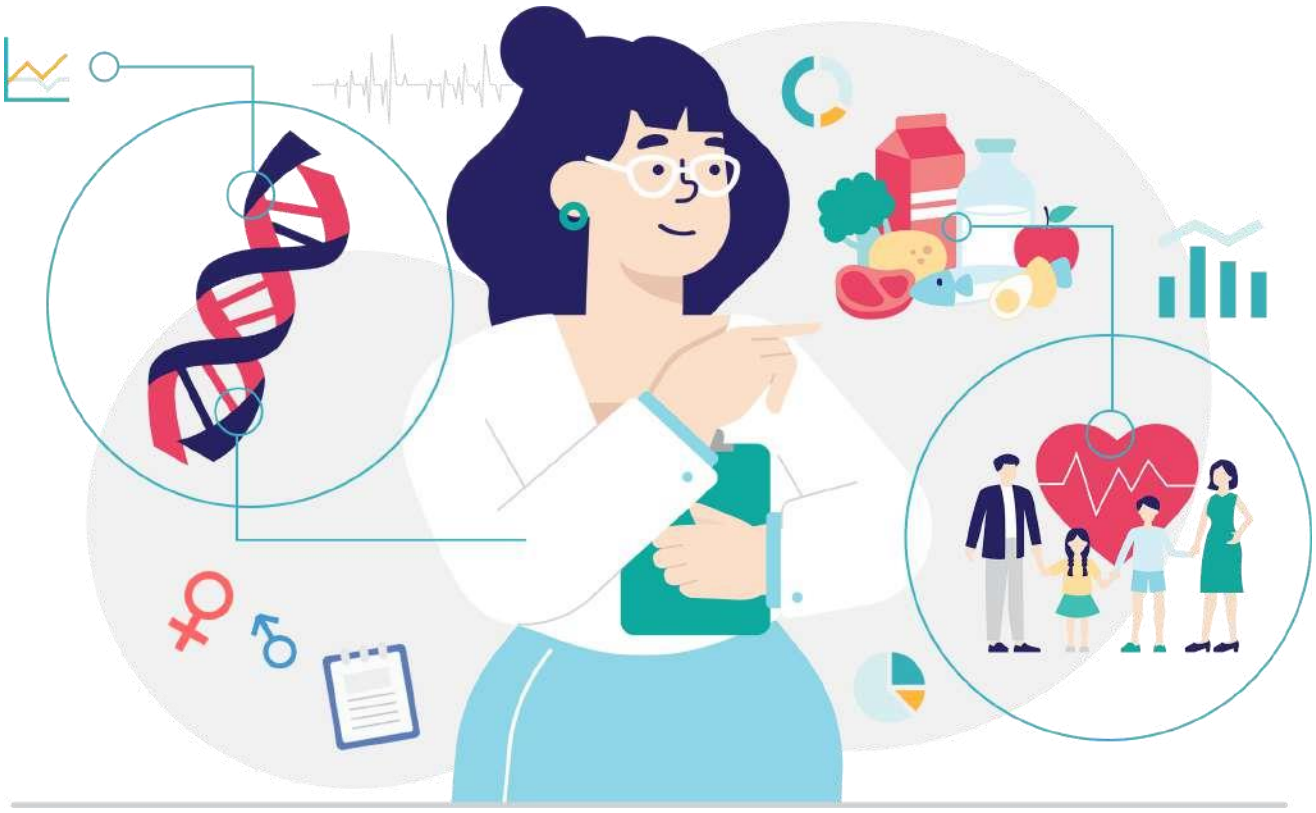
Personal Genomics Report

Customer ID:	**36220513024104**
Date of Birth (DD/MM/YYYY):	**01/01/1970**
Gender:	**/**
Reported Date (DD/MM/YYYY):	**22/08/2024**



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Let us introduce you to the world of DNA

DNA, namely deoxyribonucleic acid, is a complex molecule that is present deep inside cells through all over your body. DNA contains all of the information necessary to build and define you. DNA is written in code to form genes, making you one-of-a-kind on this planet.

The DNA molecule consists of two strands that wind around one another to form a shape known as a double helix. Each strand has a sugar-phosphate backbone loaded with four bases: Adenine (A), Cytosine (C), Guanine (G) and Thymine (T). The two strands spiral about one another by base-pairing: an A with a T, and a C with a G. DNA strands are so long that they must be packed, in the form of chromosome, in order to fit in the nucleus of every cell.

Explore your DNA, know yourself better.

"Genes are like the story, and DNA is the language that the story is written in."

Our service can help you understand your "*stories*" better by exploring through your DNA. You can make a better living with food your body may prefer, or even know what exercise options are safer and effective for you.

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Nutrient Metabolism

You may like to eat sweets, but your body may not. Knowing what nutrients your body truly favors, based on nutrient metabolism analysis, enables you to take the right care of your body. Your DNA will tell you how many vitamins and minerals you could be taking and will help you create a personal diet plan.

Nutrient Metabolism

16 Reports

Mineral Requirement

Calcium Nutritional Requirement

Slightly High

Iron Nutritional Requirement

Slightly High

Zinc Nutritional Requirement

High

Magnesium Nutritional Requirement

Slightly High

Vitamin Requirements

Folate Nutritional Requirement

High

Vitamin E Nutritional Requirement

High

Vitamin B12 Nutritional Requirement

High

Vitamin A Nutritional Requirement	 High
Vitamin C Nutritional Requirement	 Normal
Vitamin K Nutritional Requirement	 High
Vitamin B6 Nutritional Requirement	 Slightly High
Vitamin D Nutritional Requirement	 Slightly High
Vitamin B2 Nutritional Requirement	 Slightly High

Lactose Metabolism	 Weak

Contents

Mineral Requirement
Calcium Nutritional Requirement

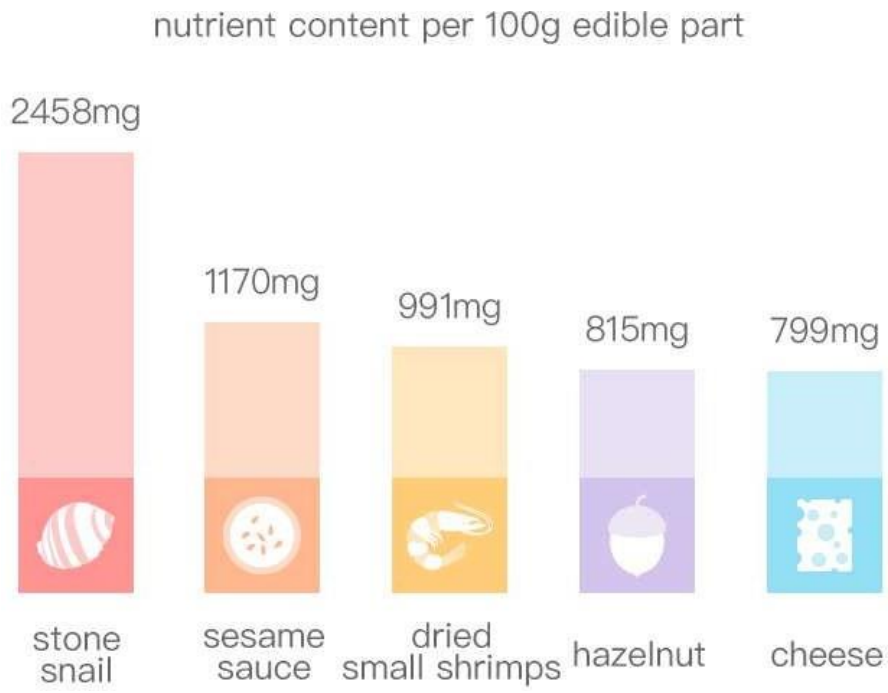
Calcium is the most abundant mineral in the human body, which is mainly used to support the structure and hardness of bones and teeth.

My Calcium Nutritional Requirement
Slightly High, consider supplementary Calcium intake

Intake recommendations

- Your calcium nutritional requirement is slightly higher. It is recommended to consume Calcium- rich foods such as dairy products and seafood, or Additional calcium supplements.
- There is a mutation in your CASR gene, and the blood calcium concentration may be low.
- You should pay attention to bone mineral density, blood calcium and other indicators in the physical examination to guide calcium intake.
- If there is joint pain, cramps, osteoporosis and other Calcium deficiency symptoms, attention should be paid to supplement calcium and vitamin D.
- Vitamin D helps the small intestine absorb calcium, and exposure to sunlight helps vitamin D synthesis.
- If you have Symptoms of excessive calcium intake such as constipation and kidney stones, you should consider reducing your intake.
- Failure to absorb supplemental calcium ions may increase the risk of calculi, while the use of calcium citrate is not likely to cause calculi.
- Children and adolescents or middle-aged and elderly people have higher calcium requirements and should pay attention to calcium intake.
- The elderly and those with dyspepsia can easily cause flatulence when using calcium carbonate. Organic calcium supplements should be preferred.

Calcium rich foods



Knowledge

Problems caused by deficiency

Most of the calcium in the body is in the form of calcium phosphate in bone. Those who are chronically deficient in calcium may develop osteoporosis.

Early symptoms of osteoporosis include：

1. Severe back pain
2. Shrinking height
3. Myasthenia

Other symptoms of calcium deficiency include depression, high blood pressure, restlessness, tingling and burning sensation in the hands, feet and toes, etc.

Problems caused by excessive intake

Increasing calcium intake for a short period of time usually does not cause problems. However, long- term higher levels of calcium intake can cause constipation and increase the risk of kidney stones in some people.

Metabolism

Generally, 20%-30% of the calcium ingested through food is absorbed into the stomach and intestines, and the unabsorbed calcium is excreted in the feces. Calcium metabolism is mainly regulated by vitamin D, which enhances calcium reabsorption in the small intestine and is closely involved in plasma calcium homeostasis. Calcium in the body exists in two forms: More than 99% of calcium is combined with phosphorus to form bone salts in the form of hydroxyapatite, which is present in bones and teeth, while about 1% of calcium is present as ions in soft tissues, extracellular and blood, collectively known as miscible calcium pools. The above two kinds of calcium maintain a dynamic equilibrium state. Calcium in the bone is continuously released from osteoclasts into the calcium pool, and calcium ions in the calcium pool are deposited in osteoblasts to form new bone.

My Genetic Result Details

Gene locus	Gene name	My genotype	Description
RS1042636	CASR	GG	low serum calcium concentration
RS1544410	VDR	CC	normal absorption of calcium

Test details

Applicable situation

The calcium nutritional requirement test item uses 2 polymorphic loci in the VDR and CASR genes. This test result indicates the calcium nutritional requirement represented by the genotype combination of the 2 polymorphic loci detected by the user, but the test could not represent the actual calcium nutritional requirement of the user.

Notification

1. Limited by the existing sample size, there may be some errors in this test. With the expansion of sample size, the test results will be continuously optimized.

2. Limited by the current technology and the level of scientific cognition, the test may not cover all genes or loci that related to calcium nutritional requirement.

How to use the test results

Notification

1. The test is not suitable for clinical diagnosis.

2. An individual's nutritional requirement is the result of the interaction of genes, environment, and living habits.

3. The test result only predicts your calcium nutritional requirement at the genetic level. Since the test does not involve consideration of other factors, it does not mean your true status. If you have nutritional supplement-related needs, you can consult authoritative nutritionists, clinicians or professionals based on the results of this genetic test to obtain professional nutrition advice.

Test content

The test includes 2 polymorphic loci associated with the calcium nutritional requirement, such as rs1544410 and rs1042636.

Study population

The basis of the test is mainly from the research of Caucasian.

Limit of detection

Limited by the current technology and the level of scientific cognition, the test may not cover all genes or loci that related to calcium nutritional requirement.

Iron Nutritional Requirement

Iron is an essential component of human cells. It has hematopoietic function, participates in the production of hemoglobin and the synthesis of cytochrome and various enzymes, and promotes growth. Iron also transports and carries nutrients in the blood.

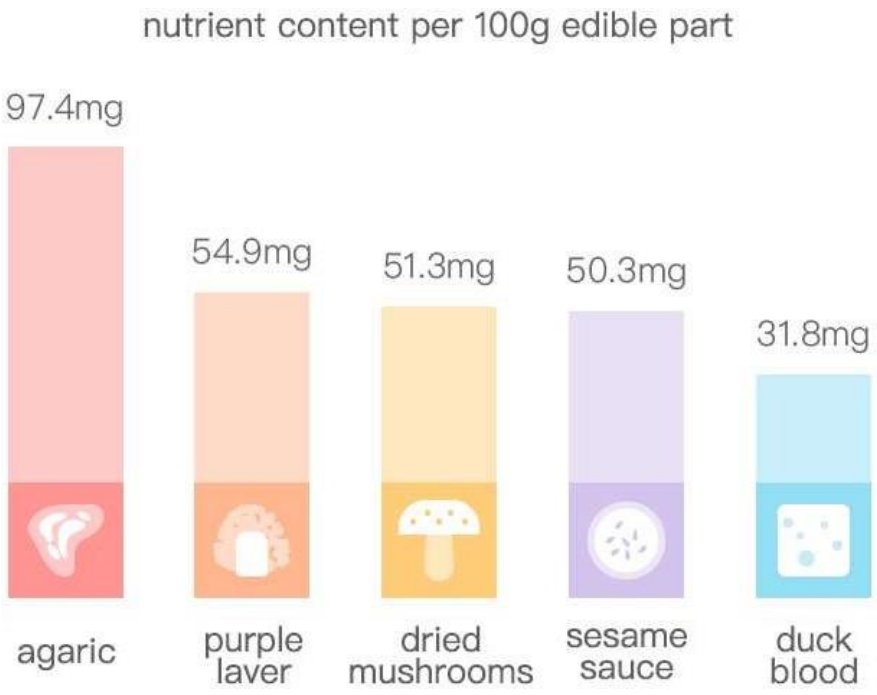
My Iron Nutritional Requirement

Slightly High

Intake recommendations

- Your iron requirement is slightly higher. It is recommended to take Iron-rich food, such as agaric fungus and duck blood, or Additional supplement of iron.
- You have a mutation in the TMPRSS6 gene and may have a low serum iron concentration You should pay attention to Serum iron and other Biochemical indicators in the physical examination to prevent the occurrence of iron deficiency anemia.
- If anemia, pallor, etc. Iron deficiency symptoms occur, attention should be paid to iron supplement.
- Iron needs of children, pregnant women are high and iron intake should be noted
- Have more fresh vegetables and fruits rich in Vitamin C, which can increase iron absorption.
- If joint pain, liver disease, etc. Symptoms of excessive iron intake, reducing iron intake should be considered.

Iron rich foods



Knowledge

Problems caused by deficiency

Iron deficiency can lead to anemia. Most of the time, symptoms start mild and develop slowly. Symptoms may include:

1. Feeling grumpy

2. Feeling tired more than usual

3. Headache

4. Difficulty in concentrating on matters

As anemia gets worse, symptoms may include: 1. Brittle nail disease 2. Dizziness when standing up 3. Pale skin 4. Shortness of breath 5. The tongue hurts.

Problems caused by excessive intake

Consuming too much iron can cause iron overload, and early symptoms may include fatigue, joint pain, abdominal pain, and reduced libido. Later symptoms may include arthritis, liver disease, diabetes and abnormal skin tone.

Metabolism

Iron metabolism is the process in which iron is absorbed by organisms, transported, distributed, stored, utilized, transformed and excreted in organisms. The trivalent iron in food is converted to ferrous iron by gastric acid, which is absorbed into the duodenum and upper jejunum and then transported into cells. Iron is eliminated daily mainly by gastrointestinal epithelial cells, bile, etc. This process is well controlled in advanced animals, including humans, to maintain a relative balance between iron absorption and excretion.

My Genetic Result Details

Gene locus	Gene name	My genotype	Description
RS12718598	IKZF1	TT	high iron requirement
RS1800961	HNF4A	CC	high iron requirement
RS4820268	TMPRSS6	AG	slightly high iron requirement
RS855791	TMPRSS6	AG	slightly high iron requirement
RS57659670	DUOX2	CT	slightly high iron requirement

Test details

Applicable situation

The iron nutritional requirement item uses 6 polymorphic loci on the TMPRSS6, IKZF1, SLCO1B1 and HNF4A genes. The test results indicate the iron nutritional requirement represented by the genotype combination of the 6 polymorphic loci tested by the user, but the test does not reflect the user's actual iron nutritional requirement.

Notification

1. Limited by the existing sample size, there may be some errors in this test. With the expansion of sample size, the test results will be continuously optimized.

2. Limited by the current technology and the level of scientific cognition, the test may not cover all genes or loci related to iron nutritional requirement.

How to use the test results

Notification

1. The test results are not applicable to clinical diagnosis.

2. An individual's nutritional requirement is the result of the interaction of genes, environment, and living habits.

3. The test results only predict your iron nutritional requirement from the genetic level. Since the test does not involve consideration of other factors, it does not mean your true health status. If you have nutritional supplement-related needs, you can consult an authoritative nutritionists, clinicians or professionals based on the results of this genetic test to obtain professional nutritional advice.

Test content

The test includes 6 polymorphic loci, such as rs4820268 and rs855791, associated with iron nutritional requirement.

Population samples

The basis of the test is mainly from the research of Caucasian.

Limit of detection

The test may not include all loci related to carbohydrate intake tendency.

Zinc Nutritional Requirement

Zinc is one of the essential trace elements for the human body. It participates in the completion of many normal physiological functions, and plays an extremely important role in the growth and intellectual development of children.

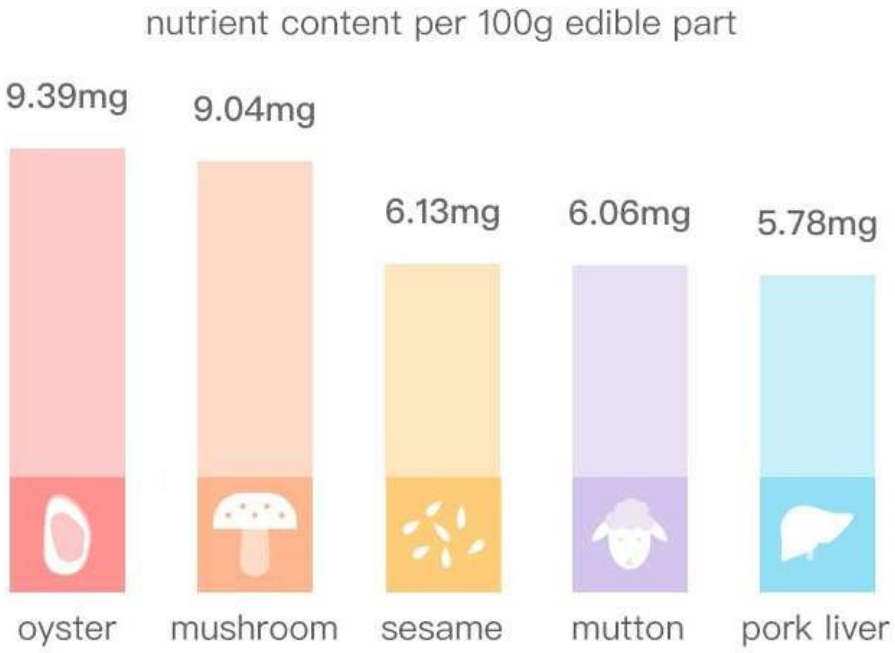
My Zinc Nutritional Requirement

High

Intake recommendations

- Your zinc requirement is high, it is recommended to consume Food rich in zinc such as seafood, nuts and so on, or to consume Additional supplement of zinc.
- There are mutations in your Zinc metabolism gene, which may lead low concentration of zinc in your blood.
- You should pay attention to indicators such as blood zinc and hair zinc in the physical examination indicators to guide zinc intake.
- If you have Symptoms of zinc deficiency such as loss of appetite and growth retardation, you should pay attention to zinc supplement.
- Pay attention to the Zinc requirement and intake of children and pregnant women.
- Vegetarians, people with a high-fiber diet, people with a high intake of calcium supplements and iron supplements, should supplement zinc 15 mg per day additionally.
- If you have Symptoms of excessive zinc intake such as nausea and vomiting, the dosage should be reduced

Zinc rich foods



Knowledge

What is zinc

Zinc is a trace element, which cannot be synthesized in the body and can only be provided by external food. Zinc is a component of many important enzymes in the human body and an essential element for the synthesis of insulin. It plays an important role in the synthesis of protein and nucleic acid, in maintaining the integrity of red blood cells, and in the process of hematopoiesis. It is a key element to promote growth and development, especially for the development of children's brain and nervous system.

Functions of zinc

Zinc has three basic functions: catalytic function, structural function and regulation function. Through these three functions, zinc plays an important role in human development, cognitive behavior, wound healing, taste and immune regulation.

Symptoms of deficiency

1. Anorexia: Taste buds function diminished, taste function is reduced, the appetite is lost, and digestive ability is also weakened when zinc is lacking.

2. Growth retardation: Zinc deficiency hinders the synthesis of protein and reduces food intake, affecting the growth and development of children. In severe cases, dwarfism may occur.

3. Pica: Children with zinc deficiency may like to eat soil, walls, paper, cinder or other foreign objects, etc. Adults with zinc deficiency also have reports of liking to eat soil.

4. Prone to infection: Zinc-deficient people have reduced immune function and are susceptible to various infectious diseases, including diarrhea.

5. Skin mucosal symptoms: When zinc deficiency is severe, the whole skin may have rash, bullous dermatitis, and recurrent oral ulcer.

6. Fetal growth retardation: Pregnant women with severe zinc deficiency can lead to fetal growth retardation and various malformations, including neural tube malformations.

7. Others: Due to vitamin A metabolism disorder, serum vitamin A is reduced, the dark adaptation time is prolonged, and night blindness occurs.

My Genetic Result Details

Gene locus	Gene name	My genotype	Description
RS11126936	SLC30A3	GG	high zinc nutritional requirement
RS13266634	SLC30A8	CT	slightly high zinc nutritional requirement
RS233804	SLC39A8	AC	slightly high zinc nutritional requirement
RS4872479	SLC39A14	GG	high zinc nutritional requirement

Test details

Applicable situation

The zinc nutritional requirement item uses 4 polymorphic loci on genes such as SLC30A8, SLC39A8. The test results indicate the zinc nutritional requirement represented by the genotype combination at the 4 polymorphic loci you tested, and the test does not mean your true zinc nutritional requirement.

Notification

1. Limited by the existing sample size, there may be some errors in this test. With the expansion of sample size, the test results will be continuously optimized.
2. Limited by the current technological means and the level of scientific cognition, the test may not cover all genes or loci that relate to the zinc nutritional requirement.

How to use the test results

Notification

1. The test is not suitable for clinical diagnosis.

2. An individual's nutritional metabolism is the result of the interaction of genes, environment, and living habits.

3. This test only evaluates your vitamin zinc nutritional requirement at the genetic level, since the test does not involve consideration of other factors, it does not mean your true situation. If you have relevant nutritional requirement, you can consult nutritionists, clinicians or professionals based on the results of this genetic test to obtain professional nutritional advice.

Test content

The test includes 4 polymorphic loci related to the zinc nutritional requirement, such as rs11126936, rs233804

Population samples

The basis of the test is mainly from the research of Caucasian.

Limit of detection

Limited by the current technology and the level of scientific cognition, the test may not cover all genes or loci that related to zinc nutritional requirement.

Magnesium Nutritional Requirement

Magnesium is an essential macro-mineral nutrient for the human body. It is particularly important for metabolism, the functioning of muscle cells, and the health of bones.

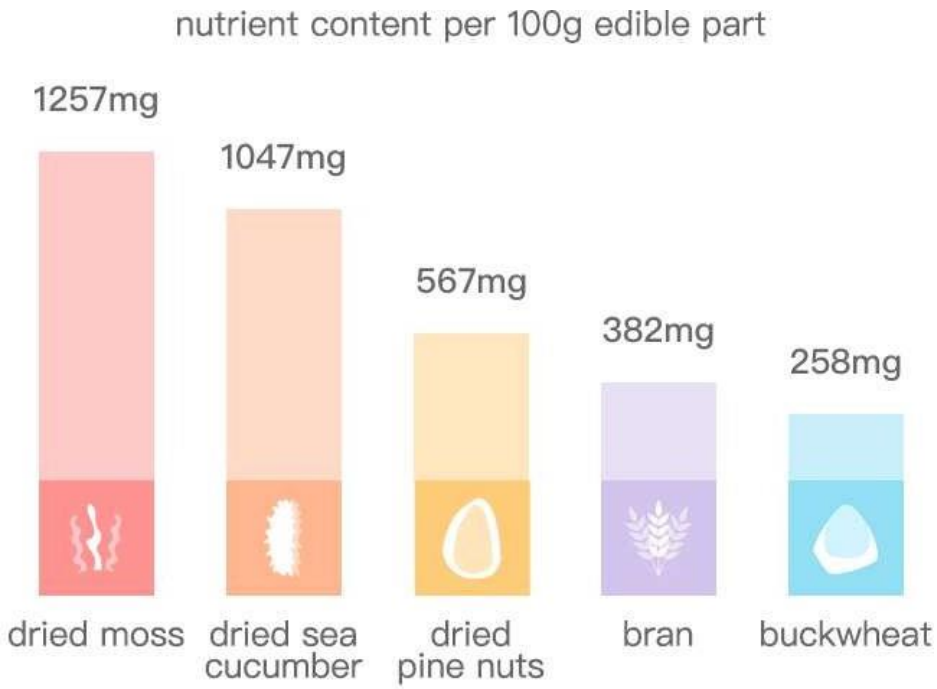
My Magnesium Nutritional Requirement

Slightly High

Intake recommendations

- Your requirement of magnesium is slightly higher, it is recommended to take in Additional supplement of Foods rich in magnesium such as green leafy vegetables, nuts, etc.
- If there are Manifestations of magnesium deficiency such as muscle cramps, fatigue, etc., pay attention to supplement magnesium.
- The magnesium requirement of the elderly is higher, so attention should be paid to magnesium intake.
- Excessive calcium and vitamin D supplementation will deplete magnesium, so attention should be paid to magnesium intake.
- If you consume too much sugar and often drink soda or other sugary drinks, there may be a risk of magnesium deficiency.
- Magnesium may also be lost through stress, lack of sleep, alcohol consumption and the use of Prescription drugs.
- Digestive system diseases such as Crohn's disease affect the body's absorption of magnesium, so attention should be paid to magnesium intake.
- If you have Symptoms of excessive magnesium intake such as nausea and vomiting, you should consider reducing your intake.

Magnesium rich foods



Knowledge

What is magnesium

Magnesium is a macronutrient needed in all organs of the human body, especially the heart, muscles and kidneys. Magnesium is the main cation in human cells, which is concentrated in mitochondria, second only to potassium and phosphorus.

The effect of magnesium on the human body

1. Magnesium is an activator of enzymes: Magnesium activates a variety of enzymes, such as hexokinase, and participates in many important metabolic processes in the body, including the metabolism of proteins, fats and carbohydrates, oxidative phosphorylation, ion transport, the generation and transmission of nerve impulses, muscle contraction, etc.

2. The effect of magnesium on bones: Magnesium is an element necessary for the structure and function of bone cells, allowing bones to grow and maintain. Magnesium can affect bone resorption.

3. The effect of magnesium on the cardiovascular system: Magnesium mainly acts on the peripheral vascular system and causes vasodilation. Low dose application can cause flushing, sweating and warmth, which is related to body temperature regulation.

4. The effect of magnesium on the gastrointestinal tract: Alkaline magnesium salt can neutralize gastric acid. Magnesium ions are absorbed slowly in the intestinal cavity, promote water retention, and cause catharsis..

Deficiency or excessiveness

1. Deficiency: When magnesium is deficient, symptoms such as decreased appetite, growth stagnation, hair loss, skin damage, weakness, edema, neuromuscular hyperexcitability, irregular heartbeat, organ calcification, and degeneration will be manifested.

2. Excessiveness: When there is too much magnesium in the serum, nausea, vomiting, peripheral vasodilation, decreased blood pressure, fever and thirst may occur..

My Genetic Result Details

Gene locus	Gene name	My genotype	Description
RS13146355	SHROOM3	AG	slightly high magnesium nutritional requirement
RS3925584	intergenic	CC	high magnesium nutritional requirement
RS4072037	MUC1	TT	normal magnesium nutritional requirement
RS7965584	intergenic	AA	normal magnesium nutritional requirement

Test details

Applicable situation

The magnesium nutritional requirement item uses four polymorphic loci on and between genes such as SHROOM3 and MUC1. The test results showed the magnesium nutritional requirement represented by the genotype combination of the user at four polymorphic loci tested. The test cannot represent the user's real magnesium nutritional requirement.

Notification

1. Limited by the existing sample size, there may be some errors in this test. With the expansion of sample size, the test results will be continuously optimized.

2. Limited by the current technological means and the level of scientific cognition, this test may not cover all genes or loci related to magnesium nutritional requirement.

How to use the test results

Notification

1. The test is not suitable for clinical diagnosis.

2. An individual's nutritional metabolism is the result of the interaction of genes, environment, and living habits.

3. The test result only predicts your magnesium nutritional requirement at the genetic level. Since the test does not involve consideration of other factors, it does not mean your true health status. If you have nutritional supplement-related needs, you can consult authoritative nutritionists, clinicians or professionals based on the results of this genetic test to obtain professional nutritional advice.

Test content

Four polymorphic loci related to magnesium nutritional requirement were detected, including rs13146355 and rs3925584, etc.

Population samples

The basis of the test is mainly from the research of Caucasian.

Limit of detection

Limited by the current technology and the level of scientific cognition, the testmay not cover all genes or loci that related to magnesium nutritional requirement.

Folate Nutritional Requirement

Folate is an essential nutrient for the production of normal red blood cells and the synthesis of DNA. It is particularly important for pregnant women and can prevent fetal neural tube malformations.

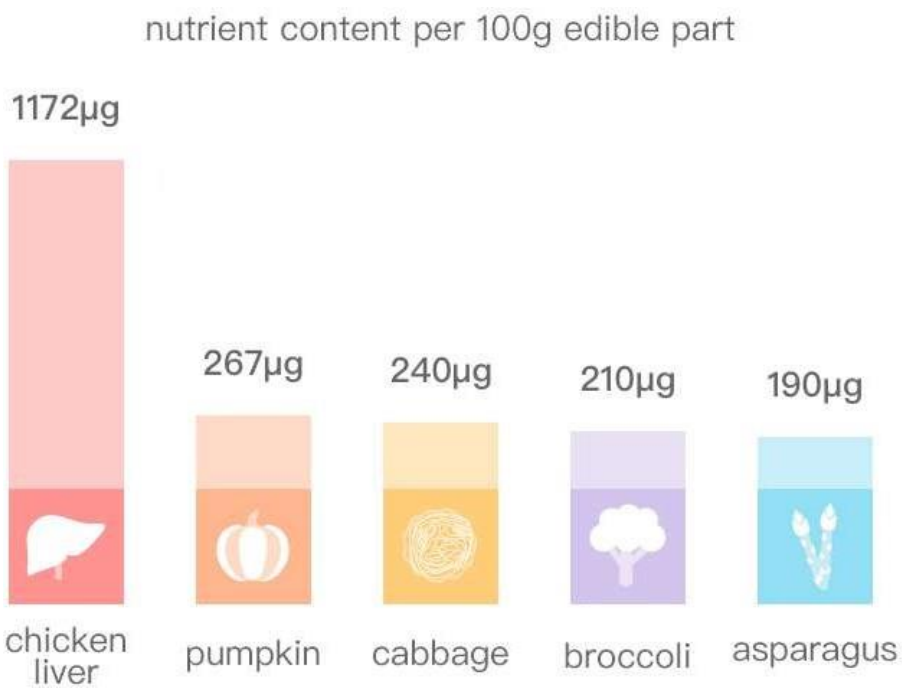
My Folate Nutritional Requirement

High, recommend supplementary L-methylfolate intake

Intake recommendations

- Your folate nutritional requirement is high, it is recommended to take in Folate-rich foods such as green leafy vegetables, or Extra supplements Methylfolate
- There is a mutation in your MTHFR gene, and the metabolic efficiency of folate is 60% of ordinary people. Excessive supplementation may cause Adverse reactions, you should avoid excessive intake of folate or use methylfolate instead
- There is a mutation in your MTHFR gene. When you choose to supplement with folate, you should pay special attention to Folate overdose symptoms such as insomnia. If it occurs, you should reduce the dose
- You should pay attention to the Homocysteine level in the physical examination indicators. If the indicator exceeds the standard, you should pay attention to folic acid or methylfolate supplementation
- If you experience Folate deficiency symptoms such as fatigue, oral ulceration, etc., you should pay attention to folic acid or methylfolate supplementation
- Sufficient intake of Vitamin B12/B2/B6 helps Folate metabolism; if you choose to supplement with folate or methylfolate, you should also pay attention to the supplement of vitamin B12
- Pregnant women's needs for folate is high, so you should pay attention to folic acid or methylfolate supplementation

Folate rich foods



Knowledge

Problems caused by deficiency

Folate can help cells in the body produce and maintain DNA. It can also help produce blood cells with vitamins B6, B12 and C. Lack of any of the above vitamins can cause anemia. Severe folate deficiency causes megaloblastic anemia. Early symptoms of folate deficiency may include:

1. Fatigue
2. Gray hair
3. Aphthous ulcers
4. Failure to thrive
5. Swollen tongue.

Problems caused by excessive intake

Since the human body does not store folate, folate is generally safe for the human body. However, excessive intake of supplements may cause insomnia.

Problems caused by excessive intake

Under the effect of methylenetetrahydrofolate reductase (MTHFR) and methionine synthase reductase (MTRR), folate participates in two important aspects of metabolism in the human body. One is the synthesis of DNA, and folate is a key cofactor involved in the synthesis of

nucleobases in the human body. The other is involved in the conversion of some amino acids, folate can add a 'one- carbon unit' chemical group to the harmful homocysteine to eliminate harm

My Genetic Result Details

Gene locus	Gene name	My genotype	Description
RS1801131	MTHFR	GT	reduced folic acid metabolic enzyme activity
RS1801133	MTHFR	AG	reduced folic acid metabolic enzyme activity
RS1801394	MTRR	AA	normal folic acid metabolic enzyme activity

Test details

Applicable situation

The folate nutritional requirement item uses 3 polymorphic loci on the MTHFR and the MTRR gene. The test results only indicate the folate nutritional requirement result from the genotype combinations of the user at the 3 polymorphic loci detected. The test cannot represent the user's actual folate nutritional requirement.

Notification

1. Limited by the existing sample size, there may be some errors in this test. With the expansion of sample size, the test results will be continuously optimized.

2. Limited by the current technology and the level of scientific cognition, the test does not cover all genes or loci associated with folate nutritional requirement.

How to use the test results

Notification

1. The test is not suitable for clinical diagnosis.

2. An individual's nutritional requirement is the result of the interaction of genes, environment, and living habits.

3. The test results only predict your folate nutritional requirement from the genetic level. Since the test does not involve consideration of other factors, it does not mean your true health status. If you have nutritional supplement-related needs, you can consult authoritative nutritionists, clinicians or professionals based on the results of this genetic test to obtain professional nutritional supplementary advice, or follow the doctor's advice for clinically qualified inspection and test.

Test content

The test includes 3 polymorphic loci associated with folate nutritional requirement, such as rs1801131, rs1801133 and rs1801394.

Population samples

The basis of the test is mainly from the research of Caucasian.

Limit of detection

Limited by the current technology and the level of scientific cognition, the test may not cover all genes or loci associated with folate nutritional requirement.

Vitamin E Nutritional Requirement

Vitamin E is a fat-soluble vitamin. Its hydrolysate is one of the most important antioxidants, which can delay aging, reduce the generation of wrinkles, reduce cell oxygen consumption etc.

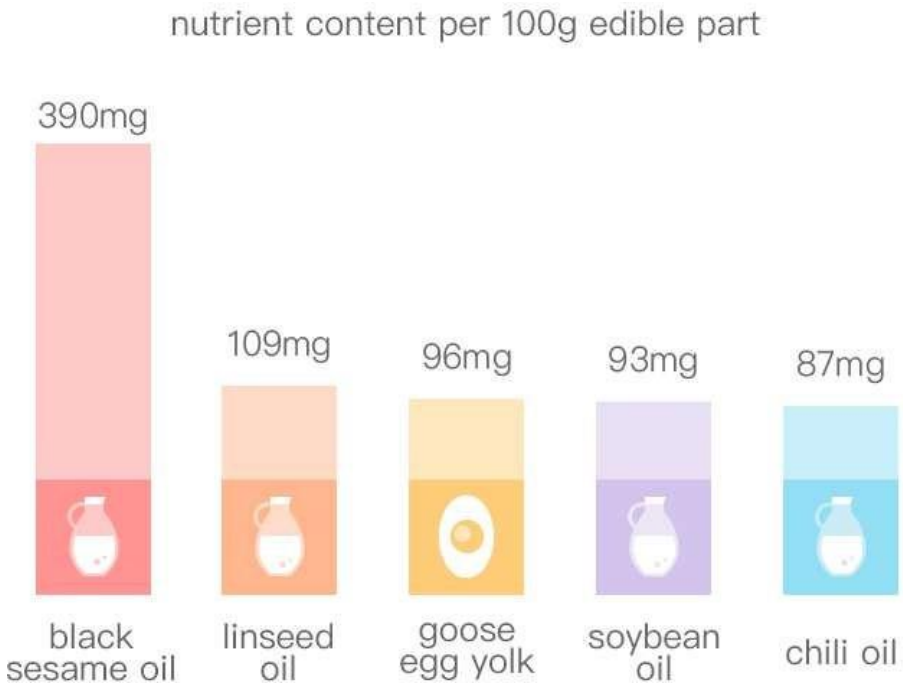
My Vitamin E Nutritional Requirement

High

Intake recommendations

- Your vitamin E requirement is high. It is recommended to have Foods rich in vitamin E such as vegetable oils, nuts and leafy vegetables, or Additional supplement of vitamin E
- Your plasma vitamin E concentration is associated with gene variation, you can take vitamin E supplement appropriately
- You should pay attention to the levels of Serum alpha-tocopherol or Effective serum vitamin E available on your physical examination to guide vitamin E intake
- Vitamin E supplements should be taken if muscle pain or weakness, limb discoordination, etc.
- Symptoms of vitamin E deficiency occur
- People with long-term hunger, vegetarian diet and patients with hepatobiliary, pancreatic and intestinal diseases have higher requirements, and should pay attention to vitamin E intake
- If symptoms of vitamin E Poisoning such as headache, fatigue, diarrhea occur, reducing intake should be taken into consideration
- People taking anticoagulant drugs should take vitamin E with caution, may increase Risk of bleeding

Vitamin E rich foods



Knowledge

Problems caused by deficiency

1. Muscle pain or weakness

2. Poor balance

3. Visual impairment

4. Loss of tendon reflex

5. Proprioception loss (sensation of movement in muscles, tendons, joints, etc.)

6. Early symptoms of anemia include fatigue, shortness of breath, bad temper, dizziness, headache, and difficulty concentrating

7. Retinopathy causes blurred vision and can lead to blindness in severe cases.

Problems caused by excessive intake

Taking too much vitamin E can increase the risk of bleeding. In the long run, this can increase the risk of brain bleeding and stroke. Vitamin E supplements may have side effects in patients who are taking blood thinners and other medications, so consult your doctor before taking supplements.

Metabolism

Normally, vitamin E is absorbed through the gut as chylomicron into the circulatory system and transported to specific tissues and organs by specific proteins produced by the liver. If you take too much vitamin E, since there is limited capacity for certain proteins, too much of it will be excreted in the stool and urine.

My Genetic Result Detail

Gene locus	Gene name	My genotype	Description
RS2108622	CYP4F2	CC	low absorption of vitamin E
RS964184	ZPR1	CC	low absorption of vitamin E
RS6994076	intergenic	AT	slightly high vitamin E nutritional requirement

Test details

Applicable situation

The vitamin E nutritional requirement item uses 3 polymorphic loci on genes such as ZPR1. The test results indicate the vitamin E nutritional requirement represented by the genotype combination of the 3 polymorphic loci tested by the user, but the test does not mean the user's actual vitamin E nutritional requirement.

Notification

1. Limited by the existing sample size, there may be some errors in this test. With the expansion of sample size, the test results will be continuously optimized.

2.Limited by the current technology and the level of scientific cognition, the test may not cover all genes or loci related to vitamin E nutritional requirement.

How to use the test results

Notification

1. The test results are not applicable to clinical diagnosis.

2. An individual's nutritional requirement is the result of the interaction of genes, environment, and living habits.

3. The test results only predict your vitamin E nutritional requirement from the genetic level. Since the test does not involve consideration of other factors, it does not mean your true health status. If you have nutritional supplement-related needs, you can consult an authoritative nutritionists, clinicians or professionals based on the results of this genetic test to obtain professional nutritional advice.

Test content

The test uses 3 polymorphic loci associated with vitamin E nutritional requirement including rs964184.

Population samples

The basis of the test is mainly from the research of Caucasian.

Limit of detection

Limited by the current technology and the level of scientific cognition, the test may not cover all genes or loci related to vitamin E nutritional requirement.

Vitamin B12 Nutritional Requirement

Vitamin B12 is the only vitamin that contains metal. It is involved in the manufacture of bone marrow erythrocytes and preventing pernicious anemia.

My Vitamin B12 Nutritional Requirement

High

Intake recommendations

- Your vitamin B12 requirement is high. It is recommended to have eggs, meat, etc. Foods rich in vitamin B12 or Additional supplement of vitamin B12
- You should pay attention to the content of Serum (plasma) vitamin B12 in the physical examination report, if there is a lack, you should pay attention to supplement
- Vitamin B12 supplements should be taken if pallor, mouth ulcers etc. Symptoms of vitamin B12 deficiency occur
- Vegetarians are very low in vitamin B12, Vegetarians should take vitamin B12 supplements Vitamin B12 and Vitamins B2, B6 are involved with Folic acid metabolism
- Pregnant and lactating women who have a high need for folic acid should also Appropriately increase their intake of vitamin B12 if folic acid supplements are taken
- If allergy, folic acid deficiency, etc. Symptoms of vitamin B12 overdose occur, intake should be reduced.

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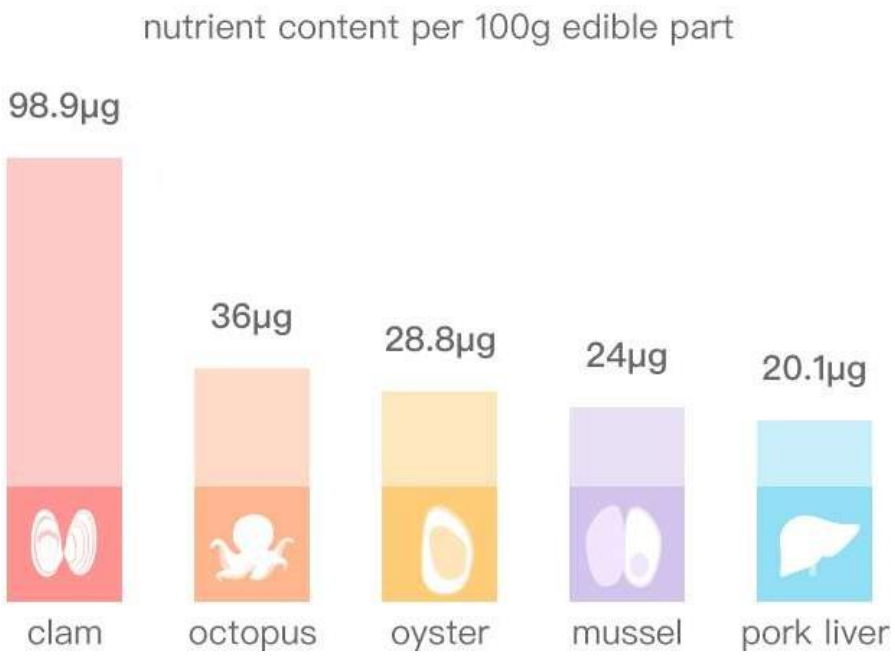
Vitamin B12 rich foods



Knowledge

Problems caused by deficiency

1. Fatigue, dizziness when standing up or exerting force
2. Shortness of breath during exercise
3. Swelling, redness of tongue or bleeding gums
4. Difficulty concentrating
5. Paled face
6. Diarrhea or constipation
7. Dementia (in severe cases)
8. Depression
9. Ataxia
10. Numbness in hands and feet.

Problems caused by excessive intake

Vitamin B12 is one of the least needed daily in the human body, and excess vitamin B12 can have toxic side effects. Allergic reactions such as asthma, urticaria, eczema, facial swelling, and chills have been reported with excessive vitamin B12 injection, as well as nerve irritation, precardiac pain, and palpitations. Too much vitamin B12 can also lead to a deficiency in folic acid.

Metabolism

Vitamin B12 in food combines with protein and enters the human digestive tract, where it is released under the action of gastric acid, pepsin and trypsin and binds to a glycoprotein endogenous factor (IF) secreted by gastric mucosal cells. Vitamin B12-IF complex is absorbed in the ileum. Vitamin B12 is stored in small amounts, about 2~3mg in the liver. It is discharged mainly from urine and partly from bile.

My Genetic Result Details

Gene locus	Gene name	My genotype	Description
RS1047781	FUT2	AA	high vitamin B12 requirement
RS10515552	intergenic	TT	high vitamin B12 requirement
RS12377462	intergenic	CT	slightly high vitamin B12 requirement
RS2298585	MS4A3	CC	high vitamin B12 requirement
RS3760775	intergenic	GG	high vitamin B12 requirement

Test details

Applicable situation

The vitamin B12 nutritional requirement item uses 12 polymorphic loci on genes such as MS4A3, CLYBL, and FUT2. The test results indicate the vitamin B12 nutritional requirement represented by the genotype combination of the 12 polymorphic loci tested by the user, but the test does not mean the user's actual vitamin B12 nutritional requirement.

Notification

1. Limited by the existing sample size, there may be some errors in this test. With the expansion of sample size, the test results will be continuously optimized.

2. Limited by the current technology and the level of scientific cognition, the test may not cover all genes or loci related to vitamin B12 nutritional requirement.

How to use the test results

Notification

1. The test results are not applicable to clinical diagnosis.

2. An individual's nutritional requirement is the result of the interaction of genes, environment, and living habits.

3. The test results only predict your vitamin B12 nutritional requirement from the genetic level. Since the test does not involve consideration of other factors, it does not mean your true health status. If you have nutritional supplement-related needs, you can consult an authoritative nutritionists, clinicians or professionals based on the results of this genetic test to obtain professional nutritional advice.

Test content

The test includes 12 polymorphic loci associated with vitamin B12 nutritional requirement, including rs41281112, rs2298585 and rs1047781

Population samples

The basis of the test is mainly from the research of Chinese, Indian and European.

Limit of detection

Limited by the current technology and the level of scientific cognition, the test may not cover all genes or loci related to vitamin B12 nutritional requirement.

Vitamin A Nutritional Requirement

Also known as retinol, Vitamin A is closely associated with low light vision of the eyes. It can also maintain normal epithelial tissue differentiation and inhibit skin keratosis.

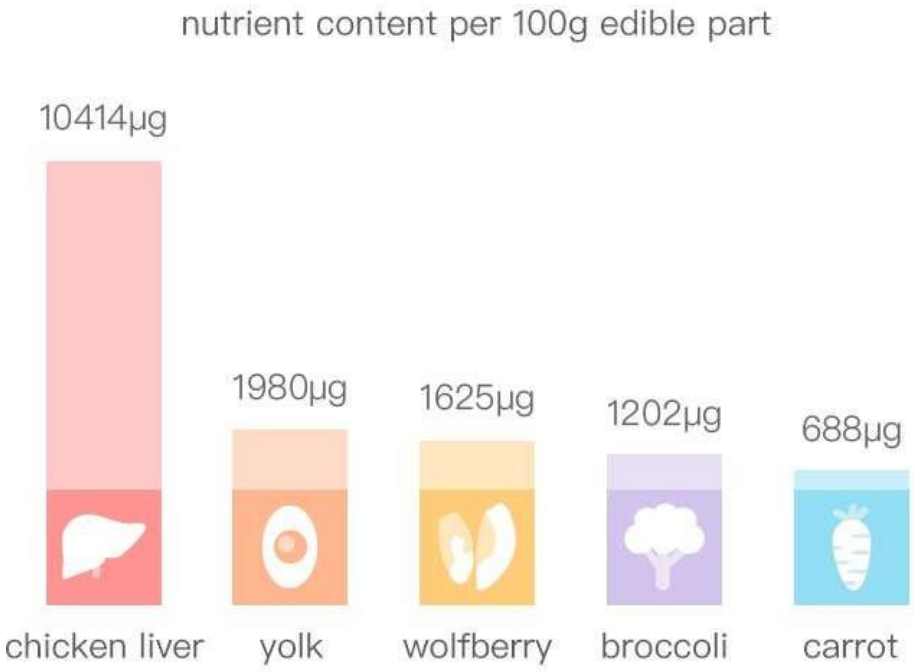
My Vitamin A Nutritional Requirement

High, recommend supplementary Vitamin A intake

Intake recommendations

- Your vitamin A requirement is high. It is recommended to take animal liver, orange vegetables, etc.
- Foods rich in vitamin A or β-carotene, or Additional supplement of vitamin A
- There is a mutation in the up stream site of your BCMO1 gene, β-carotene conversion efficiency is low, you should avoid excessive intake of β-carotene, such as excessive supplementation may cause Adverse reactions
- You have a mutation in the upstream site of the BCMO1 gene. When you choose to take extra vitamin A, you should pay special attention to symptoms like dry skin, peeling, muscle pain etc. Vitamin A overdose symptoms, and reduce the use of vitamin A if they occurs
- You should pay attention to the content of retinol in serum during physical examination. If this indicator is not up to standard, you should pay attention to vitamin A supplement
- If symptoms like dry eyes, night blindness, etc. Vitamin A deficiency symptoms occur, attention should be paid to vitamin A supplement
- Pregnant women should strictly control the intake of vitamin A, excess intake may lead to fetal malformation, while supplementation of β-carotene is safer

Vitamin A rich foods



Knowledge

Problems caused by deficiency

One of the basic functions of vitamin A is to help the formation of pigment in the retina. Typical symptoms of vitamin A deficiency are dry eyes and night blindness. Vitamin A deficiency can make symptoms of low iron levels worse and lead to anemia. In addition to these symptoms, vitamin A deficiency can led to dry skin, hair loss, and an increased risk of diarrhea and measles and death.

Problems caused by excessive intake

Because vitamin A is fat-soluble, overtake will accumulate in the liver, resulting in hypervitaminosis, which includes the following symptoms:

1. Diplopia

2. Dry skin and lips or cracked lips

3. The hair loss

4. Headache, dizziness, nausea

5. Muscle pain, swelling and pain at long bone joints

6. Ataxia: Acute overdose of large amounts of vitamin A can lead to coma or death.

Metabolism

In the body, vitamin A comes in three main forms: retinol, retinaldehyde and retinoic acid. When vitamin A accumulates in the liver or travels in the blood, it appears mainly as retinol; When it helps us see in the eye, it's retinaldehyde; As they regulate gene expression and control the cell's life cycle, they often turn into retinoic acid on the spot. Vitamin A in the animal products we eat is often retinol (fatty acids combined with retinol, such as retinol palmitate and retinol acetate), which is reconverted to retinol in the body.

Plant-based foods contain no vitamin A at all, but many of them contain another compound: carotenoids. This is a large family of compounds with more than 600 members, such as α-carotene, β- carotene, β-cryptoflavin, lycopene, keratin, lutein and zeaxanthin. The first three are the main ones we can use to efficiently synthesize vitamin A (retinaldehyde) in our bodies, especially β-carotene.

My Genetic Result Details

Gene locus	Gene name	My genotype	Description
RS11645428	BCMO1	GG	low vitamin A conversion efficiency
RS6420424	PKD1L2	AG	slightly lower vitamin A conversion efficiency
RS6564851	BCMO1	GG	low vitamin A conversion efficiency

Test details

Applicable situation

The vitamin A nutritional requirement item uses 3 polymorphic loci on BCMO1 gene. The test results indicate vitamin A nutritional requirement represented by the genotype combination of the 3 polymorphic loci of the user, but the test does not reflect the user's actual vitamin A nutritional requirement.

Notification

1. Limited by the existing sample size, there may be some errors in this test. With the expansion of sample size, the test results will be continuously optimized.

2. Limited by the current technology and the level of scientific cognition, the test may not cover all genes or loci related to vitamin A nutritional requirement.

How to use the test results

Notification

1. The test results are not applicable to clinical diagnosis.

2. An individual's nutritional requirement is the result of the interaction of genes, environment, and living habits.

3. The test results only predict your vitamin A nutritional requirement from the genetic level. Since the test does not involve consideration of other factors, it does not mean your true health status. If you have nutritional supplement-related needs, you can consult an authoritative nutritionists, clinicians or professionals based on the results of this genetic test to obtain professional nutritional advice.

Test content

The test includes 3 polymorphic loci associated with vitamin A nutritional requirement: rs6420424, rs6564851, and rs11645428

Study population

The basis of the test is mainly from the research of Caucasian.

Limit of detection

Limited by the current technology and the level of scientific cognition, the test may not cover all genes or loci related to vitamin A nutritional requirement.

Vitamin C Nutritional Requirement

Vitamin C is a water-soluble vitamin that participates in the metabolism of substances in the body and has antioxidant capacity.

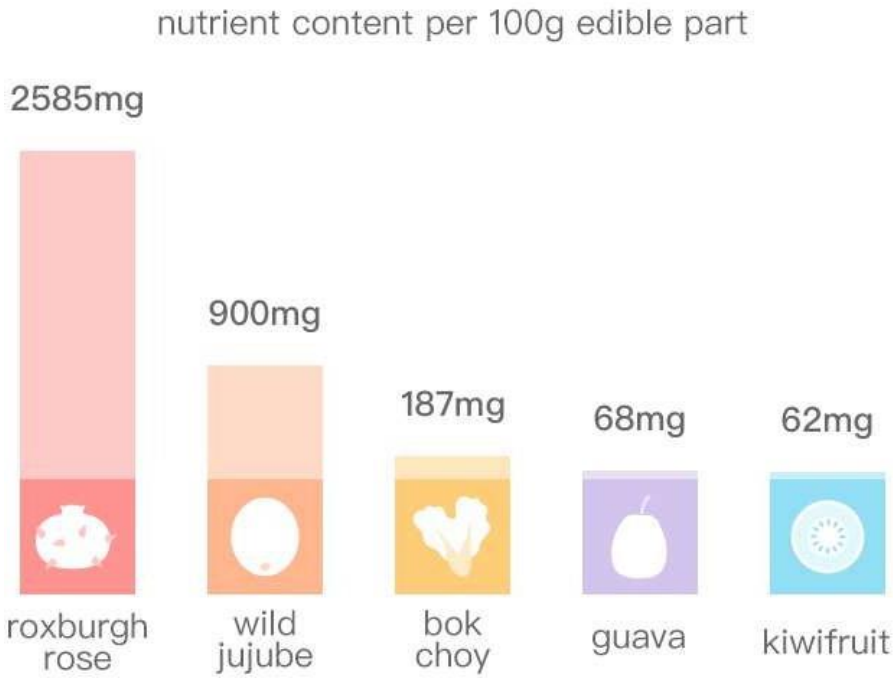
My Vitamin C Nutritional Requirement

Normal

Intake recommendations

- Your vitamin C nutritional requirement is normal, it is recommended to Normally take in fresh vegetables, fruits and other Foods rich in vitamin C.
- Vitamin C supplements should be taken if Symptoms of vitamin C deficiency such as fatigue, irritability, weight loss, muscle or joint pain occur.
- Vitamin C intake is with higher requirement with respect to Pregnancy, breastfeeding, inflammation, surgery, smoking and other conditions.
- If Symptoms of vitamin C toxicity such as abdominal distention and diarrhea occur, consider reducing vitamin C intake.
- Vitamin C helps different types of white blood cells to play an immune role, also known as "immune Vitamins".

Vitamin C rich foods



Knowledge

Problems caused by deficiency

The human body cannot actively synthesize vitamin C, but it has a certain storage capacity. Therefore, short-term vitamin C deficiency will not immediately appear corresponding symptoms. When the diet lacks fresh vegetables and fruits, or absorption disorders, long-term use of specific drugs and alcoholism, it may lead to vitamin C deficiency. The following symptoms are common:

1. Weakness, depression and pale complexion; Children may not gain weight and be irritable.

2. Iron absorption disorder, anemia, etc.

3. Bleeding, manifested as skin ecchymosis, purpura, loose teeth, epistaxis, or even intracranial hemorrhage, convulsion, shock and death.

Problems caused by excessive intake

After excessive vitamin C intake, it will be quickly excreted from the urine, so there is only very low acute toxicity. Ingestion of more than 2-3 grams may cause indigestion. Other symptoms of overdose may include nausea, abdominal pain and diarrhea.

Metabolism

Vitamin C is also called ascorbic acid. The human body cannot synthesize vitamin C. It usually needs to be ingested from food, generally absorbed above the small intestine and finally excreted from urine. vitamin C can participate in the metabolism of many substances in the body and plays an important role in maintaining immune function and vascular integrity. At the same time, as an antioxidant, it can inhibit the formation of tyrosinase and has the effect of whitening and lightening spots.

My Genetic Result Details

Gene locus	Gene name	My genotype	Description
RS11950646	SLC23A1	GG	high vitamin C nutritional requirement
RS33972313	SLC23A1	CC	normal vitamin C nutritional requirement
RS6053005	SLC23A2	TT	normal vitamin C nutritional requirement
RS6133175	SLC23A2	GG	normal vitamin C nutritional requirement

Test details

Applicable situation

The vitamin C nutritional requirement item uses 4 polymorphic loci on and between genes such as SLC23A1 and SLC23A2, etc. The test result shows the vitamin C nutritional requirement represented by the genotype combination at the three polymorphic loci tested by the user, and the test cannot represent the user's real vitamin C nutritional requirement.

Notification

1. Limited by the existing sample size, there may be some errors in this test. With the expansion of sample size, the test results will be continuously optimized.

2. Limited by the current technology and the level of scientific cognition, the test report may not cover all genes or loci that related to the vitamin C nutritional requirement..

How to use the test results

Notification

1. The test is not suitable for clinical diagnosis.

2. An individual's nutritional metabolism is the result of the interaction of genes, environment, and living habits.

3. This test only evaluates your vitamin C nutritional requirement at the genetic level. Since the test does not involve consideration of other factors, it does not mean your true health status. If you have nutritional supplement related needs, you can consult an authoritative nutritionist, clinician or professional for professional nutritional advice based on the results of this genetic test if necessary.

Test content

The test includes 4 polymorphic loci related to vitamin C nutritional requirement, such as rs6133175 and rs6053005

Study population

The basis of the test is mainly from the research of Caucasian.

Limit of detection

Limited by the current technology and the level of scientific cognition, the test may not cover all genes or loci that related to vitamin C nutritional requirement.

Vitamin K Nutritional Requirement

Vitamin K is a type of vitamin that has blood coagulation function and participates in bone metabolism.

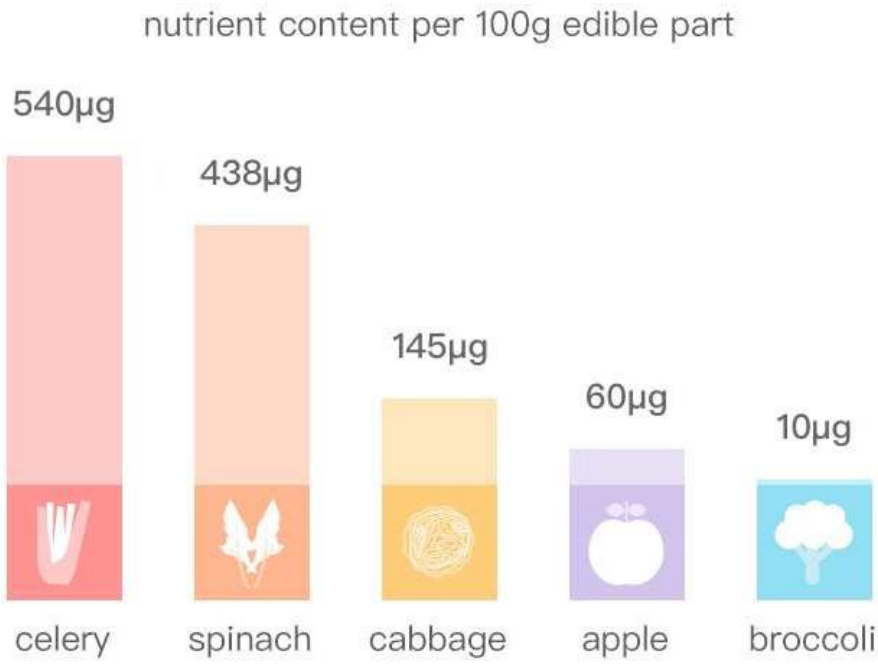
My Vitamin K Nutritional Requirement

High, consider supplementary Vitamin K intake

Intake recommendation

- Your need for vitamin K is high. It is recommended to Normally take in Foods rich in vitamin K such as green leafy vegetables, or supplement additional vitamin K1 or K2.
- Vitamin K1 in vegetables can be converted into K2 in the intestine, which is easily absorbed by the human body
- There is a homozygous mutation in your VKORC1 gene, the Formation efficiency of coagulation factor is low, and you need to increase the requirement for vitamin K, and appropriately reduce the dosage of Warfarin.
- If there are Symptoms of vitamin K deficiency such as congestion, hematoma and nosebleed, pay attention to vitamin K supplementation.
- Newborns are more prone to vitamin K deficiency, which can be prevented by additional injection of vitamin K.
- When you choose to supplement additional vitamin K1/K2, you should pay attention to the Symptoms of vitamin K overdose such as allergy. If it occurs, you should reduce the use.
- People with liver function problems and pregnant women who supplement vitamin K may have corresponding risks.
- Vitamin K supplementation may affect the efficacy of Anticoagulants.

Vitamin K rich foods



Knowledge

Problems caused by deficiency

Vitamin K is not easily deficient because it widely exists in food and can be synthesized by intestinal microorganisms. vitamin K deficiency may occur in people with impaired liver function, bowel disease, taking antibiotics and preterm infants. vitamin K deficiency may cause anemia, bruises, nosebleed and gum bleeding. Women may have excessive menstruation.

Problems caused by excessive intake

Excessive intake of vitamin K in natural form (including K1 and K2) has no obvious side effects and may cause allergic reaction. In contrast, excessive intake of vitamin K3 is obviously toxic, which may cause allergic reaction, hemolytic anemia and damage to hepatocytes. In addition, excessive intake of vitamin K may affect the efficacy of anticoagulants such as warfarin.

Metabolism

Vitamin K mainly exists in the form of K1, K2, K3 and K4. It is closely related to the synthesis of four coagulation factors (prothrombin, coagulation factors VII, IX and X) in the liver and plays an important role in coagulation function. vitamin K can act on osteoblasts and promote bone tissue calcification, especially in the elderly. There is a positive correlation between bone mineral density and vitamin K. vitamin K is not easily deficient because it widely exists in food

and can be synthesized by intestinal microorganisms. But newborns may be prone to vitamin K deficiency.

It should be noticed that vitamin K supplementation may have related risks for people with liver function problems and pregnant women, and may affect the efficacy of anti blood coagulants.

Therefore, it is recommended to formulate a supplement scheme after consulting with qualified doctors.

My Genetic Result Details

Gene locus	Gene name	My genotype	Description
RS2108622	CYP4F2	CC	moderate vitamin K plasma concentration
RS9923231	VKORC1	TT	high vitamin K nutritional requirement

Test details

Applicable situation

The vitamin K nutritional requirement item uses 2 polymorphic loci on and between genes such as CYP4F2. The test result shows the vitamin K nutritional requirement represented by the genotype combination at the two polymorphic loci tested by the user, and the test cannot represent the user's real vitamin K nutritional requirement.

Notification

1. Limited by the existing sample size, there may be some errors in this test. With the expansion of sample size, the test results will be continuously optimized.

2. Limited by the current technology and the level of scientific cognition, the test report may not cover all genes or loci that related to the vitamin K nutritional requirement.

How to use the test results

Notification

1. The test is not suitable for clinical diagnosis.

2. An individual's nutritional metabolism is the result of the interaction of genes, environment, and living habits.

3. This test only evaluates your vitamin K nutritional requirement at the genetic level. Since the test does not involve consideration of other factors, it does not mean your true health status. If you have nutritional supplement needs, you can consult an authoritative nutritionist, clinician or professional for professional nutritional advice based on the results of this genetic test if necessary

Test content

The test includes 2 polymorphic loci related to vitamin K nutritional requirement, thus, rs2108622 and rs9923231

Limit of detection

Limited by the current technology and the level of scientific cognition, the test may not cover all genes or loci that related to vitamin K nutritional requirement.

Vitamin B6 Nutritional Requirement

Vitamin B6 is a kind of water-soluble vitamin related to the metabolism of various nutrients such as amino acid metabolism.

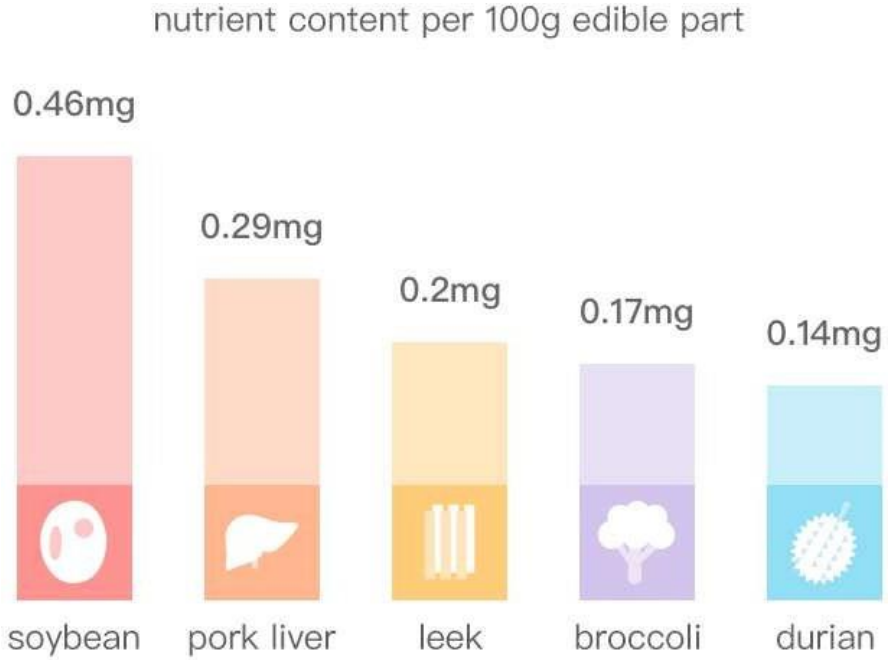
My Vitamin B6 Nutritional Requirement

Slightly High

Intake recommendations

- Your vitamin B6 requirement is slightly higher, it is recommended to consume Food rich in vitamin B6 such as soybeans and animal liver and so on, or Additional supplement of vitamin B6.
- There are polymorphic loci in your NBPF3 gene and ALPL gene, which affect the concentration of vitamin B6.
- The use of certain drugs, alcoholism, high temperature environments, and excessive stress may lead to vitamin B6 deficiency.
- If you have Symptoms of vitamin B6 deficiency such as paleness and oral ulcers, you should pay attention to vitamin B6 supplement.
- Vitamin B6, vitamin B12 and vitamin B2 participate in the Folate metabolism.
- Pregnant women and lactating women have a high requirement for folic acid. If you need to supplement folic acid, you should also Appropriate increase the intake of vitamin B6.
- If you have Symptoms of vitamin B6 overdose such as limb pain and numbness, the dosage should be reduced.

Vitamin B6 rich foods



Knowledge

Problems caused by deficiency

Long-term insufficient intake of Vitamins, poor absorption, or long-term use of specific drugs can cause vitamin B6 deficiency. In addition, alcoholism, living or working in high temperature environments, and excessive stress can also cause vitamin B6 deficiency. Typical symptoms include:

1. Seborrheic dermatitis-like rash, conjunctivitis, stomatitis, and glossitis.

2. Neuropathy, drowsiness, neurological disorders; anemia; nausea and vomiting, lack of appetite, etc.

Problems caused by excessive intake

Generally, vitamin B6 supplementation through food rarely causes excessive problems, because it will be excreted in urine when kidney function is normal. However, long-term excessive supplementation may cause side effects, including pain, peripheral neuropathy, symptoms such as pain and numbness in limbs. High intake of pregnant women may lead to vitamin B6 dependence in neonates, so it should be taken under the guidance of a doctor.

Metabolism

Pyridoxal 5'-phosphate (PLP) is the active form of vitamin B6 in the body. It can participate in more than 100 physiological reactions as a coenzyme. It is mainly involved in amino acid metabolism and is of great significance to protein metabolism. At the same time, it is also involved in sugar and fatty acid metabolism and neurotransmitter synthesis. vitamin B6 cannot be stored in the body for a long time, and it mainly depends on supplementation from food. Foods rich in vitamin B6 include yeast, fish, meat, eggs, milk, grains, and vegetables.

My Genetic Result Details

Gene locus	Gene name	My genotype	Description
RS4654748	NBPF3	CT	slightly high vitamin B6 nutritional requirement
RS1256335	ALPL	AA	normal high vitamin B6 nutritional requirement

Test details

Applicable situation

The vitamin B6 nutritional requirement item uses 2 polymorphic loci on ALPL and NBPF3 gene. The test results indicate the vitamin B6 nutritional requirement represented by the genotype combination at the two polymorphic loci you tested, and the test does not mean your true vitamin B6 nutritional requirement.

Notification

1. Limited by the existing sample size, there may be some errors in this test. With the expansion of sample size, the test results will be continuously optimized.

2. Limited by the current technological means and the level of scientific cognition, the test may not cover all genes or loci that relate to the vitamin B6 nutritional requirement.

How to use the test results

Notification

1. The test is not suitable for clinical diagnosis.

2. An individual's nutritional metabolism is the result of the interaction of genes, environment, and living habits.

3. This test only evaluates your vitamin B6 nutritional requirement at the genetic level, since the test does not involve consideration of other factors, it does not mean your true situation. If you have relevant nutritional requirement, you can consult nutritionists, clinicians or professionals based on the results of this genetic test to obtain professional nutritional advice.

- Test content

The test includes 2 polymorphic loci related to the vitamin B6 nutritional requirement, rs1256335 and rs4654748.

- Study population

The basis of the test is mainly from the research of Caucasian.

- Limit of detection

Limited by the current technology and the level of scientific cognition, the test may not cover all genes or loci that related to vitamin B6 nutritional requirement.

Vitamin D Nutritional Requirement

Vitamin D is a type of fat-soluble vitamin that can maintain the stability of calcium and phosphorus and many other biological effects.

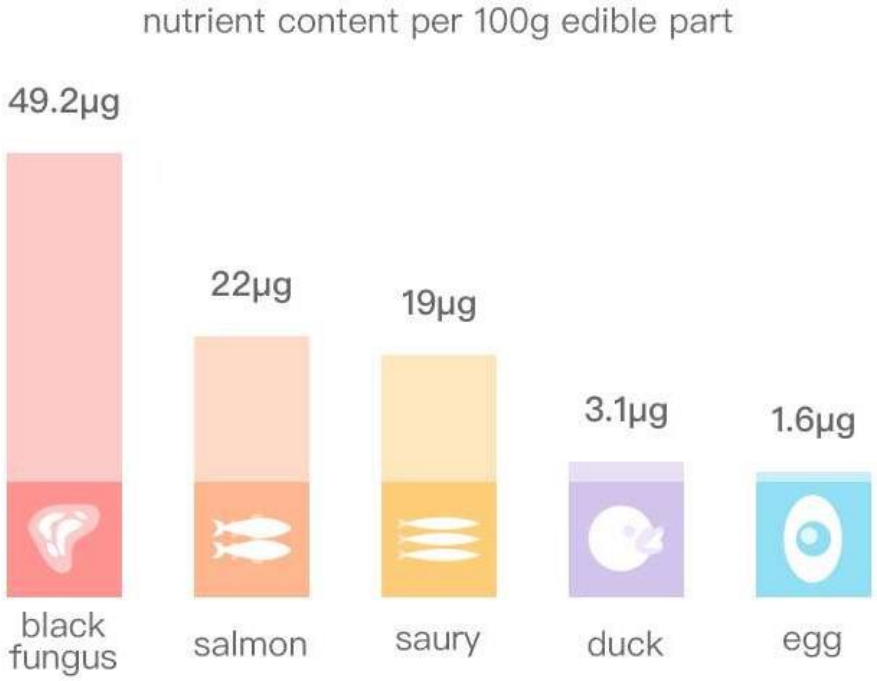
My Vitamin D Nutritional Requirement

Slightly High

Intake recommendations

- Your vitamin D requirement is slightly higher, it is recommended to consume Food rich in vitamin D such as fish oil, liver, egg yolk and so on, or to consume Additional supplement of vitamin D and to increase sun exposure.
- There are variations in the genes associated with your plasma vitamin D concentration, so vitamin D should be supplemented appropriately.
- You should pay attention to the serum 25-hydroxyvitamin D, bone mineral density and other indicators in the physical examination indicators to guide the intake of Vitamin D and Calcium.
- If you have Symptoms of vitamin D deficiency such as muscle pain, muscle weakness, fatigue, you should pay attention to vitamin D supplement.
- The elderly, people with insufficient sun exposure, patients with kidney or liver disease, and dark- skinned people (especially blacks) have higher requirement, and they should pay attention to vitamin D intake.
- If you have Symptoms of vitamin D toxicity such as loss of appetite, constipation, you should pay attention to reducing vitamin D intake.
- Patients with hypercalcemia, kidney stones and arteriosclerosis should be cautiously supplemented with vitamin D, which may cause Related diseases.

Vitamin D rich foods



Knowledge

Problems caused by deficiency

A vitamin D-deficient diet and insufficient sun exposure can cause vitamin D deficiency, which may lead to osteomalacia in adults, rickets in children, and neurological symptoms such as hyperhidrosis and irritability.

Problems caused by excessive intake

Generally, the content of vitamin D in food is not high, and there is generally no problem of excessive intake. Long-term excessive use of vitamin D may cause side effects such as hypercalcemia, constipation, headache, loss of appetite, and musculoskeletal pain. Vitamin D toxicity caused by excessive intake can lead to weight loss, itch, soft tissue calcification, and calcification of cardiac and renal tissues.

Metabolism

Vitamin D is also known as the anti-rickets Vitamin. The main members are VD2 (ergocalciferol) and VD3 (cholecalciferol). Vitamin D can be absorbed together with fat in the intestine, and the human body can also synthesize vitamin D autonomously through sunlight. Vitamin D can improve the body's absorption of calcium and phosphorus, promote growth and bone calcification, and also has a certain effect on the prevention of heart disease and diabetes. The

content of vitamin D in general food is low. Natural vitamin D mainly comes from animal foods, such as fish oil, liver, and egg yolk.

My Genetic Result Details

Gene locus	Gene name	My genotype	Description
RS10877012	METTL1	GT	slightly high vitamin D nutritional requirement
RS1155563	GC	CT	high vitamin D nutritional requirement
RS12512631	intergenic	TT	slightly high vitamin D nutritional requirement
RS12794714	CYP2R1	AG	slightly high vitamin D nutritional requirement
RS2282679	GC	TT	normal vitamin D nutritional requirement

Test details

Applicable situation

The vitamin D nutritional requirement item uses 8 polymorphic loci on genes such as GC. The test results indicate the vitamin D nutritional requirement represented by the genotype combination at the 8 polymorphic loci you tested, and the test does not mean your true vitamin D nutritional requirement.

Notification

1. Limited by the existing sample size, there may be some errors in this test. With the expansion of sample size, the test results will be continuously optimized.

2. Limited by the current technological means and the level of scientific cognition, the test may not cover all genes or loci that relate to the vitamin D nutritional requirement.

How to use the test results

Notification

1. The test is not suitable for clinical diagnosis.

2. An individual's nutritional metabolism is the result of the interaction of genes, environment, and living habits.

3. This test only evaluates your vitamin D nutritional requirement at the genetic level, since the test does not involve consideration of other factors, it does not mean your true situation. If you have relevant nutritional requirement, you can consult nutritionists, clinicians or professionals based on the results of this genetic test to obtain professional nutritional advice.

- Test content

The test includes 8 polymorphic loci related to the vitamin D nutritional requirement, such as rs1155563, rs12512631.

- Study population

The basis of the test is mainly from the research of Caucasian.

- Limit of detection

Limited by the current technology and the level of scientific cognition, the test may not cover all genes or loci that related to vitamin D nutritional requirement.

Vitamin B2 Nutritional Requirement

Vitamin B2 is an important water-soluble vitamin that regulates the metabolism of amino acids, fatty acids and carbohydrates.

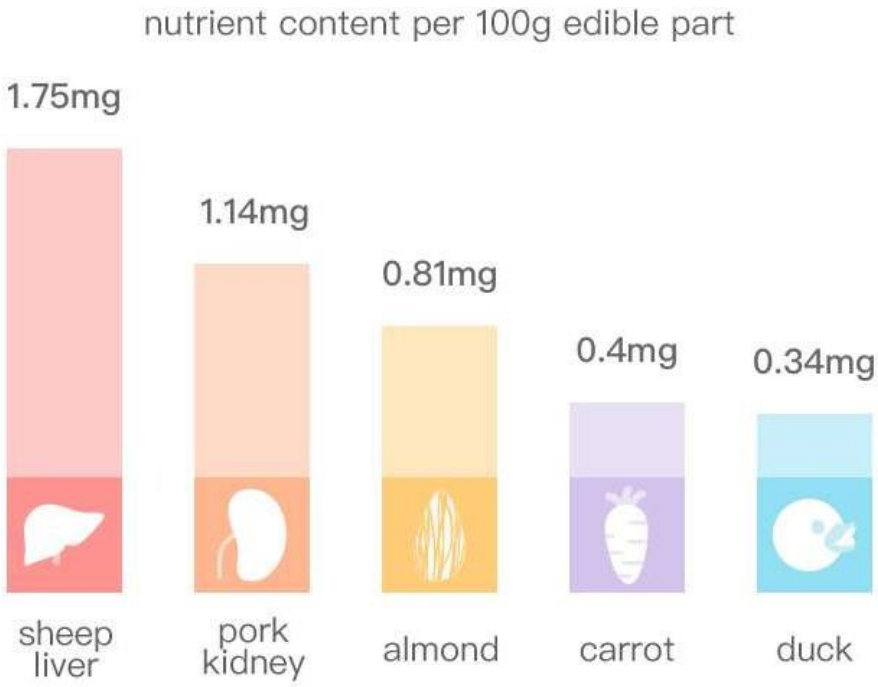
My Vitamin B2 Nutritional Requirement

Slightly High

Intake recommendations

- Your requirement for vitamin B2 is slightly higher, it is recommended to take in Foods rich in vitamin B2 such as soybeans, animal liver, or Additional supplement of vitamin B2.
- There is a heterozygous mutation in your MTHFR gene, which affects the concentration of vitamin B2.
- The use of specific drugs and alcohol abuse may lead to vitamin B2 deficiency.
- If you have Symptoms of vitamin B2 deficiency such as oral ulcers, skin pimples, you should pay attention to vitamin B2 supplementation.
- Vitamin B2 and vitamin B12 and B6 participate in Folate metabolism together.
- Pregnant women and lactating women have a high requirement for folic acid. If folic acid is supplemented, the intake of vitamin B2 should also be Appropriately increased.
- If you have Symptoms of vitamin B2 overdose such as itching and yellowing of urine, you should reduce the intake of vitamin B2.

Vitamin B2 rich foods



Knowledge

Problems caused by deficiency

Vitamin B2 cannot be stored in the body for a long time. Insufficient intake, alcoholism and some drugs can all lead to vitamin B2 deficiency. Vitamin B2 deficiency can cause a variety of symptoms, mainly including:

1. Oral-genital syndrome: Mucous membrane ulcers throughout the mouth, cracking, glossitis, etc.; Eyes are prone to fatigue, conjunctival congestion and inflammation; skin papules, scrotal inflammation.

2. Children with long-term vitamin B2 deficiency have growth retardation, which is easy to cause iron deficiency anemia.

3. Extreme vitamin B2 deficiency can cause deficiencies of other B vitamins.

Problems caused by excessive intake

It is generally believed that vitamin B2 is relatively safe. The ability of human body to store vitamin B2 is limited, and excessive vitamin B2 will be excreted in free form. However, when the content of vitamin B2 in the body is very high, it can also cause symptoms such as itching, sensitivity to light, and yellowing of urine.

Metabolism

Vitamin B2 (riboflavin) plays an important role in the metabolism of protein, fat, carbohydrates, etc. Generally, it participates in energy metabolism in the form of flavin adenine dinucleotide (FAD) and flavin mononucleotide (FMN). In addition to participating in metabolism, vitamin B2 is also related to cell growth, repair, iron absorption and storage, and mobilization. It also has an impact on nerve cells, retinal metabolism, the release of corticotropin from the pituitary gland, and the growth and development of the fetus.

Vitamin B2 is a water-soluble vitamin that is widely present in various foods, such as animal liver, eggs, lean meat, yeast, spinach, etc. Generally, the content of meat is higher than that of plant foods.

In addition, it is generally recommended to use compound vitamin B when supplementing through drugs to maintain a balance with other B vitamins.

My Genetic Result Details

Gene locus	Gene name	My genotype	Description
RS1801133	MTHFR	AG	slightly high vitamin B2 nutritional requirement

Test details

Applicable situation

The vitamin B2 nutritional requirement item uses one polymorphic locus on MTHFR gene. The test results showed the vitamin B2 nutritional requirement represented by the genotype combination of the user at one polymorphic locus tested. The test cannot represent the user's real vitamin B2 nutritional requirement.

Notification

1. Limited by the existing sample size, there may be some errors in this test. With the expansion of sample size, the test results will be continuously optimized.

2. Limited by the current technological means and the level of scientific cognition, this test may not cover all genes or loci related to vitamin B2 nutritional requirement.

How to use the test results

Notification

1. The test is not suitable for clinical diagnosis.

2. An individual's nutritional metabolism is the result of the interaction of genes, environment, and living habits.

3. The test result only predicts your vitamin B2 nutritional requirement at the genetic level. Since the test does not involve consideration of other factors, it does not mean your true health status. If you have nutritional supplement related needs, you can consult authoritative nutritionists, clinicians or professionals based on the results of this genetic test to obtain professional nutritional advice.

Test content

One polymorphic locus related to vitamin B2 nutritional requirement was detected, including rs1801133.

Study population

The basis of the test is mainly from the research of Caucasian.

Limit of detection

Limited by the current technology and the level of scientific cognition, the testmay not cover all genes or loci that related to vitamin B2 nutritional requirement.

Lactose Metabolism

Lactose only exists in mammalian milk in nature, which is very important for children's intellectual development. Lactose metabolism is closely related to lactose intolerance, a condition in which the body does not produce lactase that breaks down lactose.

My Lactose Metabolism

Weak

Intake recommendations

- Your Lactose metabolism is weak. After drinking a lot of milk on an empty stomach, Adverse reactions such as gastrointestinal discomfort may occur
- There is a mutation in your MCM6 gene, which causes the body's lactase activity to be insufficient to break down the lactose in milk
- Choose to drink Yogurt and other Lactose intolerant substitutes You can drink milk with cereals or Lactase
- Choose low-lactose milk (such as Shuhua milk) or lactose-free milk powder Not suitable Drink milk on an empty stomach
- Some people with lactose intolerance drink 200 ml of milk a day without any discomfort, and this ability can also be trained

List of suitable substitutes for lactose intolerant

lactose–free milk

yogurt

cheese

soy milk

Knowledge

Risks of consuming too much lactose in lactose-intolerant people

The symptoms of gastrointestinal discomfort caused by drinking milk and eating dairy products are mainly due to the lack of lactase in the intestine that can decompose lactose. The undecomposed lactose is continuously fermented by bacteria in the intestine, causing bloating, diarrhea and abdominal pain, severe cases may vomit and dehydration.

Lactose metabolism

Since lactose is ingested from the mouth, it does not undergo any chemical changes through the role of digestive glands such as the pharynx, stomach, gallbladder, and pancreas. Until the intestinal lumen side of the brush border of the small intestine mucosa, lactose is hydrolyzed into two monosaccharides, galactose and glucose, under the catalysis of lactase, and absorbed by the small intestine into the normal blood circulation. Then, under the regulation of uridine diphosphate galactose (UDP-Gal) 4-epimerase, most of the galactose enters the liver and turns into glucose, and a small amount is metabolized by red blood cells or excreted in the urine.

My Genetic Result Details

Gene locus	Gene name	My genotype	Description
RS182549	MCM6	CC	weak lactose metabolism
RS4988235	MCM6	GG	weak lactose metabolism

Test details

Applicable situation

The lactose metabolism test item uses 2 polymorphic loci on the MCM6 gene. The test result shows that the user's genotype combination at the two polymorphic loci detected and the lactose metabolism situation represented by this test cannot represent the user's actual lactose metabolism situation.

Notification

1. Limited by the existing sample size, there may be some errors in this test. With the expansion of sample size, the test results will be continuously optimized.

2. Limited by the current technology and the level of scientific cognition, and the test may not cover all genes or loci that related to the lactose metabolism.

How to use the test results

Notification

1. The test results are not applicable to clinical diagnosis.

2. An individual's nutritional metabolism is the result of the interaction of genes, environment, and living habits.

3. The test result only predicts your lactose metabolism from the genetic level, because it does not involve consideration of other factors, it does not represent your true situation. If you have nutritional supplement-related needs, you can consult authoritative nutritionists, clinicians or professionals based on the results of this genetic test to obtain professional nutritional advice.

Test content

The test includes rs4988235 and rs182549, these 2 polymorphic loci related to lactose metabolism.

Study population

The basis of the test is mainly from the research of Caucasian.

Limit of detection

Limited by the current technology and the level of scientific cognition, the test may not cover all genes or loci that related to the lactose metabolism.