↓	50.70		58.00
Lymphocytes - %		41.50 ↑	35.70 ↑	41.90 ↑	47.10 ↑ ↑	42.30 ↑		34.40
Monocytes - %		8.20 ↑ ↑	7.80 ↑ ↑	6.70	7.20 ↑	6.30		6.60

Biomarker	Latest 7 Test Results							
	Quest	Quest	Quest	Quest	Quest	Quest	Quest	
	Aug 31 2021	Dec 30 2021	Feb 10 2022	Aug 23 2022	Aug 31 2022	Mar 08 2023	Jun 09 2023	
Eosinophils - % 		0.30	0.30	0.20	0.40	0.20		0.30
Basophils - % 		0.53	0.30	0.30	0.70	0.50		0.70
Neutrophils - Absolute 		2.88	3.60	3.10	2.54	4.11		3.42
Lymphocytes - Absolute 		2.44	2.30	2.60 ↑	2.69 ↑	3.43 ↑		2.03
Monocytes - Absolute 		0.48 ↑	0.49 ↑	0.41 ↑	0.41 ↑	0.51 ↑		0.38
Eosinophils - Absolute 		0.30 ↑	0.01	0.01	0.02	0.02		0.01
Basophils - Absolute 		0.05	0.01	0.01	0.04	0.04		0.04
Neutrophil : Lymphocyte 		1.18	1.57	1.19	0.94 ↓	1.20		1.68

CLOTTING



CARDIO IQ (ION)

LDL Particle Number (ION) 			1671.00 ↑↑			1372.00 ↑↑
LDL Small (ION) 			326.00 ↑↑	231.00 ↑↑		216.00 ↑↑
LDL Medium (ION) 			441.00 ↑↑	304.00 ↑↑		239.00
LDL Peak Size (ION) 			224.80 ↓	224.20 ↓		224.20 ↓
HDL Large (ION) 			7487.00	9207.00		6768.00

Out of Optimal Range

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

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 result itself.

Total number of biomarkers by range



Above Optimal

LDL Particle Number (ION)

1372.00 nmol/L

The measurement of the LDL Particle Number can help identify individuals with residual cardiac risk despite having low LDL cholesterol. An elevation in the LDL Particle Number represents an increased risk of cardiovascular disease.

AST : ALT

1.29 Ratio

The AST:ALT ratio, also known as the De Ritis ratio, provides a tool for assessing and monitoring liver function and the progression and the severity of liver disease. An increasing AST:ALT ratio above 1 is associated with a trend towards progressive impairment of liver function

Sodium : Potassium

36.58 ratio

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

LDL Small (ION)

216.00 nmol/L

An elevated LSL Small (which are small, dense LDL particles) is associated with an increased risk of cardiovascular disease as well as insulin resistance and blood sugar dysregulation.

Anion Gap

17.80 mEq/L

The anion gap is the measurement of the difference between the sum of the sodium and potassium levels and the sum of the serum CO₂/bicarbonate and chloride levels. Increased levels are associated with thiamine deficiency and metabolic acidosis.

Platelet : Lymphocyte (PLR)

141.38 Ratio

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

Cortisol - Total/AM**15.70** µg/dL

The serum cortisol test is used to identify dysfunction in the adrenal gland. Increased levels are associated with adrenal hyperfunction, a dysfunction where the adrenal glands are producing too much cortisol.

Hs CRP - Female**1.40** mg/L

High Sensitivity C-Reactive Protein (Hs-CRP) is a blood marker that can help indicate the level of chronic inflammation in the body. Increased levels are associated with an increased risk of inflammation, cardiovascular disease, stroke, and diabetes.

Non-HDL Cholesterol**112.00** mg/dL

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

Selenium - Serum**144.00** ug/L

Selenium is an essential nutrient that plays an important role in antioxidant activity, thyroid hormone metabolism, inflammation control, and immune and reproductive system regulation. Elevated serum selenium levels are a sign of excess selenium exposure.

RDW**13.70** %

The Red Cell Distribution Width (RDW) is essentially an indication of the degree of abnormal variation in the size of red blood cells (called anisocytosis). Although the RDW will increase with vitamin B12 deficiency, folic acid, and iron anemia, it is increased most frequently with vitamin B12 deficiency anemia.

Triglycerides**87.00** mg/dL

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

MCV**95.70** fL

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

Uric Acid - Female**6.00** mg/dL

Uric acid is produced as an end-product of purine, nucleic acid, and nucleoprotein metabolism. Levels can increase due to over-production by the body or decreased excretion by the kidneys. Increased uric acid levels are associated with gout, atherosclerosis, oxidative stress, arthritis, kidney dysfunction, circulatory disorders and intestinal permeability.

Sex Hormone Binding Globulin - Female**116.60** nmol/L

Sex Hormone Binding Globulin (SHBG) is a protein produced primarily in the liver and to some extent the testes, uterus, brain, and placenta. SHBG acts as a transport molecule for carrying estrogen and testosterone around the body and delivering them to receptors on the cells. Increased SHBG levels are associated with a decreased availability of testosterone in women. SHBG levels may also be increased with hormone replacement therapy and undernourishment.

Globulin - Total **3.40** g/dL

Globulins constitute the body's antibody system and Total globulin is a measurement of all the individual globulin fractions in the blood. An elevated total globulin level is associated with hypochlorhydria, liver dysfunction, immune activation, oxidative stress, and inflammation.

MPV **10.70** fL

MPV or Mean Platelet Volume is a calculated measurement of the relative size of platelets in the blood. Elevated levels of MPV are seen with platelet destruction.

Below Optimal

Free T3 : Free T4 

2.18 Ratio

The Free T3: Free T4 ratio is a measure that assesses the balance between two important thyroid hormones in your blood: Free T3 (triiodothyronine) and Free T4 (thyroxine). These hormones play vital roles in regulating energy, metabolism, and many other bodily functions. A normal ratio indicates a balanced conversion of T4 (a storage hormone) to T3 (the active hormone). If the ratio is low, it suggests that the body may not be converting T4 to T3 efficiently, which can lead to symptoms of low thyroid function, even if individual T4 levels are normal.

Zinc - Serum 

95.00 $\mu\text{g}/\text{dL}$

Zinc is a trace mineral that participates in a significant number of metabolic functions and is found throughout the body's tissues and fluids. Low levels of serum zinc are associated with zinc deficiency.

Alk Phos 

41.00 IU/L

Alkaline phosphatase (ALP) is a group of isoenzymes that originate in the bone, liver, intestines, skin, and placenta. It has a maximal activity at a pH of 9.0-10.0, hence the term alkaline phosphatase. Decreased levels of ALP have been associated with zinc deficiency.

Creatine Kinase 

57.00 u/l

Creatine Kinase (CPK) is a group of enzymes found in skeletal muscle, the brain, and the heart muscle. Decreased levels of Creatine Kinase may be seen in the chronic stage of muscle atrophy.

LDL Peak Size (ION) 

224.20 Angstrom

A decreased LDL Peak Size is associated with an increased risk of cardiovascular disease and is associated with insulin resistance, oxidative stress, and inflammation. LDL particle size can be increased (improved) via weight loss, exercise, blood glucose control, and a healthy plant-based diet containing raw nuts, and fiber, especially psyllium fiber and oat bran.

Albumin : Globulin 

1.30 ratio

The albumin/globulin ratio is the ratio between the albumin and total globulin levels. A decreased ratio is associated with liver dysfunction and immune activation from infectious or inflammatory processes.

BUN **9.00** mg/dL

BUN or Blood Urea Nitrogen reflects the ratio between the production and clearance of urea in the body. Urea is formed almost entirely by the liver from both protein metabolism and protein digestion. The amount of urea excreted as BUN varies with the amount of dietary protein intake. A low BUN is associated with malabsorption, a decrease in digestive enzymes called pancreatic insufficiency, and a diet low in protein.

CO2 **24.00** mEq/L

Carbon Dioxide is a measure of bicarbonate in the blood. CO2, as bicarbonate, is available for acid-base balancing. Bicarbonate neutralizes metabolic acids in the body. Decreased levels are associated with metabolic acidosis.

RBC - Female **4.21** m/cumm

The RBC Count determines the total number of red blood cells or erythrocytes found in a cubic millimeter of blood. The red blood cell functions to carry oxygen from the lungs to the body tissues and to transfer carbon dioxide from the tissues to the lungs where it is expelled. Decreased levels are primarily associated with anemia.

Insulin - Fasting **1.40** µIU/ml

Insulin is the hormone released by the pancreas in response to rising blood glucose levels and decreases blood glucose by transporting glucose into the cells. Low levels of fasting insulin indicate that there's a decreased output of insulin from your pancreas and may be an indication of inflammation of the pancreas.

Potassium **3.80** mEq/L

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

Bilirubin - Total **0.40** mg/dL

Total bilirubin is composed of two forms of bilirubin: Indirect or unconjugated bilirubin, which circulates in the blood on its way to the liver, and direct or conjugated bilirubin, which is the form of bilirubin made water-soluble before it is excreted in the bile. A decreased bilirubin has been associated with a trend toward oxidative stress and/or systemic inflammation, potentially compromising cardiovascular health.

Creatinine **0.69** mg/dL

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

Hemoglobin - Female **13.10** g/dL

Hemoglobin is the oxygen-carrying molecule in red blood cells. Low levels of hemoglobin are associated with anemia. Measuring hemoglobin is useful to determine the cause and type of anemia and for evaluating the efficacy of anemia treatment.

Albumin **4.30** g/dL

Albumin is one of the major blood proteins. Produced primarily in the liver, Albumin plays a major role in water distribution and serves as a transport protein for hormones and various drugs. Albumin levels are affected by digestive dysfunction and a decreased albumin can be an indication of malnutrition, digestive dysfunction due to HCl need (hypochlorhydria), or liver dysfunction. Malnutrition leads to a decreased albumin level in the serum primarily from lack of available essential amino acids. Decreased albumin can also be a strong indicator of oxidative stress and excess free radical activity.

Omega 3 Index **3.50** %

The Omega-3 Index measures the percentage of omega-3 fatty acids in red blood cell membranes. The Omega-3 Index is considered a valid biomarker for assessing cardiovascular risk. It is also used to assess omega-3 nutrition status and compliance with recommendations for increasing omega-3 intake. A low Omega-3 Index may be associated with high blood pressure, increased cardiovascular risk, inflammation, and a decreased intake of omega-3 fatty acids.

MCHC **32.50** g/dL

The Mean Corpuscular Hemoglobin Concentration (MCHC) measures the average concentration of hemoglobin in the red blood cells. It is a calculated value. Decreased levels are associated with a vitamin C need, vitamin B6 and iron deficiencies, and a heavy metal body burden.

T3 - Free **2.40** pg/ml

T-3 is the most active thyroid hormone and is primarily produced from the conversion of thyroxine (T-4) in the peripheral tissue. Free T3 is the unbound form of T3 measured in the blood. Free T3 represents approximately 8 - 10% of circulating T3 in the blood. Free T-3 levels may be decreased with hypothyroidism and is associated with selenium deficiency.

Testosterone Bioavailable - Female **1.40** ng/dL

Bioavailable testosterone is the amount of testosterone in the blood is readily available for biological activity. In women, low total testosterone levels have been linked to an increased risk for the following: osteoporosis, decreased lean body mass and decreased libido.

Testosterone Free - Female **0.60** pg/ml

The free testosterone test measures the testosterone that is unbound to serum proteins such as Sex Hormone Binding Globulin. In women, low free testosterone levels have been linked to an increased risk for the following: osteoporosis, decreased lean body mass and decreased libido.

Testosterone Total - Female **14.00** ng/dL

The total testosterone test measures both the testosterone that is bound to serum proteins and the unbound form (free testosterone). In women, low total testosterone levels have been linked to an increased risk for the following: osteoporosis, decreased lean body mass and decreased libido.



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

- 33 Functional Body Systems
- 36 Accessory Systems
- 38 Nutrient Status
- 40 Nutrient Deficiencies

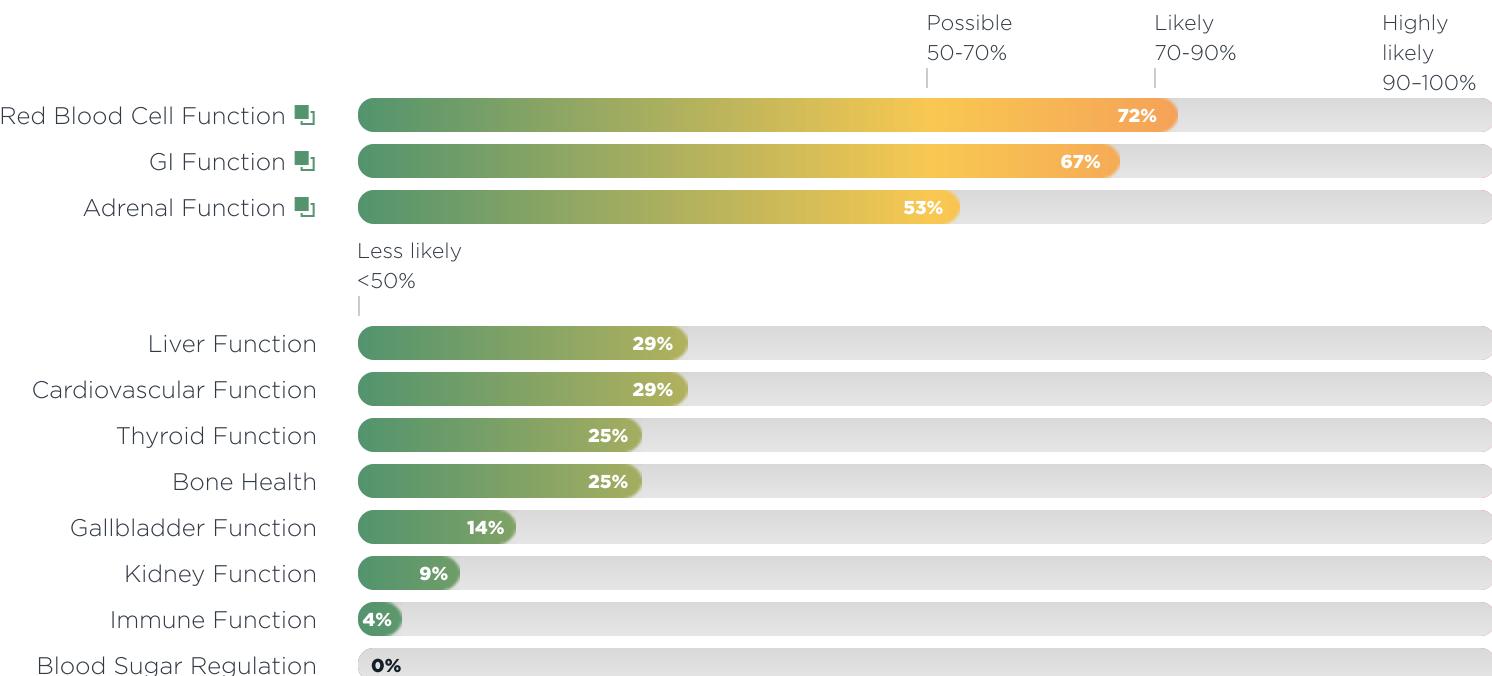
Functional Body Systems

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

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

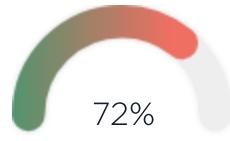
Each Body System that has a probability of dysfunction above 50% is included in the section that follows so you can read a detailed description and individual explanation of the results shown in this report.

PROBABILITY OF DYSFUNCTION

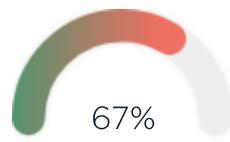


Functional Body Systems Details

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



Dysfunction Likely
Improvement required.



Dysfunction Possible
There may be
improvement needed in
certain areas.

RED BLOOD CELL FUNCTION

The Red Blood Cell Function score assesses the body's ability to produce red blood cells and reflects whether or not anemia may be present in the body. Red blood cells function to carry oxygen to all the tissues and cells of the body. Nutrient deficiencies and other dysfunctions can disrupt this process causing anemia. Some of the nutrient deficiency causes of anemia include deficiencies in iron, B12/folate, vitamin B6, copper, and vitamin C.

Rationale

RBC - Female ↓, Hemoglobin - Female ↓, MCV ↑, MCHC ↓, RDW ↑

Biomarkers considered

RBC - Female, Hemoglobin - Female, Hematocrit - Female, MCV, MCHC, RDW, MCH

GI FUNCTION

The GI Function score reflects the degree of function in your gastrointestinal (GI) system. The gastrointestinal system is responsible for the digestion and breakdown of macronutrients (proteins, fats, and carbohydrates) into small particles so they can be easily absorbed and utilized. The GI system is also responsible for the excretion and elimination of waste from the body. Your body's nutritional status is directly affected by your ability to digest macronutrients and also to absorb key vitamins, minerals, amino acids, essential fatty acids, and accessory nutrients such as bioflavonoids, CoQ10, etc. Factors affecting the GI function include inadequate chewing, eating when stressed or in a hurry, lack of appropriate stomach acid (a condition called hypochlorhydria), inflammation in the stomach lining (a condition called gastritis), a decrease in digestive enzymes (a condition called pancreatic insufficiency), an overgrowth of non-beneficial bacteria in your digestive system (a condition called dysbiosis) and/or a condition called Leaky Gut Syndrome.

Rationale

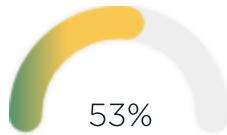
BUN ↓, Globulin - Total ↑, Albumin ↓, Alk Phos ↓, MCV ↑, Creatinine ↓

Biomarkers considered

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

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

Phosphorus, Iron - Serum, Gastrin



53%

Dysfunction Possible

There may be improvement needed in certain areas.

ADRENAL FUNCTION

The Adrenal Function score reflects the degree of function in your adrenal glands. The adrenal glands produce certain hormones in response to stress. They are responsible for what is commonly called “the fight or flight response”. Unfortunately, when your body is under constant stress, which is very common, your adrenal glands become less functional. Adrenal dysfunction can be caused by an increased output of stress hormones (adrenal stress) or more commonly a decreased output of adrenal hormones (adrenal insufficiency).

Rationale

Sodium : Potassium ↑,
Potassium ↓, Cortisol -
Total/AM ↑, Triglycerides ↑

Biomarkers considered

Sodium : Potassium, Sodium, Potassium, Cortisol - Total/AM, Glucose - Fasting, BUN, Chloride, CO₂, Cholesterol - Total, Triglycerides

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

Cortisol - PM, DHEA-S - Female

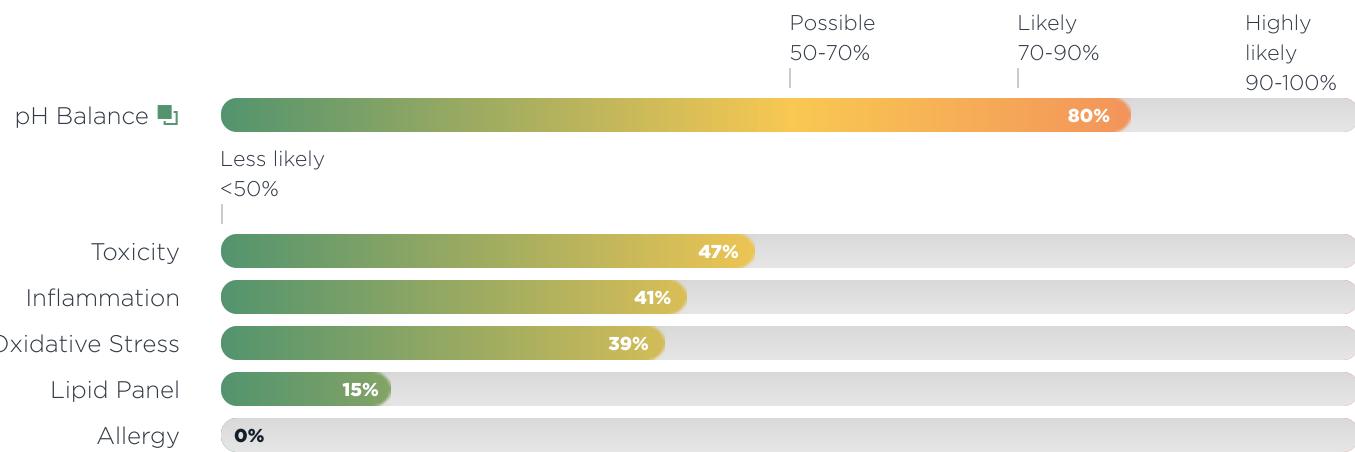
Accessory Systems

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

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

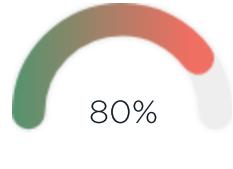
Each Accessory System that has a probability of dysfunction above 50% is included in the section that follows so you can read a detailed description and individual explanation of the results shown in this report.

PROBABILITY OF DYSFUNCTION



Accessory Systems Details

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



Dysfunction Likely.
Improvement required.

PH BALANCE

Your risk of an imbalance in your pH system is quite likely. The pH Balance score can help us pinpoint imbalances in the body's pH (acid-alkaline) regulation system. You are trending towards a higher risk of imbalance. Please work with your physician to help bring this score down in future blood test results.

Rationale

Anion Gap \uparrow , Potassium \downarrow ,
CO2 \downarrow

Biomarkers considered

Anion Gap, Potassium, Chloride,
CO2, Calcium

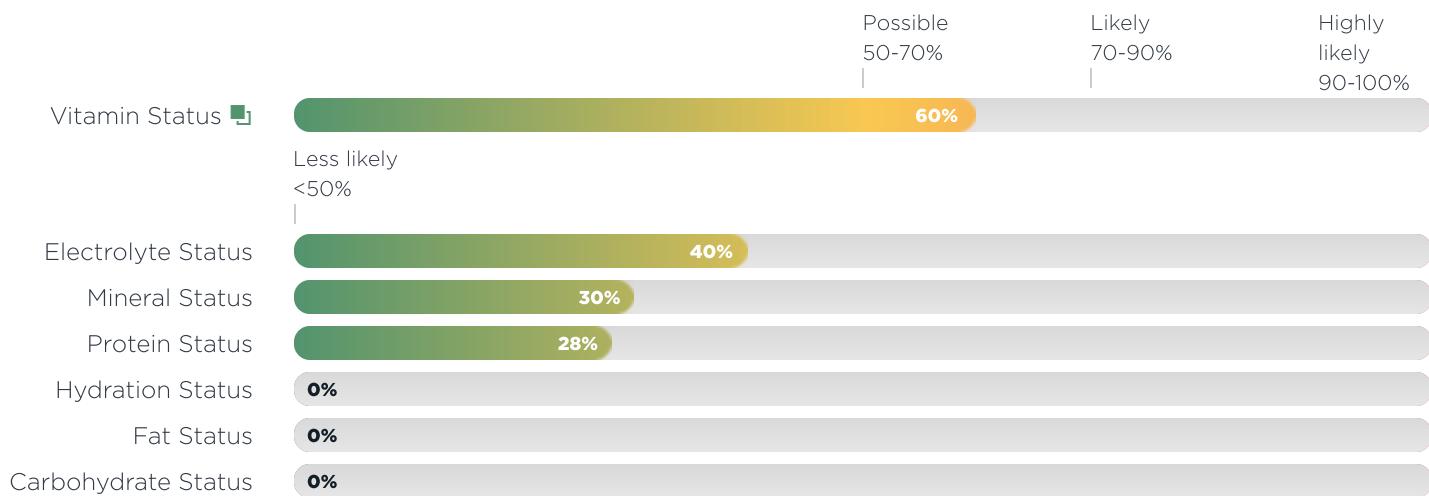
Nutrient Status

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

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

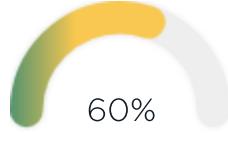
Each Nutrient category that has a probability of dysfunction above 50% is included in the section that follows so you can read a detailed description and individual explanation of the results shown in this report.

PROBABILITY OF DYSFUNCTION



Nutrient Status Details

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



Dysfunction Possible.

There may be improvement needed in certain areas.

VITAMIN STATUS

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

Rationale

Anion Gap \uparrow , MCV \uparrow

Biomarkers considered

Anion Gap, Albumin, AST, ALT, Homocysteine, Vitamin D (25-OH), MCV, Folate - Serum, Vitamin B12

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

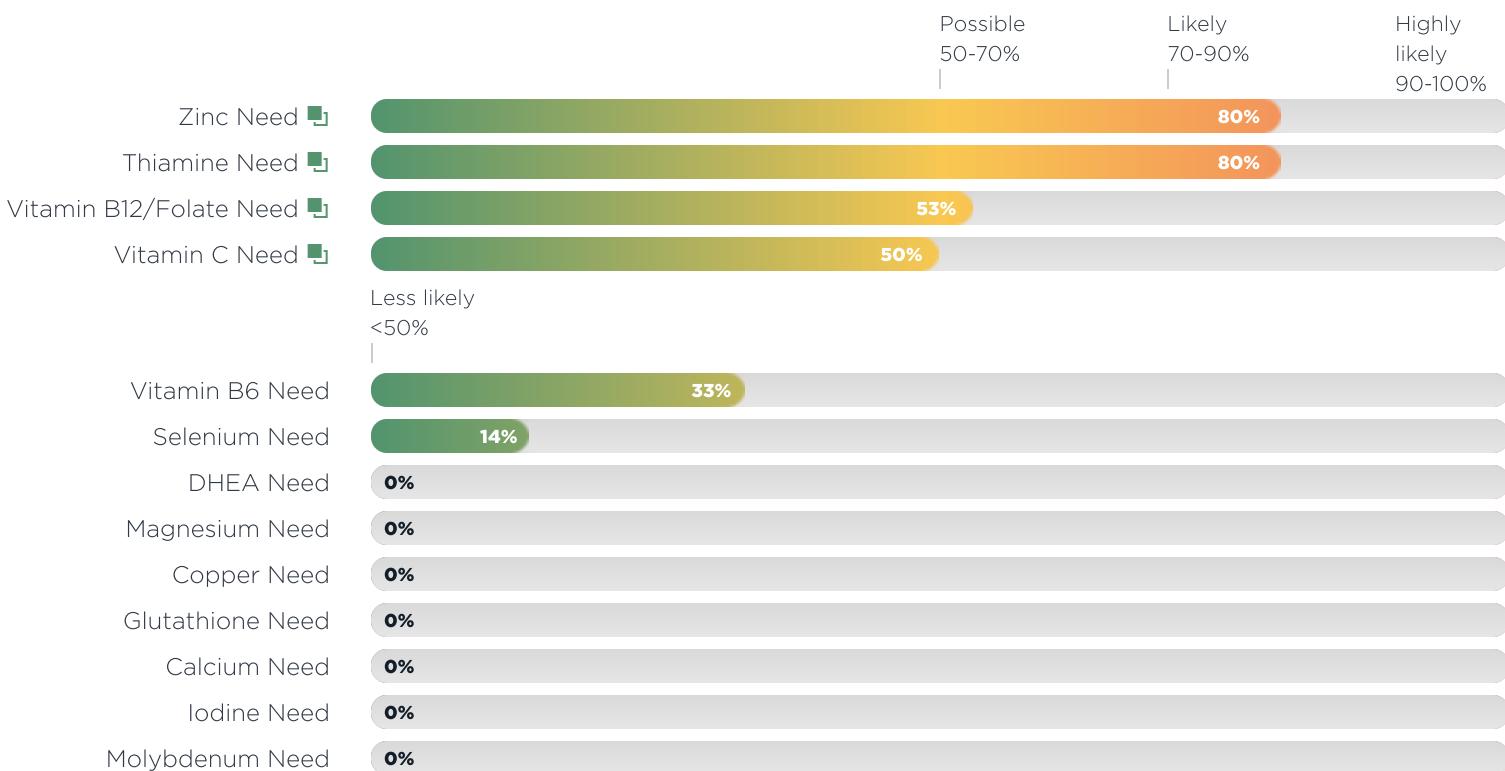
GGT, Methylmalonic Acid, Folate - RBC

Individual Nutrient Deficiencies

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

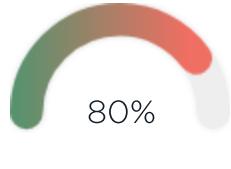
Each individual Nutrient Deficiency that has a probability of dysfunction above 50% is included in the section that follows so you can read a detailed description and individual explanation of the results shown in this report.

PROBABILITY OF DEFICIENCY



Individual Nutrient Deficiency Details

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



Deficiency Likely.
Improvement required.

ZINC NEED

You may be trending toward a zinc need, causing an increase in your Zinc Need score.

Rationale

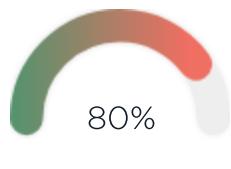
Alk Phos \downarrow , Zinc - Serum \downarrow

Biomarkers considered

Alk Phos, Zinc - Serum

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

Zinc - RBC



Deficiency Likely.
Improvement required.

THIAMINE NEED

You may be trending toward a thiamine need, causing an increase in your Thiamine Need score.

Rationale

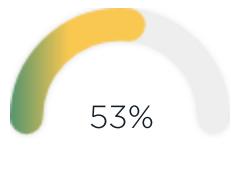
Anion Gap \uparrow , CO2 \downarrow ,
Hemoglobin - Female \downarrow

Biomarkers considered

Anion Gap, CO2, Glucose - Fasting, Hemoglobin - Female, Hematocrit - Female

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

LDH



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

VITAMIN B12/FOLATE NEED

You may be in the early stages of vitamin B12/Folate need, causing your vitamin B12/Folate Need score to rise. While this may not require immediate attention, you will want to watch this on future blood tests.

Rationale

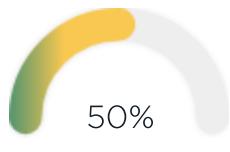
MCV \uparrow , Hemoglobin - Female \downarrow , RDW \uparrow

Biomarkers considered

Vitamin B12, MCV, Homocysteine, RBC - Female, Hemoglobin - Female, Hematocrit - Female, MCH, MCHC, RDW, Neutrophils - %, Folate - Serum

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

Methylmalonic Acid, LDH, Folate - RBC



VITAMIN C NEED

You may be in the early stages of vitamin C need, causing your Vitamin C Need score to rise. While this may not require immediate attention, you will want to watch this on future blood tests.

Deficiency Possible.

There may be improvement needed in certain areas.

Rationale

Albumin ↓, RBC - Female ↓, Hemoglobin - Female ↓, MCV ↑, MCHC ↓

Biomarkers considered

Albumin, RBC - Female, Hemoglobin - Female, Hematocrit - Female, MCV, MCH, MCHC

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

Vitamin C, Iron - Serum, Fibrinogen



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

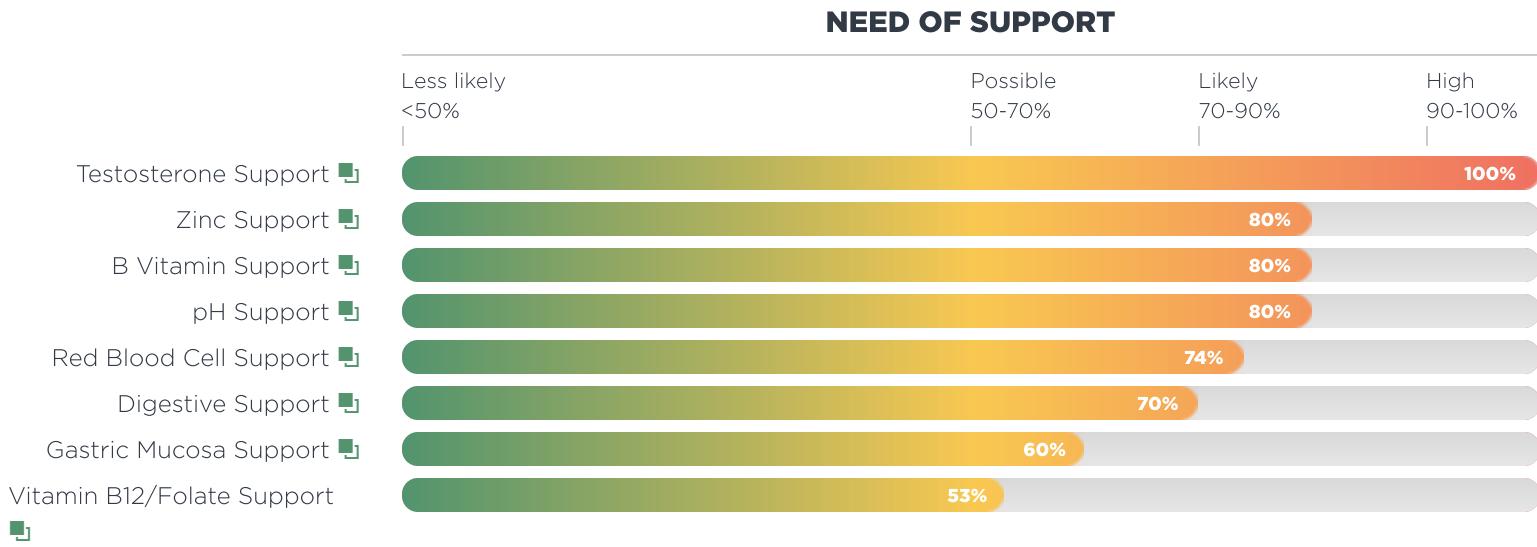
Health Concerns

44 Health Concerns

Health Concerns

The Health Concerns report takes all the information on the Functional Health Report and focuses on the health concerns that need the most support.

Each area of health concern that needs support is included in the section that follows so you can read an explanation of the results shown in this report.

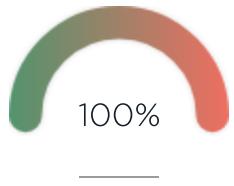


Health Concerns Details

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

TESTOSTERONE SUPPORT

The results of your blood test indicate a trend towards testosterone deficiency and a need for testosterone metabolism support.

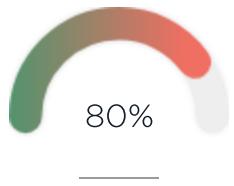


Rationale

Testosterone Free - Female ↓, Testosterone Total - Female ↓

ZINC SUPPORT

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

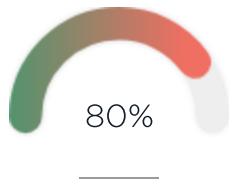


Rationale

Alk Phos ↓, Zinc - Serum ↓

B VITAMIN SUPPORT

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

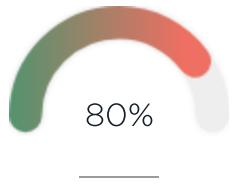


Rationale

Anion Gap ↑, CO2 ↓, Hemoglobin - Female ↓

PH SUPPORT

The results of your blood test indicate a tendency towards metabolic acidosis and a need for pH support.

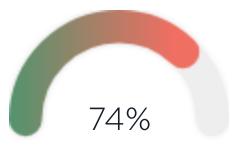


Rationale

Anion Gap ↑, Potassium ↓, CO2 ↓

RED BLOOD CELL SUPPORT

The results of your blood test indicate a tendency towards anemia and a need for red blood cell support.

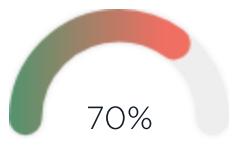


Rationale

RBC - Female ↓, Hemoglobin - Female ↓, MCV ↑, MCHC ↓, RDW ↑

DIGESTIVE SUPPORT

The results of your blood test indicate a tendency towards hypochlorhydria, a condition of low stomach acid, and a need for digestive support.

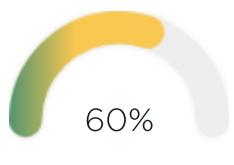


Rationale

Globulin - Total ↑, Albumin ↓, Alk Phos ↓, MCV ↑

GASTRIC MUCOSA SUPPORT

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

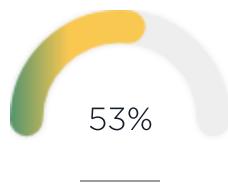


Rationale

Globulin - Total ↑, Hemoglobin - Female ↓, Creatinine ↓, Albumin ↓

VITAMIN B12/FOLATE SUPPORT

The results of your blood test indicate that your vitamin B12/folate levels might be lower than optimal and shows a need for vitamin B12/folate supplementation.



Rationale

MCV ↑, Hemoglobin - Female ↓, RDW ↑



Disclaimer

48 Disclaimer

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