

# Aplastic Anemia

## Disease Report

REPORT CATEGORY —



ENERGY & FATIGUE

Sample Client

Report date: 15 January 2026

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# Personal information

NAME

Sample Client

SEX AT BIRTH

Male

HEIGHT

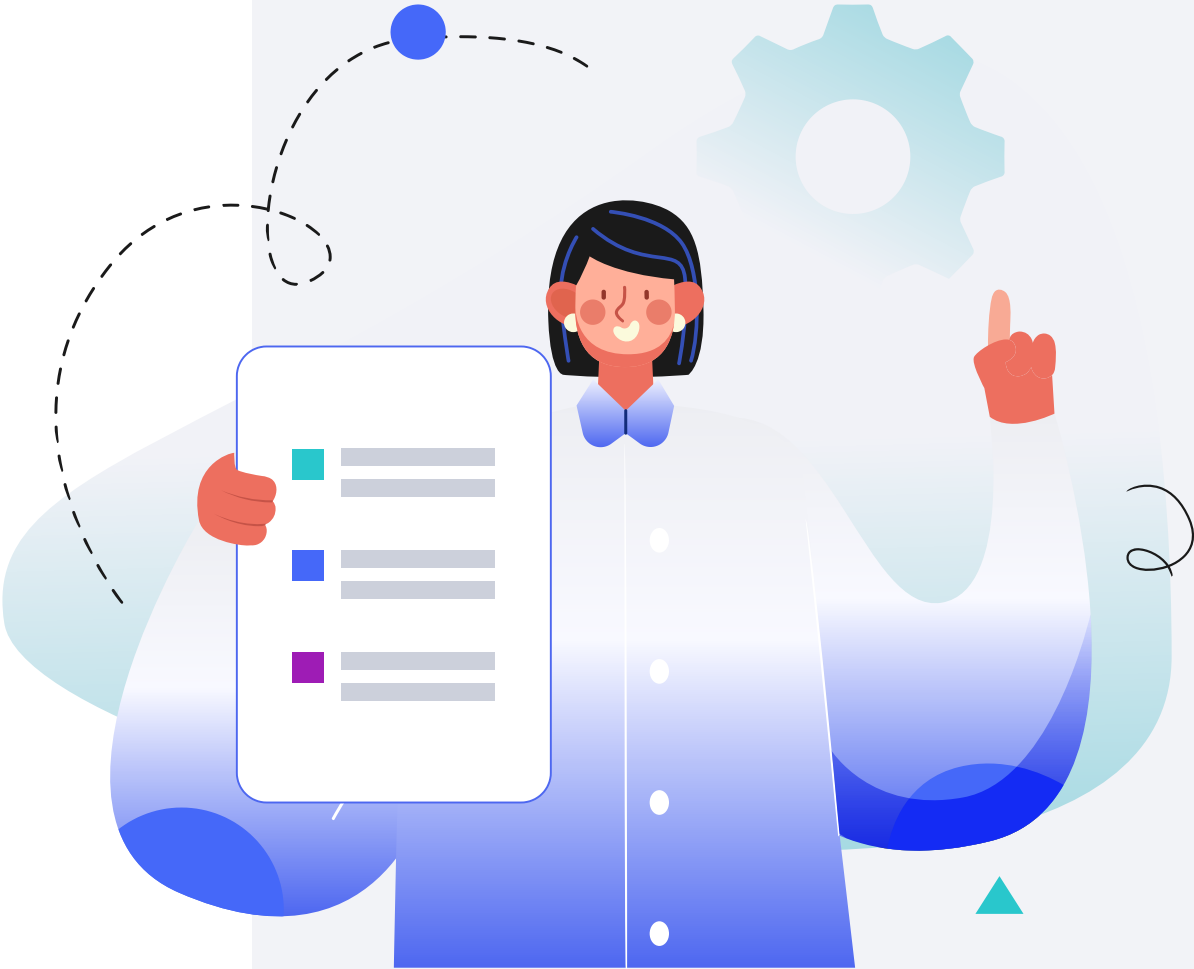
5ft 5" 165cm

WEIGHT

137lb 62kg

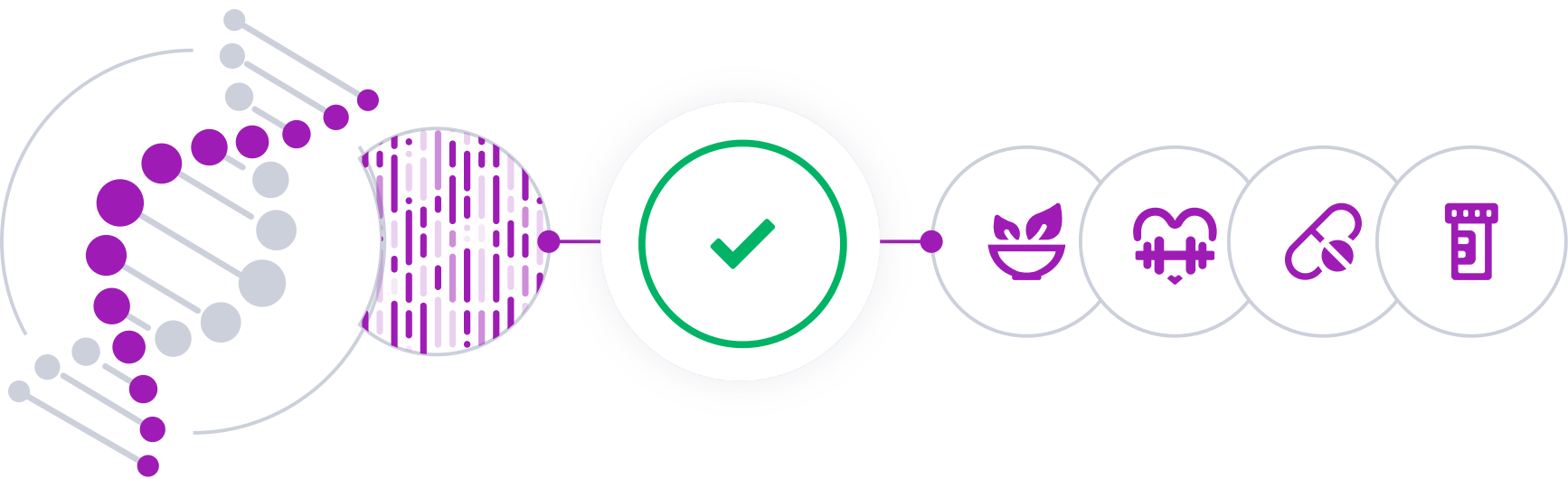
DISCLAIMER

This report does not diagnose this or any other health conditions. Please talk to a healthcare professional if this condition runs in your family, you think you might have this condition, or you have any concerns about your results.



# How this works

Our Wellness Reports analyze how your DNA influences your health.  
We then use this analysis to give you personalized risk estimates and recommendations.



Similarly, our Trait Reports look at how your DNA influences your traits.



Your DNA is like an instruction manual — it contains a lot of information.  
You can think of it as a blueprint for your body.

Genetic variants are parts of DNA that differ from person to person. Some can make you more vulnerable to certain health issues, while others may influence traits such as eye color.



We use artificial intelligence and machine learning to analyze all this information.  
We then summarize your results as a risk score or display it on a gauge.

In total, we analyze up to 83 million genetic variants.

When we give a risk score, the risk icon tells you if you are at a higher or lower risk compared to other people:



Genotype color info:

AA

You don't have any risk alleles

AA

You have 1 risk allele

AA

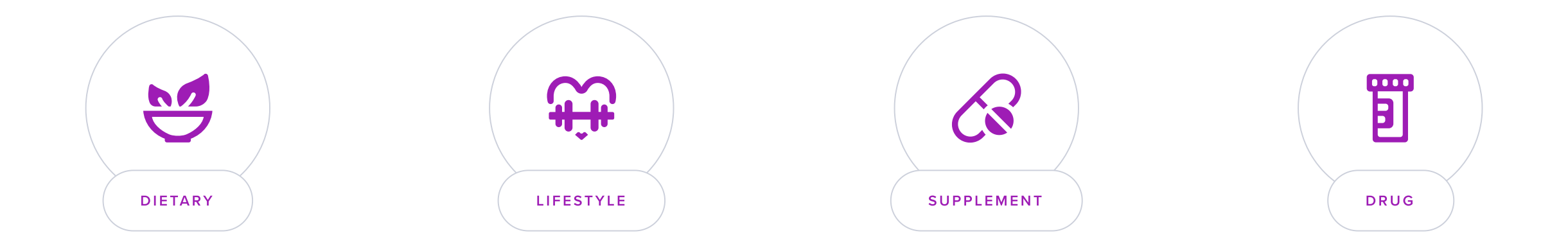
You have 2 risk alleles

Your risk is also displayed as a percentile. This will tell you how your risks compare to our sample population. The lower your percentile number, the lower your risk. The "50th percentile" would be an average risk.

Similarly, the gauge tells you your relative risk score compared to our sample population, or it indicates a specific trait or haplotype you are more likely to have based on your genetic variants.

**When applicable, we also list top evidence-based recommendations that may help lower your risk. The focus is on recommendations that may be of benefit to you, based on your genetics.**

Our recommendations come in four categories: lifestyle, diet, supplements and drugs.  
The following icons tell you which category a recommendation falls into:



**Our team of scientists also ranks each recommendation.**  
**We rank based on impact and the strength of evidence in the medical literature.**

Impact shows how strongly a recommendation will affect your health in a certain area.  
Evidence is how much scientific support there is for the recommendation. Rankings are from 1 to 5 (low to high):



# Impact

Impact scores range from 1-5. These scores reflect how much of an effect each recommendation can have. An impact score of 5 predicts the biggest effect.

When a recommendation affects something we can measure, we use those measurements to assign the impact score. For example, a recommendation that decreases cholesterol by 20% will have a higher impact score than one that decreases it by 5%.

Some recommendations affect things that we cannot directly measure, like stress or mood. For these, the impact score is based on how well they work relative to other recommendations and standard treatments. The best ones get the highest scores.

If there is a lot of research that shows a recommendation works especially well for your genotype, the impact score gets increased.

## Recommendation Evidence

- 5 / 5
- Recommendations that are considered effective and generally recommended by experts and medical bodies.
- 
- 4 / 5
- Recommendations that are considered likely effective and that have multiple independent meta-analyses and a great many studies supporting them.
- 
- 3 / 5
- Recommendations that are considered possibly effective and have many studies supporting them
- 
- 2 / 5
- Recommendations that have insufficient evidence, with two or several clinical trials supporting them, or many studies but with ambiguous results.
- 
- 1 / 5
- Recommendations that have insufficient evidence, with a single clinical trial, or with many studies most of which didn't find support for the recommendation.
- 
- 0 / 5
- No evidence in humans.

## Genotype-specific Evidence

- High-quality
- Direct evidence that a recommendation helps more in people with your gene variant (many clinical trials, a few large clinical trials, or a meta-analysis).
- 
- Medium-quality
- Direct evidence that a recommendation helps more in people with your gene variant (a few clinical trials or one large clinical trial).
- 
- Low-quality
- Direct evidence that a recommendation helps more in people with your gene variant (a single clinical trial or more trials with inconsistent results).
- 
- Indirect
- A recommendation may help more in people with your gene variant because it targets a specific gene or protein affected by your variant (e.g., MTHFR, dopamine).
- 
- In theory
- A recommendation may help more in people with your gene variant because it targets a specific mechanism affected by your variant (e.g., inflammation, oxidative stress).

## Some things to keep in mind:

- Genetics doesn’t play a considerable role in a condition or a trait.
- There is not enough research available to estimate a genetic predisposition.
- There are technical limitations to estimating or presenting a genetic predisposition.
- The topic is sensitive, and a genetic predisposition should only be estimated and presented by a healthcare professional.

# Introduction

Aplastic anemia is a rare but serious condition in which the bone marrow fails to produce sufficient amounts of all three types of blood cells: red blood cells, white blood cells, and platelets. This failure in blood cell production leads to complications such as fatigue, increased susceptibility to infections, and excessive bleeding.

Signs and symptoms of aplastic anemia include [\[R\]](#):

- Fatigue and weakness due to low red blood cell count
- Frequent or prolonged infections due to low white blood cell count
- Easy bruising or bleeding due to low platelet count
- Pale skin
- Shortness of breath
- Dizziness
- Rapid or irregular heart rate

The most common cause of aplastic anemia is the autoimmune attack of the stem cells in the bone marrow. Other factors that increase the risk of aplastic anemia include [\[R\]](#):

- Radiation and chemotherapy treatments
- Exposure to toxic chemicals such as pesticides and benzene
- Use of certain drugs such as some antibiotics or drugs for rheumatoid arthritis
- Viral infections such as EBV, HIV, or hepatitis
- Pregnancy

# Management

Treatment depends on the severity of the condition and the underlying cause, and may include [\[R\]](#):

- Blood transfusions to supply red blood cells and platelets.
- Immunosuppressive therapy with medications like cyclosporine and anti-thymocyte globulin to suppress the immune response that is attacking the bone marrow.
- Bone marrow stimulants like granulocyte colony-stimulating factor (G-CSF) to stimulate the growth of blood cells.
- Bone marrow transplant for those who have a suitable donor, typically a matched sibling.

Living with aplastic anemia involves managing risks related to infections and bleeding. This includes [\[R\]](#):

- Avoiding infections by maintaining good hygiene, avoiding crowds or sick people, and taking antibiotics in some cases.
- Using a soft toothbrush, avoiding contact sports, and other measures to prevent injuries or bleeding.
- Ongoing monitoring and treatment adjustments by a healthcare team experienced in blood disorders.

For many patients, especially those who receive a stem cell transplant or respond well to immunosuppressive therapy, long-term outcomes can be very good. However, the condition does require ongoing management and medical oversight to address any complications and ensure the best possible quality of life.



TYPICAL LIKELIHOOD

Typical likelihood of aplastic anemia based on 6,680 genetic variants we looked at

# Your Recommendations

Your recommendations are prioritized according to the likelihood of it having an impact for you based on your genetics, along with the amount of scientific evidence supporting the recommendation.

You’ll likely find common healthy recommendations at the top of the list because they are often the most impactful and most researched.

| DOSAGE |               | DOSAGE  |                |         |
|--------|---------------|---------|----------------|---------|
| 1      | Dietary Iron  | 2       | Dietary Folate |         |
| 3      | Vitamin C     | 2000 mg | 4              | Spinach |
| 5      | Pumpkin Seeds |         | 6              | Lentils |
| 7      | Rehmannia     | 250 mg  |                |         |

## Dietary Iron

## IMPACT

5 / 5

## EVIDENCE

5 / 5

## How to implement

Incorporate iron-rich foods into your daily meals, such as red meat, chicken, turkey, fish, beans, lentils, tofu, cooked spinach, and fortified cereals. Aim for at least 18 mg of iron per day for adult women and 8 mg per day for adult men. It's also beneficial to pair these foods with vitamin C-rich foods like oranges, strawberries, or bell peppers to enhance iron absorption.

## Description

**Iron** (Fe) is an essential mineral. It helps make [hemoglobin](#), a protein that carries oxygen to cells. In this way, iron **increases energy** and supports **brain and immune system function** [[R](#), [R](#), [R](#)].

Foods rich in iron include [\[R\]](#):

- Oysters
- White beans
- Beef
- Chocolate
- Spinach
- Fortified cereals

**Women** should be getting **8-18 mg** of iron per day, while **men** should be getting **8 mg** [R].

Groups at risk of iron deficiency include [\[R\]](#):

- Menstruating women
- Children
- Vegetarians
- Routine blood donors

## How it helps

According to experts, iron deficiency anemia can be mitigated by consuming a diet rich in iron from sources like [R].

- Beef
- Beans
- Lentils
- Iron-fortified cereals
- Dark leafy greens

When necessary, through iron supplements or intravenous iron, especially in those who can't absorb iron orally due to conditions like gastrectomy or celiac disease [R, R].

The required dosage to treat iron deficiency in adults is typically 120 mg of elemental iron daily for 3 months, with a hemoglobin increase of 1 g/dL after one month indicating effective treatment [R].

Meta-analyses have demonstrated that iron supplementation and food fortification improve iron status and reduce anemia prevalence [R, R, R, R, R, R, R].

Foods fortified with iron, such as salt, wheat flour, milk, non-dairy beverages, rice, and soy sauce, may also increase hemoglobin and ferritin levels and reduce the rates of anemia and iron deficiency [R, R, R, R, R, R, R, R, R].

2



Dietary Folate

IMPACT

3 / 5

EVIDENCE

3 / 5

## How to implement

Increase your intake of folate-rich foods such as leafy green vegetables, fruits, nuts, and legumes. Aim to consume these foods daily, incorporating them into various meals throughout the day to meet the recommended dietary allowance of 400 micrograms for adults.

## Description

[Vitamin B9](#) (*folate*) plays an essential role in [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Making DNA
- Metabolism
- Energy production

Rich sources of folate include [\[R\]](#), [\[R\]](#):

- Beef liver
- Spinach
- Black-eyed peas
- Asparagus
- Citrus fruits

While folate deficiency is rare, it can happen in people who don’t eat enough fruits and vegetables. Alcoholics and lactating women may also be at increased risk [\[R\]](#).

Adults should get **400 micrograms (mcg)** of folate per day. Pregnant or breastfeeding women should get **500-600 mcg per day**. Supplements are usually in the form of *folic acid* or [L-methylfolate](#) (5-MTHF) [\[R\]](#), [\[R\]](#).

## How it helps

Experts suggest that vitamin deficiency anemias can be mitigated by consuming a diet rich in various vitamins, including folate. It can be found in fruits, leafy vegetables, peas, beans, peanuts, and enriched grains [\[R\]](#).

Food fortification in the U.S. has increased hemoglobin levels and reduced anemia prevalence, demonstrating an effective public health strategy [\[R\]](#), [\[R\]](#).

3



Vitamin C

IMPACT2 / 5

EVIDENCE3 / 5

## How to implement

Take 500-2000 mg of vitamin C supplement daily. It can be taken at any time of the day, with or without food, according to personal preference or tolerance.

TYPICAL STARTING DOSE  
2000 mg

## Description

[Vitamin C](#) is an essential nutrient. This means that our bodies can’t produce it on their own, so we have to get it from food or supplements [\[R\]](#).

Foods rich in Vitamin C include: [\[R\]](#)

- Citrus Fruits
- Peppers
- Brussel sprouts
- Kiwi
- Broccoli
- Tomato
- Cantaloupe
- Cauliflower
- Spinach

Vitamin C has antioxidant properties. It supports immunity, heart health, and wound healing [\[R\]](#), [\[R\]](#).

Vitamin C deficiency is called *scurvy*. In the past, many sailors suffered from it [\[R\]](#).

## How it helps

A study involving 4,358 people linked high vitamin C intake from fruits and vegetables to increased hemoglobin levels [\[R\]](#), [\[R\]](#).

Systematic reviews and meta-analyses have demonstrated that while vitamin C boosts dietary iron absorption, it does not directly reduce anemia or iron deficiency unless coupled with iron supplementation [\[R\]](#).

Specifically, in trials with anemic or iron-deficient women, the combination of vitamin C (200-500 mg/day) and iron effectively improved hemoglobin, iron levels, and antioxidant status, although iron supplementation alone showed similar benefits [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Additionally, in schoolchildren and pregnant women, consuming vitamin C alongside iron-rich foods improved hemoglobin levels and decreased hospitalization rates due to anemia. Vitamin C (200-500 mg, 1x-3x/week) also proved beneficial in reducing the need for recombinant human erythropoietin in anemic people on hemodialysis [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

4



Spinach

IMPACT

2 / 5

EVIDENCE

1 / 5

## How to implement

Incorporate one cup of fresh spinach or half a cup of cooked spinach into your daily diet. You can add spinach to salads, smoothies, omelets, or pastas to easily increase your intake.

## Description

Spinach is a leafy green vegetable packed with essential nutrients, including vitamins A and K, iron, and folate. Incorporating spinach into the diet supports eye health, bone health, and overall nutrition.

**Spinach** is a good source of molybdenum, folate, calcium, and iron, as well as vitamins A, C, and K1. A ½ cup serving provides 8 mcg of molybdenum or 18%DV.

## How it helps

A study showed that consuming green spinach leaves could increase hemoglobin levels in pregnant women with mild anemia. This suggests that spinach, due to its iron content, may help in managing anemia during pregnancy [\[R\]](#).

Similarly, another study found that red spinach juice combined with honey can increase hemoglobin levels in pregnant women in the second and third trimesters [\[R\]](#).

5



Pumpkin Seeds

IMPACT

2 / 5

EVIDENCE

1 / 5

## How to implement

Incorporate a handful of pumpkin seeds (about 28 grams) into your diet daily. You can add them to your breakfast cereal, sprinkle them over a salad, blend them into smoothie bowls, or simply eat them as a snack. This practice can be continued indefinitely as part of a healthy dietary pattern.

## Description

Pumpkin seeds, also known as pepitas, are the edible seeds of the pumpkin.They are rich in protein, antioxidants, iron, zinc, magnesium, manganese, and phosphorus. The compounds in pumpkin seeds may benefit heart health and immune function.

**Pumpkin seeds** are rich in arginine, protein, antioxidants, iron, zinc, magnesium, manganese, and phosphorus. Pumpkin seeds contain 54.18 mg of arginine per gram.

## How it helps

A study found that pumpkin seed supplementation improved hemoglobin levels in pregnant mothers [\[R\]](#).

6



Lentils

IMPACT

1 / 5

EVIDENCE

1 / 5

## How to implement

Incorporate at least 1/2 cup of cooked lentils into your daily diet. You can add them to salads, soups, or rice dishes for a nutritious boost. Continue this practice as a regular part of your diet to benefit from their high fiber and protein content.

## Description

Lentils are a nutritious legume that provides a good source of plant-based protein, fiber, and essential vitamins and minerals.

**Lentils** are loaded with iron, protein, fiber, vitamins, minerals, like thiamine, phosphorus, zinc, manganese, and copper. A ½ cup serving provides 3 mg of iron or 17%DV.

## How it helps

Lentils, particularly when fortified with iron, may help in managing anemia. Studies have shown that consuming iron-fortified lentils (for 4 months) may improve iron status among various populations, such as adolescent girls in Bangladesh. In these studies, the consumption of iron-fortified lentils led to marked improvements in hemoglobin levels and a reduction in the prevalence of anemia [\[R\]](#).

7



Rehmannia

IMPACT

1 / 5

EVIDENCE

1 / 5

## How to implement

Take rehmannia in capsule form, with the usual dose being between 250 to 500 mg daily. It's best consumed with water, after meals to minimize digestive discomfort. Consult with a healthcare professional for personalized advice, especially if you have pre-existing conditions or are on other medications.

TYPICAL STARTING DOSE

250 mg

## Description

Rehmannia (*Rehmannia glutinosa*) is a medicinal plant native to East Asia and the root of the plant has been used traditionally for centuries in China and Korea for various health purposes. Rehmannia contains various compounds, including iridoid glycosides and catalpol, which may provide benefits for kidney and gland health.

## How it helps

In a study of 34 cases of chronic aplastic anemia (CAA), prepared Rehmannia polysaccharide (PRP) combined with stanozolol showed an effective rate of 85.3%, significantly higher than stanozolol alone at 58.8%. The treatment group experienced earlier symptom remission and a notable increase in blood cell count post-treatment. PRP, when used with stanozolol, accelerated symptom remission without any additional side effects [\[R\]](#).

# Next Steps

Remember, your genes only tell one important part of your health story!

Now that you've seen your DNA-based results for this health topic, let's take a look at other contributing factors.

## Your lab results

Your lab results are impacted by the combined effect of your genes, environment and lifestyle.

Lab tests will give you the best picture of your current health status, while your genes provide insight into your health predispositions and which recommendations are best for you.

|                                                                                     |                        |                                           |                                                                                       |            |
|-------------------------------------------------------------------------------------|------------------------|-------------------------------------------|---------------------------------------------------------------------------------------|------------|
|  | WBC                    | 6.92<br>x10 <sup>3</sup> /mm <sup>3</sup> |  | 9 Nov 2025 |
|  | Lymphocytes (Absolute) | 1.48 x10 <sup>9</sup> /L                  |  | 9 Nov 2025 |
|  | Ferritin               | 102.2 ng/mL                               |  | 9 Nov 2025 |
|  | Platelet Count         | 215<br>x10 <sup>3</sup> /mm <sup>3</sup>  |  | 9 Nov 2025 |
|  | Vitamin B12            | 687 pg/mL                                 |  | 9 Nov 2025 |
|  | Neutrophils (Absolute) | 4.8 x10 <sup>9</sup> /L                   |  | 9 Nov 2025 |
|  | RBC                    | 6.05<br>x10 <sup>6</sup> /mm <sup>3</sup> |  | 9 Nov 2025 |
|  | Hemoglobin             | 17.1 g/dL                                 |  | 9 Nov 2025 |
|  | Iron                   | 228 mcg/dL                                |  | 9 Nov 2025 |