Lab results

Report

Client

Test Client

Planet Naturopath

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My Results

Lab Results Report

LAB TEST	RESULT	RANGE	TEST DATE
Vitamin B12	1321 pg/mL	200 – 949 – 1100	2 Oct 2023
Hemoglobin	18.2 g/dL	13.2 – 14 – 16 – 17.1	2 Oct 2023
LDL Chol Calc (NIH)	140 mg/dL	50 – 100 – 130 – 189	2 Oct 2023
Vitamin A	54.8 ug/dL	57.7 – 78.1 – 98	2 Oct 2023
Cholesterol, Total	207 mg/dL	0 – 200 – 240	2 Oct 2023
T. Chol/HDL Ratio	5.2 :1	0 – 5	2 Oct 2023
RBC	5.9 x10E6/uL	4.2 – 5.8	2 Oct 2023
Calcium	8.17 mg/dL	8.5 – 8.8 – 9.8 – 10.5	2 Oct 2023
eGFR	89 mL/min/1.73 m2	30 – 60 – 90 – 120	2 Oct 2023
Chloride	100 mmol/L	98 – 101 – 107 – 110	2 Oct 2023
GGT	65 IU/L	3 – 15 – 70	2 Oct 2023
Triglycerides	141 mg/dL	0 – 90 – 150 – 500	2 Oct 2023
Apolipoprotein B	114 mg/dL	0 – 90 – 120	2 Oct 2023
Hematocrit	51.3 %	40 – 49 – 52	2 Oct 2023
VLDL Cholesterol, Calc 1	27 mg/dL	0 – 20 – 30	2 Oct 2023
Iron Saturation	45 %	20 – 24 – 40 – 48	2 Oct 2023
Estradiol	45.6 pg/mL	10 – 22 – 40 – 50	2 Oct 2023
Iron	163 ug/dL	50 – 60 – 140 – 195	2 Oct 2023

ALT (SGPT)	42 IU/L	9 · 17 · 40 · 46	2 Oct 2023
BUN	16 mg/dL	5 · 15 · 20	2 Oct 2023
Platelets	291 x10E3/ul	150 · 200 · 270 · 450	2 Oct 2023
Phosphorus	3.6 mg/dL	2.5 · 3.5 · 4.5	2 Oct 2023
Insulin	6.2 uIU/mL	2 · 6 · 19.6 · 25	2 Oct 2023
UIBC	169 ug/dL	150 · 375	2 Oct 2023
AST (SGOT)	22 IU/L	5 · 40	2 Oct 2023
T4, Free (Direct)	1.29 ng/dL	0.8 · 1.8	2 Oct 2023
TSH	1.73 uIU/mL	0.4 · 1.5 · 2.5 · 4.5	2 Oct 2023
Alkaline Phosphatase	63 IU/L	40 · 68 · 130	2 Oct 2023
FSH	3.2 mIU/mL	1.6 · 8	2 Oct 2023
Protein, Total	6.7 g/dL	6.1 · 8.1	2 Oct 2023
MCHC	35.5 g/dL	32 · 36	2 Oct 2023
WBC	4.7 x10E3/ul	4 · 6 · 10.8	2 Oct 2023
Lymphocytes (Absolute)	1 x10E3/ul	1 · 4	2 Oct 2023
LH	2.7 mIU/mL	1.5 · 9.3	2 Oct 2023
Lymphs %	22 %	20 · 45	2 Oct 2023
RDW	12.6 %	11.5 · 13 · 15	2 Oct 2023
Neutrophils (%)	64 %	40 · 80	2 Oct 2023
MCH	30.6 pg	27 · 31	2 Oct 2023
% CD8-/CD57+ Lymphs	2.6 %	1 · 4	2 Oct 2023
Ferritin	91 ng/mL	30 · 80 · 193 · 380	2 Oct 2023

Basophils (Absolute)	0 x10E3/ul	0 – 0.2	2 Oct 2023
Reverse T3, Serum	16.9 ng/dL	8 – 25	2 Oct 2023
Abs.CD8-CD57+ Lymphs	59 cells/uL	20 – 248	2 Oct 2023
Thyroxine (T4)	7.3 ug/dL	4.9 – 10.5	2 Oct 2023
MCV	86 fL	80 – 100	2 Oct 2023
LDH	139 IU/L	100 – 220	2 Oct 2023
Uric Acid	4.9 mg/dL	2 – 3.7 – 4.5 – 7.4 – 9	2 Oct 2023
Progesterone	0.4 ng/mL	0 – 1.4	2 Oct 2023
Sodium	139 mmol/L	135 – 136 – 142 – 145	2 Oct 2023
Magnesium	1.9 mg/dL	1.5 – 1.7 – 2.5	2 Oct 2023
BUN/Creatinine Ratio	15 :1	10 – 15 – 20	2 Oct 2023
Neutrophils (Absolute)	3.1 x10E3/ul	0.5 – 1.5 – 4.2 – 8	2 Oct 2023
Vitamin D, 25-Hydroxy	42.9 ng/mL	10 – 20 – 30 – 100 – 150	2 Oct 2023
Triiodothyronine (T3), Free	3.4 pg/mL	2.3 – 3 – 4.7	2 Oct 2023
Carbon Dioxide, Total	28 mmol/L	22 – 26 – 31 – 32	2 Oct 2023
A/G Ratio	2.2 :1	1.1 – 1.5 – 2.5	2 Oct 2023
Albumin	4.6 g/dL	3.4 – 4.2 – 5.5	2 Oct 2023
T3 Uptake %	30 %	22 – 35	2 Oct 2023
Copper, Serum	88 ug/dL	63 – 170	2 Oct 2023
HDL Cholesterol	40 mg/dL	40 – 90	2 Oct 2023
Homocysteine	6.2 umol/L	5 – 9 – 15 – 100	2 Oct 2023
Creatinine	1.1 mg/dL	0.6 – 0.7 – 1.1 – 1.2	2 Oct 2023

Eos (Absolute)	0.1 x10E3/ul	0 — 0.5	2 Oct 2023
Lipoprotein(a)	28.5 nmol/L	0 — 75 — 125	2 Oct 2023
Potassium	4.8 mmol/L	3.5 — 4 — 5 — 5.3	2 Oct 2023
Monocytes (%)	10 %	0 — 13	2 Oct 2023
Globulin, Total	2.1 g/dL	2 — 3 — 3.5	2 Oct 2023
Immature Granulocytes (Abs)	0 x10E3/ul	0 — 0.1	2 Oct 2023
Thyroglobulin Antibodies	0.1 IU/mL	0 — 1	2 Oct 2023
Monocytes (Absolute)	0.5 x10E3/ul	0.2 — 0.8	2 Oct 2023
Testosterone	876 ng/dL	250 — 1100	2 Oct 2023
Free Testosterone, Direct	21.3 pg/mL	9.3 — 26.5	2 Oct 2023
Bilirubin, Total	0.6 mg/dL	0.2 — 1.2	2 Oct 2023
Fibrinogen Activity	303 mg/dL	50 — 175 — 425 — 700	2 Oct 2023
Vitamin B6	23.8 ug/L	5 — 8.15 — 55	2 Oct 2023
Hemoglobin A1c (%)	5.1 %	4.3 — 4.5 — 5.4 — 5.6 — 6.5	2 Oct 2023

Vitamin B12

Lab Results Report

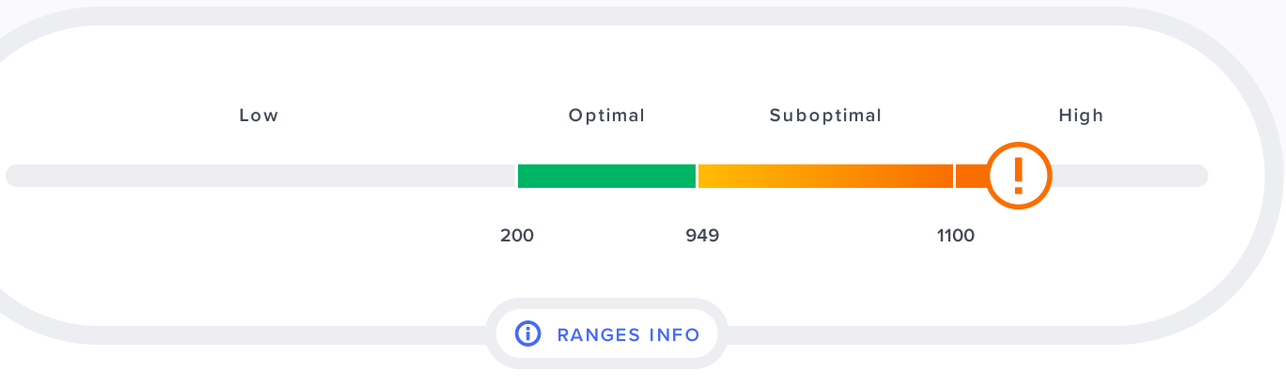
Your result **1321 pg/mL**

Optimal range: 200 - 949 pg/mL

Date of test: 2 Oct 2023

Your levels are **high**

Based on your result



About Vitamin B12

This test measures vitamin B12 levels in your blood.

(Methyl)cobalamin, more commonly known as vitamin B12, is a vital dietary nutrient [R]. It's needed for:

- Making blood cells (*hematopoiesis*) [R, R]
- Creating, replicating, and repairing DNA [R, R, R]
- Healthy brain and nervous system function [R, R, R]

Our bodies can't make vitamin B12 and therefore it must come from dietary sources, mainly animal products such as meat and dairy [R, R].

The body uses vitamin B12 very efficiently, essentially recycling it as it is used. In fact, a healthy person can store up to 3-6 years' worth of vitamin B12 in their liver! For this reason, vitamin B12 deficiencies are quite rare and indicate a very long-term shortage of this nutrient in the diet [R].

Some populations at higher risk of B12 shortage include:

- Vegans and vegetarians [R, R, R]
- Pregnant and breastfeeding women [R, R]
- The obese [R, R]
- People who have gastrointestinal disorders that make absorbing B12 from the diet difficult or less efficient [R, R, R]
- Heavy alcohol drinkers [R, R]
- AIDS/HIV patients [R, R]
- Elderly people, as the gut becomes less efficient at absorbing nutrients with age [R, R, R]

Also Called

- Vitamin B12 (Cobalamin)

High Vitamin B12 Health Effects

Your B12 levels are higher than normal. High vitamin B12 levels are not uncommon, but should not be ignored. Newer studies suggest that persistently elevated vitamin B12 levels may reflect underlying medical conditions and can be associated with poor outcomes [R, R, R, R, R, R, R, R, R].

Elevated levels of vitamin B12 when not supplementing, may indicate an underlying condition, such as:

- Liver disease (e.g. cirrhosis or hepatitis) [R, R, R, R]
- Diabetes [R]
- Myeloproliferative disorders (diseases of the bone marrow and blood), such as hypereosinophilic syndrome, polycythemia vera, or leukemia [R, R, R]
- Kidney failure [R]
- Cancer [R]

Lifestyle Suggestions

If your tests consistently show elevated levels of B12 even after stopping supplement use, work with your doctor to find out what's causing your high B12 levels and to treat any underlying conditions.

Unless otherwise prescribed by a doctor, avoid taking vitamin B12 supplements when you're not deficient.

If you need to take vitamin B12 supplements long term, studies suggest that taking them within a multivitamin may be safer than taking B12 in isolation [R].

Causes shown here are commonly associated with high vitamin B12 levels. Work with your doctor or another health care professional to get an accurate diagnosis.

Hemoglobin

Lab Results Report

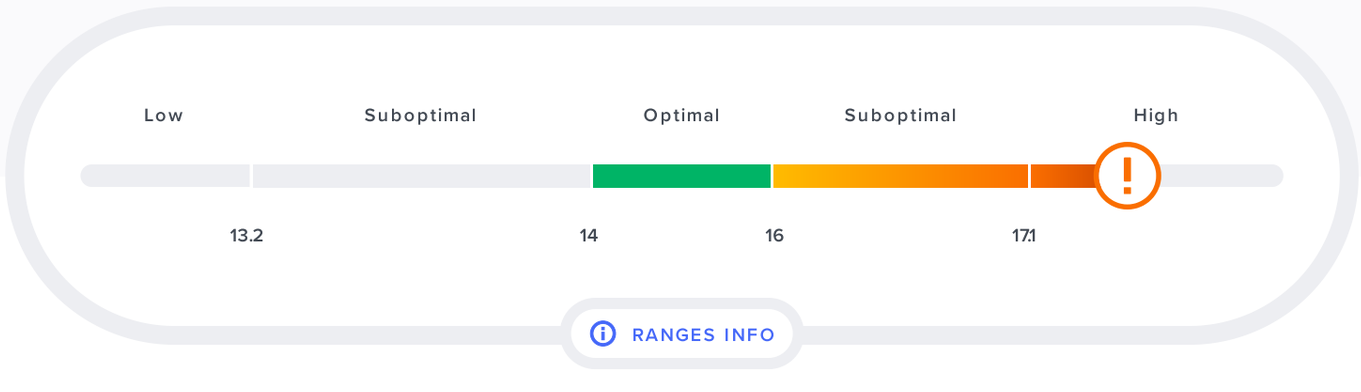
Your result **18.2 g/dL**

Optimal range: 14 - 16 g/dL

Date of test: 2 Oct 2023

Your levels are **high**

Based on your result



About Hemoglobin

This test measures the amount of hemoglobin in your blood.

Hemoglobin is a protein found in red blood cells that transports oxygen from the lungs to the rest of the body. It contains the mineral iron, which helps it carry oxygen. After the oxygen is used, hemoglobin also carries carbon dioxide back to the lungs where it is exhaled [R].

Hemoglobin levels are used to help diagnose anemia (decreased amount of red blood cells) and polycythemia (increased production of red blood cells).

Both low and high hemoglobin levels can impact your health. They both decrease the oxygen supply to the tissues, although by different mechanisms. High hemoglobin is further associated with an increased risk of high blood pressure and blood clots [R, R, R, R, R, R].

A hemoglobin test is usually done as a part of a complete blood count (CBC), which also looks at other properties of your red blood cells. Your doctor will interpret a rise or drop in hemoglobin together with other tests, such as RBC, hematocrit, and red blood cell indices.

Remember that there is some lab-to-lab variability in ranges due to differences in equipment, techniques, and chemicals used. Don't panic if your result is slightly out of range in the app - as long as it's in the normal range based on the laboratory that did the testing, your value is normal.

Also Called

- HGB
- Hemoglobin

High Hemoglobin Health Effects

Your hemoglobin levels are above normal!

Hemoglobin levels usually rise when the number of red blood cells increases (polycythemia).

When hemoglobin is elevated, the blood may become more viscous, and the tissues may get less oxygen than normally [R, R].

Remember that a single test isn't enough to make a diagnosis. Your doctor will interpret this test, taking into account your medical history and other tests, such as RBC, hematocrit, and red blood cell indices. A result that is slightly high may not be of medical significance, as this test often varies from day to day and from person to person.

Causes of high hemoglobin include:

- Dehydration [R]
- Living at high altitudes [R]
- Smoking [R]
- Sleep apnea [R]
- Lung disease [R]
- Heart diseases [R]
- Kidney tumors and transplants [R]
- Polycythemia vera, a condition in which the blood marrow makes too many red blood cells [R]
- Rare genetic disorders [R]

Drugs that may increase hemoglobin levels include:

- Erythropoietin, a hormone that increases red blood cell production, sometimes used for doping [R]
- Anabolic steroids [R, R]

Causes shown here are commonly associated with high hemoglobin. Work with your doctor or another health care professional to get an accurate diagnosis.

Elevated hemoglobin is associated with:

- Higher blood pressure [R]
- Increased risk of blood clots and stroke [R, R]

When your hemoglobin is high, you may experience the following symptoms [R, R]:

- Bluish discoloration of the skin
- Impaired mental function
- Fatigue
- Difficult or labored breathing
- Insomnia
- Dizziness
- Headache

LDL Chol Calc (NIH)

Lab Results Report

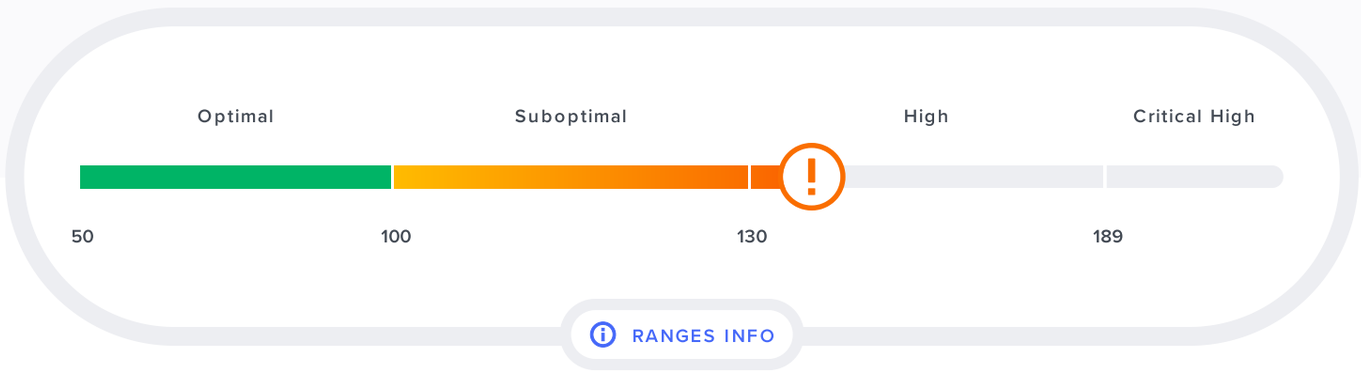
Your result **140 mg/dL**

Optimal range: 50 - 100 mg/dL

Date of test: 2 Oct 2023

Your levels are **high**

Based on your result



About LDL Chol Calc (NIH)

This test measures the amount of LDL-cholesterol, also known as "bad" cholesterol, in your blood.

LDL-cholesterol is cholesterol bound to low-density lipoprotein (LDL) particles. Lipoprotein particles transport cholesterol in the bloodstream much like cars transport passengers [R].

LDL- cholesterol is considered the “bad” cholesterol because it deposits in blood vessels. Cholesterol can penetrate arterial walls where it combines with oxygen (oxidizes). This is a key step in the development of the hardening of the arteries and heart disease [R, R].

High LDL-cholesterol is considered a strong risk factor for developing heart disease [R, R].

Also Called

- LDL cholesterol - Direct
- LDL Cholesterol
- LDL-C
- LDL-Cholesterol
- LDL Chol Calc Reportable

High LDL Chol Calc (NIH) Health Effects

Your LDL-cholesterol levels are high.

Your doctor will interpret your results, taking into account your medical history, symptoms, and other test results.

These can increase LDL-cholesterol:

- Diets high in calories and saturated fats [R]
- Lack of physical exercise [R]
- Drinking coffee [R]
- Underactive thyroid (hypothyroidism) [R]
- *H. pylori* infection [R]
- Kidney damage and chronic kidney diseases [R, R]
- Rare genetic disorders (e.g. familial hypercholesterolemia) [R]

There are also many drugs that can increase cholesterol, including [R, R]:

- Anabolic steroids
- Corticosteroids, drugs used to treat inflammation
- Water pills (diuretics)
- Beta-blockers
- Immunosuppressive drugs

Causes shown here are commonly associated with high LDL cholesterol. Work with your doctor or another health care professional to get an accurate diagnosis.

Higher LDL-cholesterol levels have been associated with an increased risk of heart disease [R, R, R].

Vitamin A

Lab Results Report

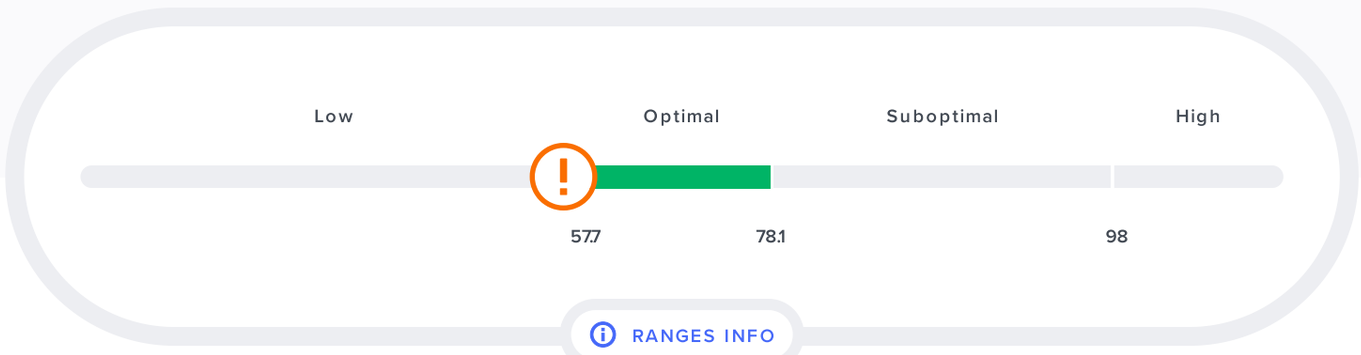
Your result **54.8 ug/dL**

Optimal range: 57.7 - 78.1 ug/dL

Date of test: 2 Oct 2023

Your levels are **low**

Based on your result



About Vitamin A

This test measures the amount of retinol in your blood. Retinol is the main form of vitamin A in our bodies.

Vitamin A is an essential nutrient. That means that the body cannot make it, and instead, we must get it from dietary sources.

Vitamin A is required for [R]:

- Healthy vision
- Skin health
- Bone health
- Immune function

Our bodies are very efficient with vitamin A. They can store up to one year's worth of vitamin A in the liver and fat tissue. This stored vitamin then gets released when we need it. Our gut can also increase or decrease dietary vitamin A absorption depending on our blood vitamin A levels [R].

Remember that some lab-to-lab variability occurs due to differences in equipment, techniques, and chemicals used. Don't panic if your result is slightly out of range in the app - as long as it's in the normal range based on the laboratory that did the testing, your value is normal.

Also Called

- Vitamin A (Retinol)

Low Vitamin A Health Effects

Your vitamin A levels are lower than normal.

Vitamin A deficiency can be caused by:

- Malnutrition [R]
- Alcoholism [R, R]
- Inadequate absorption of vitamin A, which can be caused by gut issues such as celiac disease or Crohn's disease [R, R, R]
- Liver disease [R]
- Inflamed pancreas (chronic pancreatitis) [R]
- Cystic fibrosis [R]

Cholestyramine, a cholesterol-lowering drug, may interfere with vitamin A absorption [R].

Causes shown here are commonly associated with low vitamin A levels. Work with your doctor or another health care professional to get an accurate diagnosis.

Symptoms of low vitamin A include:

- Night blindness [R]
- Skin lesions [R]

Lifestyle Suggestions

The most important thing is to work with your doctor to find out what's causing your low vitamin A levels and to treat any underlying conditions. The additional lifestyle changes listed below are other things you may want to discuss with your doctor. None of these strategies should ever be done in place of what your doctor recommends or prescribes!

Make sure your diet is healthy and well balanced. Increase your dietary intake of vitamin A.

Meat provides vitamin A in the form of retinol, which can be used by the body as it is. Some sources include [R]:

- Liver
- Eggs
- Milk

- Gray/white spots on the eye (Bitot spots) [R]
- Repeated infections [R]
- Delayed wound healing [R]

Vegetables and fruits provide carotenes, precursor compounds that can be converted into vitamin A (retinol) by the liver. Some sources include [R]:

- Carrots
- Sweet potatoes
- Spinach
- Broccoli
- Parsley
- Apricots
- Peaches
- Persimmons
- Tomatoes
- Melon
- Citrus fruits

Foods high in fat, such as avocado, can increase carotene absorption from food and improve the conversion of carotenes to vitamin A [R].

Refrain from drinking alcohol [R, R].

Your doctor may recommend vitamin A supplements. You can also discuss other supplements rich in vitamin A with your doctor, such as cod liver oil or beef liver [R, R].

Cholesterol, Total

Lab Results Report

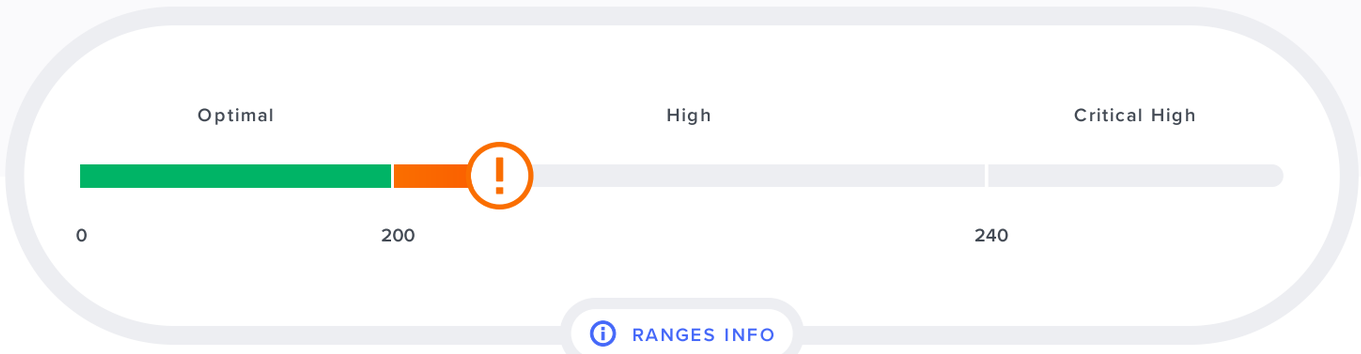
Your result **207 mg/dL**

Optimal range: 0 - 200 mg/dL

Date of test: 2 Oct 2023

Your levels are **high**

Based on your result



About Cholesterol, Total

This test measures the amount of total cholesterol in your blood.

Cholesterol is a fat-like substance that's a key component of cells. It's also used by the body to make steroid hormones (testosterone, estrogens, cortisol, aldosterone, etc.), bile, and vitamin D [R].

Cholesterol that's found in the blood is bound into particles called lipoproteins. You can think of lipoproteins as the vehicle and cholesterol as the passenger. These lipoproteins differ in density (vehicle size), based on which there are three types of cholesterol:

- HDL-cholesterol (high-density lipoprotein cholesterol), known as the “good” cholesterol
- LDL-cholesterol (low-density lipoprotein cholesterol), known as the “bad” cholesterol
- VLDL-cholesterol (very-low-density lipoprotein cholesterol), also “bad” cholesterol

Total cholesterol is the sum of these three types of cholesterol in your body. A change in any of these cholesterols will affect your total cholesterol score.

HDL-cholesterol is known as “good" cholesterol because HDL particles carry it away for disposal. LDL-cholesterol, on the other hand, is considered "bad" cholesterol because LDL particles deposit it in tissues such as the arteries [R, R, R].

Higher levels of total cholesterol have been associated with hardening of the arteries and heart disease. That's why it's important to monitor your cholesterol levels and maintain them in a healthy range [R, R].

Total cholesterol increases as we age up to around 50 years of age. It remains elevated until about 70 when it decreases gradually [R].

Experts recommend that you check your cholesterol regularly, about every 5 years, or more often if you have a higher risk of heart disease, due to factors such as [R]:

- A family history of heart disease
- Smoking
- Being overweight/obese
- Having diabetes or high blood pressure

Also Called

- Total Cholesterol
- Cardio IQ® Cholesterol, Total

High Cholesterol, Total Health Effects

Your cholesterol levels are high.

Your doctor will interpret your results, taking into account your medical history, symptoms, and other test results.

These can increase your cholesterol levels:

- Diets high in calories and saturated fats [R]

- Obesity [R]
- Lack of physical activity [R]
- Alcohol consumption [R]
- Hypothyroidism [R]
- Rare genetic disorders that increase cholesterol (e.g. familial hypercholesterolemia) [R]

There are also many drugs that can increase cholesterol, including [R, R]:

- Corticosteroids
- Water pills (diuretics)
- Beta-blockers
- Antipsychotics
- Anticonvulsants
- Anabolic steroids

Cholesterol levels normally increase during pregnancy [R].

Causes shown here are commonly associated with high cholesterol. Work with your doctor or another health care professional to get an accurate diagnosis.

Cholesterol levels in this range are associated with a moderately higher risk of heart disease [R, R, R].

T. Chol/HDL Ratio

Lab Results Report

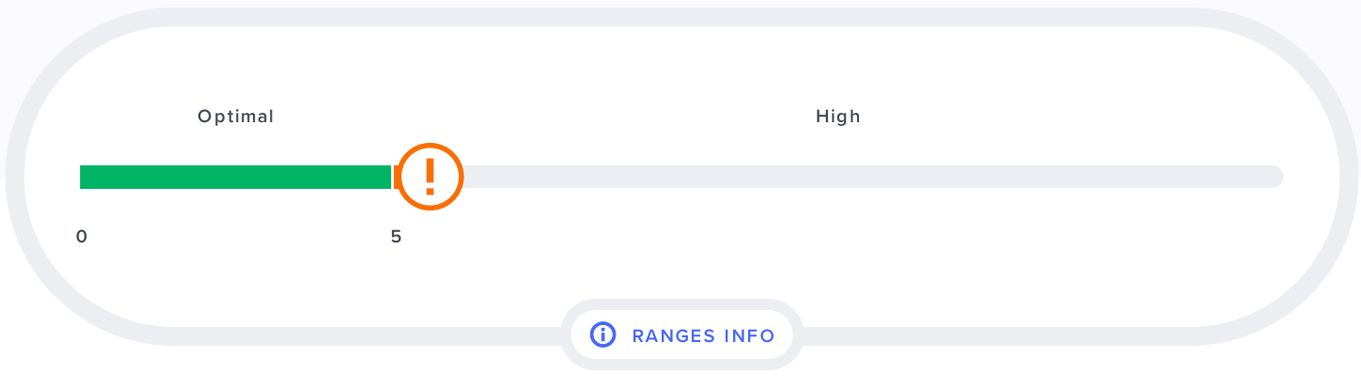
Your result **5.2 :1**

Optimal range: 0 - 5 :1

Date of test: 2 Oct 2023

Your levels are **high**

Based on your result



About T. Chol/HDL Ratio

The ratio of total cholesterol and "good" cholesterol (HDL-C) levels, also known as the cholesterol ratio, is looked at to estimate heart disease risk [R, R].

In general, the smaller the number the better, as this means that the HDL-C (“good cholesterol”) is high compared to "bad" cholesterol [R].

Also Called

- TC/ HDL Cholesterol Ratio
- CHOL/HDLC RATIO
- Cholesterol/HDL Ratio

High T. Chol/HDL Ratio Health Effects

Your total cholesterol/HDL-C ratio is high.

Higher cholesterol ratio is associated with a higher risk of heart disease [R, R, R].

Your doctor will interpret your results, taking into account your medical history, symptoms, and other test results.

Lifestyle Suggestions

Check your individual cholesterol markers for more information.

RBC

Lab Results Report

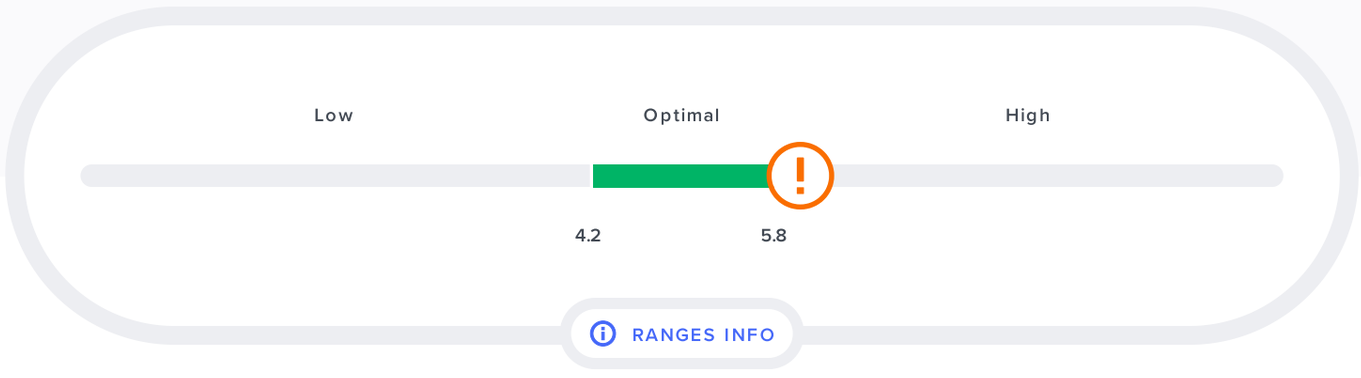
Your result **5.9 x10E6/uL**

Optimal range: 4.2 - 5.8 x10E6/uL

Date of test: 2 Oct 2023

Your levels are **high**

Based on your result



About RBC

This test measures the number of red blood cells (RBCs), also called erythrocytes, in your blood.

The main function of red blood cells is to supply oxygen to your tissues. Tissues can't function properly without enough oxygen. Red blood cells bind oxygen in the lungs and deliver it to the tissues, where they then pick up carbon dioxide produced by your cells. They release carbon dioxide in the lungs, bind oxygen, and go through the same process over and over again [R, R].

RBCs are made within the bone marrow, but many other factors are involved in their production. For example, iron, vitamin B12, folate, and copper are all necessary to make RBCs. So is erythropoietin, a hormone produced by the kidneys [R].

RBCs have a lifetime of approximately 100-120 days, which means that bone marrow needs to continually produce them to replace old ones or those lost because of bleeding [R, R].

There are many different factors that can increase or decrease your RBC count, either by affecting the production of blood cells in the bone marrow or by affecting their lifespan in circulation.

Your doctor may order this test:

- As a part of a routine check-up
- If you have signs or symptoms that suggest a condition that affects RBC production or lifespan
- To monitor a known health condition

An RBC count is usually done as a part of a complete blood count (CBC), which also looks at other properties of your red blood cells. Your doctor will interpret a rise or drop in the RBC count together with other tests, such as hemoglobin, hematocrit, RDW, etc.

Remember that some lab-to-lab variability occurs due to differences in equipment, techniques, and chemicals used. Don't panic if your result is slightly out of range in the app - as long as it's in the normal range based on the laboratory that did the testing, your value is normal.

Also Called

- Total RBC
- Erythrocytes
- Red Blood Cell Count
- Red Cell Count
- Red Blood Cell

High RBC Health Effects

Your red blood cell count is high!

RBC count increases when the body is trying to compensate for a lack of oxygen in tissues due to various causes. Alternatively, an elevated red blood cell count may be due to an underlying disease.

But remember that a single test isn't enough to make a diagnosis. Your doctor will interpret this test, taking into account your medical history and other tests, such as hemoglobin, hematocrit, and red blood cell indices. A result that is slightly high may not be of medical significance, as this test often varies from day to day and from person to person.

High RBC levels can be caused by:

- Dehydration [R]
- Living at high altitudes [R, R]
- Smoking [R, R, R]
- Chronic carbon monoxide poisoning [R]
- Sleep apnea [R]
- Lung disease [R]
- Heart disease [R]
- Kidney tumors [R, R]
- Bone marrow disorders, such as polycythemia vera [R, R]
- Some types of cancer [R, R]
- Rare genetic disorders [R]

RBC count can also increase when people take:

- Anabolic steroids [R]
- Erythropoietin (often for performance-enhancing purposes) [R]

Causes shown here are commonly associated with high RBC count. Work with your doctor or another health care professional to get an accurate diagnosis.

When your RBC is high, you may experience [R, R]:

- Headaches
- Lightheadedness
- Fatigue and a lack of energy
- Disturbed vision or hearing
- Prickling sensation on the skin
- Muscle pain

High red blood cell count is linked to a higher risk of blood clots and heart disease [R, R].

Calcium

Lab Results Report

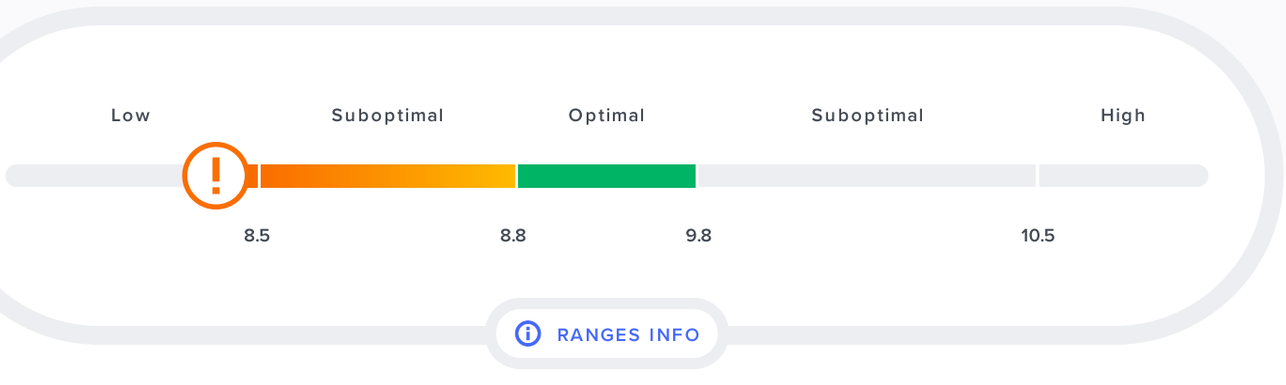
Your result **8.17 mg/dL**

Optimal range: 8.8 - 9.8 mg/dL

Date of test: 2 Oct 2023

Your levels are **low**

Based on your result



About Calcium

This test measures the amount of calcium in your blood, **considering the levels of albumin**, a blood protein.

Calcium is the most abundant mineral in the human body. Approximately 99% of the calcium in our bodies is in our bones and teeth. The remaining 1% of calcium circulates in the blood [R].

Apart from keeping our bones and teeth strong, calcium also plays a crucial role in nerve and muscle function, blood clotting, and proper enzyme function [R].

Calcium levels in the blood are tightly controlled by parathyroid hormone (PTH) and vitamin D. If blood levels drop, calcium is taken from bones to keep blood levels stable [R].

In the blood, **45% of calcium is bound to albumin** and is inactive. Another 10% is combined with anions. This leaves **45% of free and active calcium** that can be used by our bodies for various functions [R].

The concentration of calcium in the body may be affected by a number of different factors, including **albumin concentration**. Hence, doctors may “adjust” or “correct” total calcium for albumin concentration: **adjusted or corrected calcium** [R].

However, adjusted calcium **may not be an accurate measure of calcium status in certain people**, especially those with advanced kidney disease or critically ill. Hence, doctors may order an ionized calcium test to confirm the result [R, R, R, R].

Remember that there is some lab-to-lab variability in ranges due to differences in equipment, techniques, and chemicals used. Don't panic if your result is slightly out of range in the app - as long as it's in the normal range based on the laboratory that did the testing, your value is normal.

Also Called

- Calcium, Serum
- Calcium (ALB Corrected)
- Adjusted Calcium

Low Calcium Health Effects

Your calcium level is lower than normal!

This is called hypocalcemia (“hypo-” = low, “calcemia” = calcium in the blood).

A result that's lower than normal, doesn't necessarily mean that your have a health condition needing treatment. Your doctor will interpret your result, taking into account your medical history, symptoms, and other test results.

Low calcium levels are often caused by low protein levels, especially albumin. This is the case in liver disease, alcoholism, malnutrition, or infections. However, in these cases, the unbound (ionized) calcium remains normal. Therefore, your doctor can rule this out by checking your albumin or ionized calcium levels [R].

Other causes of low calcium include:

- Underactive parathyroid gland (hypoparathyroidism) [R, R]

- Low vitamin D levels [R, R]
- Not getting enough calcium in your diet (e.g. in people with lactose intolerance, eating disorders) [R]
- Gut diseases and disorders that can lower calcium absorption, such as IBD (inflammatory bowel disease) [R]
- Abnormal magnesium levels (low/deficient or high) [R, R, R]
- High phosphorus levels (hyperphosphatemia) [R]
- Inflammation of the pancreas (pancreatitis) [R]
- Kidney disorders [R]
- Genetics, i.e. certain mutations in your genes [R]

Several drugs can decrease blood calcium levels, including:

- Bisphosphonates used to treat osteoporosis [R]
- Anticonvulsants [R, R]
- Glucocorticoids [R]
- Proton pump inhibitors, used to decrease stomach acid [R, R]
- Laxatives [R]

Causes shown here are commonly associated with low calcium levels. Work with your doctor or another health care professional to get an accurate diagnosis.

Total (but not ionized) calcium levels can be normally lower in pregnancy [R].

Low blood calcium levels are associated with less than optimal health [R, R, R, R].

Low calcium levels are generally not associated with any symptoms. In extreme cases, you may experience tingling in the fingers and toes, and muscle cramping [R, R].

EGFR

Lab Results Report

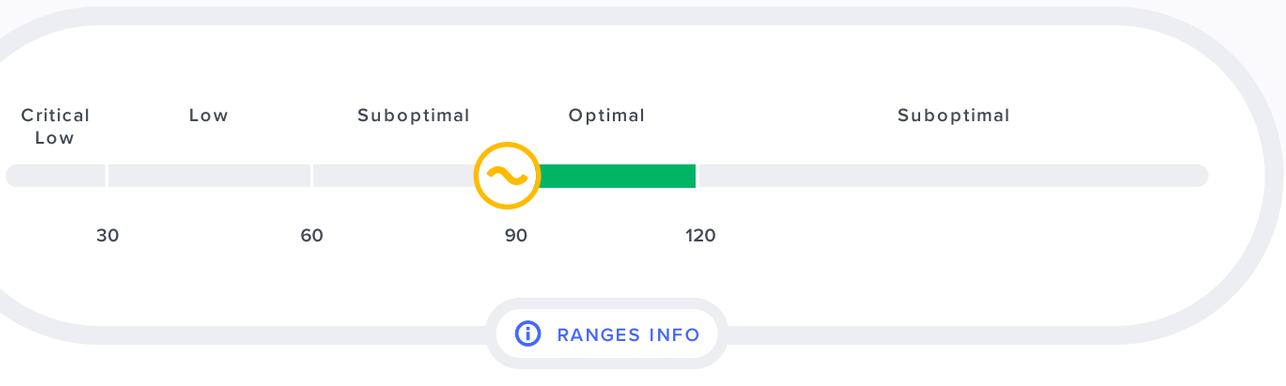
Your result **89 mL/min/1.73 m2**

Optimal range: 90 - 120 mL/min/1.73 m2

Date of test: 2 Oct 2023

Your levels are **suboptimal**

Based on your result



About EGFR

Estimated glomerular filtration rate (eGFR) is a measure of how well your kidneys are working.

GFR is the amount of blood that is filtered every minute by tiny filters in the kidneys called glomeruli [R].

When kidney function declines due to damage or disease, GFR decreases and waste products that are normally released in the urine start to appear in the blood.

Your eGFR is calculated based on your blood creatinine levels, sex, age, and race. Creatinine is a waste product that is normally filtered by the kidneys and released into the urine at a relatively steady rate. When kidney function decreases, less creatinine is removed through urine and levels in the blood increase.

Early detection of impaired kidney function is important to prevent further kidney damage. Ask your doctor to explain your results.

Because creatinine depends on muscle mass, conditions such as wasting disease and obesity require alternative ways to obtain eGFR. In addition, for body builders, high muscle mass may lead to underestimation of eGFR [R].

Also Called

- Estimated glomerular filtration rate
- Est. glomerular filtration rate (eGFR)
- GFR
- Estimated - GFR (CKD-EPI)

Suboptimal EGFR Health Effects

Your eGFR is below the normal range.

Your doctor will interpret this test, taking into account your medical history, symptoms, and other tests.

Levels in this range may signal mildly decreased kidney function. However, with eGFR values in this range, doctors will consider kidney disease only if there is additional evidence of kidney damage, such as:

- cysts in the kidneys (polycystic kidney disease)
- protein in the urine (proteinuria)
- blood in the urine (hematuria)

If there are no such abnormalities, your value may be considered normal. GFR decreases as you age and values in this range become normal in older adults [R, R].

Apart from kidney issues, low GFR may be caused by:

- Eating cooked meat before the test. This increases creatinine levels in the blood [R]
- Starvation and long fasting periods [R]
- Bodybuilding and creatine supplementation [R]
- Other factors that can increase creatinine in the blood, such as dehydration [R]
- Drugs such as NSAIDs and some blood pressure meds [R]

Causes shown here are commonly associated with lower eGFR. Work with your doctor or another health care professional to get an accurate diagnosis.

It's important to monitor your eGFR to make sure it's not decreasing.

These can increase your risk of kidney disease:

- High blood pressure [R, R]
- Diabetes [R, R]
- Heart disease [R]
- Obesity [R]
- Smoking [R, R]
- A family history of kidney disease [R]
- Age (being 60 years old and above) [R]
- Previous kidney injury [R]
- Being born premature/with low birth weight [R, R]

Chloride

Lab Results Report

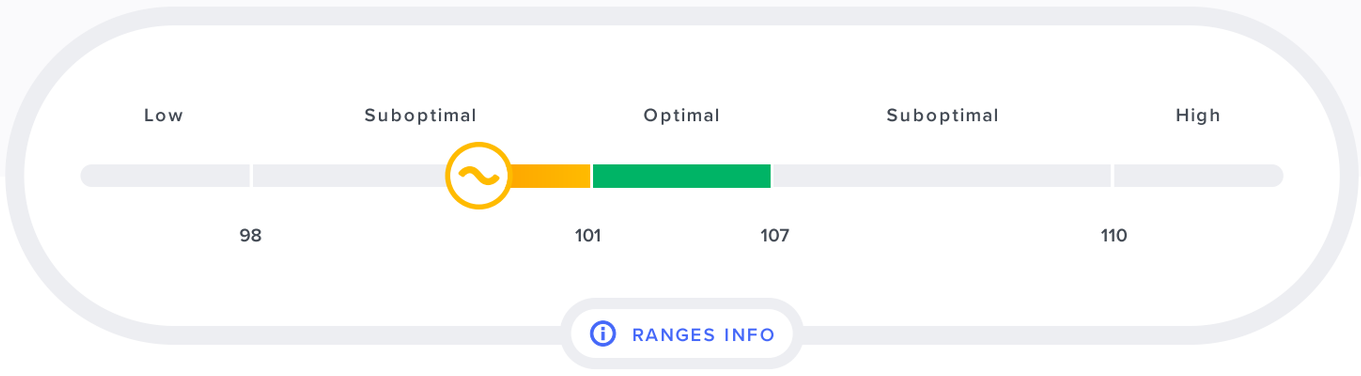
Your result **100 mmol/L**

Optimal range: 101 - 107 mmol/L

Date of test: 2 Oct 2023

Your levels are **suboptimal**

Based on your result



About Chloride

This test measures the level of chloride in your blood.

Chloride is a negatively charged ion. Along with sodium, potassium, and bicarbonate, it helps balance the amount of fluids in the body. Chloride is also important for the acid-base balance (pH) in the blood.

We get chloride through our diet -- it's found in table salt (sodium chloride) and also in various vegetables. Chloride levels are adjusted by the kidneys, which control how much chloride is going to be lost through urine.

Blood chloride levels are generally steady, although they can drop slightly after meals. This is because the stomach produces acid after eating, for which it uses chloride from blood.

Chloride levels usually mirror the level of sodium. However, if there is an acid-base imbalance in your body, chloride levels can change independently of sodium levels [R, R].

Remember that there is some lab-to-lab variability in ranges due to differences in equipment, techniques, and chemicals used. Don't panic if your result is slightly out of range in the app - as long as it's in the normal range based on the laboratory that did the testing, your value is normal.

Also Called

- Chloride, Serum

Suboptimal Chloride Health Effects

Your chloride is within the normal range, but it is lower than optimum [R].

Factors can decrease chloride levels include:

- Not getting enough salt in the diet [R]
- Diarrhea [R]
- Severe or chronic vomiting, seen in conditions such as eating disorders [R, R]
- Some drugs, such as water pills (diuretics) [R]
- Swallowing large amounts of baking soda or antacids [R, R, R]

Your doctor will interpret your result, taking into account your medical history, symptoms, and other test results.

GGT

Lab Results Report

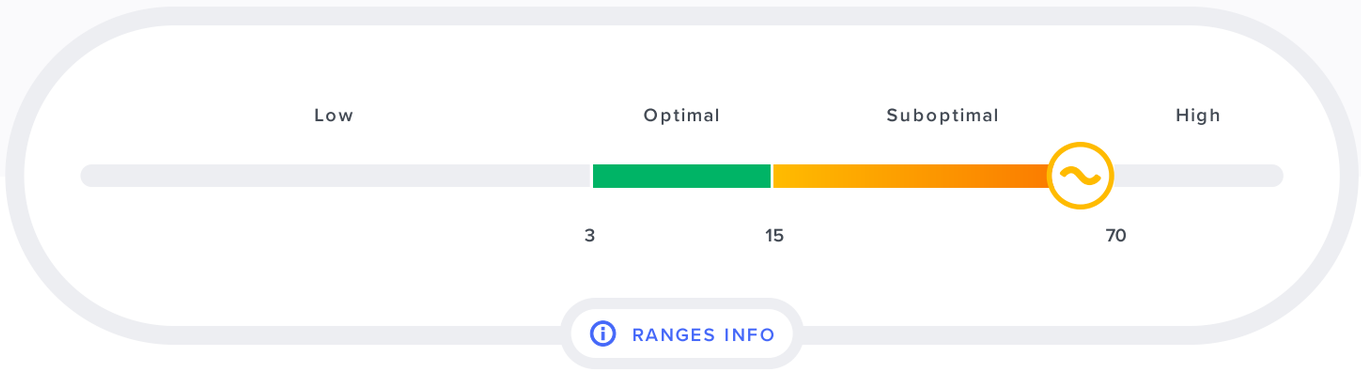
Your result **65 IU/L**

Optimal range: 3 - 15 IU/L

Date of test: 2 Oct 2023

Your levels are **suboptimal**

Based on your result



About GGT

This test measures the amount of gamma-glutamyl transferase (GGT) in the blood.

Gamma-glutamyl transferase (GGT) is an enzyme mainly found in the liver, gallbladder, kidneys, and pancreas. This enzyme helps break down proteins and also breaks down glutathione, a major antioxidant [R, R].

GGT levels are usually elevated in conditions that cause damage to the liver or bile duct, and to a lesser degree, the kidney and pancreas. This blood test is therefore commonly used to help diagnose potential liver and bile-duct disease [R].

Apart from being a tool that can point to liver disorders and alcohol abuse, a growing body of evidence has established the link between higher GGT levels and inflammation and oxidative stress [R, R, R, R, R, R].

Research has linked higher GGT, even within the normal range, with an increased risk of diabetes, heart disease, kidney disease, and cancer [R, R, R, R]. However, genetic studies found that this relationship likely isn't causal, which means that GGT serves as an indicator that there are health issues in the body, but it's not directly causing them [R, R, R].

Also Called

- Gamma-glutamyl transferase
- Gamma Glutamyl Transferase (GGT)

Suboptimal GGT Health Effects

Your GGT is within the normal range, but higher than optimal [R, R, R, R, R, R, R].

GGT can be increased by:

- Alcohol consumption [R, R]
- Smoking (in heavy drinkers) [R, R]
- High intake of dietary iron (fish and meat) [R]
- Obesity [R]
- Anorexia [R]
- Environmental pollutants/toxins [R]
- Liver diseases [R]
- Gallstones and bile duct obstruction [R]

Many drugs and supplements may increase GGT levels, including [R, R, R, R]:

- Nonsteroidal anti-inflammatory drugs, such as ibuprofen
- Heartburn relief medications
- Blood thinners
- Water pills (diuretics)
- Anti-seizure medications
- Black cohosh
- Kava

Your doctor will interpret your results, taking into account your medical history, symptoms, and other test results.

Research has linked GGT levels in this range with a potentially higher risk of:

- Metabolic syndrome (a cluster of 3 of the following conditions: high blood pressure, high blood sugar, excess body fat around the waist, and abnormal cholesterol or triglyceride levels) [R, R, R, R, R]
- Diabetes [R, R, R, R, R]
- Hardening of the arteries [R, R, R]
- Heart disease, including heart attack, heart failure, and stroke [R, R, R, R, R, R, R]
- Cancer [R, R, R, R]

Triglycerides

Lab Results Report

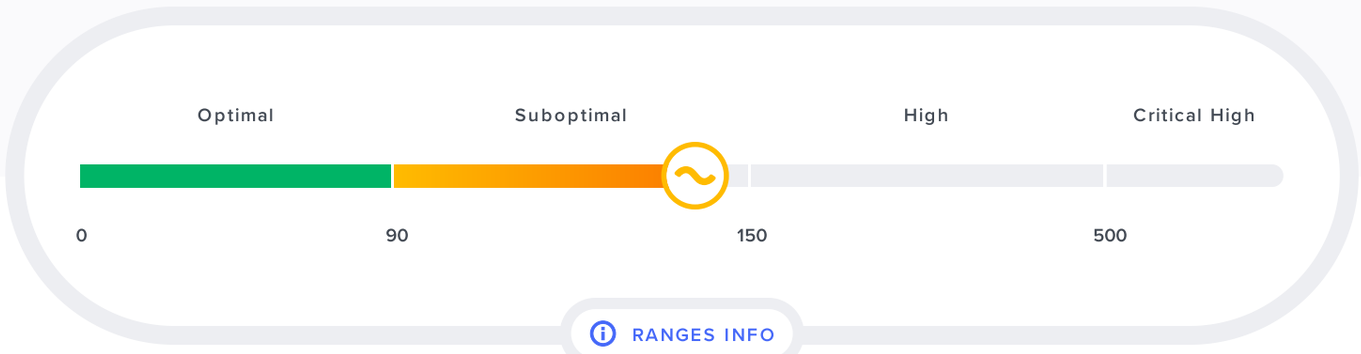
Your result **141 mg/dL**

Optimal range: 0 - 90 mg/dL

Date of test: 2 Oct 2023

Your levels are **suboptimal**

Based on your result



About Triglycerides

This test measures the amount of triglycerides circulating in your blood.

Triglycerides (TG) are the most common type of fat in your body.

You get triglycerides from food, such as meat, dairy, vegetable oils, and fats. Triglycerides are digested and absorbed in the small intestine and then packaged together with cholesterol and proteins. These packages can then be used by cells as a form of energy [R, R].

The liver is also able to make and store triglycerides. It does so when you eat a lot of carbs, or more calories than your body needs [R, R, R].

It's important to watch your triglyceride levels and maintain them in a healthy range. High triglyceride levels are associated with an increased risk of developing heart disease [R, R].

Also Called

- Cardio IQ® Triglycerides

Suboptimal Triglycerides Health Effects

Your triglyceride levels are within the normal range, but they are higher than optimal.

Your doctor will interpret your results, taking into account your medical history, symptoms, and other test results.

These can increase triglyceride levels:

- Diets high in calories (overeating), carbs, and fats [R, R]
- Being physically inactive/sedentary lifestyle [R, R, R]
- Obesity [R]
- Smoking [R, R, R]
- High alcohol intake [R, R]
- Diabetes [R]
- Inflammation and infection [R, R]
- Vitamin D deficiency [R, R, R]
- Underactive thyroid (hypothyroidism) [R, R]
- Autoimmune disease [R]

Triglyceride levels normally rise significantly during the third trimester of pregnancy, before eventually returning to normal [R].

Certain drugs can increase triglyceride levels including:

- Corticosteroids [R]
- Estrogens [R, R]
- Water pills (diuretics) [R, R]
- Beta-blockers [R, R]
- Antiretrovirals [R]
- Retinoids [R]

- Some antipsychotics [R]

Studies have found an association between triglyceride levels in this range and a higher risk of heart disease and less than optimal overall health [R, R, R, R].

Apolipoprotein B

Lab Results Report

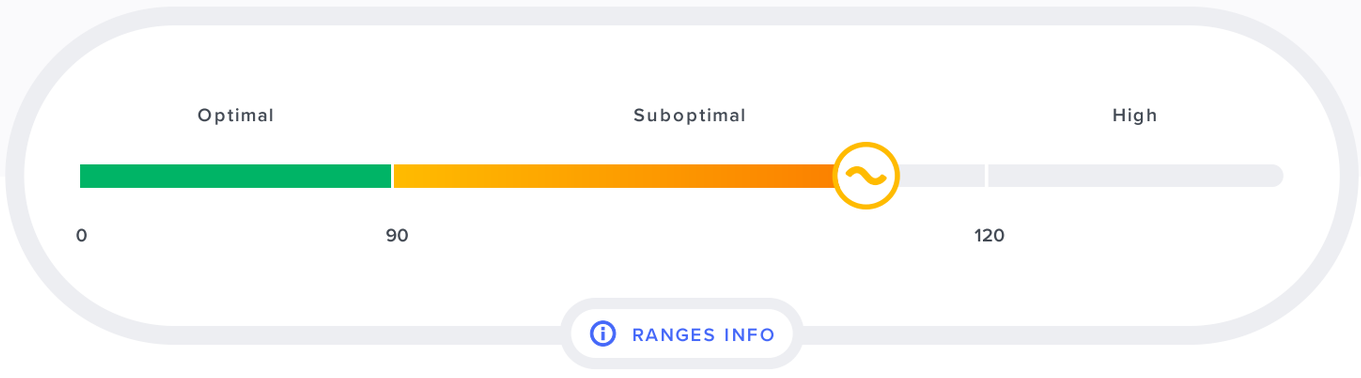
Your result **114 mg/dL**

Optimal range: 0 - 90 mg/dL

Date of test: 2 Oct 2023

Your levels are **suboptimal**

Based on your result



About Apolipoprotein B

This test measures the amount of apolipoprotein B in your blood.

Apolipoprotein B (apoB) is a large protein that serves as the structural backbone of three important lipoproteins. These are called your “bad cholesterol” [R]:

- low-density lipoprotein (LDL)
- very-low-density lipoprotein (VLDL)
- intermediate-density lipoprotein (IDL)

Each molecule of LDL, VLDL, and IDL contains one molecule of apoB. This means that apoB is a measure of the number of particles that carry "bad cholesterol" in your blood [R].

Bad cholesterol that contains ApoB (like LDL) is the main cause of heart disease. Research suggests that ApoB may better predict heart disease than other labs such as LDL cholesterol and triglycerides [R, R, R, R, R, R, R, R, R].

Your doctor may order ApoB to assess your risk of heart disease if you have a family history of heart disease or risk factors for heart disease.

Also Called

- ApoB
- ApoB-100
- Apolipoprotein B-100
- Apo B
- Apolipoprotein-B (APO-B)

Suboptimal Apolipoprotein B Health Effects

Your apoB levels are higher than optimal.

ApoB levels in this range have been linked to moderately increased risk of heart disease [R, R, R, R, R, R, R, R, R].

Your doctor will interpret this test together with your signs, symptoms, and other test results.

These can increase apoB levels:

- Diets high in fructose and added sugars [R, R]
- Diets high in saturated fats and cholesterol [R, R, R]
- Being overweight/obese [R, R, R, R]
- Insulin resistance and diabetes [R, R, R, R]
- Hypothyroidism [R, R, R]
- Smoking [R, R, R]
- Drinking coffee (including decaf) [R, R, R]
- Lack of sleep [R, R]
- Sleep apnea [R]
- Pregnancy [R]
- Menopause [R, R]
- Medications such as androgens/anabolic steroids, drugs that suppress the immune system, and chemotherapeutics [R, R, R, R]

Causes listed here have been associated with increased apoB levels. Work with your doctor or another health care professional to get an accurate diagnosis.

Hematocrit

Lab Results Report

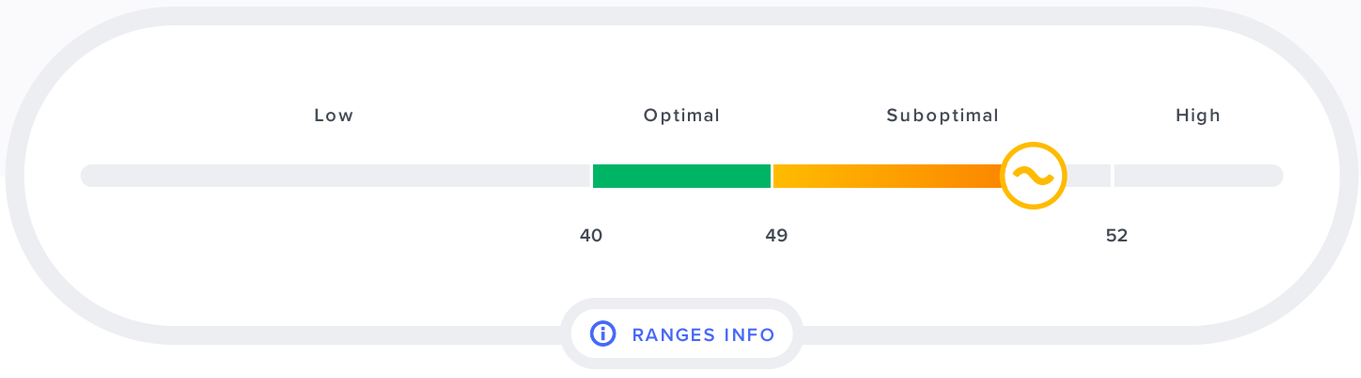
Your result **51.3 %**

Optimal range: 40 - 49 %

Date of test: 2 Oct 2023

Your levels are **suboptimal**

Based on your result



About Hematocrit

This test measures how much of your blood volume is made of red blood cells.

Because red blood cells carry oxygen from the lungs to the rest of the body, hematocrit (HCT) shows how well the body is able to deliver oxygen to your tissues [R].

Your doctor will interpret a rise or drop in hematocrit together with other tests, such as hemoglobin, RBC, and red blood cell indices.

Remember that some lab-to-lab variability occurs due to differences in equipment, techniques, and chemicals used. Don't panic if your result is slightly out of range in the app - as long as it's in the normal range based on the laboratory that did the testing, your value is normal.

Also Called

- HCT
- Hematocrit (PCV)
- Haematocrit
- PCV
- Packed Cell Volume

Suboptimal Hematocrit Health Effects

Your hematocrit is within the normal range, but it's higher than ideal.

Hematocrit levels can be increased by:

- Dehydration [R]
- Stress [R, R]
- Smoking [R]
- Alcohol [R]
- Being overweight or obese [R]
- Lung disease [R]
- Nonalcoholic fatty liver disease (NAFLD) [R]

Drugs that can increase hematocrit include:

- Erythropoietin, when used for doping [R]
- Testosterone replacement therapy and anabolic steroids [R]
- Drugs used to treat high blood pressure [R]
- Cocaine [R]

Higher levels of hematocrit are associated with less than optimal health [R]. They can increase your risk of:

- Blood clots [R]
- Stroke [R]
- Heart disease [R]

VLDL Cholesterol, Calc 1

Lab Results Report

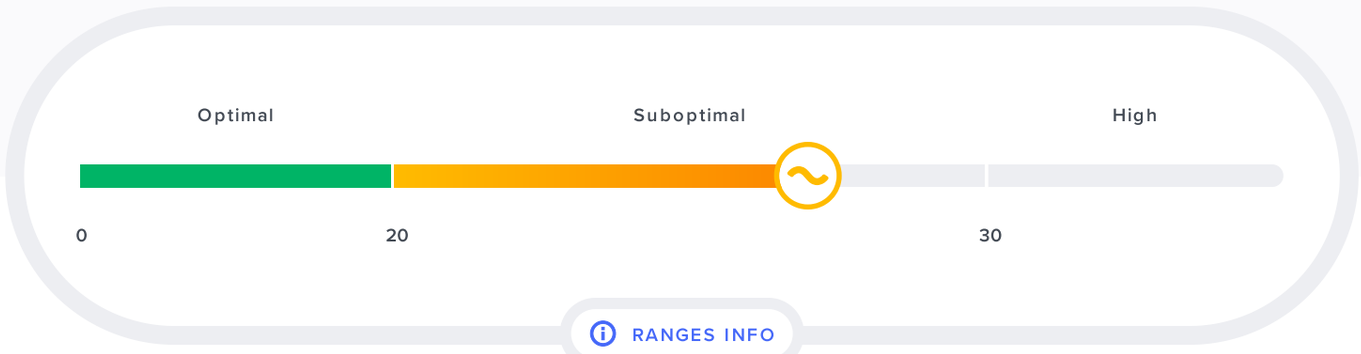
Your result **27 mg/dL**

Optimal range: 0 - 20 mg/dL

Date of test: 2 Oct 2023

Your levels are **suboptimal**

Based on your result



About VLDL Cholesterol, Calc 1

This test calculates the amount of very-low-density lipoprotein cholesterol, or VLDL-C, in your blood.

VLDL-cholesterol is cholesterol bound to very-low-density lipoprotein (VLDL) particles. It transports triglycerides (fats) and cholesterol in the bloodstream [R].

VLDL-cholesterol is made in the liver and then released into the blood. Once in the blood, it can be converted to LDL-C. VLDL-C, like LDL-C, is considered a form of “bad cholesterol” because it transports and deposits fats and cholesterol in blood vessel walls and contributes to LDL-C levels [R].

VLDL-cholesterol is calculated from your fasting triglyceride levels. The result becomes less accurate if it's not taken in a fasted state or if the triglyceride levels are increased (above 400 mg/dL or 4.5 mmol/L). Direct measurement requires specialized testing.

Also Called

- VLDL-C
- VLDL-Cholesterol
- CHOLESTEROL, VERY LOW DENSITY LIPOPROTEIN
- VLDL Cholesterol

Suboptimal VLDL Cholesterol, Calc 1 Health Effects

Your VLDL-cholesterol is within the normal range, but it's higher than optimal.

Your doctor will interpret your results, taking into account your medical history, symptoms, and other test results.

These can increase VLDL-cholesterol levels:

- Diets high in carbs and low in fats [R]
- Smoking and chewing tobacco [R]
- Insulin resistance [R]
- Type 1 and 2 diabetes [R]
- Underactive thyroid (hypothyroidism) [R]
- Obesity [R]
- Inflammation and infection [R]
- Non-alcoholic fatty liver disease (NAFLD) [R]
- Kidney damage [R]
- Certain medication, including glucocorticoids, thiazide-type diuretics, second-generation antipsychotics, and isotretinoin [R, R, R, R, R]

Causes shown here are commonly associated with higher VLDL-cholesterol. Work with your doctor or another health care professional to get an accurate diagnosis.

Higher VLDL-cholesterol levels increase your risk of heart disease [R].

Iron Saturation

Lab Results Report

Your result **45 %**

Optimal range: 24 - 40 %

Date of test: 2 Oct 2023

Your levels are **suboptimal**

Based on your result

About Iron Saturation

This test measures how much iron has been bound by transferrin.

Transferrin is a protein found in the blood that binds iron in order to transport it throughout the body. Therefore, having enough transferrin is important for making sure that your body can effectively use the iron you get from your diet.

Transferrin saturation is calculated by dividing iron levels by the Total Iron-Binding Capacity (TIBC) or by transferrin. These two approaches may give slightly different results [R, R].

Transferrin saturation is considered an important marker of your iron status, which means that it can help diagnose iron deficiency or excess iron (iron overload) [R].

Also Called

- % Saturation
- % Transferrin Saturation
- Iron % Sat (calc)
- Transferrin Saturation

Suboptimal Iron Saturation Health Effects

Your transferrin saturation is within the normal range, but higher than optimal [R, R].

These can increase transferrin saturation:

- Excess iron (iron overload) [R]
- Anemias due to causes other than iron deficiency (e.g. megaloblastic anemia, thalassemia) [R, R]
- Hemochromatosis, a disease where too much iron builds up in the body [R]

Your doctor will interpret your result, taking into account your medical history, symptoms, and other test results.

Lifestyle Suggestions

Work with your doctor to treat any underlying conditions.

Check your iron levels for more information.

Estradiol

Lab Results Report

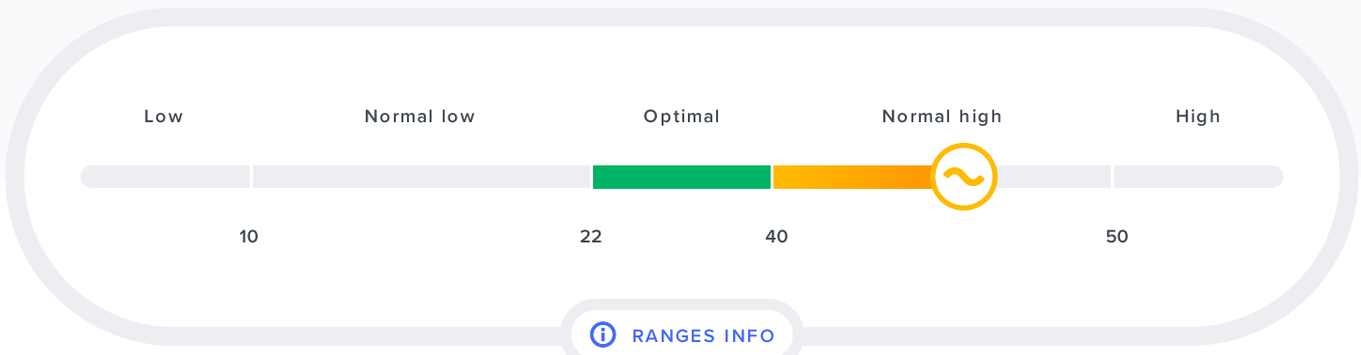
Your result **45.6 pg/mL**

Optimal range: 22 - 40 pg/mL

Date of test: 2 Oct 2023

Your levels are **normal high**

Based on your result



About Estradiol

This test measures the amount of estradiol in your blood.

Estradiol (E2) is a sex hormone and the most active estrogen in the body. It's made mainly in the ovaries, however, the brain, fat cells, immune system cells, and bones can also make smaller amounts. It is made by conversion from testosterone, androstenedione, and progesterone, which are also sex hormones [R, R].

Estradiol is important for female and male reproduction, brain, thyroid, and bone health, and maintaining a healthy weight [R, R].

In the blood, estradiol exists in two forms. Most of it is bound to proteins (SHBG or albumin), while about 1% is unbound/free. The unbound form is the one that is active, exerting effects on our bodies [R, R].

It is difficult to measure or calculate free blood estradiol levels, and thus, most blood estradiol tests only measure bound estradiol [R].

Also Called

- E2

Normal High Estradiol Health Effects

Your estradiol levels are within the normal range but higher than optimal [R].

Increased estradiol can be caused by:

- Obesity [R, R, R]
- Hyperthyroidism [R, R]
- Hormonal therapy (estrogen or testosterone) [R, R, R]
- Tumors in adrenal glands (in both men and women) [R]
- Tumors in the ovary (in women) or testicles (in men) [R, R]
- Scarring of the liver (cirrhosis) [R, R]
- Cimetidine (Tagamet), a drug used to inhibit stomach acid production [R]
- Pregnancy [R]

Symptoms of elevated estradiol include:

In women:

- Swelling and tenderness in the breasts [R]
- Bloating [R]
- Headaches [R]
- Weight gain [R]

In men:

- Erectile dysfunction [R]
- Gynecomastia (breast growth) [R]

Lifestyle Suggestions

Work with your doctor to treat any potential underlying condition. The additional lifestyle changes listed below are other things you may want to discuss with your doctor. None of these strategies should ever be done in place of what your doctor recommends or prescribes!

If your overall estrogens are low, exercise more. Moderate-intensity exercise can decrease estrogen levels [R].

Reducing the level of the enzyme aromatase, which is an important enzyme for the production of estradiol, can reduce the level of estradiol in the body [R]. You can reduce aromatase activity by:

- Decreasing your body fat (losing weight) [R]
- Increasing intake of foods containing natural aromatase inhibitors, including mushrooms, celery, carrots, spinach, grapes, etc [R]
- Reducing alcohol consumption [R]

- Infertility [R]

Your doctor will interpret your result, taking into account your medical history, symptoms, and other test results.

- Reducing carbs in your diet, since a high carbohydrate diet can increase estrogen levels [R]

Increasing your intake of vegetables that have indole-3-carbinol can help lower estradiol levels. These vegetables include cabbage, cauliflower, broccoli, brussel sprouts, and kale [R, R].

Limited evidence suggests that drinking more green tea or getting more vitamin D can help lower estrogen levels [R, R].

Iron

Lab Results Report

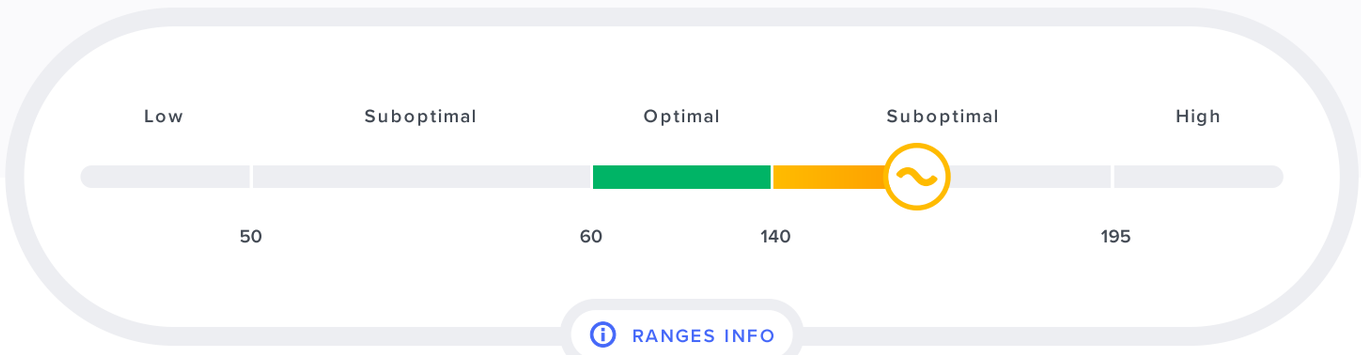
Your result 163 ug/dL

Optimal range: 60 - 140 ug/dL

Date of test: 2 Oct 2023

Your levels are **suboptimal**

Based on your result



About Iron

This test measures the amount of iron in your blood.

Iron (Fe) is a metal that plays an essential role in the body. Iron is needed for [R, R, R, R, R, R]:

- Red blood cell production
- Oxygen and carbon dioxide transport in the blood (as part of hemoglobin)
- Oxygen transport and storage in muscles (as part of myoglobin)
- Energy production in the heart and muscles
- Brain development and normal brain function
- Immune system development and immune response
- Resistance to infections
- Production and degradation of DNA

However, blood iron alone is not a great measure of how much iron there is in the body because it fluctuates daily. For example, it can increase after you ingest iron-rich foods. It can also stay normal, even when your body's iron reserves are seriously depleted [R, R].

Instead, ferritin, transferrin, and total iron binding capacity (TIBC) measurements can be better indicators of your overall iron status [R, R]. Your doctor may order several of these tests in conjunction with an iron test and then interpret the results together to help diagnose and/or monitor iron deficiency or iron overload.

Remember that there is some lab-to-lab variability in ranges due to differences in equipment, techniques, and chemicals used. Don't panic if your result is slightly out of range in the app - as long as it's in the normal range based on the laboratory that did the testing, your value is normal.

Also Called

- Iron, Serum
- Iron, Total

Suboptimal Iron Health Effects

Your iron levels are within the normal range, but higher than optimal [R, R, R].

Higher iron levels can damage your cells and tissues and weaken your immune system, allowing excess iron to be used by invading bacteria [R, R].

These can increase your iron levels:

- Iron-containing supplements [R, R, R]
- Alcoholism [R, R, R]
- Liver scarring (cirrhosis) and liver disease [R, R, R, R]
- Repeated blood transfusions [R]
- Iron loading anemias: thalassemia major, sideroblastic anemia, aplastic anemia [R, R]
- Abnormal destruction of red blood cells (hemolysis) [R]
- Hereditary hemochromatosis, an inherited disorder in which your body absorbs too much iron from the food that you eat [R, R]
- Chloramphenicol, an antibiotic used to treat bacterial infections [R, R]

Your doctor will interpret your result, taking into account your medical history, symptoms, and other test results.

ALT (SGPT)

Lab Results Report

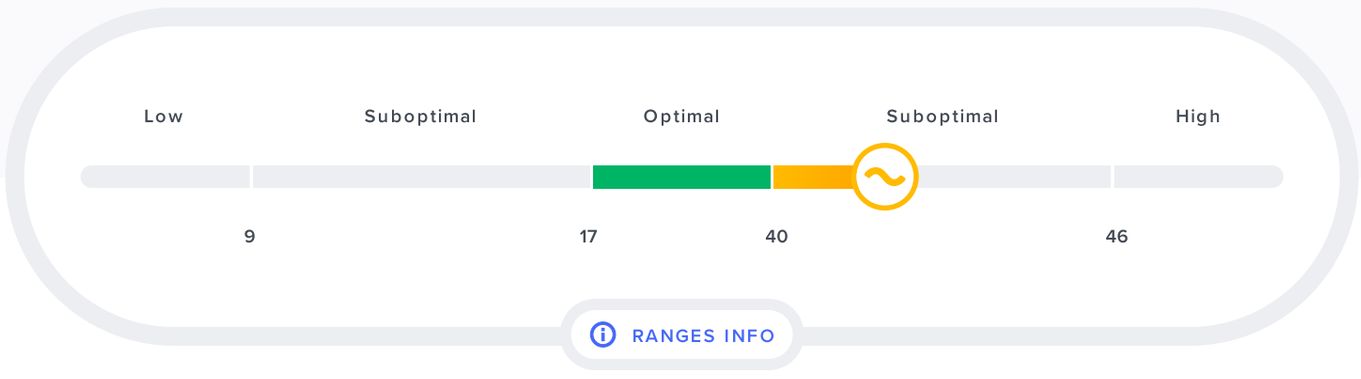
Your result **42 IU/L**

Optimal range: 17 - 40 IU/L

Date of test: 2 Oct 2023

Your levels are **suboptimal**

Based on your result



About ALT (SGPT)

This test measures the amount of alanine aminotransferase (ALT) in your blood. It's used to check for liver damage.

ALT is an enzyme that breaks down proteins for energy. It is mainly found in the liver, but also in smaller amounts in the kidneys, heart, muscles, fat tissue, intestines, and pancreas [R].

Normally, blood ALT levels are low. However, when the liver is injured, ALT leaks into the bloodstream. That's why an ALT test is done to monitor liver health and find out if the liver is damaged or diseased [R].

Remember that there is some lab-to-lab variability in ranges due to differences in equipment, techniques, and chemicals used. Don't panic if your result is slightly out of range in the app - as long as it's in the normal range based on the laboratory that did the testing, your value is normal.

Also Called

- Alanine aminotransferase
- ALT
- Alanine Aminotransferase (ALT)
- SGPT
- Alanine Transaminase

Suboptimal ALT (SGPT) Health Effects

Your ALT levels are within the normal range but higher than optimal [R, R, R].

A variety of personal and environmental factors can affect your results including your diet, exercise, alcohol use, and the drugs/supplements that you take.

These can increase ALT:

- Excessive alcohol intake [R, R]
- Muscle damage due to strenuous exercise or injury [R, R]
- Anorexia [R]
- Obesity [R, R, R]
- Liver disease or damage due to toxins such as lead, mercury, and pesticides [R, R, R]
- Underactive thyroid gland (hypothyroidism) [R]

Many drugs and supplements can increase ALT, including:

- Non-steroidal anti-inflammatory drugs (e.g. ibuprofen) [R, R]
- Cholesterol-lowering drugs (e.g., statins) [R]
- Acetaminophen (Tylenol, Panadol) overdose [R, R]
- Antibiotics [R]
- Opioids [R]
- Chemotherapy drugs [R]
- Vitamin A (retinoids) [R, R]
- Kava [R]

Your doctor will interpret your result, taking into account your medical history, symptoms, and other test results.

BUN

Lab Results Report

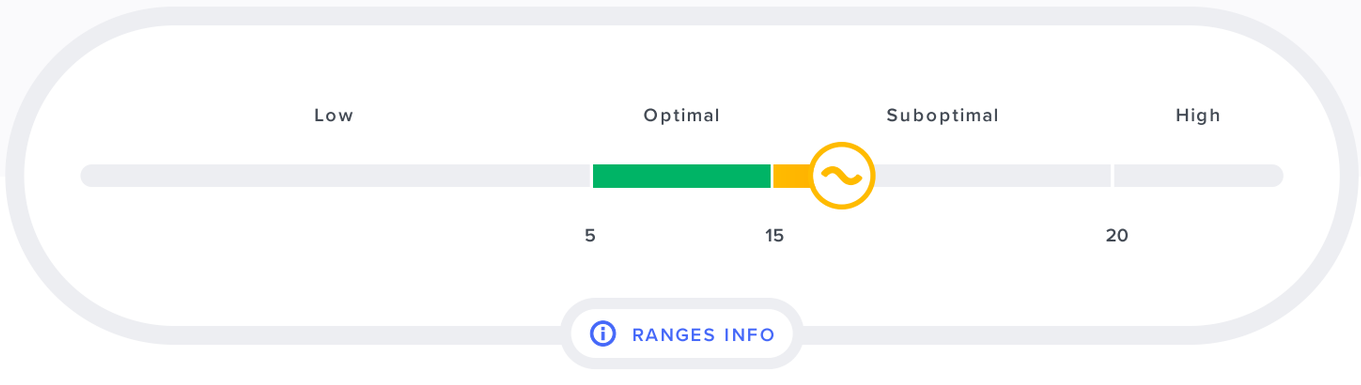
Your result 16 mg/dL

Optimal range: 5 - 15 mg/dL

Date of test: 2 Oct 2023

Your levels are **suboptimal**

Based on your result



About BUN

This test measures the amount of urea in your blood, also known as blood urea nitrogen or BUN.

Urea is a waste product made when the liver breaks down protein. It's removed by the kidneys [R, R, R].

In a nutshell, BUN indicates how well your kidneys are functioning. It is important that you keep track of your kidney function, especially if you are dealing with chronic issues such as obesity or diabetes.

Overall, kidney function is best evaluated when looking at BUN and creatinine together - which is called the BUN/creatinine ratio [R].

Remember that there is some lab-to-lab variability in ranges due to differences in equipment, techniques, and chemicals used. Don't panic if your result is slightly out of range in the app - as long as it's in the normal range based on the laboratory that did the testing, your value is normal.

Also Called

- Blood urea nitrogen
- Blood urea nitrogen (BUN)
- Urea Nitrogen (BUN)
- Urea nitrogen

Suboptimal BUN Health Effects

Your BUN/urea is within the normal range, but it's higher than optimal [R].

These can increase BUN/urea:

- Dehydration [R]
- A diet high in protein [R]
- Exercise [R, R]
- Gastrointestinal bleeding [R, R, R]
- Obstruction of urine flow [R]
- Infections [R]
- Pregnancy [R]
- Medications such as antibiotics and diuretics [R, R, R, R]

BUN/urea levels increase with age [R].

A higher BUN may indicate that your kidneys are not filtering toxins optimally [R]. This can be due to chronic issues such as diabetes or obesity [R, R].

Platelets

Lab Results Report

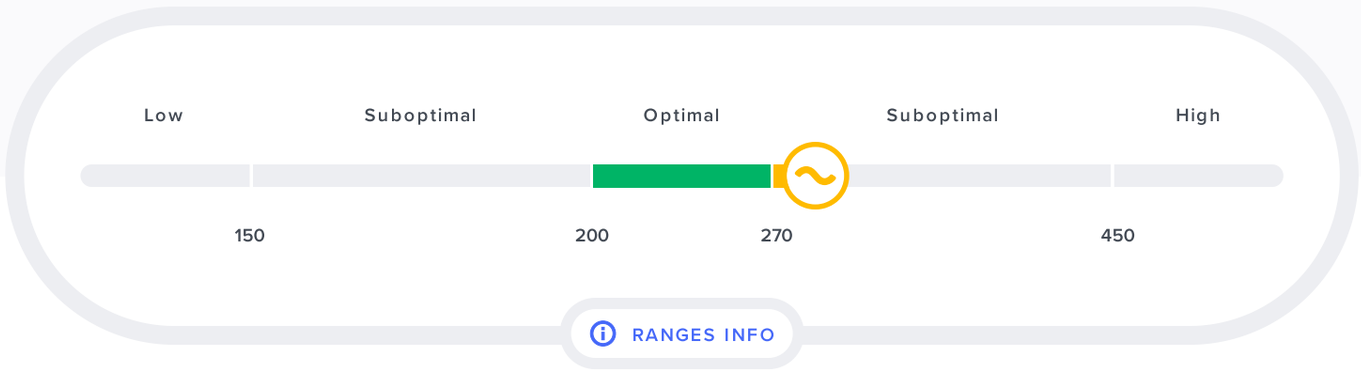
Your result **291 x10E3/ul**

Optimal range: 200 - 270 x10E3/ul

Date of test: 2 Oct 2023

Your levels are **suboptimal**

Based on your result



About Platelets

This test measures the number of platelets in your blood.

A platelet, also called a thrombocyte, is a type of cell that helps blood to clot. Clotting slows down and stops bleeding and helps wounds heal [R, R].

Platelets are made in the bone marrow. They survive in the circulation for about 8-10 days which is why the bone marrow needs to continually make new ones, to replace old, used ones or those lost through bleeding [R, R].

Apart from wound healing, platelets are also involved in immune system defenses and inflammation [R, R].

Impaired platelet function can cause issues with blood clots or prevent proper wound healing [R].

A platelet count can be used to:

- Help diagnose various issues such as bleeding or clotting disorders or bone marrow disease
- Monitor a known underlying health condition
- Monitor treatment with drugs known to affect platelets

Remember that there is some lab-to-lab variability in ranges due to differences in equipment, techniques, and chemicals used. Don't panic if your result is slightly out of range in the app - as long as it's in the normal range based on the laboratory that did the testing, your value is normal.

Also Called

- PLT
- Thrombocytes
- Platelet Count

Suboptimal Platelets Health Effects

Your platelet count is within the normal range, but it's higher than ideal.

These can increase platelet count:

- Infections [R]
- Inflammation [R, R, R]
- Exercise [R, R]
- Iron-deficiency anemia [R]
- Excess alcohol consumption [R]
- Birth control pills (oral contraceptives) or estrogen therapy [R, R]

Values in this range are associated with less than optimal health [R, R, R, R, R, R].

Phosphorus

Lab Results Report

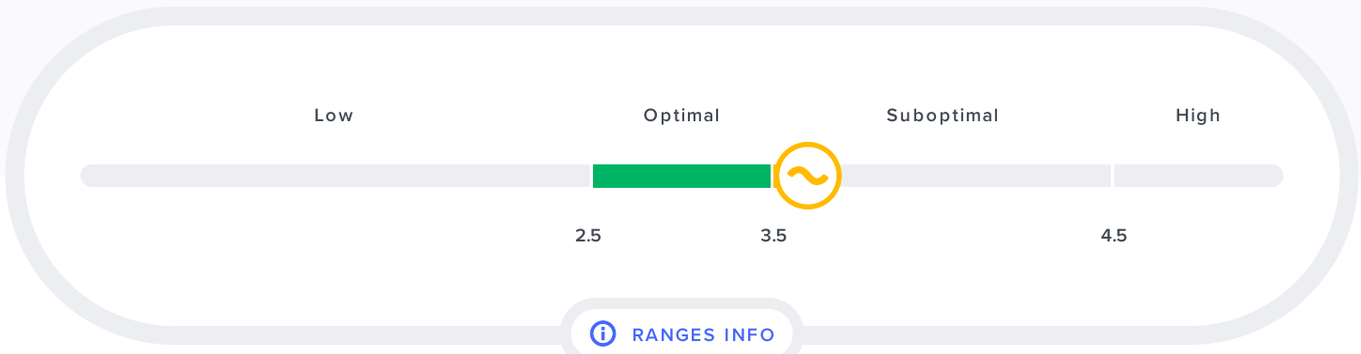
Your result 3.6 mg/dL

Optimal range: 2.5 - 3.5 mg/dL

Date of test: 2 Oct 2023

Your levels are **suboptimal**

Based on your result



About Phosphorus

This test measures the amount of phosphate (phosphorus) in your blood [R].

Phosphorus is the second most abundant mineral in the human body, where it's mainly found in a form called phosphate, which is a phosphorus atom bound to four oxygen atoms [R, R].

Phosphorus makes up about 1 percent of an adult's body: 85% of it is found in the bone while the remaining 15% is distributed in cells and tissues throughout the body, where it is mainly used to store energy in the form of ATP [R, R].

Phosphorus is crucial for bone health, muscle, and nerve function, cell and DNA structure, and blood acid-base (pH) balance [R].

Phosphorus levels are controlled by the gut, kidneys, and the hormones calcitriol (vitamin D), calcitonin, parathyroid hormone (PTH), and FGF23 [R, R].

Since phosphorus is abundant in the diet, deficiency due to low dietary intake is rare. However, it can occur during prolonged starvation or in certain gut conditions that cause malabsorption or diarrhea.

There are many different health conditions that can decrease or increase phosphate levels. Your doctor will interpret your test, taking into account your medical history, symptoms, and other test results.

Remember that there is some lab-to-lab variability in ranges due to differences in equipment, techniques, and chemicals used. Don't panic if your result is slightly out of range in the app - as long as it's in the normal range based on the laboratory that did the testing, your value is normal.

Also Called

- Phosphate
- Phosphate (as Phosphorus)

Suboptimal Phosphorus Health Effects

Your levels are within the normal range, but higher than optimal [R, R, R, R].

These increase phosphate levels:

- Increased dietary intake of phosphorus-containing foods (soft drinks and pre-packaged foods) [R, R]
- Dehydration [R]
- Smoking [R, R]
- Phosphate-containing laxatives and enemas [R, R]
- Too much vitamin D [R]

Your doctor will interpret your result, taking into account your medical history, symptoms, and other test results.

Insulin

Lab Results Report

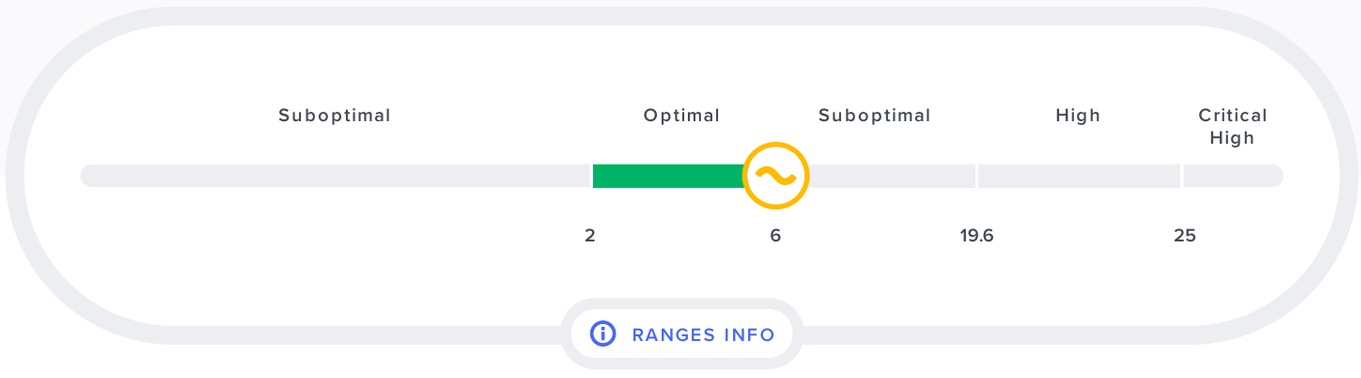
Your result **6.2 uIU/mL**

Optimal range: 2 - 6 uIU/mL

Date of test: 2 Oct 2023

Your levels are **suboptimal**

Based on your result



About Insulin

This test measures your insulin levels after at least 8 hours of fasting.

Insulin is a hormone produced in the pancreas. When you eat, carbs are broken down into glucose or blood sugar. The rise in blood sugar triggers insulin release. Insulin helps move glucose from the blood into the fat tissue, muscles, and liver [R, R]. Insulin also helps build proteins and fat [R, R].

Your doctor may order this test to:

- check for insulin resistance
- help determine the cause of low blood sugar (hypoglycemia)
- check how your beta cells in the pancreas are working
- help diagnose an insulin-producing tumor in the pancreas
- help determine when a person with type 2 diabetes needs to start taking insulin

Also Called

- Insulin - Fasting
- Cardio IQ® Insulin
- Insulin, Fasting

Suboptimal Insulin Health Effects

Your insulin is within the normal range, but it's higher than ideal [R, R, R, R, R, R].

Your doctor will interpret this test, taking into account your medical history, signs and symptoms, and other test results.

These can elevate fasting insulin:

- Insulin resistance [R]
- Prediabetes [R]
- Pregnancy [R]
- Weight gain and obesity [R, R]
- Weight fluctuations [R]
- Polycystic ovary syndrome [R, R]
- Corticosteroid drugs, used to reduce inflammation [R, R]
- Oral contraceptives [R, R]

Causes shown here are commonly associated with higher insulin levels. Work with your doctor or another health care professional to get an accurate diagnosis.

Mildly elevated insulin levels may not cause any symptoms. In fact, insulin may be elevated for years before progressing towards other health issues, such as insulin resistance and diabetes [R, R].

A/G Ratio

Lab Results Report

Your result **2.2 :1**

Optimal range: 1.5 - 2.5 :1

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result

About A/G Ratio

The albumin/globulin ratio, or A/G, compares the amount of albumin in your blood to the amount of globulins.

Albumin is made in the liver and helps transport nutrients, hormones, and metabolic products. It also prevents fluid from leaking out of blood vessels (maintains osmotic pressure) [R].

Globulins are made by either liver or immune cells. They include carrier proteins, enzymes, antibodies (immunoglobulins), and other proteins [R].

Albumin/globulin ratio can be used to check for inflammatory, immune, or digestive disorders.

Also Called

- A/G
- Albumin/Globulin Ratio
- Serum Alb/Globulin Ratio

Optimal A/G Ratio Health Effects

Your albumin/globulin ratio is optimal [R, R].

Lifestyle Suggestions

Your results are normal, you don’t need any recommendations here.

Globulin, Total

Lab Results Report

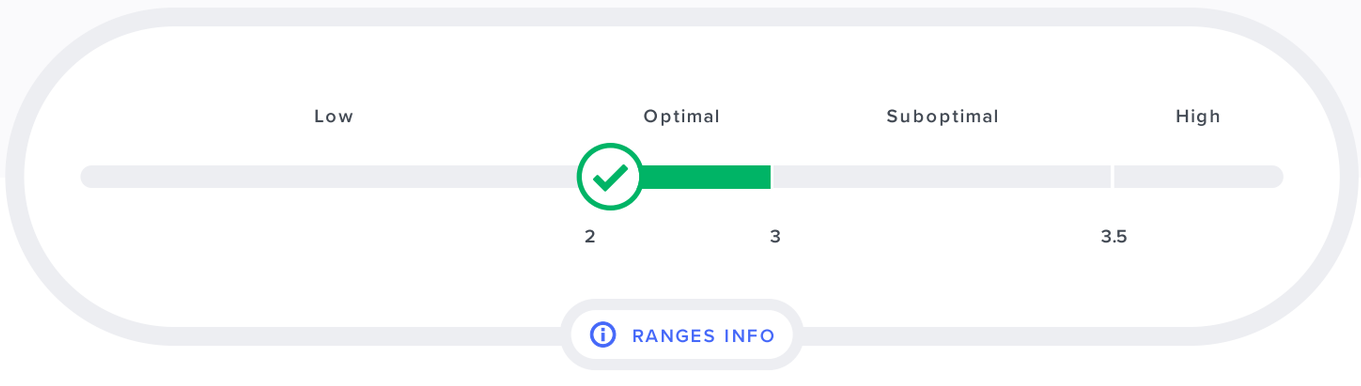
Your result **2.1 g/dL**

Optimal range: 2 - 3 g/dL

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About Globulin, Total

This test measures the amount of globulins in your blood.

Globulins are a group of proteins that help fight infections and bind hormones and nutrients, thereby controlling their levels. They include carrier proteins, enzymes, antibodies (immunoglobulins), and other proteins [R].

Globulins that transport nutrients and hormones are made in the liver, while those that fight infections are made by the immune cells [R].

Globulin levels can signal whether or not you have an inflammatory disorder or infection, because antibody production increases in these conditions [R].

Remember that there is some lab-to-lab variability in ranges due to differences in equipment, techniques, and chemicals used. Don't panic if your result is slightly out of range in the app - as long as it's in the normal range based on the laboratory that did the testing, your value is normal.

Also Called

- Globulin
- Serum globulin

Optimal Globulin, Total Health Effects

Your globulin levels are within the normal range.

Your doctor will interpret your result, taking into account your medical history, symptoms, and other test results.

Lifestyle Suggestions

Your result is normal, you don’t need any recommendations here.

AST (SGOT)

Lab Results Report

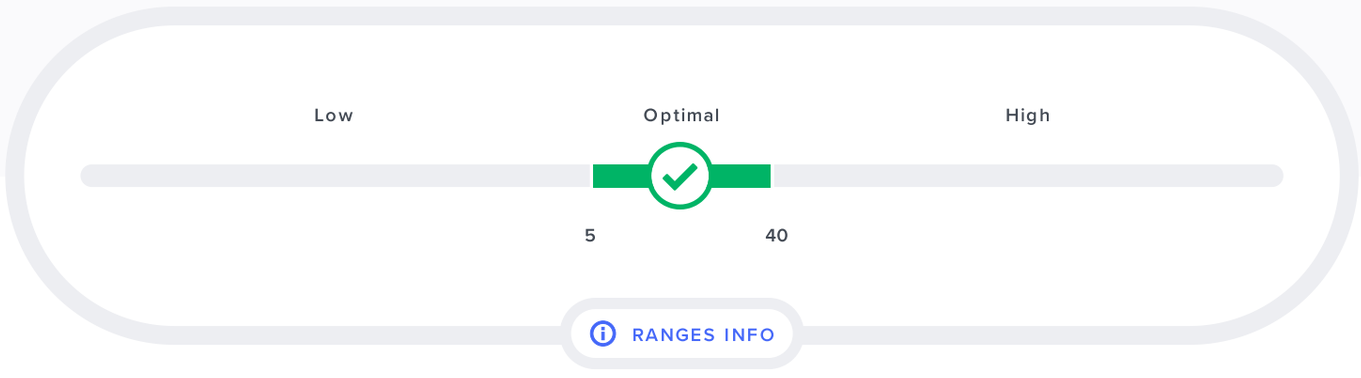
Your result **22 IU/L**

Optimal range: 5 - 40 IU/L

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About AST (SGOT)

This test measures the levels of aspartate aminotransferase (AST).

AST is an enzyme that breaks down proteins for energy. It is found mainly in the liver and heart, but also in many other tissues, including the muscles, red blood cells, kidneys, and the brain. When any one of these tissues is damaged or diseased, AST is released into the blood [R, R].

AST levels are often measured to check overall liver health. However, as mentioned above, increases in AST levels can also be due to damage to other organs, such as the heart, kidneys, or muscles. Therefore, AST is often paired with other tests in order to determine the specific location of the problem.

Remember that there is some lab-to-lab variability in ranges due to differences in equipment, techniques, and chemicals used. Don't panic if your result is slightly out of range in the app - as long as it's in the normal range based on the laboratory that did the testing, your value is normal.

Also Called

- Aspartate aminotransferase
- AST
- Aspartate aminotransferase (SGOT)
- Aspartate Aminotransferase (AST)
- SGOT
- Aspartate Transaminase

Optimal AST (SGOT) Health Effects

Your AST is within the normal range.

Lifestyle Suggestions

Your result is normal, you don’t need any recommendations here.

Albumin

Lab Results Report

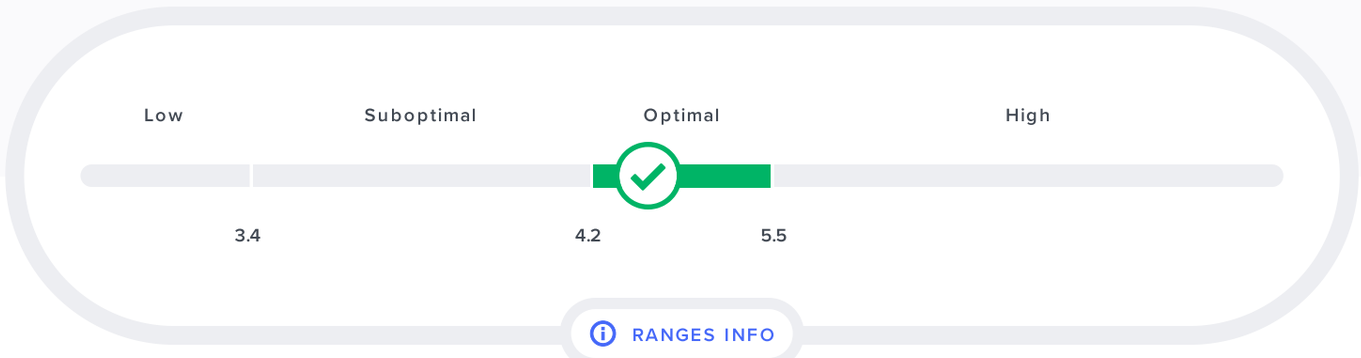
Your result 4.6 g/dL

Optimal range: 4.2 - 5.5 g/dL

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About Albumin

This test measures the amount of albumin in your blood.

Albumin is the most abundant protein in the blood. It has several important functions. It [R, R, R, R]:

- keeps fluids inside blood vessels and maintains blood volume.
- binds and transports hormones, vitamins, fatty acids, and minerals around the body.
- serves as the main antioxidant in the blood.

Albumin is made in the liver. Albumin levels increase in response to hormones such as insulin and decrease when the liver has to make other proteins, in response to infection or inflammation. Albumin can also decrease due to nutritional deficiencies, and liver and kidney damage or disease [R].

Finally, albumin levels tend to decrease as we age [R].

Remember that there is some lab-to-lab variability in ranges due to differences in equipment, techniques, and chemicals used. Don't panic if your result is slightly out of range in the app - as long as it's in the normal range based on the laboratory that did the testing, your value is normal.

Also Called

- Albumin, Serum

Optimal Albumin Health Effects

Your albumin levels are within the optimal range [R].

Lifestyle Suggestions

Your results are optimal, you don’t need any recommendations here.

Vitamin D, 25-Hydroxy

Lab Results Report

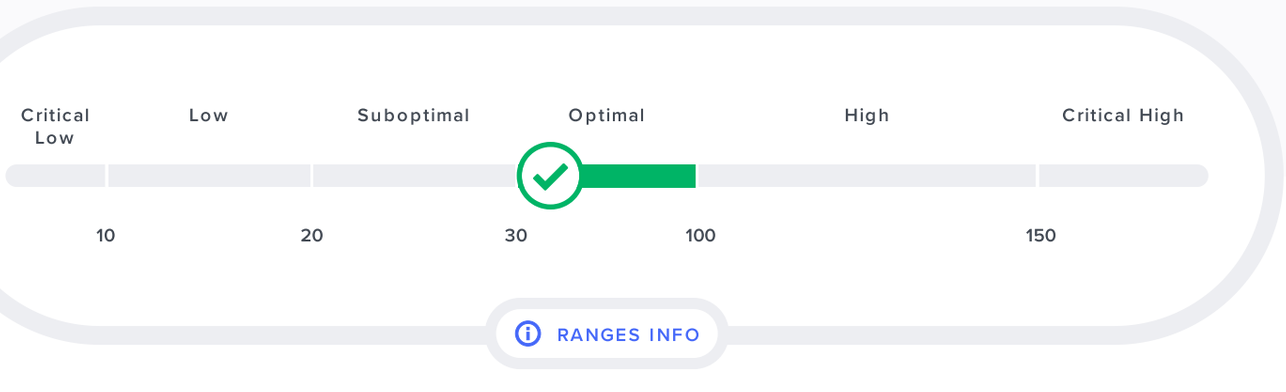
Your result **42.9 ng/mL**

Optimal range: 30 - 100 ng/mL

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About Vitamin D, 25-Hydroxy

This test measures the amount of (25-hydroxy) vitamin D in your blood.

Known as the “sunshine vitamin,” vitamin D helps maintain healthy levels of calcium and phosphorus by increasing their absorption in the gut. In this way, vitamin D is critical for bone health [R, R]. Vitamin D also plays a role in muscle strength and performance, immune function, cell production, blood pressure, and insulin secretion [R, R, R, R].

Vitamin D is produced by the skin upon exposure to sunlight. It can also be obtained in the diet, or through vitamin supplements [R].

Your skin first produces vitamin D3 (cholecalciferol), which is then activated in the liver and kidneys. More specifically, liver converts vitamin D into 25-hydroxyvitamin D (25[OH]D), the major circulating form of vitamin D. This form is then converted in the kidneys to the active 1,25-dihydroxyvitamin D form [R, R].

Vitamin D can be stored in fat tissue and is found throughout the body including bones, kidneys, heart, stomach, liver, skin, brain, ovaries, and testes [R, R].

Although 1,25-dihydroxy is the active form of vitamin D, its levels can be normal or even high in people who are otherwise deficient in overall vitamin D. For this reason, active vitamin D is not a good measurement of your vitamin D status [R]. Instead, 25-hydroxyvitamin D is more often used to determine if your vitamin D levels are healthy or abnormal [R].

Doctors will usually perform a vitamin D blood test to diagnose bone problems, detect potential parathyroid gland dysfunction, or monitor the condition of people with diseases that interfere with fat absorption in the intestines (such as Crohn’s disease) [R, R].

Vitamin D tests are also used to screen people who are at high risk of deficiency, such as [R, R]:

- People who don't get enough sun
- Older people
- Obese people
- People with darker skin
- Vegans
- Pregnant women and breastfed children

Also Called

- Vitamin D total
- Vitamin D, 25-Hydroxy, Total
- Vitamin D 25 Hydroxy, Serum
- Vitamin D, 25-Hydroxy, Total, Immunoassay
- Vitamin D2+D3, hydroxy
- Vitamin D, 25-OH, Total, IA
- Total Vitamin D, 25-Hydroxy

Optimal Vitamin D, 25-Hydroxy Health Effects

Your vitamin D levels are optimal [R, R, R, R].

Lifestyle Suggestions

Your result is optimal, you don’t need any recommendations here.

LDH

Lab Results Report

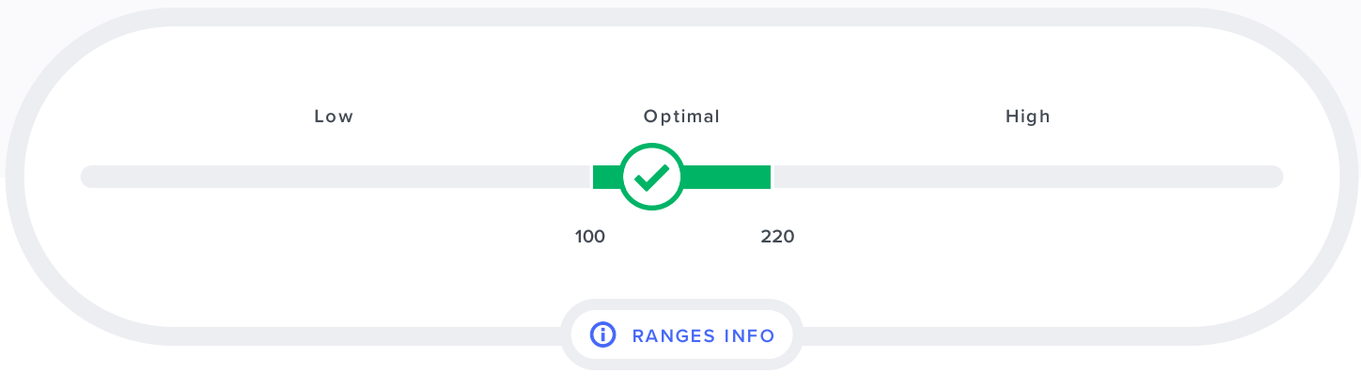
Your result **139 IU/L**

Optimal range: 100 - 220 IU/L

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About LDH

This test measures the amount of lactate dehydrogenase in your blood.

Lactate dehydrogenase (also known as lactic dehydrogenase, LDH, or LD) is an enzyme involved in energy production. There are 5 different forms of LDH, and they are present in most tissues. LDH levels normally increase after tissue breakdown, so LDH tests are normally used as markers of heart attacks, lung diseases, and muscle damage. However, since LDH is found in many different muscles, it cannot be used to diagnose any specific disease and must be used in conjunction with other tests [R, R].

Also Called

- Lactate Dehydrogenase (LD)
- Lactate Dehydrogenase
- LD

Optimal LDH Health Effects

Your LDH levels are within the normal range.

Lifestyle Suggestions

Your results are normal, you don’t need any recommendations here.

Bilirubin, Total

Lab Results Report

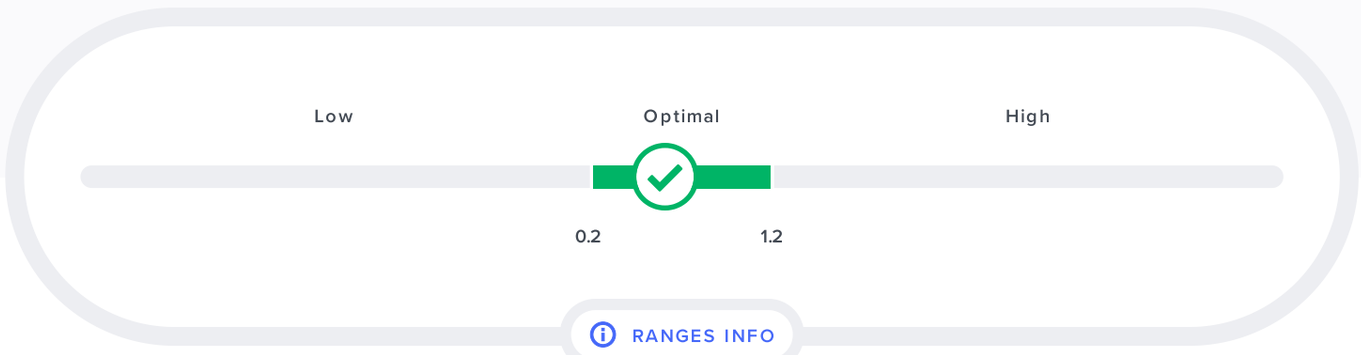
Your result **0.6 mg/dL**

Optimal range: 0.2 - 1.2 mg/dL

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About Bilirubin, Total

This test measures bilirubin, a yellow pigment produced in the normal breakdown of red blood cells.

Bilirubin is produced from hemoglobin, the compound in red blood cells that allows them to carry oxygen. As red blood cells are broken down, the iron-containing part of hemoglobin (*heme*) is converted to bilirubin.

Bilirubin passes through two phases. In the first phase, bilirubin binds to a protein called albumin, which allows it to be carried from the blood and into the liver. Bilirubin in this phase is called “indirect” or “unconjugated” bilirubin.

The second phase takes place in the liver, which attaches sugar molecules to the “unconjugated” bilirubin. This makes it water-soluble, which helps the gut eliminate bilirubin in the stool. Bilirubin in this phase is called “direct” or “conjugated” bilirubin.

Total bilirubin is the sum of your direct and indirect bilirubin levels. Its yellow color is responsible for the yellow skin discoloration encountered in jaundice [R].

However, bilirubin is not just a waste product. In recent decades, science has been uncovering the beneficial roles bilirubin plays in our bodies. Research suggests that bilirubin may act as a powerful antioxidant and anti-inflammatory agent and that it may protect against chronic inflammation and heart disease [R, R, R, R, R, R, R, R].

Remember that there is some lab-to-lab variability in ranges due to differences in equipment, techniques, and chemicals used. Don't panic if your result is slightly out of range in the app - as long as it's in the normal range based on the laboratory that did the testing, your value is normal.

Refrain from taking high doses of vitamin C (>4 g) within a day before testing, as this can interfere with the test [R].

Also Called

- Bilirubin - Total
- Total Bilirubin

Optimal Bilirubin, Total Health Effects

Your bilirubin levels are within the normal range.

Lifestyle Suggestions

Your result is normal, you don’t need any recommendations here.

Basophils (Absolute)

Lab Results Report

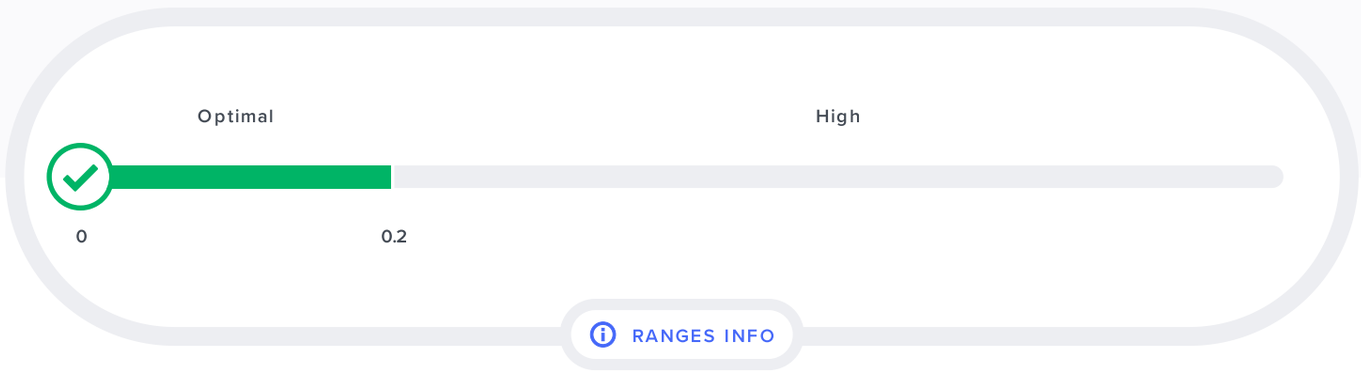
Your result **0 x10E3/ul**

Optimal range: 0 - 0.2 x10E3/ul

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About Basophils (Absolute)

This test measures the levels of basophils in the blood.

Basophils are white blood cells. They help protect against infections, but they can also play a role in autoimmune diseases and allergies [R, R].

Normally, basophils constitute less than 2% of all your white blood cells.

Your doctor will interpret this test, taking into account your medical history and other test results.

Remember that some lab-to-lab variability occurs due to differences in equipment, techniques, and chemicals used. Don't panic if your result is slightly out of range in the app - as long as it's in the normal range based on the laboratory that did the testing, your value is normal.

Also Called

- BAS (Abs)
- BASO (Abs)
- Absolute Basophils
- Basophils - Absolute Count

Optimal Basophils (Absolute) Health Effects

Your basophil count is within the normal range!

While low levels are normal, they don't necessarily mean you don't have a medical condition [R, R].

Your doctor will interpret this test, taking into account your medical history and other test results.

Lifestyle Suggestions

Your results are normal, you don’t need any recommendations here.

Progesterone

Lab Results Report

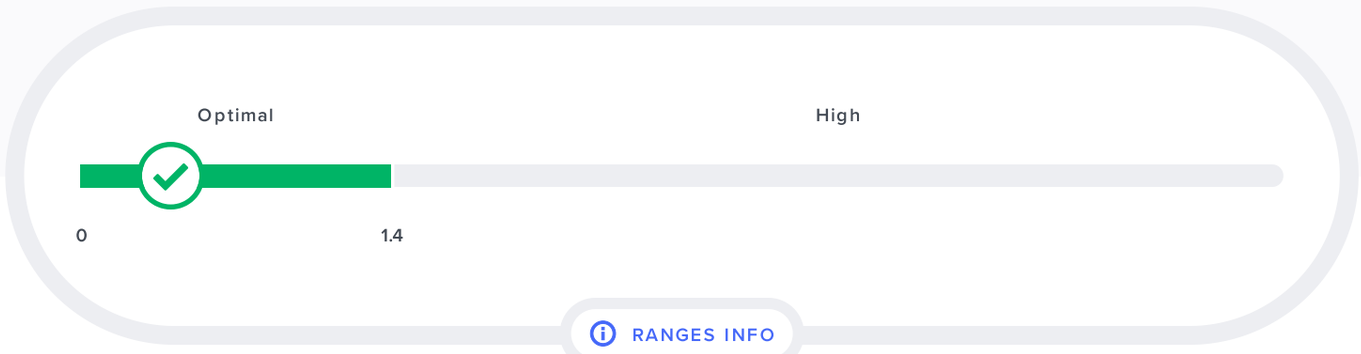
Your result **0.4 ng/mL**

Optimal range: 0 - 1.4 ng/mL

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About Progesterone

This test measures the amount of progesterone in the blood.

Progesterone is a hormone that plays an important role in reproduction. It is made in the ovaries of women and the testes of men. Smaller amounts are also made in the adrenal glands and the brain [R, R].

In women, progesterone helps regulate the menstrual cycle and helps prepare the body for pregnancy. In men, progesterone is involved in the development of sperm [R, R].

However, research suggests that progesterone may be more than just a sex hormone. Among other potential functions, it may also protect brain cells from injury and may aid the activity of neurotransmitters [R, R, R].

A progesterone blood test is most commonly used to help monitor a woman's health during pregnancy, diagnose a failing pregnancy, determine the cause of infertility, or diagnose the cause of abnormal uterine bleeding [R].

In order to accurately interpret progesterone results, women need to know at what point they are in their menstrual cycle (period) or pregnancy. Progesterone levels normally rise and fall over the course of your cycle. In pregnancy, progesterone levels also normally rise as the pregnancy progresses [R, R].

Most men do not normally get their progesterone levels tested unless they are suspected to have an adrenal disease, such as congenital adrenal hyperplasia (CAH). CAH is a group of disorders that limit hormone production in the adrenal glands [R].

Optimal Progesterone Health Effects

Your progesterone levels within the normal range.

Lifestyle Suggestions

Your results are normal, you don't need any recommendations here.

Hemoglobin A1c (%)

Lab Results Report

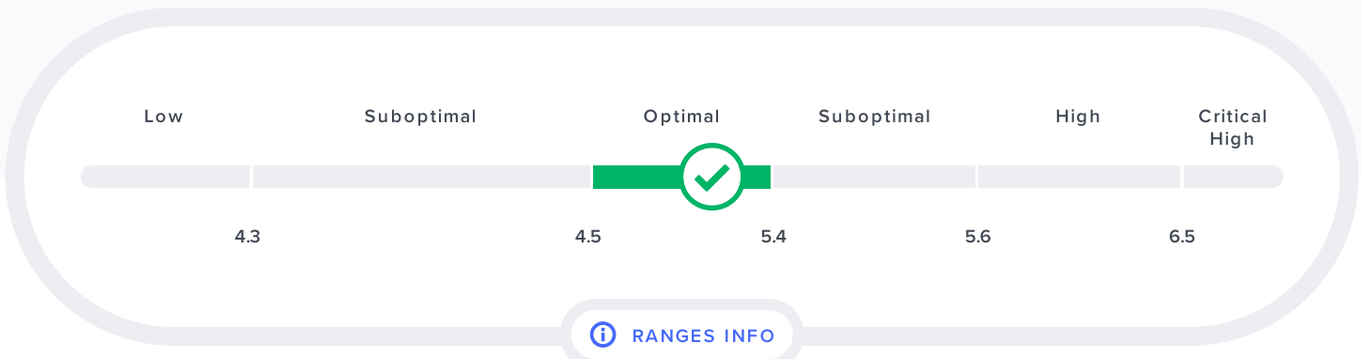
Your result **5.1 %**

Optimal range: 4.5 - 5.4 %

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About Hemoglobin A1c (%)

HbA1c is a measure of your 3-month average blood sugar levels.

When circulating in the blood, glucose (blood sugar) sticks to hemoglobin found inside red blood cells and forms glycated hemoglobin (HbA1c). The higher your blood sugar, the more HbA1c you'll have in the blood. Usually, HbA1c comprises approximately 5% of a normal adult's hemoglobin [R].

Because red blood cells that carry hemoglobin live for approximately 3 months, HbA1c can be used as a measure of average blood sugar levels over the past 3 months [R, R].

HbA1c is an important test that can be used to both diagnose and monitor diabetes.

According to the American Diabetes Association, screening for diabetes is recommended in people over 45 (every 3 years), or at any age if you have certain risk factors, including [R]:

- Being overweight, obese, or physically inactive
- Having a close (first or second-degree) relative with diabetes
- Belonging to a certain race/ethnic group (Native Americans, African-Americans, Hispanic Americans, Asians/South Pacific Islanders)
- Having signs of insulin resistance or conditions associated with insulin resistance, such as high blood pressure (hypertension), low good cholesterol and/or high triglycerides (dyslipidemia), and polycystic ovary syndrome
- Having had diabetes in pregnancy (gestational diabetes)

HbA1c is more convenient than glucose because, unlike glucose, it doesn't require fasting before testing and there is no large day-to-day variation in HbA1c levels. However, some health conditions that affect red blood cells and hemoglobin (e.g., anemia) can falsely increase or decrease HbA1c levels [R].

Also Called

- Cardio IQ® Hemoglobin A1c (%)
- HbA1c (%)
- Haemoglobin A1c (%)

Optimal Hemoglobin A1c (%) Health Effects

Your HbA1c is within the optimal range.

Your doctor will interpret your HbA1c, taking into account your medical history, signs and symptoms, and other test results.

Lifestyle Suggestions

Your result is optimal, you don't need any recommendations here.

Lymphocytes (Absolute)

Lab Results Report

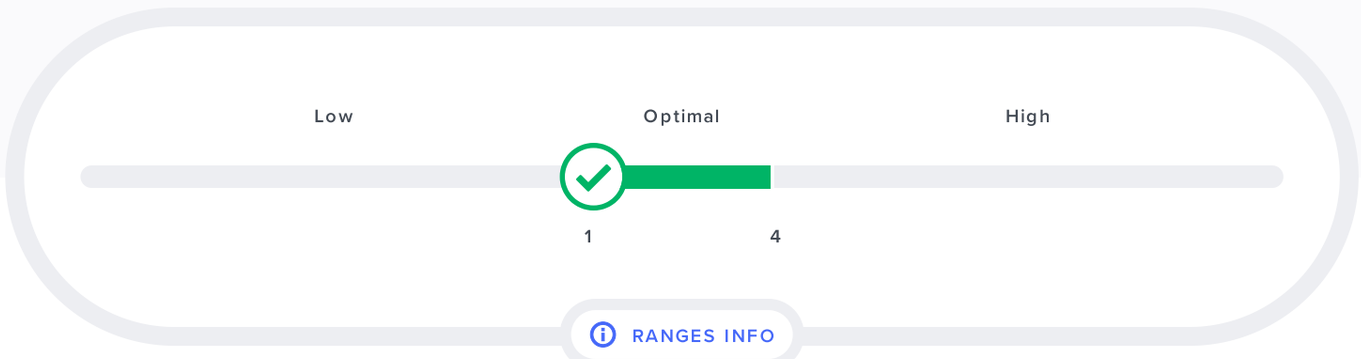
Your result **1 x10E3/ul**

Optimal range: 1 - 4 x10E3/ul

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About Lymphocytes (Absolute)

This test looks at the lymphocyte count in your blood.

Lymphocytes are white blood cells important for both innate (nonspecific) and adaptive (long-lasting and specific) immune responses [R].

There are three main types of lymphocytes: B cells, T cells, and natural killer (NK) cells [R, R].

- B cells produce antibodies that attack freely circulating foreign bodies, such as bacteria and viruses
- T cells destroy the body's own cells, which have been infected by viruses or transformed into cancer cells. They also direct the responses of other immune cells and prevent immune responses against healthy cells (autoimmunity)
- NK cells kill cancer cells and cells infected by viruses

Lymphocyte levels can vary with age, gender, genetics, and lifestyle factors. They can both increase or decrease in response to infection. Your doctor will interpret your results, taking into account your medical history and other test results.

Remember that some lab-to-lab variability occurs due to differences in equipment, techniques, and chemicals used. Don't panic if your result is slightly out of range in the app - as long as it's in the normal range based on the laboratory that did the testing, your value is normal.

Also Called

- LYM (Abs)
- Lymphs (Abs)
- Lymphocytes - Absolute count
- Absolute Lymphocytes

Optimal Lymphocytes (Absolute) Health Effects

Your lymphocytes are within the normal range.

Lifestyle Suggestions

Your results are normal, you don’t need any recommendations here.

Homocysteine

Lab Results Report

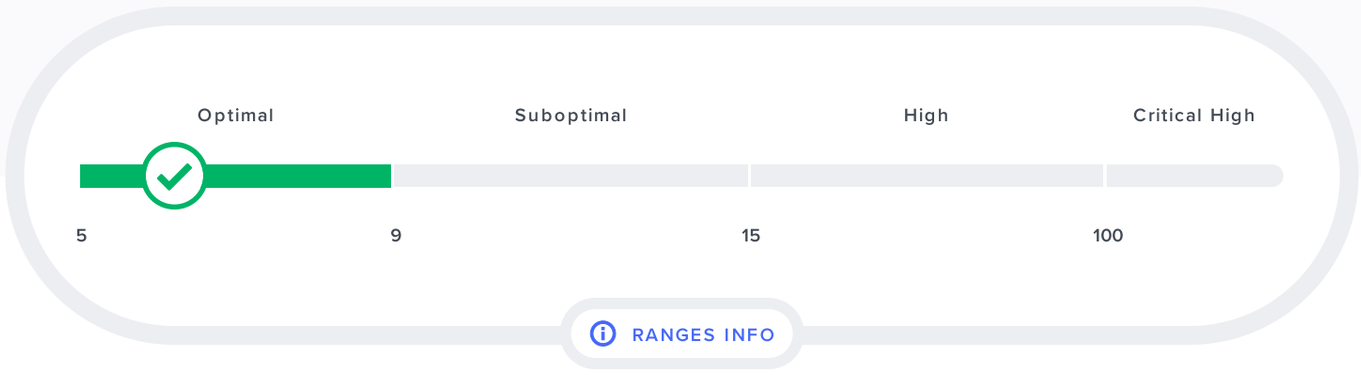
Your result **6.2 umol/L**

Optimal range: 5 - 9 umol/L

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About Homocysteine

This test measures the levels of the amino acid homocysteine.

Homocysteine is a sulfur-containing amino acid that the body produces from another amino acid, called methionine. It's usually found in very small amounts in your body. That's because our bodies convert it efficiently into other products with the aid of B vitamins. Higher homocysteine levels can signal a deficiency of these vitamins [R].

Apart from vitamin deficiency, higher homocysteine levels have been previously linked to heart disease, cognitive dysfunction, and dementia [R, R, R]. However, newer and larger studies suggest that **homocysteine may not actually be a risk factor for heart disease**. That is why the American Heart Association doesn't recommend routine testing of homocysteine [R, R].

Your doctor may order a homocysteine test to:

- Find out if there is vitamin B12, folate, or vitamin B6 deficiency
- Help diagnose homocystinuria, a rare genetic disorder

Ranges and results may slightly vary from lab to lab, due to differences in equipment, techniques, and chemicals used.

A high-protein meal can significantly increase homocysteine levels. Therefore, you should fast throughout the night before your blood test to ensure the most accurate results [R].

Genetically higher homocysteine levels may play a role in:

- Schizophrenia [R, R]
- Stomach cancer [R, R]
- Decreased kidney function and kidney disease [R, R]
- High cholesterol [R]
- Blood vessel problems in the brain [R, R, R, R, R]

They may also play a role in the following conditions, but the evidence is weaker:

- Blood clotting issues (venous thrombosis) [R]
- Obesity [R]
- High blood pressure [R]

On the other hand, homocysteine **may not have a causal role in heart disease** [R, R, R, R, R, R].

The link between homocysteine and conditions like diabetes, Alzheimer's disease, and stroke is still unclear [R, R, R, R, R, R].

Optimal Homocysteine Health Effects

Your homocysteine levels are optimal.

Uric Acid

Lab Results Report

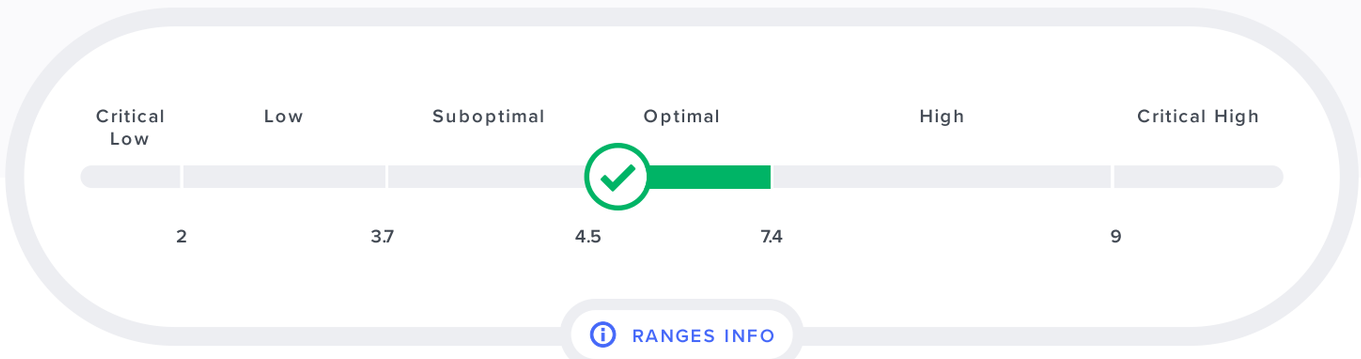
Your result **4.9 mg/dL**

Optimal range: 4.5 - 7.4 mg/dL

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About Uric Acid

This test measures uric acid in your blood.

Uric acid is made in the liver. It is the end-product of the breakdown of purine, which is produced in the digestion of certain proteins and DNA, which get released into the bloodstream when cells get old and die. Some purines are also derived from food [R, R].

In normal conditions, the majority of uric acid is removed by the kidneys via urine, while the rest is eliminated in the stool [R].

However, if too much uric acid is produced or not enough is removed, it can build up in the blood. Uric acid can then deposit in the body, causing kidney stones or gout [R, R].

On the other hand, scientists have discovered that uric acid is not solely a waste product. In fact, studies suggest that uric acid acts as a natural antioxidant and may be responsible for up to 60% of the antioxidant capacity in the blood. In addition, uric acid may protect the brain by preventing neurodegenerative conditions [R, R, R, R].

That is why balanced uric acid levels are important for overall well-being.

Blood uric acid increases with age. Men have higher levels than women and are therefore more at risk for developing gout. This is because estrogen actually helps eliminate uric acid through the kidneys [R, R].

Remember that there is some lab-to-lab variability in ranges due to differences in equipment, techniques, and chemicals used. Don't panic if your result is slightly out of range in the app - as long as it's in the normal range based on the laboratory that did the testing, your value is normal.

Also Called

- Uric Acid, Serum

Optimal Uric Acid Health Effects

Your uric acid level is within the normal range.

Lifestyle Suggestions

Your result is normal, you don’t need any recommendations here.

WBC

Lab Results Report

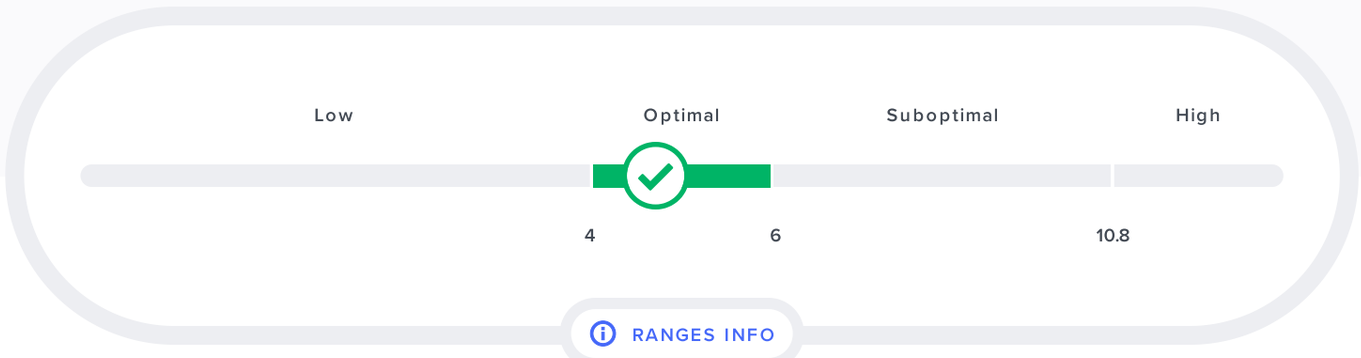
Your result **4.7 x10E3/ul**

Optimal range: 4 - 6 x10E3/ul

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About WBC

This test measures the total number of white blood cells (WBCs) in your blood.

White blood cells, also known as leukocytes, fight invaders such as bacteria and viruses, shielding us against infections and diseases. When we experience an infection or there is inflammation somewhere in the body, the bone marrow will make more white blood cells to deal with it [R].

Therefore, a high WBC count can alert your doctor to an ongoing infection or inflammation [R].

A low WBC count, on the other hand, can signal problems such as autoimmune conditions, immune deficiencies, and bone marrow disorders [R, R].

If your white blood cells are increased or decreased, it is important to check the count of each different type of white blood cell to find what cells are responsible for your low or high WBC count. There are 5 major types of WBCs: lymphocytes, neutrophils, monocytes, eosinophils, and basophils [R].

A WBC count can detect that there is a health issue, but cannot determine the underlying cause. Your doctor will interpret this test in conjunction with your medical history and signs and symptoms, to decide if further tests are necessary.

Remember that some lab-to-lab variability occurs due to differences in equipment, techniques, and chemicals used. Don't panic if your result is slightly out of range in the app - as long as it's in the normal range based on the laboratory that did the testing, your value is normal.

Also Called

- Leukocytes
- Total leucocytes count
- White Blood Cell Count
- White Cell Count
- White Blood Cells

Optimal WBC Health Effects

Your WBC count is optimal!

Check the levels of each specific type of WBC to see if they are also within the optimal/normal range.

Remember, a level in this range doesn't mean you don't have a medical condition. Your doctor will interpret your test, taking into account your medical history and other test results.

Lifestyle Suggestions

Your results are optimal, you don’t need any recommendations here.

T4, Free (Direct)

Lab Results Report

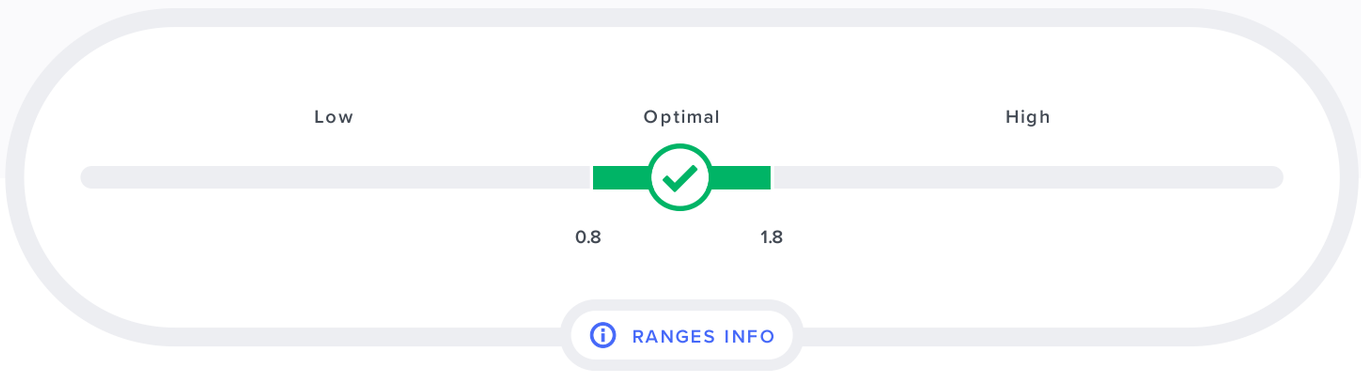
Your result **1.29 ng/dL**

Optimal range: 0.8 - 1.8 ng/dL

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About T4, Free (Direct)

This test measures the amount of free thyroid hormone T4 (thyroxine) in the blood.

Thyroxine (T4) is a hormone made in the thyroid gland from iodine and the amino acid tyrosine. It serves as a precursor to the more active thyroid hormone called triiodothyronine, or T3. T3 controls the usage of energy (metabolic rate) and thereby affects almost all organs and tissues in the body, including the brain, heart, bones, muscles, liver, pancreas, and fat tissue. Thyroid hormones adjust cholesterol levels, energy production, and insulin sensitivity [R].

Most (>99%) of the T4 in the blood is bound to and transported by different proteins. Only a small fraction (~0.03%) of T4 is free. T4 is active and can be converted into T3 only in its free form [R].

Free T4 is often measured together with thyroid-stimulating hormone (TSH) to check if the thyroid is working well and to help diagnose hypothyroidism (underactive thyroid) and hyperthyroidism (overactive thyroid) [R].

Also Called

- FT4
- T4, Free
- Free thyroxine (T4)
- Thyroxine (T4), Free
- Free T4
- T4 Free (FT4)

Optimal T4, Free (Direct) Health Effects

Your free T4 is within the normal range.

Your doctor will interpret this test, taking into account your medical history, signs, symptoms and other test results.

Lifestyle Suggestions

Your results are normal, you don’t need any recommendations here.

Protein, Total

Lab Results Report

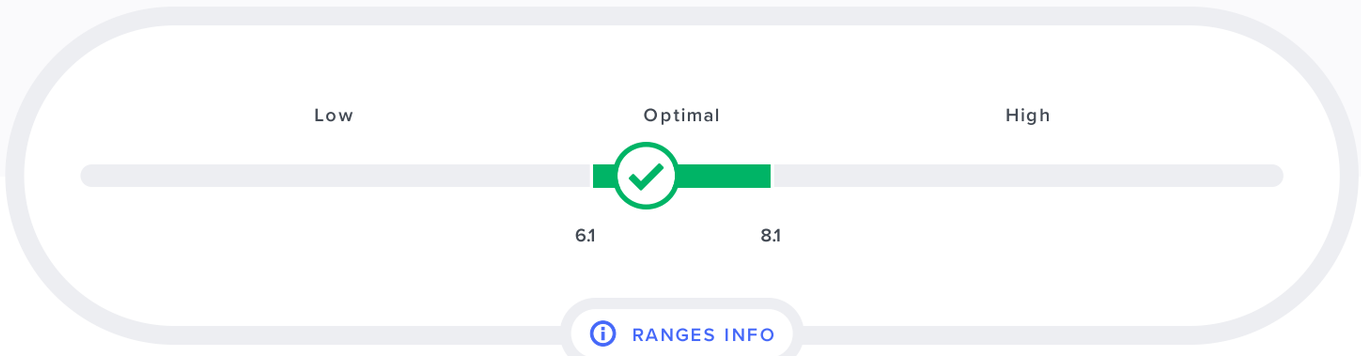
Your result **6.7 g/dL**

Optimal range: 6.1 - 8.1 g/dL

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About Protein, Total

This test measures the total amount of protein in your blood. Total protein includes **albumin and globulins.**

Proteins play an important role in many biological processes. They help with growth and development, nutrient and hormone transport, and immune function [R].

Normally, albumin makes up for more than half of blood proteins, and the remainder is globulins [R].

Albumin is made in the liver and helps with fat metabolism. It also helps maintain osmotic pressure (prevents fluid from leaking out of blood vessels) and transports hormones, bilirubin, metals, vitamins, minerals, and drugs.

Globulins include enzymes, antibodies, carriers, and other proteins. Most globulins are made in the liver, although antibodies are produced by white blood cells [R].

Total serum protein is used to check for nutritional deficiencies, digestive problems, and dehydration [R].

Remember that there is some lab-to-lab variability in ranges due to differences in equipment, techniques, and chemicals used. Don't panic if your result is slightly out of range in the app - as long as it's in the normal range based on the laboratory that did the testing, your value is normal.

Also Called

- Protein, Total, Serum
- T. Protein
- Total Protein

Optimal Protein, Total Health Effects

Your protein levels are within the normal range!

However, you should also check your albumin and total globulin levels. Total protein levels can be normal even when there are health issues that cause disturbances in albumin and globulin levels (e.g. infections can decrease albumin and increase globulin levels, but total protein level may stay the same). Your doctor will interpret your result, taking into account your medical history, symptoms, and other test results.

Lifestyle Suggestions

Your results are normal, you don’t need any recommendations here.

Monocytes (Absolute)

Lab Results Report

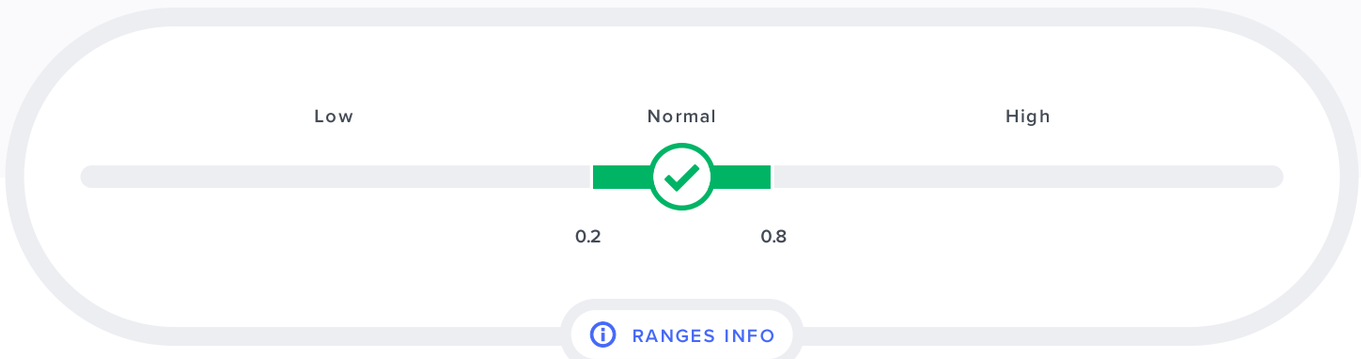
Your result **0.5 x10E3/ul**

Optimal range: 0.2 - 0.8 x10E3/ul

Date of test: 2 Oct 2023

Your levels are **normal**

Based on your result



About Monocytes (Absolute)

This test looks at your monocyte count. Monocytes are white blood cells that protect against bacterial, viral, and other infections.

Monocytes kill microbes, remove dead cells, and boost the immune response. However, they are also involved in the development of several inflammatory diseases and can contribute to tissue destruction during infection or inflammation [R].

Your doctor will interpret this test, taking into account your medical history and other test results.

Remember that some lab-to-lab variability occurs due to differences in equipment, techniques, and chemicals used. Don't panic if your result is slightly out of range in the app - as long as it's in the normal range based on the laboratory that did the testing, your value is normal.

Also Called

- MON (Abs)
- Monocytes - Absolute count
- Absolute Monocytes

Normal Monocytes (Absolute) Health Effects

Your monocyte count is within the normal range.

You should also check your total white blood cell (WBC) levels and other white blood cell subtypes to see if they are also in their optimal/normal ranges.

Lifestyle Suggestions

Your results are normal, you don’t need any recommendations here.

Lymphs %

Lab Results Report

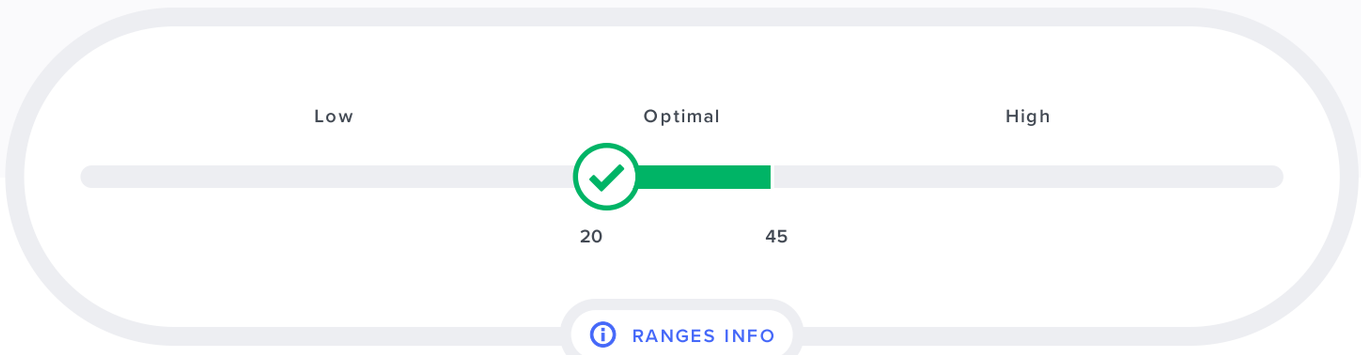
Your result **22 %**

Optimal range: 20 - 45 %

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About Lymphs %

This test looks at the percentage of white blood cells that are lymphocytes.

Lymphocytes are white blood cells important for both innate (nonspecific) and adaptive (long-lasting and specific) immune responses [R].

There are three main types of lymphocytes: B cells, T cells, and natural killer (NK) cells [R, R].

- B cells produce antibodies that attack freely circulating foreign bodies, such as bacteria and viruses
- T cells destroy the body's own cells which have been infected by viruses or transformed into cancer cells. They also direct the responses of other immune cells and prevent immune responses against healthy cells (autoimmunity)
- NK cells kill cancer cells and cells infected by viruses

Lymphocyte levels can vary with age, gender, genetics, and lifestyle factors. They can both increase or decrease in response to infection. Your doctor will interpret your results, taking into account your medical history and other test results.

Remember that some lab-to-lab variability occurs due to differences in equipment, techniques, and chemicals used. Don't panic if your result is slightly out of range in the app - as long as it's in the normal range based on the laboratory that did the testing, your value is normal.

Also Called

- LYM %
- Lymphocytes (%)

Optimal Lymphs % Health Effects

Your lymphocytes are within the normal range.

Lifestyle Suggestions

Your results are normal, you don’t need any recommendations here.

FSH

Lab Results Report

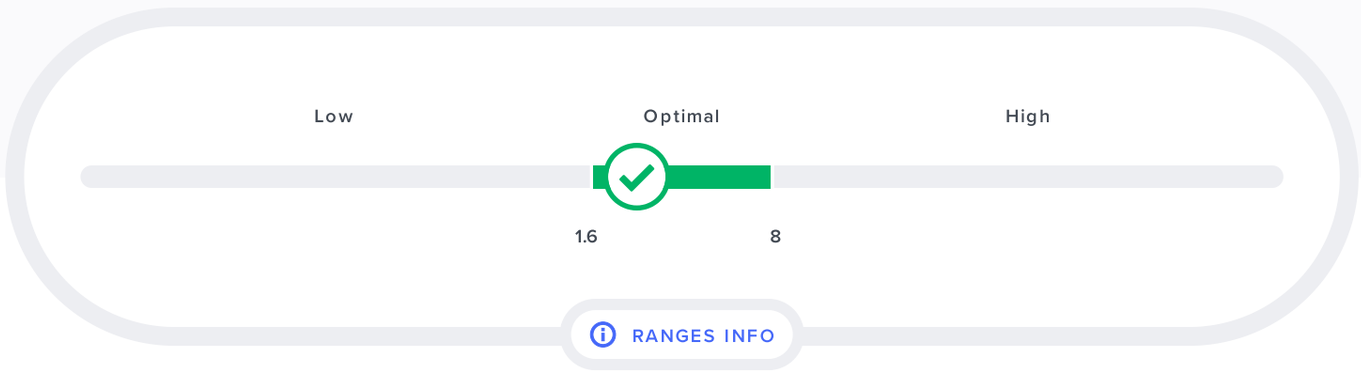
Your result **3.2 mIU/mL**

Optimal range: 1.6 - 8 mIU/mL

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About FSH

This test measures the amount of follicle-stimulating hormone (FSH) in your blood.

FSH is a hormone involved in reproduction that stimulates the growth and maturation of eggs in women and sperm in men [R, R].

FSH is made by the pituitary gland and its production is controlled by the hypothalamus, pituitary, and the hormones made in the ovaries or testes [R, R].

In women, FSH increases during the first half of the menstrual cycle and then decreases after ovulation. Levels also increase in menopause [R].
Your doctor may order this test if you are [R]:

- Having difficulty getting pregnant
- Having irregular menstrual periods
- Going through menopause
- Having a low sperm count
- Having symptoms of pituitary or hypothalamic disorders
- Having symptoms of testicular or ovarian disease

Also Called

- Follicle stimulating hormone

Optimal FSH Health Effects

Your FSH levels are within the normal range.

Your doctor will interpret this test, taking into account your medical history, signs, symptoms, and other test results.

Lifestyle Suggestions

Your results are normal, you don’t need any recommendations here.

Carbon Dioxide, Total

Lab Results Report

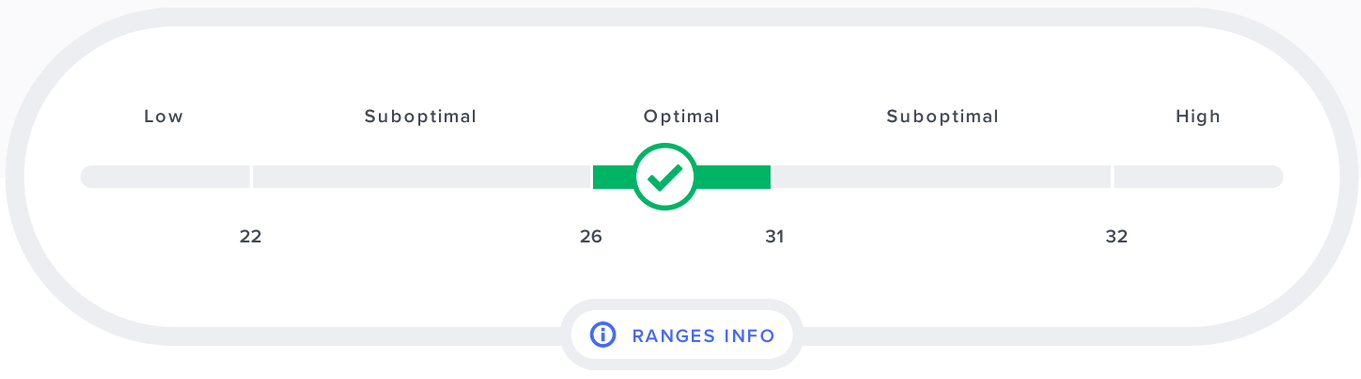
Your result **28 mmol/L**

Optimal range: 26 - 31 mmol/L

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About Carbon Dioxide, Total

This test tells you how much carbon dioxide (bicarbonate) you have in your blood.

Bicarbonate is a negatively charged ion that helps maintain the body's acid-base (pH) balance [R].

Bicarbonate (HCO3) is formed from carbon dioxide (CO2), which is released into the blood as a waste product when your body burns food to create energy [R].

Measuring bicarbonate can help uncover acid-base imbalances in your body [R].

Lungs and kidneys are the major organs that control the amount of bicarbonate in the blood. Any condition that disturbs the kidneys, lungs (breathing), or your metabolism, has the potential to disturb the body’s acid/base balance [R].

Remember that there is some lab-to-lab variability in ranges due to differences in equipment, techniques, and chemicals used. Don't panic if your result is slightly out of range in the app - as long as it's in the normal range based on the laboratory that did the testing, your value is normal.

Also Called

- CO2, Total
- Bicarbonate
- Carbon Dioxide
- CO2 Total, Plasma

Optimal Carbon Dioxide, Total Health Effects

Your carbon dioxide (bicarbonate) level is optimal [R, R, R, R, R].

Lifestyle Suggestions

Your results are optimal, you don’t need any recommendations here.

UIBC

Lab Results Report

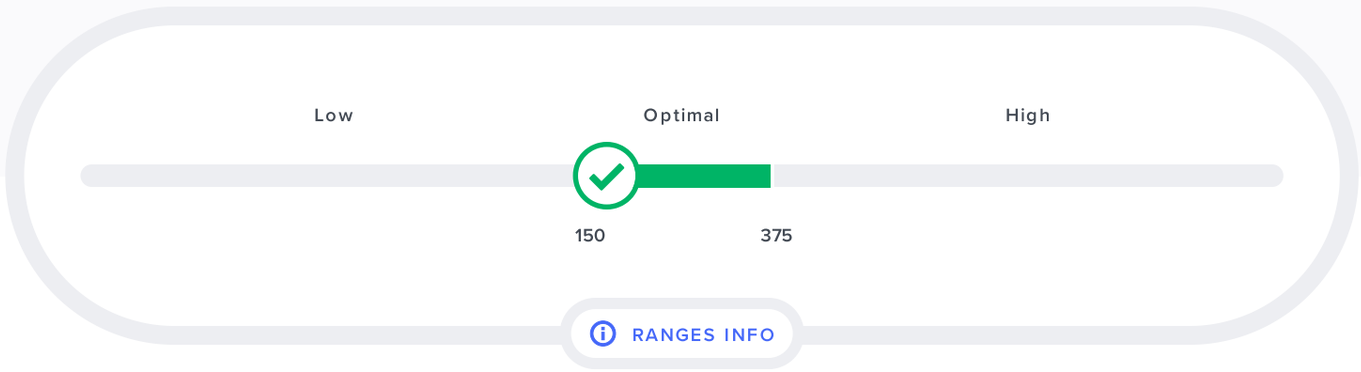
Your result **169 ug/dL**

Optimal range: 150 - 375 ug/dL

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About UIBC

This test measures the amount of transferrin in the blood that has not been bound with iron.

Unsaturated iron-binding capacity (UIBC) measures the “reserve capacity” of transferrin, or the amount of transferrin that has not yet been saturated with iron.

Together with total iron-binding capacity (TIBC), transferrin, and transferrin saturation tests, UIBC tests are used to evaluate the blood’s ability to bind and transport iron.

Also Called

- Unsaturated iron binding capacity

Optimal UIBC Health Effects

Your UIBC is within the normal range.

Lifestyle Suggestions

Your result is normal, you don’t need any recommendations here.

Triiodothyronine (T3), Free

Lab Results Report

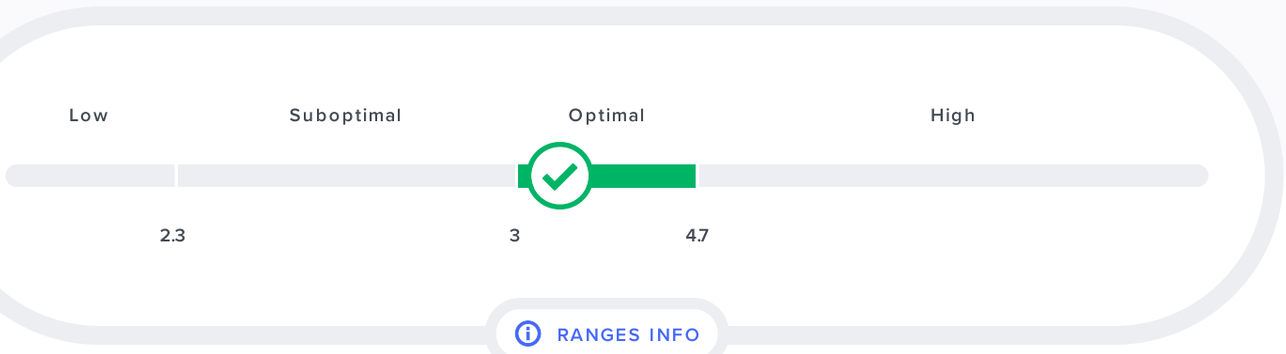
Your result **3.4 pg/mL**

Optimal range: 3 - 4.7 pg/mL

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About Triiodothyronine (T3), Free

This test measures the amount of free thyroid hormone T3 (triiodothyronine) in the blood.

Most of the T3 that is made by the thyroid and released in the bloodstream is attached to proteins that transport T3 around. When T3 is attached to proteins, it's not active. Only a small percentage (0.5%) of T3 that is not attached to proteins is active in the body. This is referred to as free T3 [R].

Thyroid hormones play critical roles in growth and development (especially the brain), regulating cholesterol levels, energy production, and insulin sensitivity [R].

Free T3 levels are usually normal in people diagnosed with hypothyroidism. Other thyroid tests like TSH and free T4 levels are also usually needed for your doctor to make an accurate diagnosis [R].

Free T3 is therefore mostly used to monitor hyperthyroidism when TSH levels are low [R].

Also Called

- FT3
- Free triiodthyronine (FT3)
- T3, Free (FT3)
- Free T3
- T3, Free

Optimal Triiodothyronine (T3), Free Health Effects

Your free T3 is within the normal range.

Your doctor will interpret this test, taking into account your medical history, signs, symptoms, and other test results.

Lifestyle Suggestions

Your results are normal, you don’t need any recommendations here.

Copper, Serum

Lab Results Report

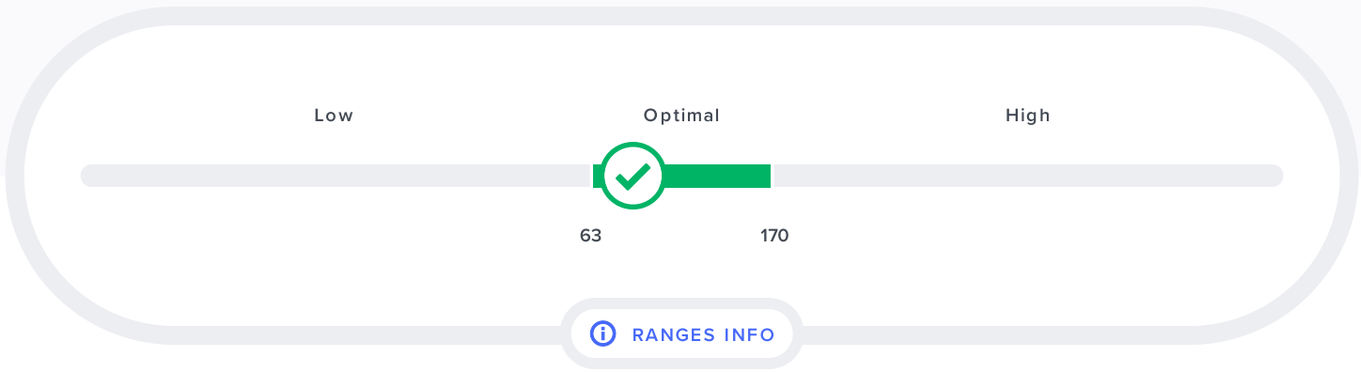
Your result **88 ug/dL**

Optimal range: 63 - 170 ug/dL

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About Copper, Serum

This test measures the amount of copper in your blood.

Copper is an essential mineral. It has many important functions in the body. It [R]:

- is required for blood cell production
- helps form and maintain myelin, which is the protective layer on nerve cells and which also allows them to conduct signals quickly
- helps build strong bones
- is important for immune function
- is need for heart health
- helps form melanin in the hair, skin, and eyes

The brain and the liver contain the highest levels of copper in the body. That is why abnormal levels of copper can cause brain and liver disorders [R]. However, both copper deficiency and excess are rare.

Your doctor may order a copper blood test, along with other tests:

- If you have signs and symptoms of copper deficiency
- If you have signs and symptoms of Wilson disease, excess copper storage, or copper poisoning
- To monitor a known health condition associated with copper metabolism

Also Called

- Copper
- Serum Copper

Optimal Copper, Serum Health Effects

Your copper levels are within the normal range.

Keep in mind that a normal test doesn't mean that a copper-related disorder is absent. Your doctor will interpret this test, taking into account your medical history, signs, symptoms, and other test results.

Lifestyle Suggestions

Your results are normal, you don’t need any recommendations here.

Potassium

Lab Results Report

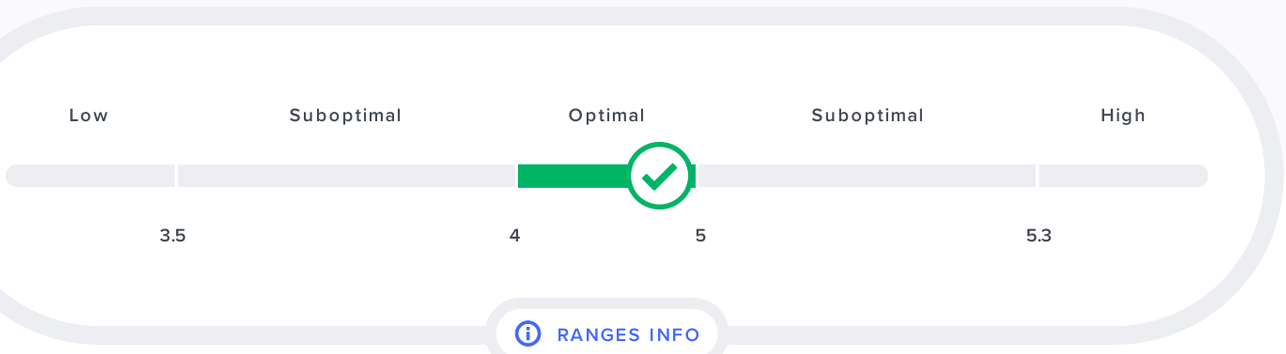
Your result **4.8 mmol/L**

Optimal range: 4 - 5 mmol/L

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About Potassium

This test measures the amount of potassium in your blood.

Potassium is a positive ion that has many important functions in our bodies. It [R, R, R, R]:

- controls blood pressure
- helps balance fluids
- is needed for nerves and muscles to communicate
- helps store nutrients, including glucose, inside of cells

Potassium is absorbed through the gut and removed by the kidneys through urine [R, R].

Testing potassium is important for evaluating kidney, heart, and adrenal health.

Remember that there is some lab-to-lab variability in ranges due to differences in equipment, techniques, and chemicals used. Don't panic if your result is slightly out of range in the app - as long as it's in the normal range based on the laboratory that did the testing, your value is normal.

Also Called

- Potassium, Serum
- K

Optimal Potassium Health Effects

Your potassium level is optimal [R].

You should also check the levels of other electrolytes to make sure they are in balance.

Lifestyle Suggestions

Your results are optimal, you don’t need any recommendations here.

Monocytes (%)

Lab Results Report

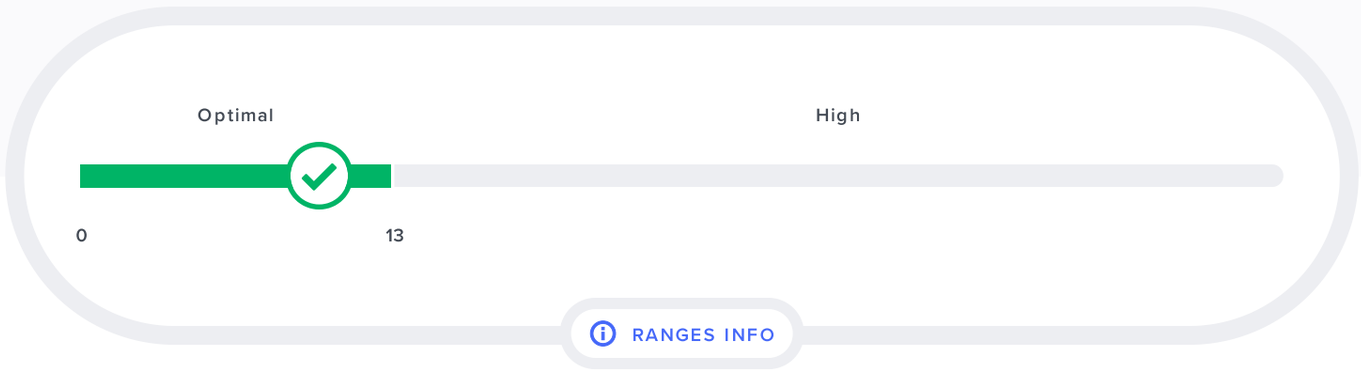
Your result **10 %**

Optimal range: 0 - 13 %

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About Monocytes (%)

This test checks what percentage of your white blood cells are monocytes. Monocytes are white blood cells that protect against bacterial, viral, and other infections.

Monocytes kill microbes, remove dead cells, and boost the immune response. However, they are also involved in the development of several inflammatory diseases and can contribute to tissue destruction during infection or inflammation [R].

Your doctor will interpret this test, taking into account your medical history and other test results.

Remember that some lab-to-lab variability occurs due to differences in equipment, techniques, and chemicals used. Don't panic if your result is slightly out of range in the app - as long as it's in the normal range based on the laboratory that did the testing, your value is normal.

Also Called

- MON %

Optimal Monocytes (%) Health Effects

Your monocyte percentage is within the normal range.

You should also check your total white blood cell (WBC) levels and other white blood cell subtypes to see if they are also in their optimal/normal ranges.

Lifestyle Suggestions

Your results are normal, you don’t need any recommendations here.

Creatinine

Lab Results Report

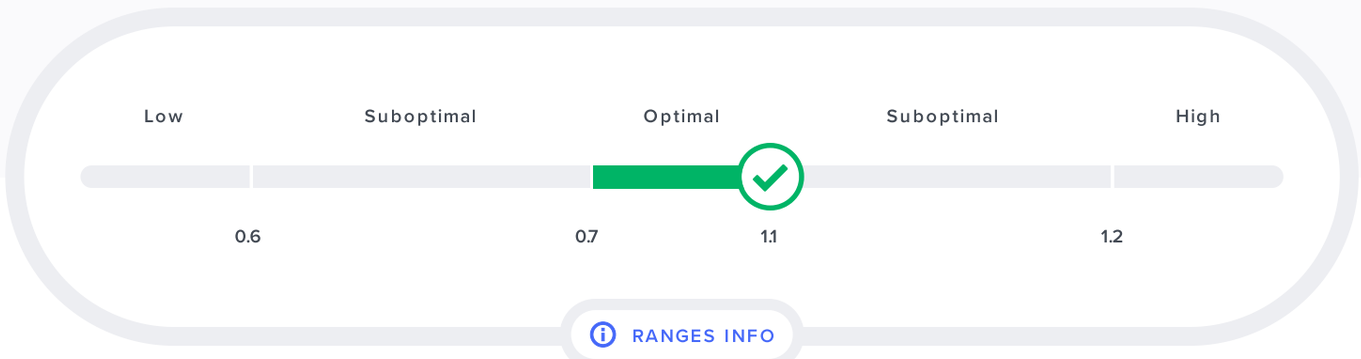
Your result **1.1 mg/dL**

Optimal range: 0.7 - 1.1 mg/dL

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About Creatinine

This test measures the levels of creatinine in your blood.

Creatinine is a waste product of the normal wear and tear of muscles. It is produced from creatine, a protein needed to generate the energy for muscle contractions [R, R].

The production of creatinine essentially reflects lean body mass, and because muscle mass changes little from day to day, the production rate is also fairly constant. Women, children, and older people tend to have lower levels of creatinine compared to adult men because they have less muscle mass [R].

Creatinine is removed from the body by the kidneys, which filter almost all of it from the blood into the urine. When kidneys aren't working properly, creatine remains in the blood and builds up. That is why blood creatinine levels can be used to check how well your kidneys are working [R, R].

Remember that there is some lab-to-lab variability in ranges due to differences in equipment, techniques, and chemicals used. Don't panic if your result is slightly out of range in the app - as long as it's in the normal range based on the laboratory that did the testing, your value is normal. The range of this test also depends on your age. Ask your doctor to explain your results.

However, also bear in mind that this test is not very sensitive when it comes to kidney health. Creatinine levels may not increase above normal until more than 50% of total kidney function is lost. A more sensitive test, eGFR, is calculated based on your creatinine value, taking into account your age, gender, and ethnicity -- all of which affect your creatinine levels [R].

Also Called

- Creatinine, Serum
- Creatinine - Serum

Optimal Creatinine Health Effects

Your creatinine is within the optimal range.

Make sure you also check other markers of kidney function, such as eGFR.

Keep in mind that a normal creatinine result doesn't mean kidney disease is absent. Significant loss of kidney function is necessary for creatinine levels to rise [R]. Your doctor will interpret your results, taking into account your age, gender, medical history, symptoms, and other test results.

Lifestyle Suggestions

Your results are optimal, you don’t need any recommendations here.

Eos (Absolute)

Lab Results Report

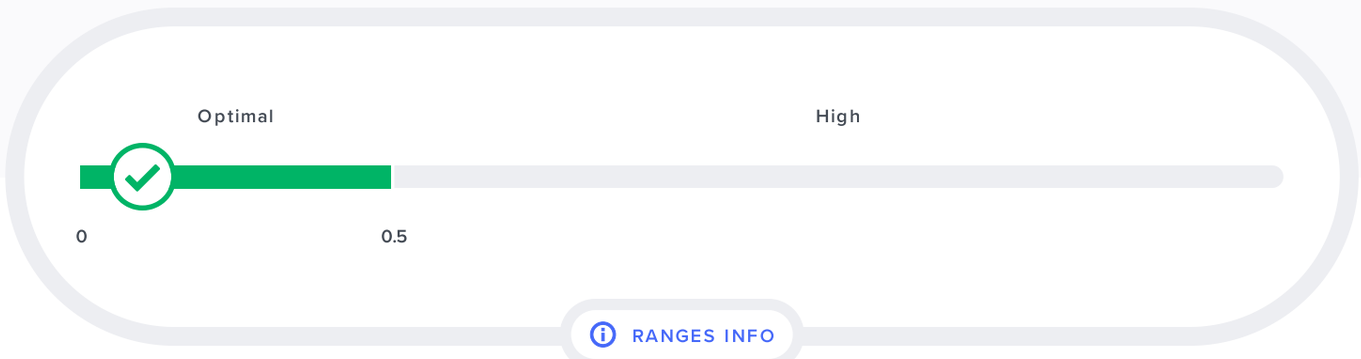
Your result **0.1 x10E3/ul**

Optimal range: 0 - 0.5 x10E3/ul

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About Eos (Absolute)

This test looks at the eosinophil count in your blood.

Eosinophils are white blood cells that play a role in your immune response. They help fight infections, mainly by parasites, and are involved in allergies and inflammation [R].

Normally, eosinophils constitute less than 5% of all your white blood cells.

Your doctor will interpret this test, taking into account your medical history and other test results.

Remember that some lab-to-lab variability occurs due to differences in equipment, techniques, and chemicals used. Don't panic if your result is slightly out of range in the app - as long as it's in the normal range based on the laboratory that did the testing, your value is normal.

Also Called

- EOS (Abs)
- Eosinophils - Absolute count
- Absolute Eosinophils
- Eosinophils (Absolute)

Optimal Eos (Absolute) Health Effects

Your eosinophil count is within the normal range.

Lifestyle Suggestions

Your result is normal, you don’t need any recommendations here.

Magnesium

Lab Results Report

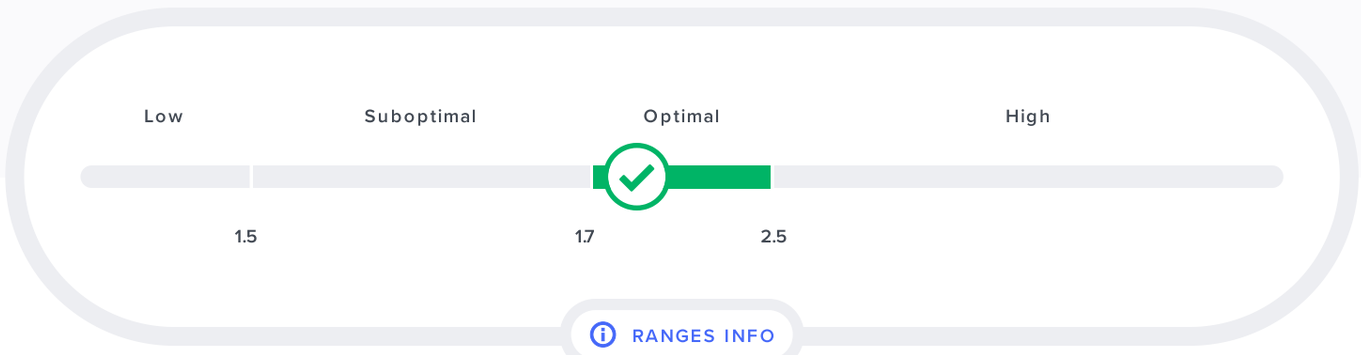
Your result 1.9 mg/dL

Optimal range: 1.7 - 2.5 mg/dL

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About Magnesium

This test measures the amount of magnesium in your blood.

Magnesium is the 4th most abundant mineral in the body. It is required for more than 300 different bodily processes [R, R].

Magnesium:

- helps our cells produce energy
- is needed for our nerve cells and brain to function properly
- makes our bones stronger
- is essential for muscles -- including the heart -- function
- is important for the immune system
- helps adjust the levels of glucose and insulin in the blood

Magnesium cannot be produced in the body and must be consumed in sufficient amounts from one's diet [R].

Magnesium is primarily absorbed through the gut. However, the kidneys are the main regulator of magnesium levels and activity throughout the body. They tell the digestive system to absorb more or less magnesium from digested food according to the body's current levels [R, R, R, R, R, R, R].

The older you get, the less efficiently your body holds onto magnesium. Older people are more likely to have low magnesium [R, R, R].

Remember that there is some lab-to-lab variability in ranges due to differences in equipment, techniques, and chemicals used. Don't panic if your result is slightly out of range in the app - as long as it's in the normal range based on the laboratory that did the testing, your value is normal.

Optimal Magnesium Health Effects

Your magnesium levels are within the normal range.

Lifestyle Suggestions

Your result is normal, you don't need any recommendations here.

Sodium

Lab Results Report

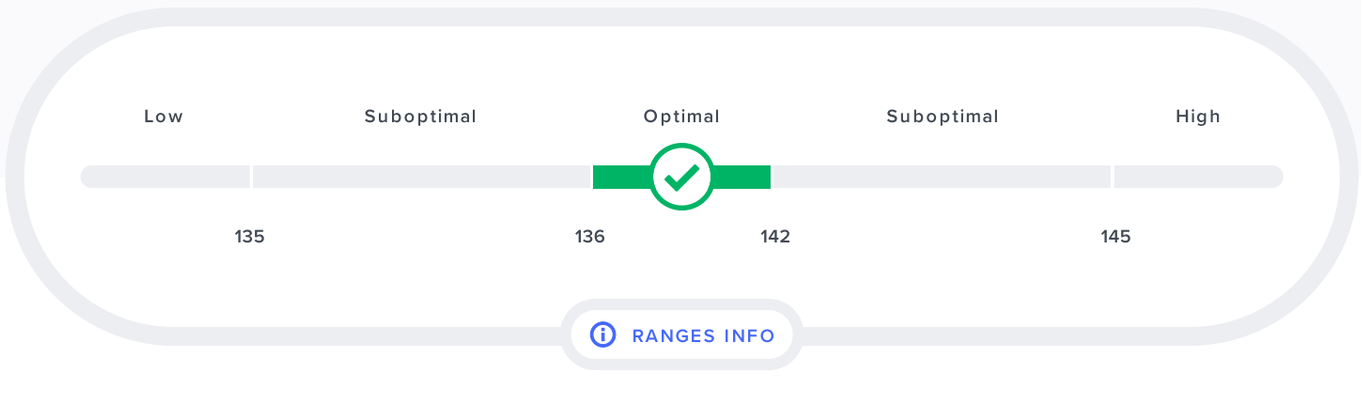
Your result 139 mmol/L

Optimal range: 136 - 142 mmol/L

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About Sodium

This test measures the amount of sodium in your blood.

Sodium is a positive ion and one of the body's main electrolytes, which are minerals we need in relatively large amounts. It plays a vital role in controlling blood pressure, fluid balance, and the acid-base balance in the blood. In addition, sodium is needed for proper nerve and muscle function [R].

Table salt (sodium chloride) and the natural salt content in foods are the main sources of sodium in the diet. Adults need less than 500 mg sodium/day in order to maintain normal sodium levels in the body. However, 95% of the world’s population consumes between 3 and 6 g/day, which is much more than necessary [R, R].

Healthy sodium levels in the body are maintained in a narrow range by [R, R, R]:

- Hormones that increase (natriuretic peptides) or decrease (aldosterone) kidney excretion of sodium through urine
- Hormones that prevent the loss of fluids together with sodium (antidiuretic hormone)
- Thirst. Normally, even a very small (2–3%) increase in blood sodium induces thirst, and sodium levels go back down to normal once the person drinks water

Dietary sodium deficiency is extremely rare, even among people on very low-sodium diets. Sodium levels may fall below normal under extreme conditions of heavy and continued sweating, or in cases of heavy injury, chronic diarrhea, or kidney disease where the body is unable to hold onto sodium [R, R].

Blood sodium can increase above normal when people don't drink enough water or have an excessive salt intake. It can also increase due to health issues such as kidney disease. Elevated sodium is more common in the elderly, because of a decline in kidney function and a lower intake of liquids [R, R, R].

Remember that there is some lab-to-lab variability in ranges due to differences in equipment, techniques, and chemicals used. Don't panic if your result is slightly out of range in the app - as long as it's in the normal range based on the laboratory that did the testing, your value is normal.

Also Called

- Sodium, Serum
- Na

Optimal Sodium Health Effects

Your sodium is within the optimal range [R].

Your doctor will interpret your result, taking into account your medical history, symptoms, and other test results.

Lifestyle Suggestions

Your results are optimal, you don’t need any recommendations here.

T3 Uptake %

Lab Results Report

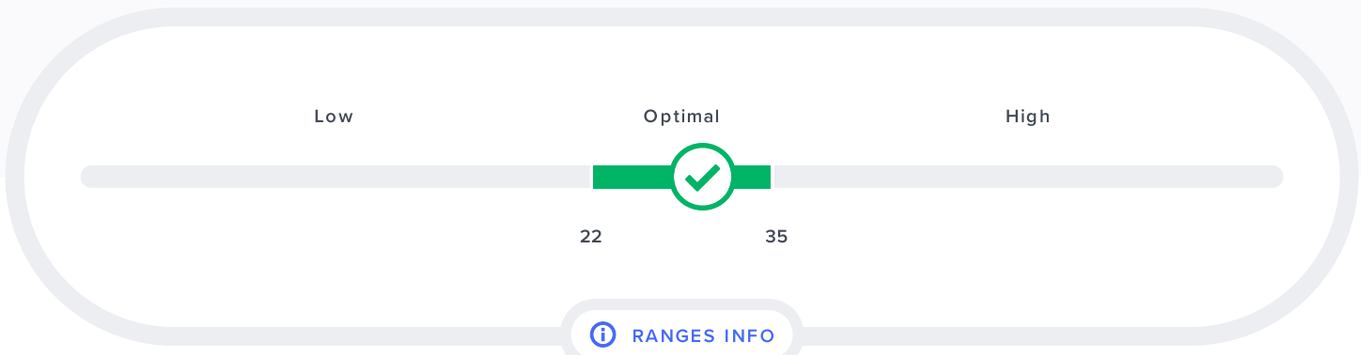
Your result **30 %**

Optimal range: 22 - 35 %

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About T3 Uptake %

T3 uptake is an indirect measure of TBG (thyroid binding globulin) binding capacity, or how much TBG is available to bind to thyroid hormones [R].

T3 uptake is used to detect low or high levels of TBG and its binding capacity in order to determine the cause of low or high total thyroxine (T4) levels. It is measured in addition to total T4, when total T4 levels are abnormally high or low.

This test uses resin which competes with TBG for binding T3, which is why this test is also sometimes referred to as resin uptake.

High T4 levels will decrease T3 uptake by TBG, because more of TBG is being bound to T4. In turn, T3 uptake will increase by the resin. Similarly, low levels of TBG will result in more T3 binding to the resin, increasing T3 uptake [R].

T3 uptake can be used to calculate the free T4 index (FT4I), along with total T4 levels. However, now that it's possible to directly measure free T4 and TBG, this test is becoming obsolete.

Also Called

- T3RU %
- T3 Resin Uptake %

Optimal T3 Uptake % Health Effects

Your T3 uptake is within the normal range.

Lifestyle Suggestions

Your levels are normal, you don't need any recommendations here.

Alkaline Phosphatase

Lab Results Report

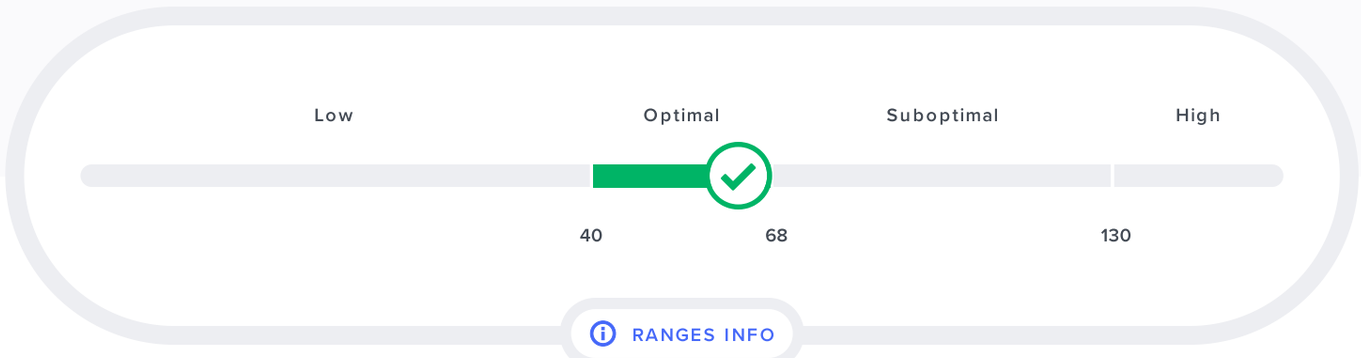
Your result **63 IU/L**

Optimal range: 40 - 68 IU/L

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About Alkaline Phosphatase

This test measures the levels of alkaline phosphatase (ALP).

Alkaline phosphatase is a zinc-containing enzyme that helps break down proteins. It is found in all tissues, but it's most abundant in the bones, liver, kidneys, gut, and placenta [R].

Its major function is to protect your gut against bacteria, aid in digestion, break down fats and some B vitamins, and promote bone formation [R].

Excess or insufficient levels of this enzyme are linked to a broad range of diseases [R].

When the liver is not functioning properly, ALP is released into the bloodstream. Additionally, any condition that affects bone growth or causes higher bone cell activity can increase ALP levels in the blood. For this reason, an ALP test is commonly used to help diagnose liver or bone disorders [R].

Remember that there is some lab-to-lab variability in ranges due to differences in equipment, techniques, and chemicals used. Don't panic if your result is slightly out of range in the app - as long as it's in the normal range based on the laboratory that did the testing, your value is normal.

Also Called

- ALP
- Alk Phos

Optimal Alkaline Phosphatase Health Effects

Your ALP level is within the normal range.

Lifestyle Suggestions

Your result is normal, you don’t need any recommendations here.

Reverse T3, Serum

Lab Results Report

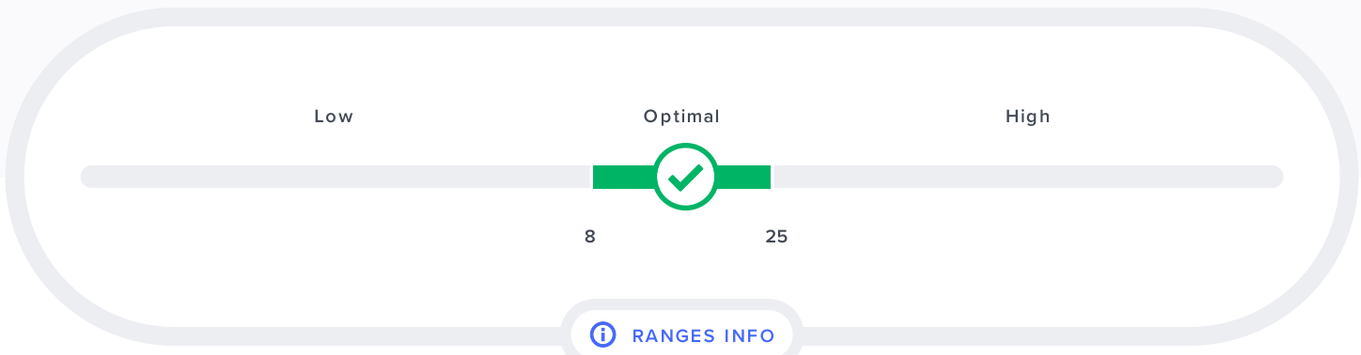
Your result **16.9 ng/dL**

Optimal range: 8 - 25 ng/dL

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About Reverse T3, Serum

This test measures the amount of reverse triiodothyronine (reverse T3 or rT3) in your blood.

Reverse T3 (rT3) is very similar to regular T3. However, unlike T3, it is not active in the body. RT3 is made from T4 by an enzyme called deiodinase.

Only 2.5% of reverse T3 is made by the thyroid gland. The other 97.5% is made by other tissues around the body [R].

It was originally believed that reverse T3 was a byproduct of T4 with little activity or function in the body. However, now we know that reverse T3 mainly serves to counterbalance the effects of too much T3. It also may help the body fight viruses and is crucial to brain development. Interestingly, fetuses have 15x the amount of circulating reverse T3 compared to adults [R, R, R].

Levels of reverse T3 are often elevated in critical illnesses such as cancer, stroke, and trauma [R, R].

Although TSH is often used to determine thyroid function, some researchers argue that the ratio of T3 to reverse T3 may be a better indicator [R].

Also Called

- RT3
- T3 Reverse
- Reverse T3
- T3 REVERSE, LC/MS/MS

Optimal Reverse T3, Serum Health Effects

Your levels are within the normal range.

Your doctor will interpret this test, taking into account your medical history, signs, symptoms, and other test results.

Lifestyle Suggestions

Your levels are normal. You don't need any recommendations here.

Neutrophils (%)

Lab Results Report

Your result **64 %**

Optimal range: 40 - 80 %

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result

About Neutrophils (%)

This test looks at the percentage of white blood cells that are neutrophils.

Neutrophils are the most abundant white blood cells in the body. They protect you from bacterial, fungal, and other infections and are first-responders at sites of infection and inflammation [R].

Like other blood cells, neutrophils are produced in the bone marrow [R, R].

A high neutrophil percentage may signal an infection or inflammation somewhere in the body. Neutrophils also often increase in response to physical or emotional stress.

A low percentage, on the other hand, can be due to drugs such as chemotherapeutics, or health conditions such as autoimmune issues, nutrient deficiencies, and bone marrow disorders.

Remember that some lab-to-lab variability occurs due to differences in equipment, techniques, and chemicals used. Don't panic if your result is slightly out of range in the app - as long as it's in the normal range based on the laboratory that did the testing, your value is normal.

Also Called

- NEU %
- Segmented Neutrophils %
- SEGS %

Optimal Neutrophils (%) Health Effects

Your neutrophils are within the normal range.

Be sure to also check your absolute neutrophil count.

Lifestyle Suggestions

Your results are normal, you don’t need any recommendations here.

Neutrophils (Absolute)

Lab Results Report

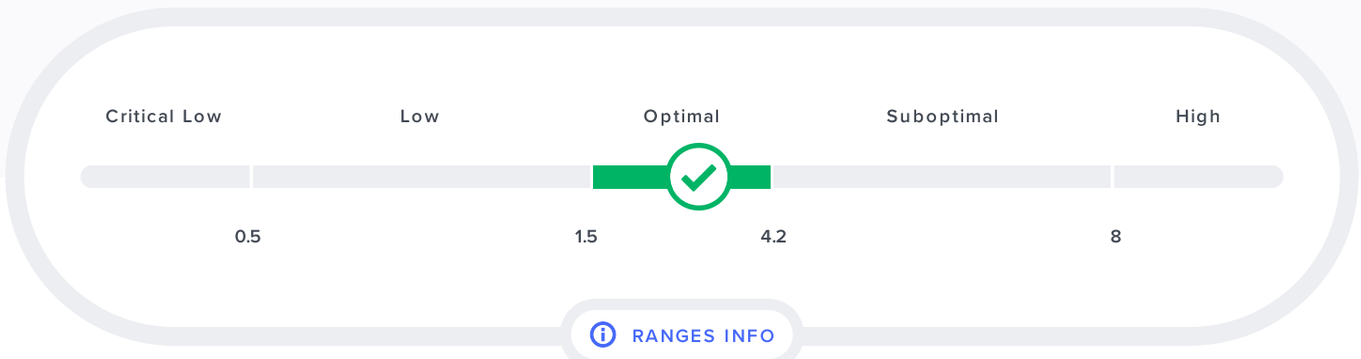
Your result **3.1 x10E3/ul**

Optimal range: 1.5 - 4.2 x10E3/ul

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About Neutrophils (Absolute)

This test looks at your neutrophil count. Neutrophils are white blood cells that protect you from bacterial, fungal, and other infections [R].

Neutrophils are the most abundant white blood cells in the body. They are first-responders at sites of infection and inflammation [R].

Like other blood cells, neutrophils are produced in the bone marrow [R, R].

A high neutrophil count may signal an infection or inflammation somewhere in the body. Neutrophils also often increase in response to physical or emotional stress.

Low levels, on the other hand, can be due to drugs such as chemotherapeutics, or health conditions such as autoimmune issues, nutrient deficiencies, and bone marrow disorders.

Remember that some lab-to-lab variability occurs due to differences in equipment, techniques, and chemicals used. Don't panic if your result is slightly out of range in the app - as long as it's in the normal range based on the laboratory that did the testing, your value is normal.

Also Called

- NEU (Abs)
- Neutrophils - Absolute count
- Segmented Neutrophils Abs
- SEGS Abs
- Absolute Neutrophils

Optimal Neutrophils (Absolute) Health Effects

A normal neutrophil range is around 1.5 - 8 ×109/l, or 1500 - 8000 cells/microliter. The range may vary slightly between labs, due to differences in equipment, techniques, and chemicals used.

Neutrophils usually account for 40 - 80% of white blood cells.

Neutrophils can be normally slightly higher in pregnancy [R].

Lifestyle Suggestions

Your result is normal, you don’t need any recommendations here.

BUN/Creatinine Ratio

Lab Results Report

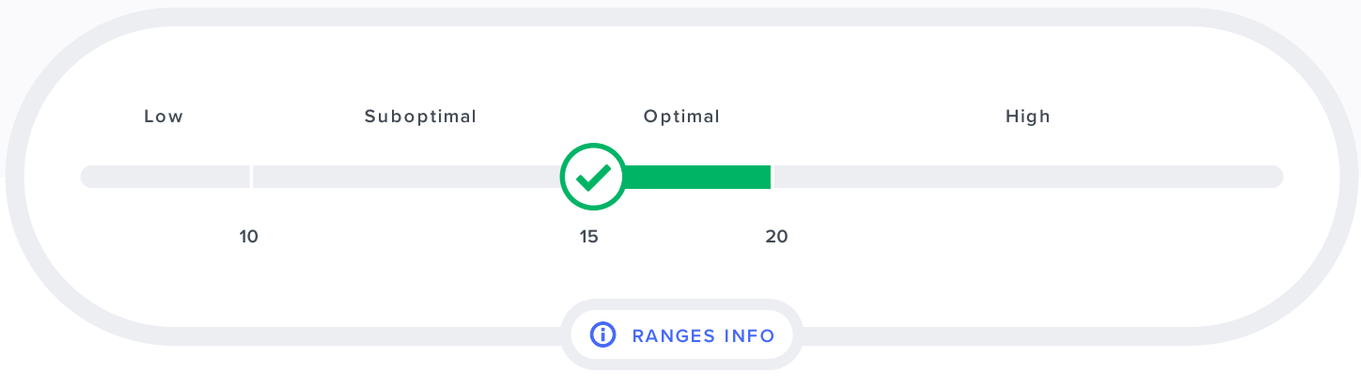
Your result **15 :1**

Optimal range: 15 - 20 :1

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About BUN/Creatinine Ratio

BUN (blood urea nitrogen) and creatinine are two lab tests that are often measured as a part of a comprehensive metabolic panel. Your doctor may order this panel to get an idea of your overall health and metabolism.

BUN measures the amount of urea in your blood. Urea is a waste product made in the liver as the body processes protein. This protein is mostly derived from the diet, but it can also result from tissue protein turnover [R, R, R].

Urea is removed by the kidneys, but the rate of removal depends on the needs of the body -- kidneys can return different amounts of urea into the bloodstream depending on factors such as hydration and blood pressure [R, R, R].

Creatinine, on the other hand, is a waste product created from the normal wear and tear of muscles. It is produced from creatine, a protein that helps generate energy for muscle contractions. Creatinine production essentially reflects lean body mass, and because this mass changes little from day to day, the production rate is also fairly constant [R, R, R].

Creatinine is removed from the body by the kidneys, which filter almost all of it from the blood into the urine, at a fairly constant rate. That is why blood levels are usually a good indicator of how well your kidneys are working [R, R, R].

So, to recap, while BUN levels fluctuate because kidneys can return urea into the bloodstream depending on the body's needs, creatinine gets removed at a constant rate and its blood levels are usually stable [R]. That's why the BUN/creatinine ratio can be used to check for issues such as dehydration, kidney injury/disease, gut bleeding, etc.

Also Called

- BUN/ Sr. Creatinine Ratio
- Urea nitrogen/Creatinine

Optimal BUN/Creatinine Ratio Health Effects

Your BUN/creatinine ratio is optimal [R].

Keep in mind that this doesn't mean a health condition is absent. Your doctor will interpret your result, taking into account medical history, symptoms, and other test results.

Lifestyle Suggestions

Your results are optimal, you don't need any recommendations here.

Thyroxine (T4)

Lab Results Report

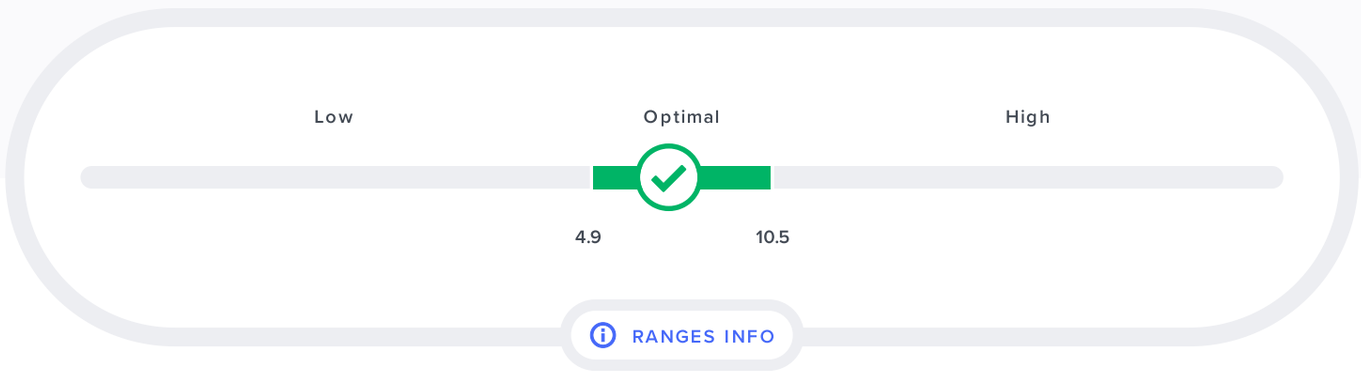
Your result **7.3 ug/dL**

Optimal range: 4.9 - 10.5 ug/dL

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About Thyroxine (T4)

This test measures the total (free + protein bound) T4 in the blood.

There are two major thyroid hormones, triiodothyronine (T3) and thyroxine (T4). While T4 is the most abundant thyroid hormone, it is not particularly active. 30% of T4 is converted into the more active T3, which controls the usage of energy (metabolic rate) of almost all organs and tissues in the body [R, R, R].

Most (>99.5%) T4 in the blood is bound to and transported by different proteins. Only a small fraction (~0.5%) of T4 is free. This test measures both T4 forms together [R].

Total T4 is often measured to check if the thyroid is working well and to help diagnose hypothyroidism (underactive thyroid) and hyperthyroidism (overactive thyroid). TSH and free T4 levels may also be needed for your doctor to make an accurate diagnosis [R].

Also Called

- Thyroxine
- Total thyroxyne (T4)
- Thyroxine (T4), Total
- T4 (Thyroxine), Total
- Total T4 (Thyroxine)

Optimal Thyroxine (T4) Health Effects

Your total T4 is within the normal range.

Your doctor will interpret this test, taking into account your medical history, signs, symptoms, and other test results.

Lifestyle Suggestions

Your levels are normal, you don't need any recommendations here.

LH

Lab Results Report

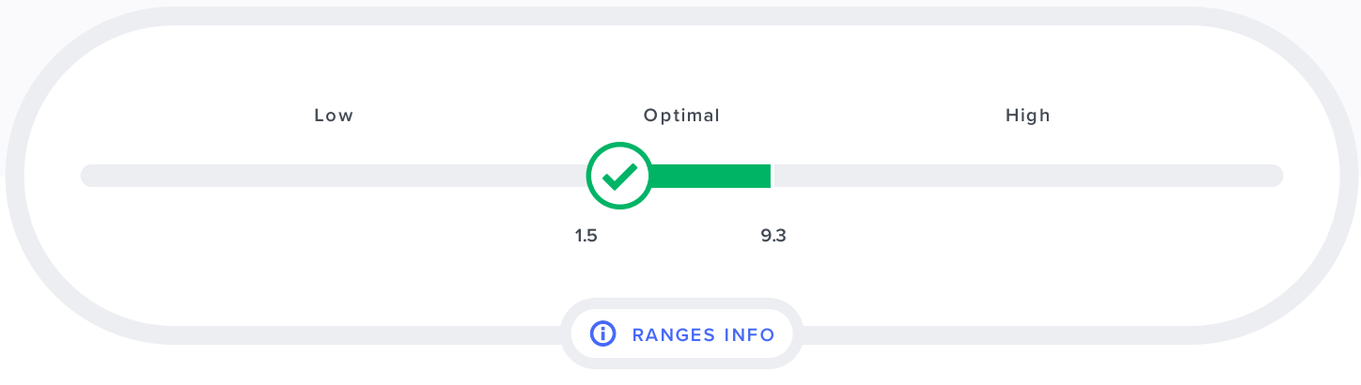
Your result **2.7 mIU/mL**

Optimal range: 1.5 - 9.3 mIU/mL

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About LH

This test measures the amount of luteinizing hormone (LH) in your blood.

Luteinizing hormone (LH) is a hormone made by the pituitary gland that plays a key role in reproductive function in both men and women.

LH levels are controlled by the hypothalamus, pituitary gland, and hormones made by the ovaries and testicles.

In men, LH signals the testes to produce testosterone. Testosterone, in turn, stimulates sperm production [R].

In women, LH carries out different roles in different stages of the menstrual cycle. During the first two weeks of the cycle, LH signals the ovaries to produce the female sex hormone estradiol. Then a rapid “surge” in LH levels causes the ovaries to release an egg (ovulation). In the last stages of the cycle, LH stimulates the production of progesterone, which is required to support the early stages of pregnancy, if fertilization occurs [R].

LH levels increase in women once they reach menopause.

Your doctor may order this test if you are:

- Having difficulty getting pregnant
- Having irregular menstrual periods
- Going through menopause
- Having low testosterone or low sexual drive
- Having symptoms of pituitary or hypothalamic disorders

Also Called

- Luteinizing hormone

Optimal LH Health Effects

Your LH levels are within the normal range.

Your doctor will interpret this test, taking into account your medical history, signs, symptoms, and other test results.

Lifestyle Suggestions

Your results are normal, you don’t need any recommendations here.

Ferritin

Lab Results Report

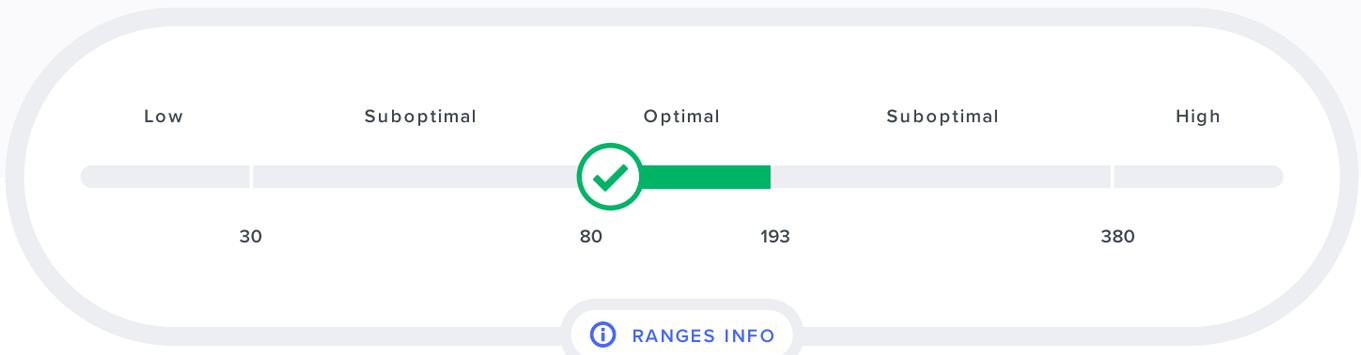
Your result **91 ng/mL**

Optimal range: 80 - 193 ng/mL

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About Ferritin

This test measures ferritin, a protein that stores and transport iron in the blood.

Iron has many important roles in our bodies. For example, it's critical for making red blood cells and it's needed for muscle and heart cells to produce energy. However, iron by itself can be toxic, primarily because it produces free radicals that cause damage to cells and tissues. For this reason, the body uses special proteins like ferritin to safely store and transport iron to where it is needed [R].

Low ferritin levels signal that the body's iron stores are low. Higher levels, on the other hand, may indicate that you have a condition that causes the body to store too much iron [R].

However, ferritin also plays a role in the immune response, and increases in conditions such as chronic inflammation, infections, and cancer, irrespective of iron levels [R].

This test, therefore, serves as a measure of the total amount of iron stored in your body, but can also point to inflammatory conditions [R].

Also Called

- Ferritin, Serum

Optimal Ferritin Health Effects

Your ferritin levels are optimal [R, R].

However, it's important to remember that a normal ferritin doesn't mean a condition such as iron deficiency is absent. Ferritin can be "falsely" increased in chronic inflammatory conditions. Your doctor will interpret your results in conjunction with your medical history and other test results.

Lifestyle Suggestions

Your results are optimal, you don’t need any recommendations here.

Testosterone

Lab Results Report

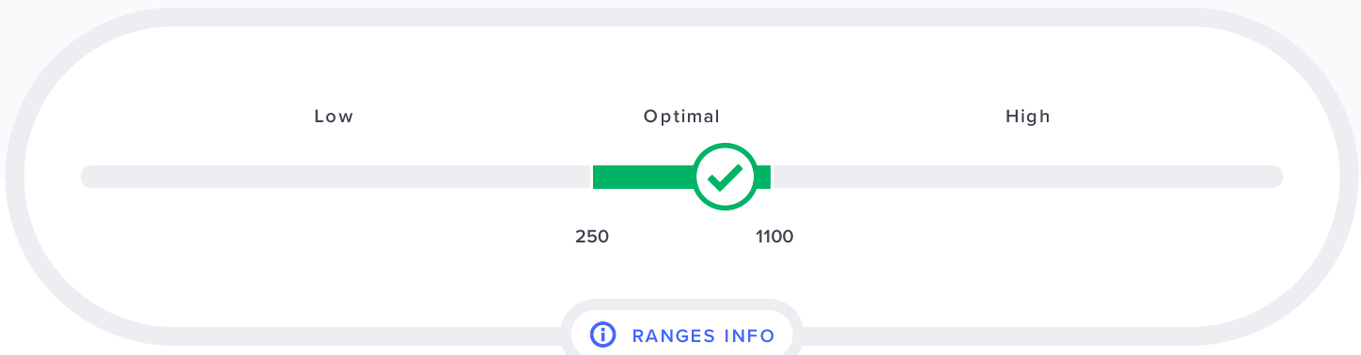
Your result 876 ng/dL

Optimal range: 250 - 1100 ng/dL

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About Testosterone

This test measures the amount of total testosterone in your blood.

Total testosterone includes testosterone bound to proteins (sex hormone-binding globulin (SHBG) and albumin) and free testosterone, not bound to any proteins.

Testosterone is a hormone mainly produced by the testes in men or ovaries in women, with small amounts (<10%) produced by the adrenal glands and brain in both sexes. It is made from cholesterol and it's produced in response to luteinizing hormone (LH), which is released from the pituitary gland [R].

Testosterone has a diverse range of effects on many different organs and tissues. It [R, R, R]:

- improves bone health by increasing bone growth and reducing the breakdown of bone
- helps to build and maintain muscle mass and strength and increases lean body mass
- increases red blood cell production
- improves libido and sexual function
- increases sperm production
- plays a role in mood and brain function

Approximately 2-3% of testosterone is free. 33-54% percent is weakly bound to albumin, and the remaining 44-65% is bound to sex hormone-binding globulin (SHBG) [R].

Starting around the age of 30, total testosterone levels begin to decline by 0.4-2% every year [R].

Remember that there is some lab-to-lab variability in ranges due to differences in equipment, techniques, and chemicals used. Don't panic if your result is slightly out of range in the app - as long as it's in the normal range based on the laboratory that did the testing, your value is normal.

Also Called

- Testosterone, Serum
- Testosterone, Total
- Total Testosterone

Optimal Testosterone Health Effects

Your testosterone is within the normal range!

Since testosterone levels decline every year, beginning around age 30, the younger you are the higher your testosterone levels should be within the normal range.

These are important for maintaining healthy testosterone levels:

- Exercise [R, R, R, R, R]
- Losing weight if overweight [R, R, R]
- Getting enough uninterrupted sleep [R]
- Having sufficient zinc and vitamin D [R, R, R]

Lifestyle Suggestions

Your testosterone is normal. Because the normal range is quite wide, you may feel like you have enough, or more or less than enough. This is individual and will depend on your age and lifestyle.

If you feel like your testosterone is low (weight gain, low libido and vitality, depression):

- Get more exercise [R, R, R, R, R]
- Lose weight if overweight [R, R, R]
- Get enough uninterrupted sleep. Sleep is critical to proper testosterone

production [R]
- Check your zinc and vitamin D levels, and increase them if you're deficient [R, R, R]

HDL Cholesterol

Lab Results Report

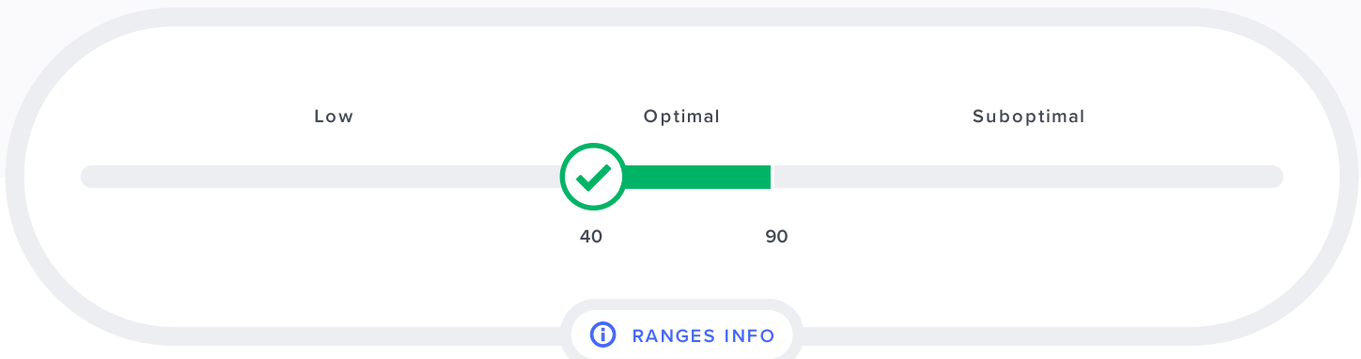
Your result **40 mg/dL**

Optimal range: 40 - 90 mg/dL

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About HDL Cholesterol

This test measures the amount of HDL-cholesterol (HDL-C), also known as "good" cholesterol, in your blood.

HDL-cholesterol is cholesterol bound to high-density lipoprotein (HDL) particles, which are made in the liver and consist of proteins and fats (lipids). They help remove excess cholesterol from the blood by [R, R, R]:

- transporting it to the liver, where it becomes a part of bile and is excreted through feces
- taking it to adrenal glands, ovaries, and testes, where cholesterol is converted into steroid hormones (e.g. cortisol, estrogens, testosterone)

Cholesterol transported by HDL is known as “good" cholesterol because it is being removed from artery walls, which helps prevent, reduce, and even reverse the hardening of the arteries (atherosclerosis) and heart disease [R].

Also Called

- HDL cholesterol - Direct
- HDL-C
- HDL-Cholesterol
- Cardio IQ® HDL Cholesterol

Optimal HDL Cholesterol Health Effects

Your HDL-cholesterol is within the normal range.

Lifestyle Suggestions

Your result is normal, you don’t need any recommendations here.

Thyroglobulin Antibodies

Lab Results Report

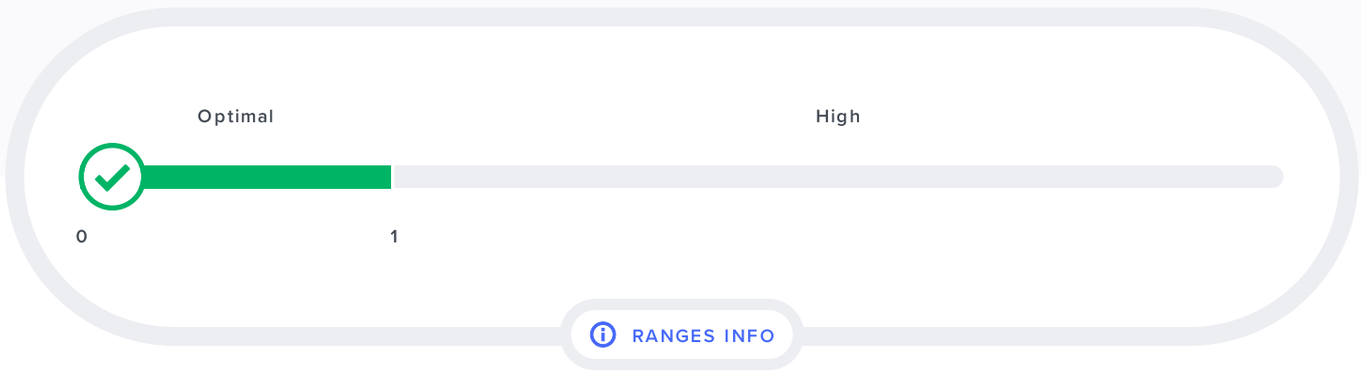
Your result **0.1 IU/mL**

Optimal range: 0 - 1 IU/mL

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About Thyroglobulin Antibodies

This test measures the amount of thyroglobulin antibodies in the blood.

Thyroglobulin antibodies are an antibody that attacks your thyroid gland. Thyroglobulin antibodies target a protein called thyroglobulin [R].

Thyroglobulin (Tg) is made in the thyroid gland and is the building block of the thyroid hormones T4 and T3.

Antibodies to thyroglobulin (TgAb) are commonly found in people with autoimmune hypothyroidism and hyperthyroidism. More than 50% of people with these diseases test positive for TgAb. TgAbs are also sometimes detected in people with normal thyroid function [R].

Your doctor may order this test to determine whether your hypothyroidism or hyperthyroidism is autoimmune in nature.

Thyroglobulin antibodies can also be measured in addition to thyroglobulin, because they can interfere with thyroglobulin levels [R].

Also Called

- TgAbs
- Anti thyroglobulin antibody (ATG)

Optimal Thyroglobulin Antibodies Health Effects

Your levels are within the normal range.

This means there is a lower likelihood that you have autoimmune thyroid diseases such as Hashimoto’s thyroiditis or Graves’ disease.

Your doctor will interpret your result, taking into account your medical history, symptoms, and other test results.

A certain percentage of people with autoimmune thyroid disease don't have these antibodies. If your doctor suspects an autoimmune disease, they may repeat the test at a later date.

Lifestyle Suggestions

Your results are normal, you don’t need any recommendations here.

Lipoprotein(A)

Lab Results Report

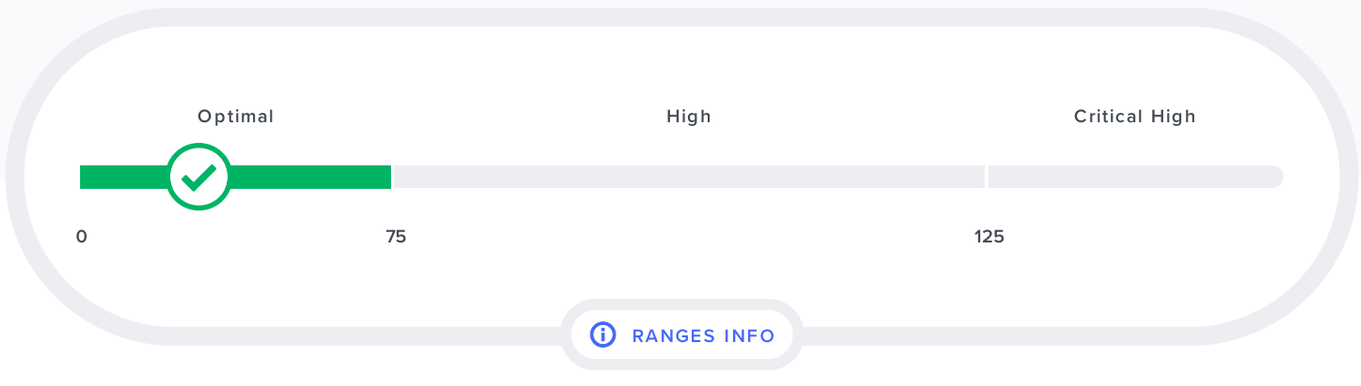
Your result **28.5 nmol/L**

Optimal range: 0 - 75 nmol/L

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About Lipoprotein(A)

This test measures the amount of lipoprotein(a) in the blood and helps your doctor determine your heart disease risk.

Lipoproteins are a mesh of proteins and fats that help carry cholesterol in the blood. Examples include low-density lipoprotein (LDL), which carries “bad cholesterol” and high-density lipoprotein (HDL), which carries “good cholesterol” [R].

Lipoprotein(a), or Lp(a) is a type of LDL. Lp(a) is made in the liver and carries fats and other lipids such as cholesterol around the body [R, R].

The exact function of Lp(a) is still being researched. Researchers think Lp(a) is involved in wound healing, tissue repair, immune response, and inflammation. However low or even undetectable Lp(a) levels are common and do not appear to have any negative health effects [R, R, R].

What we do know is that high levels pose a health risk**.** In particular, higher Lp(a) levels have been associated with heart disease and stroke [R, R, R, R, R, R].

Lp(a) levels are largely determined by genetics and remain more or less stable throughout your life. However, some conditions can increase Lp(a), including hormonal imbalances, inflammatory diseases, metabolic issues, and kidney disease [R, R, R].

Although largely genetic, some newer studies suggest that certain lifestyle and dietary interventions may help slightly reduce lipoprotein(a) levels [R, R, R].

The Lp(a) test is not a routinely ordered test. Your doctor will usually order it if you have other risk factors for heart disease, such as [R]:

- Heart disease runs in your family
- You have a genetic condition that causes high cholesterol levels (familial hypercholesterolemia)
- Your heart disease is worsening despite treatment with statins

Typically, Lp(a) test is only done once, because it’s pretty constant across your lifetime. On occasion, your doctor may order a second Lp(a) test to confirm the first one:

- If it was measured when you were ill
- After menopause, because Lp(a) levels increase as estrogen levels drop

Also Called

- Lp(a)
- LPA
- Lipoprotein(A) [LP(A)]

Optimal Lipoprotein(A) Health Effects

Your Lp(a) levels are optimal.

Levels in this range have been associated with a lower risk of heart disease [R, R, R, R, R, R, R, R].

Lifestyle Suggestions

Your results are optimal, you don’t need any recommendations here.

TSH

Lab Results Report

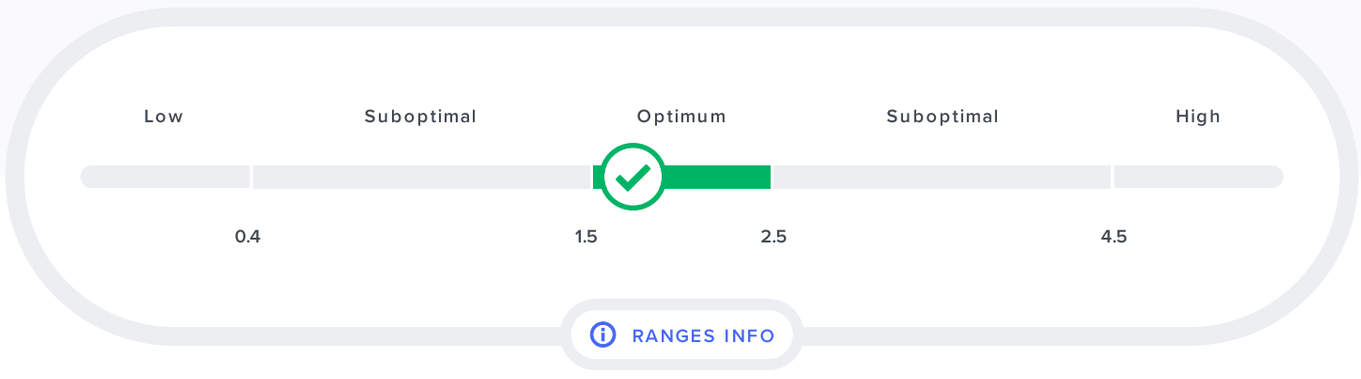
Your result **1.73 uIU/mL**

Optimal range: 1.5 - 2.5 uIU/mL

Date of test: 2 Oct 2023

Your levels are **optimum**

Based on your result



About TSH

This test measures the amount of thyroid-stimulating hormone (TSH) in the blood. It's used to check if the thyroid gland is working well.

Thyroid-stimulating hormone is a hormone released by the pituitary gland that signals the thyroid gland to release other hormones. The thyroid gland is the butterfly-shaped gland in the neck that produces thyroxine (T4) and triiodothyronine (T3). T4 and T3 control how fast your metabolism runs [R].

TSH is often the first test used to determine whether someone has too little (hypothyroidism) or too much thyroid hormone (hyperthyroidism) [R].

TSH normally increases as we age [R, R].

Also Called

- Thyroid Stimulating Hormone
- Thyroid stimulating hormone (TSH)

Optimum TSH Health Effects

Your TSH is in the normal range.

Lifestyle Suggestions

Your result is normal, you don’t need any recommendations here.

Vitamin B6

Lab Results Report

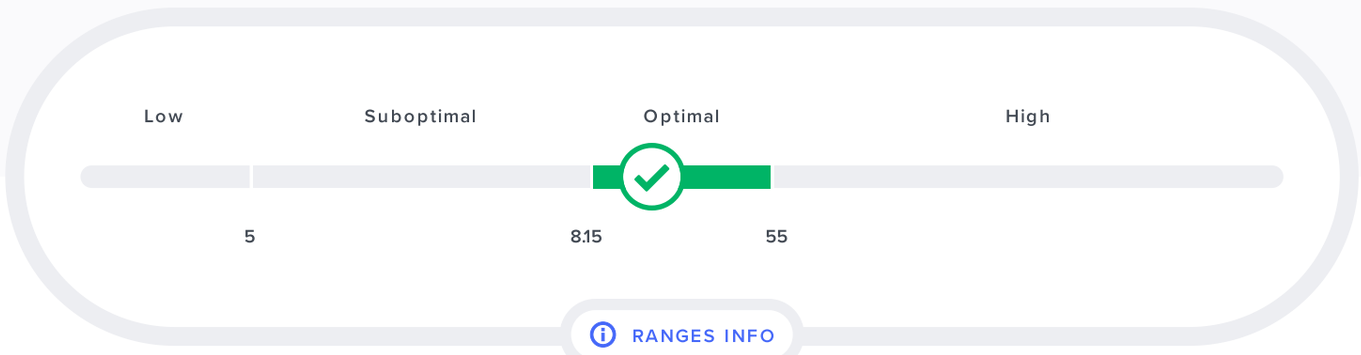
Your result **23.8 ug/L**

Optimal range: 8.15 - 55 ug/L

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About Vitamin B6

This test measures the levels of vitamin B6 in your blood.

B6 is a water-soluble vitamin that acts as an antioxidant and assists in over 150 metabolic processes. It cannot be produced in the human body and must be obtained from dietary sources [R, R, R].

The name “vitamin B6” actually includes several closely-related compounds. Pyridoxamine and pyridoxine are the “raw” forms of vitamin B6, which are obtained from the diet and metabolically converted in the liver into the “active” form pyridoxal-5'-phosphate (PLP). Excessive B6 is filtered out by the kidneys and excreted through urine [R, R, R].

Vitamin B6 is involved in [R, R, R]

- Making amino acids
- Metabolizing protein, carbohydrates, glucose, and lipids (fats)
- Making and repairing DNA

B6 is critical for fetal development. Pregnant or breastfeeding mothers are recommended to get extra vitamin B6 [R].

Although severe B6 deficiency is rare, it has been estimated that up to a quarter of the US population may suffer from mild B6 insufficiency [R].

Also Called

- PLP
- Vitamin B6/P5P
- Vitamin B6, Plasma

Optimal Vitamin B6 Health Effects

Your B6 levels are within the normal range [R].

Lifestyle Suggestions

Your result is optimal, you don’t need any recommendations here!

Fibrinogen Activity

Lab Results Report

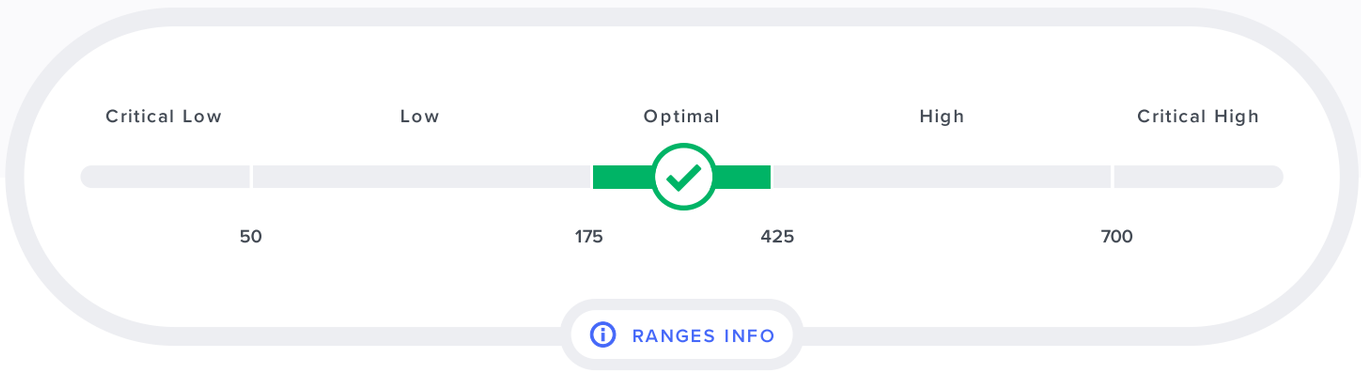
Your result 303 mg/dL

Optimal range: 175 - 425 mg/dL

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About Fibrinogen Activity

This test looks at the activity of fibrinogen in your blood.

Fibrinogen is a protein made by the liver. It is essential for a variety of processes, including [R, R]:

- Blood clot formation
- Wound healing
- Inflammation
- Blood vessel growth

Fibrinogen production is increased during injury, infection, and inflammation [R, R, R].

Your doctor may order this test to:

- Check for a possible bleeding disorder, if you have unexplained or prolonged bleeding
- Investigate a blood clot
- Evaluate heart disease risk
- Monitor a known bleeding/blood clotting condition

Also Called

- Fibrinogen Activity, Clauss

Optimal Fibrinogen Activity Health Effects

Your fibrinogen activity is within the normal range.

Your doctor will interpret your result, taking into account your medical history, signs, symptoms, and other test results.

Lifestyle Suggestions

Your result is normal, you don’t need any recommendations here.

Free Testosterone, Direct

Lab Results Report

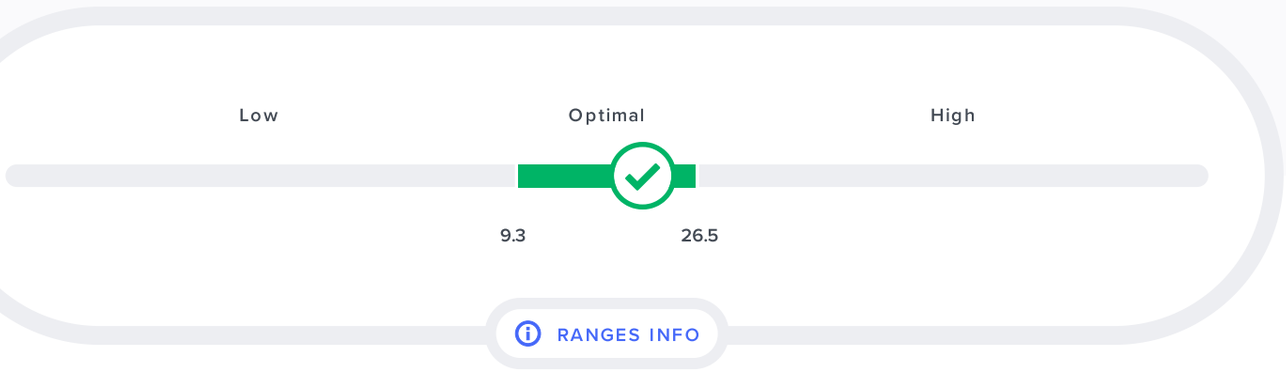
Your result **21.3 pg/mL**

Optimal range: 9.3 - 26.5 pg/mL

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About Free Testosterone, Direct

This test measures the amount of free testosterone in your blood [R].

Free testosterone is testosterone that is not bound to any proteins.

Testosterone is a hormone mainly produced by the testes in men or ovaries in women, with small amounts (<10%) produced by the adrenal glands and brain in both sexes. It is made from cholesterol and it's produced in response to luteinizing hormone (LH), which is released from the pituitary gland [R].

Testosterone has a diverse range of effects on many different organs and tissues. It [R, R, R]:

- improves bone health by increasing bone growth and reducing the breakdown of bone
- helps to build and maintain muscle mass and strength and increases lean body mass
- increases red blood cell production
- improves libido and sexual function
- increases sperm production
- plays a role in mood and brain function

Approximately 2-3% of testosterone is free. 33-54% percent is weakly bound to albumin, and the remaining 44-65% is bound to sex hormone-binding globulin (SHBG) [R].

Free testosterone declines with age in both men and women after peaking in the late 20s [R, R].

Low testosterone levels are associated with a risk of heart disease. Andropause (the male counterpart of menopause) is a collection of symptoms including fatigue and decreased libido in middle-aged men that is due to the age-related decline in testosterone [R].

Free testosterone levels are less often ordered than total testosterone because it is more expensive and more difficult to measure them. However, it may be necessary to test free testosterone levels in men and women who have symptoms of low testosterone but have normal total testosterone levels [R].

Also Called

- Testosterone, Free (Direct / Labcorp)
- Radioimmunoassay Free Testosterone
- Free Testosterone, RIA

Optimal Free Testosterone, Direct Health Effects

Your free testosterone is within the normal range.

Since testosterone levels decline every year, beginning around age 30, the younger you are the higher your testosterone levels should be within the normal range.

Lifestyle Suggestions

Your testosterone is normal. Because the normal range is quite wide, you may feel like you have enough, or more or less than enough. This is individual and will depend on your age and lifestyle.

If you feel like your testosterone is low (weight gain, low libido and vitality, depression):

- Get more exercise [R, R, R, R, R]
- Lose weight if overweight [R, R, R]
- Get enough uninterrupted sleep. Sleep is critical to proper testosterone production [R]
- Check your zinc and vitamin D levels, and increase them if you're deficient [R, R, R]

MCHC

Lab Results Report

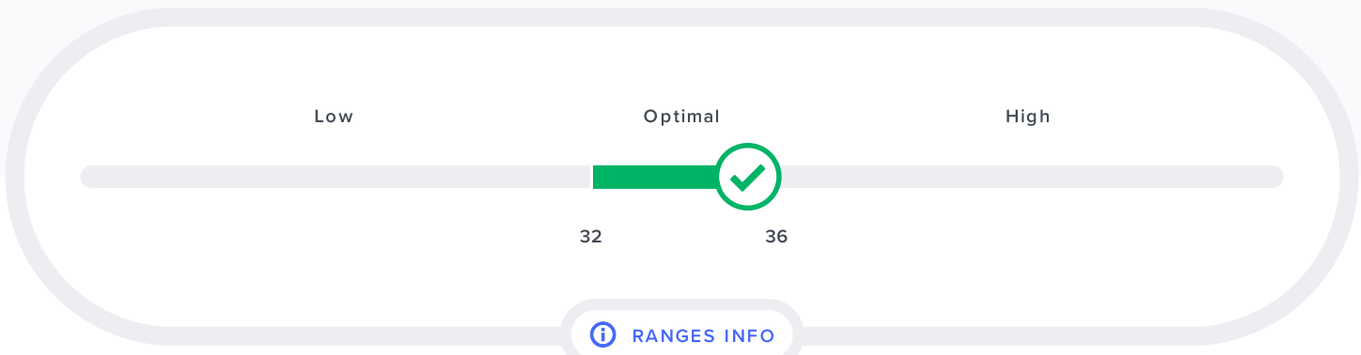
Your result **35.5 g/dL**

Optimal range: 32 - 36 g/dL

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About MCHC

Mean corpuscular hemoglobin concentration (MCHC) is the average amount of hemoglobin per red blood cell, relative to the size of the cell. In other words, it tells you what percentage of your blood cells are made up of hemoglobin, the protein that helps transport oxygen in the blood. It is calculated from hemoglobin and your red blood cell count.

Mean corpuscular hemoglobin concentration (MCHC) can be used to help diagnose different types of anemia [R].

Decreased MCHC causes hypochromia (“hypo-” = low, “chromia” = color), which makes the red blood cells paler. Meanwhile, increased MCHC causes red blood cells to become darker, also known as hyperchromia [R, R].

An MCHC test is usually done as a part of a complete blood count (CBC), which also looks at other properties of your red blood cells. Your doctor will interpret a rise or drop in the MCHC together with other tests, such as RBC, hemoglobin, hematocrit, RDW, etc.

Remember that some lab-to-lab variability occurs due to differences in equipment, techniques, and chemicals used. Don't panic if your result is slightly out of range in the app - as long as it's in the normal range based on the laboratory that did the testing, your value is normal

Also Called

- Mean corpuscular hemoglobin concentration
- Mean. Corp. Hemo. Conc. (MCHC)

Optimal MCHC Health Effects

Your MCHC is within the normal range!

This means that your red blood cells have a normal percentage of hemoglobin.

However, it's important to remember that a normal MCHC doesn't mean a condition such as anemia is absent. Your doctor will interpret your results in conjunction with your medical history and other test results.

Lifestyle Suggestions

Your results are normal, you don’t need any recommendations here.

RDW

Lab Results Report

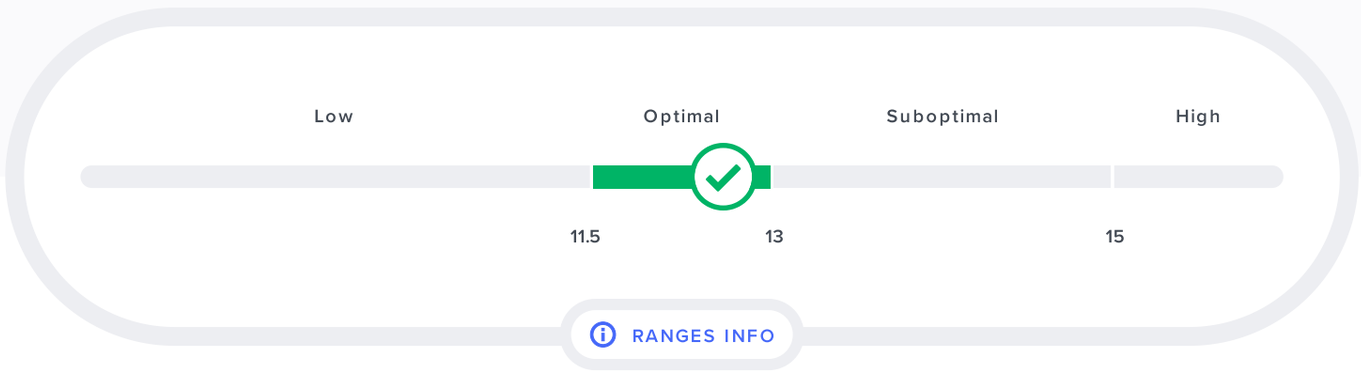
Your result **12.6 %**

Optimal range: 11.5 - 13 %

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About RDW

This test measures the variation of the size/volume of your red blood cells.

Red Blood Cell Distribution Width (RDW) test measures how much your blood cells vary in size. Low values mean that your blood cells are roughly similar in size, whereas higher values indicate that there is more variety in how big each red blood cell is. Very high levels mean that your blood cells are very unequal in size -- a condition called anisocytosis [R, R].

A high RDW can serve as a sign of several underlying diseases, including [R, R, R, R]:

- Anemias
- Iron and vitamin B12/folate deficiency
- Inflammation
- Injuries and bleeding/hemorrhage
- Liver disease
- Kidney disease
- Hereditary red blood cell disorders, such as thalassemia

However, RDW can still be at a normal level in patients with certain types of anemia (such as aplastic anemia). Therefore, your doctor will keep an eye on your other blood-cell-related test results to fully rule out these possibilities [R].

Remember that some lab-to-lab variability occurs due to differences in equipment, techniques, and chemicals used. Don't panic if your result is slightly out of range in the app - as long as it's in the normal range based on the laboratory that did the testing, your value is normal.

Also Called

- Red blood cell distribution width
- Red cell distribution width (RDW-CV)

Optimal RDW Health Effects

Your red blood cell distribution width (RDW) is within the normal range.

This means that your red blood cells are a consistent size, and probably aren’t abnormally shaped.

However, it's important to remember that a normal RDW doesn't mean a condition such as anemia is absent. Your doctor will interpret your results in conjunction with your medical history and other test results.

Lifestyle Suggestions

Your result is normal, you don't need any recommendations here.

MCH

Lab Results Report

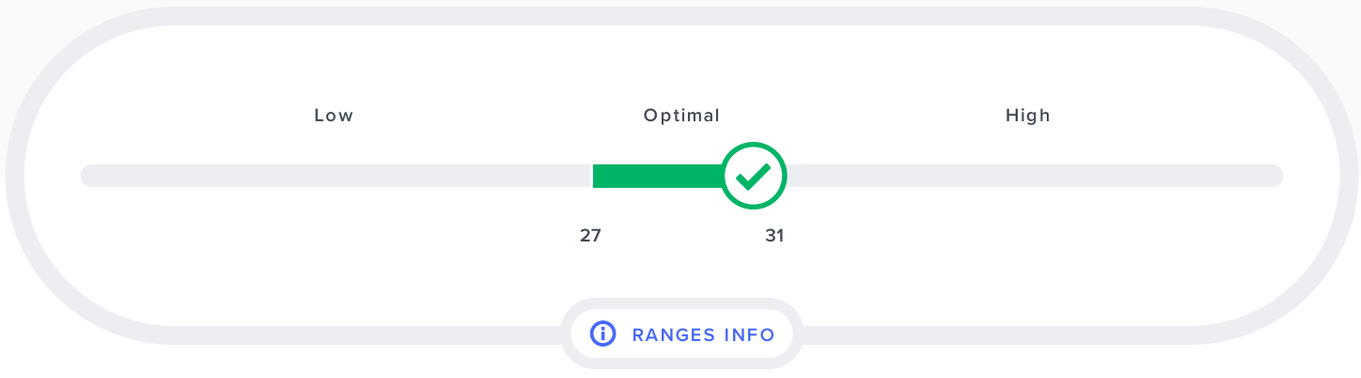
Your result **30.6 pg**

Optimal range: 27 - 31 pg

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About MCH

This test measures the average amount of hemoglobin in your red blood cells. Hemoglobin is the protein that binds oxygen, which allows your blood to transport oxygen throughout your body.

Mean corpuscular hemoglobin (MCH) can be used to help diagnose different types of anemia [R].

An MCH test is usually done as a part of a complete blood count (CBC), which also looks at other properties of your red blood cells. Your doctor will interpret a rise or drop in the MCH together with other tests, such as RBC, hemoglobin, hematocrit, RDW, etc.

Remember that some lab-to-lab variability occurs due to differences in equipment, techniques, and chemicals used. Don't panic if your result is slightly out of range in the app - as long as it's in the normal range based on the laboratory that did the testing, your value is normal.

Also Called

- Mean corpuscular hemoglobin
- Mean corpuscular hemoglobin (MCH)

Optimal MCH Health Effects

Your mean corpuscular hemoglobin (MCH) is within the normal range!

This means that you have a normal amount of hemoglobin in your red blood cells.

However, it's important to remember that a normal MCH doesn't mean a condition such as anemia is absent. Your doctor will interpret your results in conjunction with your medical history and other test results.

Lifestyle Suggestions

Your results are normal, you don’t need any recommendations here.

Abs.CD8-CD57+ Lymphs

Lab Results Report

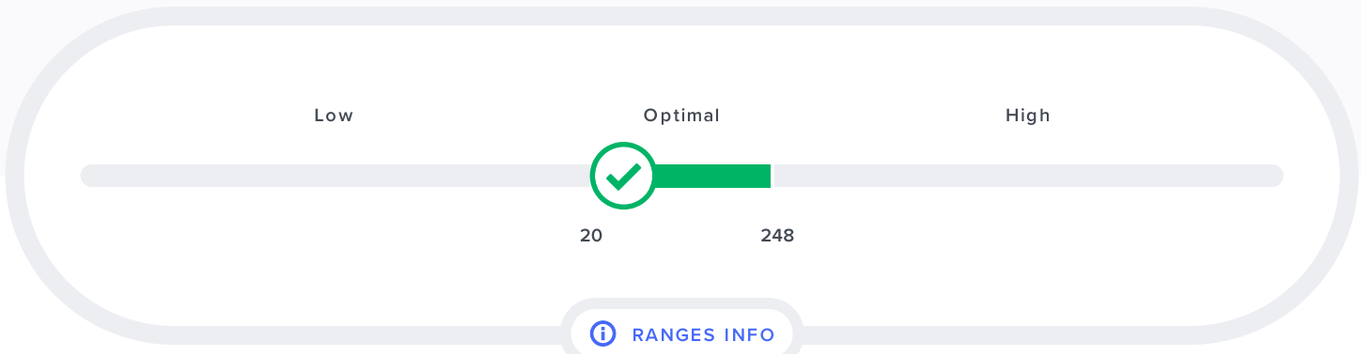
Your result **59 cells/uL**

Optimal range: 20 - 248 cells/uL

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About Abs.CD8-CD57+ Lymphs

This test looks at the amount of CD57+ natural killer cells in your blood.

Natural killer (NK) cells are a type of white blood cell that play important roles in the immune response.

The CD57+ test is a test used by some doctors to evaluate and follow people diagnosed with chronic Lyme disease.

Chronic Lyme disease is a controversial term used for people who have persistent or recurrent nonspecific symptoms (such as fatigue, muscle or joint pain, and brain fog) in people who have had Lyme disease and have received an adequate course of antibiotic therapy.

Some reports suggest that people with chronic Lyme disease have a decreased number of CD57+ NK cells. While this is debated at the moment, conditions often confused with chronic Lyme, such as multiple sclerosis, lupus, and rheumatoid arthritis, are not linked to low CD57+.

The issue with the test is that there are also reports of high CD57+ NK cells in people with Lyme disease and low levels in people in remission. Other studies found no difference in CD57+ between people with Lyme disease and healthy controls.

It's important when getting this test to make sure it's actually counting CD57+ NK cells (CD8- or CD8-/CD3-) and not CD57+ T cells (CD8+ or CD3+).

Also Called

- CD57+/CD8- Absolute

Optimal Abs.CD8-CD57+ Lymphs Health Effects

Your CD57+ cells are within the normal range.

This may mean that your signs and symptoms are due to something other than chronic Lyme disease. Your doctor will interpret your test, taking into account your signs, symptoms, your medical history and other test results.

Lifestyle Suggestions

Your result is normal, you don’t need any recommendations here.

MCV

Lab Results Report

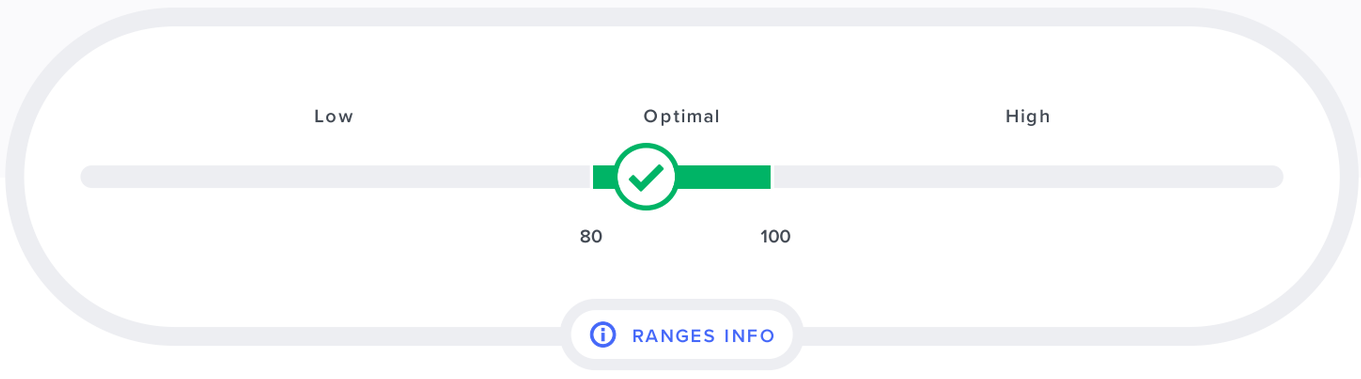
Your result **86 fL**

Optimal range: 80 - 100 fL

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About MCV

This test measures the average size (volume) of red blood cells in your body.
Blood cells that are produced when the body is lacking certain vitamins in minerals are often too big or too small. If you have anemia, your MCV gives additional information about the cause [R].
Along with other red blood cell indices, MCV is used to help diagnose many conditions, including various types of anemia, thalassemia, and liver disease [R].

An MCV test is usually done as a part of a complete blood count (CBC), which also looks at other properties of your red blood cells. Your doctor will interpret a rise or drop in the MCV together with other tests, such as RBC, hemoglobin, hematocrit, RDW, etc.

Remember that some lab-to-lab variability occurs due to differences in equipment, techniques, and chemicals used. Don't panic if your result is slightly out of range in the app - as long as it's in the normal range based on the laboratory that did the testing, your value is normal.

Also Called

- Mean corpuscular volume
- Mean corpuscular volume (MCV)

Optimal MCV Health Effects

Your MCV (mean corpuscular volume) is within the normal range!

This suggests that your red blood cells are normal in size.

However, it's important to remember that a normal MCV doesn't mean a condition such as anemia is absent. Your doctor will interpret your results, taking into account your medical history and other test results.

Lifestyle Suggestions

Your results are normal, you don’t need any recommendations here.

% CD8-/CD57+ Lymphs

Lab Results Report

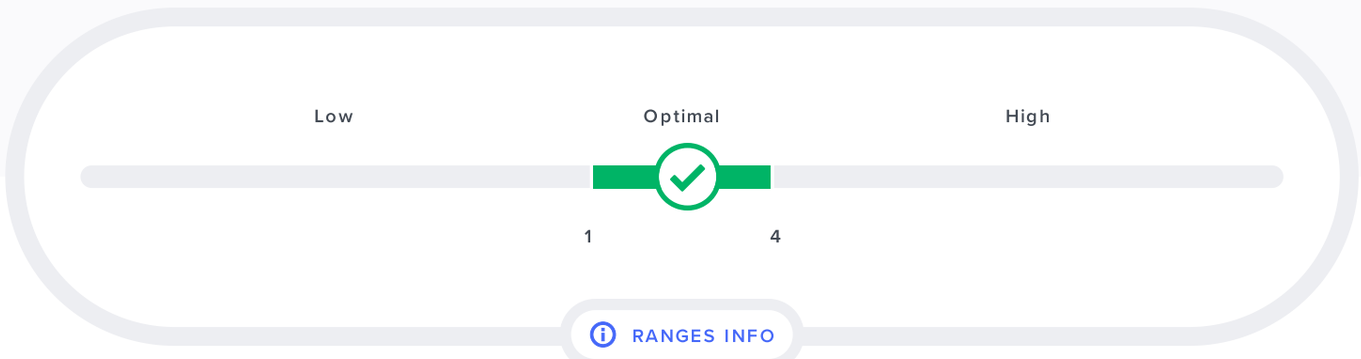
Your result **2.6 %**

Optimal range: 1 - 4 %

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About % CD8-/CD57+ Lymphs

This test looks at the relative amount of CD57+ natural killer cells in your blood.

Natural killer (NK) cells are a type of white blood cell that play important roles in the immune response.

The CD57+ test is a test used by some doctors to evaluate and follow people diagnosed with chronic Lyme disease.

Chronic Lyme disease is a controversial term used for people who have persistent or recurrent nonspecific symptoms (such as fatigue, muscle or joint pain, and brain fog) in people who have had Lyme disease and have received an adequate course of antibiotic therapy.

Some reports suggest that people with chronic Lyme disease have a decreased number of CD57+ NK cells. While this is debated at the moment, conditions often confused with chronic Lyme, such as multiple sclerosis, lupus, and rheumatoid arthritis, are not linked to low CD57+.

The issue with the test is that there are also reports of high CD57+ NK cells in people with Lyme disease and low levels in people in remission. Other studies found no difference in CD57+ between people with Lyme disease and healthy controls.

It's important when getting this test to make sure it's actually counting CD57+ NK cells (CD8- or CD8-/CD3-) and not CD57+ T cells (CD8+ or CD3+).

Also Called

- CD57+/CD8- of % WBC

Optimal % CD8-/CD57+ Lymphs Health Effects

Your CD57+ cell percentage is within the normal range.

This may mean that your signs and symptoms are due to something other than chronic Lyme disease. Your doctor will interpret your test, taking into account your signs, symptoms, your medical history and other test results.

Lifestyle Suggestions

Your result is normal, you don’t need any recommendations here.

Immature Granulocytes (Abs)

Lab Results Report

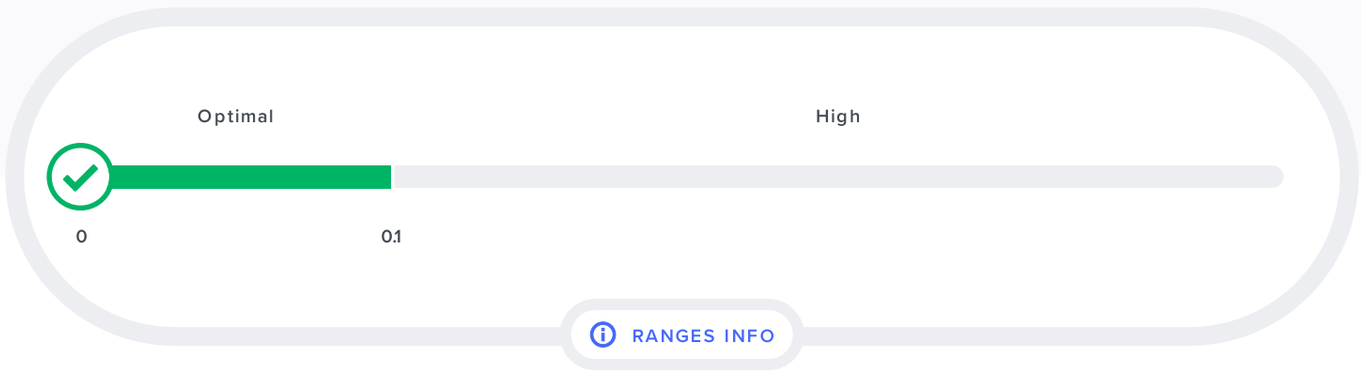
Your result **0 x10E3/ul**

Optimal range: 0 - 0.1 x10E3/ul

Date of test: 2 Oct 2023

Your levels are **optimal**

Based on your result



About Immature Granulocytes (Abs)

This test measures the amount of granulocytes in your blood that are still immature.

Granulocytes are white blood cells that contain small particles (granules) with enzymes, that when released into the bloodstream, kill bacteria, viruses, and fungal cells [R, R].

Immature granulocytes are normally located in the bone marrow but only make it into the blood once they are mature. Under normal conditions, the immature granulocyte percentage in our blood is less than 1% [R, R].

Immature granulocyte levels increase rapidly during infections, inflammation, or some types of cancer [R, R].

Your doctor may use this test, along with other tests such as the white blood cell count and CRP, to check for infections and estimate their severity [R].

Also Called

- Immature granulocytes (IG)

Optimal Immature Granulocytes (Abs) Health Effects

Your immature granulocytes are within the normal range.

Lifestyle Suggestions

Your levels are normal, you don't need any recommendations here.

Prioritized recommendations

Lab results Report

Work With Your Doctor

Info recommendation

1

Avoid Alcohol

Lifestyle recommendation

Consider drinking less alcohol.

2

Maintain A Healthy Body Weight

Lifestyle recommendation

3

Coffee

Dietary recommendation

Consider drinking a moderate amount of coffee.

4

L-Carnitine

Supplement recommendation

Talk to your doctor about supplementing with L-carnitine

5

Replenish Lost Chloride

Dietary recommendation

Replenish the chloride lost through sweating, vomiting or diarrhea.

6

Avoid Phosphate-Containing Drugs

Drug recommendation

Discuss with your doctor alternatives to phosphate-containing drugs

7

Avoid Cigarette Smoke

Lifestyle recommendation

Avoid cigarette smoke

8

Limit Phosphorus Intake

Dietary recommendation

Limit your intake of phosphorus-rich foods

9

Reduce Protein Intake

Dietary recommendation

Try to reduce your protein intake

10

Soy

Dietary recommendation

Consider eating more soy

11

Niacinamide

Supplement recommendation

Ask your doctor about niacinamide

12

Niacin

Supplement recommendation

Ask your doctor about niacin (vitamin B3)

13

Chitosan

Supplement recommendation

Consider supplementing with chitosan

14

Activated Charcoal

Supplement recommendation

Consider supplementing with activated charcoal

15

Plant Based Diet

Dietary recommendation

Try to follow a plant based diet. Limit the amount of animal protein you consume.

16 

Balance Protein Intake

Dietary recommendation

17 

Exercise

Lifestyle recommendation

18 

Omega-3 Fatty Acids

Supplement recommendation

19 

Reduce Red Meat Intake

Dietary recommendation

Consider eating less meat.

20 

Avoid Exposure to Toxic Chemicals

Lifestyle recommendation

Avoid exposure to toxic chemicals

21 

Probiotics

Supplement recommendation

Consider supplementing with probiotics

22

Cinnamon

Supplement recommendation

Consider supplementing with cinnamon

23

Cardio

Lifestyle recommendation

Include cardio in your workout routine

24

Ketogenic Diet

Dietary recommendation

Consider following the ketogenic diet

25

Mediterranean Diet

Dietary recommendation

Consider following the Mediterranean diet

26

Intermittent Fasting

Dietary recommendation

Try intermittent fasting

27

Wheat Germ

Supplement recommendation

Consider supplementing with wheat germ

28

Melatonin

Supplement recommendation

Consider supplementing with melatonin

29

Avoid Mercury Exposure

Lifestyle recommendation

Try to avoid exposure to mercury

30

Avoid Air Pollution

Lifestyle recommendation

Avoid areas with high air pollution

31

Avoid Cadmium Exposure

Lifestyle recommendation

Try to avoid exposure to cadmium

32

Avoid Lead Exposure

Lifestyle recommendation

Try to avoid exposure to lead

33

Reduce Pesticide Exposure

Lifestyle recommendation

Try to reduce your exposure to pesticides

34

Reduce Plastic Use

Lifestyle recommendation

Try to use less plastic

35

Limit Calorie Intake

Dietary recommendation

Ask your doctor about limiting calorie intake

36

Garlic Supplements

Supplement recommendation

Consider supplementing with garlic extract

37

Magnesium

Supplement recommendation

Consider supplementing with magnesium

38

Coenzyme Q10

Supplement recommendation

Consider supplementing with coenzyme Q10

39

Milk Thistle

Supplement recommendation

Consider supplementing with milk thistle

40

Licorice Root

Supplement recommendation

Consider supplementing with licorice root

41

Avoid Exposure to Heavy Metals

Lifestyle recommendation

42

Avoid PAHs Exposure

Lifestyle recommendation

43

Avoid Herbicide Exposure

Lifestyle recommendation

44

Reduce Phthalate Exposure

Lifestyle recommendation

45

Reduce PFAS Exposure

Lifestyle recommendation

46

Fruits And Vegetables

Dietary recommendation

47

Orange Juice

Dietary recommendation

48

Oat Fiber

Supplement recommendation

49

Royal Jelly

Supplement recommendation

50

Choose Healthy Fats

Dietary recommendation

Replace saturated fats with polyunsaturated fats in your diet.

51

Fiber

Dietary recommendation

Get more fiber from foods or supplements.

52

Plant Sterols & Stanols

Dietary recommendation

Consider eating more plant sterols and stanols.

53

Limit Coffee Intake

Dietary recommendation

Limit your coffee intake.

54

Berberine

Supplement recommendation

Consider supplementing with berberine.

55

Black Seed

Supplement recommendation

Consider supplementing with black seed.

56

Spirulina

Supplement recommendation

Consider supplementing with spirulina.

57

Artichoke Leaf Extract

Supplement recommendation

Consider supplementing with artichoke leaf extract.

58

Bergamot

Supplement recommendation

Consider supplementing with bergamot extract.

59

Nuts

Dietary recommendation

Consider adding more nuts to your diet.

60

Fenugreek

Supplement recommendation

Consider supplementing with fenugreek.

61

Rice Bran Oil

Supplement recommendation

Consider supplementing with rice bran oil.

62

Vitamin C

Supplement recommendation

Consider supplementing with vitamin C.

63

Garlic

Dietary recommendation

Eat more garlic.

64

Dietary Antioxidants

Dietary recommendation

Eat more foods containing antioxidants.

65

Relaxation Techniques

Lifestyle recommendation

Practice relaxation techniques.

66

Check Your Iron Levels

Info recommendation

67

Stay Hydrated

Dietary recommendation

Stay hydrated and try to drink at least 8 (12 oz, 375 ml) glasses of water per day.

68

Avoid Sugary Foods

Dietary recommendation

Avoid high-sugar foods and refined carbs.

69

Avoid Overeating

Dietary recommendation

Try to avoid overeating, especially in the evening.

70

Evening Primrose Oil

Supplement recommendation

Consider supplementing with evening primrose oil.

71

Vitamin D

Supplement recommendation

Get more vitamin D.

72

Curcumin

Supplement recommendation

Consider supplementing with curcumin.

73

Whey Protein

Supplement recommendation

Consider supplementing with whey protein

74

Zinc

Supplement recommendation

Consider supplementing with zinc.

75

Cardamom

Supplement recommendation

Consider supplementing with cardamom.

76

DASH Diet

Dietary recommendation

Discuss trying the DASH diet with your doctor.

77

Fiber

Dietary recommendation

Get more fiber from diet or supplements.

78

Optimize Sleep

Lifestyle recommendation

Try to get 7-8 h of good-quality sleep every night.

79

Alpha-Lipoic Acid

Supplement recommendation

Consider supplementing with alpha-lipoic acid.

80

Green Tea

Dietary recommendation

Try to drink more green tea.

81

Check Your Vitamin D Levels

Info recommendation

82

Check Your Parathyroid Hormone Levels

Info recommendation

83

Dietary Calcium

Dietary recommendation

Try to increase the amount of calcium in your diet.

84 

Choose Healthy Fats

Dietary recommendation

Replace saturated fats with polyunsaturated fats in your diet.

85 

Lupin Protein

Supplement recommendation

86 

Chlorella

Supplement recommendation

87 

Tai Chi

Lifestyle recommendation

88 

Strength Training

Lifestyle recommendation

89 

Beta-Glucans

Supplement recommendation

90 

Kefir

Dietary recommendation

91

Lactobacillus Plantarum

Supplement recommendation

92

Astaxanthin

Supplement recommendation

93

Polyunsaturated Fatty Acids (PUFAs)

Supplement recommendation

94

Canola Oil

Dietary recommendation

95

Garlic Supplements

Supplement recommendation

96

Walnuts

Dietary recommendation

97

Pecans

Dietary recommendation

98 

Hazelnuts

Dietary recommendation

99 

Soy Isoflavones

Supplement recommendation

100 

Soy Protein

Supplement recommendation

101 

Psyllium

Supplement recommendation

102 

Resveratrol

Supplement recommendation

103 

Limit Saturated and Trans Fats

Dietary recommendation

104 

Oats

Dietary recommendation

105

Plant Sterols

Supplement recommendation

106

Olive Oil

Dietary recommendation

107

Red Yeast Rice

Supplement recommendation

108

Lactobacillus Reuteri

Supplement recommendation

109

Low-Fat Diet

Dietary recommendation

110

Plant Sterols And Stanols

Supplement recommendation

Consider supplementing with or eating more plant sterols and stanols.

111

Flaxseed

Dietary recommendation

Consider adding more flaxseed to your meals.