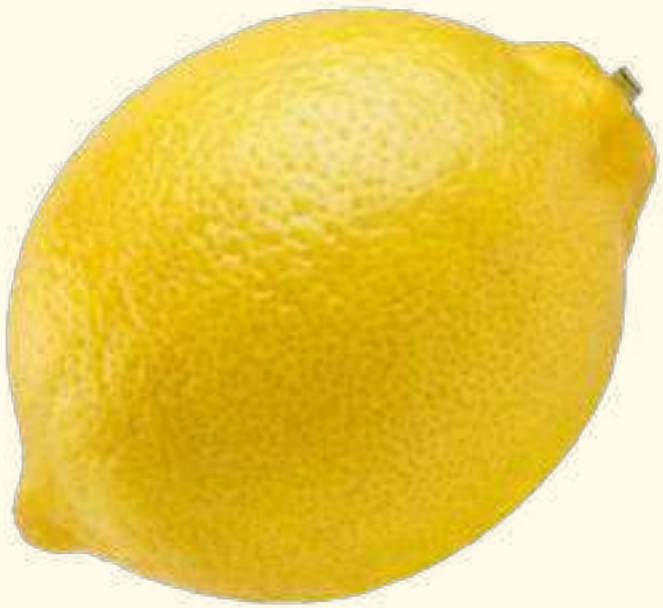
Precision nutrition report

Made for (Client’s name)



Hey (Client's name)

Welcome to your nutrition report!

You've taken the first step on your personalised nutrition journey.

Nutrition trends come and go, but it will always be true that there is no one size fits all approach that works for everyone. The path to wellness is a personalised one!

Your nutrition report will reveal how your unique genetic makeup influences your requirement for vitamins and micronutrients, giving you the tools you need to tailor your nutrient intake to your own specific needs.

Within your report, you'll learn about the role each nutrient plays in the body, how your DNA modifies what you need, and what steps you can take to optimise your intake.

Read on to find out more about you.

Helpful terms

You'll see some of the same terms come many times throughout your report. Here are some definitions you can refer back to:

What's a oftene?

A gene is a section of your DNA that contains instructions for building a specific protein. These proteins can give rise to the expression of certain physical traits or cell functions, which in turn determines our unique physical and biological characteristics.

What's a oftenotype?

Differences in our genes are what make us unique. The specific version of a gene you carry is called your genotype.

What do the letters ACTG mean?

The chemicals that your DNA code is made of can be represented by four letters - A, C, T and G. By looking at these letters, we can see which specific DNA code you carry.

Phenotype

Your phenotype is a description of your observable traits. For example, calling someone tall would be a description of their height phenotype. In the realm of nutrition, a higher sensitivity to certain foods could be an example of an observable phenotype that we can correct with diet.

Micronutrient

Micronutrient is a broad term to describe nutrients that we need in very small amounts for healthy growth and metabolism. This category includes vitamins but also minerals, essential fats like omega-3s, and others.

Vitamin

A vitamin is an organic (carbon based) micronutrient that we need for functional metabolism. They are known as 'essential' because the body can't make them, so we need to consume them to maintain good health.

Enzyme

An enzyme is a protein based catalyst that accelerates the speed of chemical reactions. The vast majority of processes in our bodies are governed by enzymatic activity. Without enzymes, life would be impossible - essential biochemical reactions would not occur fast enough to sustain us.

Coenzyme / cofactor

Cofactors and coenzymes are compounds that bind to enzymes and help them speed up chemical reactions. There are slight differences in how cofactors/ coenzymes are defined, but the terms are often used interchangeably.

With those definitions out of the way, let's move into your report!

Nutrition & health

We can categorise all nutrients into two broad groups - macronutrients and micronutrients.

Macronutrients are named as such because we need them in large amounts. We use them for energy and as building blocks. They come in 3 sub-groups: fat, carbohydrate, and protein, which together make up the bulk of our food.

Micronutrients are so named because we need them in relatively small amounts. But make no mistake, just because we only need a small amount does not minimise their importance. Micronutrients are absolutely essential to life, they are vitally important compounds that our bodies can't produce on their own.

In fact the very word vitamins stresses their importance. The name hails back to their discovery by Dr Casimir Frank, who was studying birds being fed only rice and noted that their health deteriorated rapidly when deprived of 'vital amines', later termed vitamins.

Micronutrients is a catch all term that includes vitamins but also other compounds that we need in small amounts to maintain our health - this includes minerals, antioxidants, and essential fats like omega-3.

Macronutrients like carbohydrates, proteins, and fats are essential for energy and vital bodily functions. At the same time, micronutrients such as vitamins and minerals play a crucial role in physiological processes, ensuring proper growth and health. Micronutrients act as key cofactors for enzymes, akin to oil for a machine, facilitating essential chemical reactions in the body.

The balance between macronutrients and micronutrients is vital for maintaining overall well-being and supporting the body's intricate mechanisms.

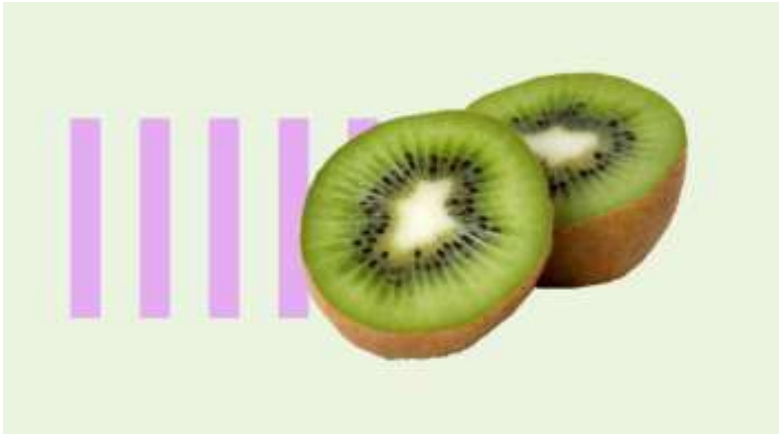
Nutrition & your DNA

We're all different. We see it in the world around us every day - different bodies, different personalities, different behaviours. You might not appreciate just how granular those differences are. Even on the smallest biological level, there are minute differences that affect how we respond to our environment.

Your DNA is a code for building protein. Protein is what our molecular machines, enzymes, are made of and what dictates our ability to digest and utilise macronutrients effectively.

Small differences in that code can result in very slight changes in the structure of enzymes and the molecules involved in macronutrient metabolism. These differences in structure mean that our molecular machines perform ever so slightly differently.

In the context of nutrition, these differences mean that our vitamin and mineral requirements will be different and we need to adjust to our diet needs to suit our individual predispositions.



Vitamin A

Vitamin A is a fat-soluble vitamin that is essential for vision, immune function, reproduction and growth.

Based on your results you have a normal need for vitamin A

Function

Vitamin A is essential for the maintenance of rod and cone cells that absorb light in the eye. Elsewhere in the body, vitamin A influences the expression of many genes and has a wide ranging impact on development, immunity, and growth.

Deficiency

Vitamin A deficiency can cause poor immune function, dry skin, sleep problems and hormonal imbalances. It can also cause problems with vision, in the most extreme cases resulting in blindness. It's important to be cautious with vitamin A intake because it can become toxic at high levels. Vitamin A toxicity shares many of the symptoms of deficiency, and also includes nausea, fatigue, hair loss and poor bone health.

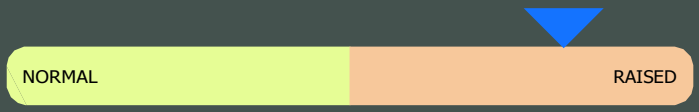
How to improve

Vitamin A comes in 2 forms: active vitamin A (retinol), and precursors such as beta-carotene. Retinol is only found in animal foods like organ meats, dairy, eggs and fish. Vitamin A precursors are compounds that can be converted into retinol, like the carotenoids found in colourful plant foods. Liver and fish oils have the highest concentration of vitamin A among food sources, while colourful fruits and vegetables are excellent sources of carotenoids.

Your Vitamin A Genes

Based on your results you have a normal need for vitamin A

For full genetic details contact us.



The genes tested were selected because they are involved in the conversion of vitamin A precursors to active vitamin A.

Advice for you

Here's some recommended lifestyle tips and practices based on your result

Animal foods such as liver, eggs and milk are a good source of retinol (active vitamin A), which is useful for people who are poor converters of beta-carotene.

Beta–carotene from fruits is more easily absorbed than from vegetables so enjoy mangoes, melons and oranges. Other vitamin A-rich plant foods include leafy greens, sweet potatoes, broccoli, carrots, and squash.

The beta-carotene in plants is often bound to protein and fibre so is difficult to absorb raw. Steam or bake your vegetables to increase the absorption. Avoid boiling, as this causes nutrients to be lost to the water.

Riboflavin

Riboflavin is a B-vitamin involved in many roles in the body, being particularly important for energy metabolism and growth.

Based on your results you have a normal need for riboflavin

Function

Riboflavin is an essential component of two major coenzymes, flavin mononucleotide (FMN) and flavin adenine dinucleotide (FAD), which play essential roles in energy production, growth, metabolism of fats, and breakdown of drugs. Riboflavin also helps to maintain a healthy limit on homocysteine levels, which is an inflammatory amino acid that can contribute to cardiovascular disease if not controlled.

Deficiency

Riboflavin deficiency is rare and shares symptoms with many other vitamin deficiencies. However, it can be characterised by redness or soreness around the throat and tongue, and dry cracked lips. It can also result in frequent migraines, and vision becoming very sensitive to bright lights. Because riboflavin is used to release energy from food, high fat or high carb diets increase the need for riboflavin. High levels of activity and exercise will also increase requirements.

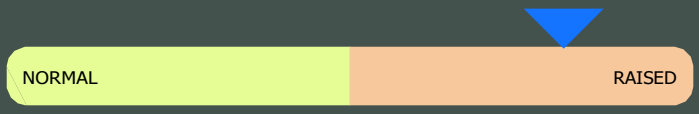
How to improve

Animal foods are typically rich in riboflavin, with liver, beef, turkey, chicken, eggs, and dairy being the best sources. Plant sources of riboflavin include almonds, yeast extract, and quinoa.

Your Riboflavin Genes

Based on your results you have a normal need for riboflavin

For full genetic details contact us.



The genes tested were selected because they influence riboflavin requirement.

Advice for you

Here's some recommended lifestyle tips and practices based on your result

Riboflavin is very sensitive to light, and will break down if exposed to bright light. For example, milk in a carton will preserve its riboflavin content better than milk in a transparent bottle. Store your riboflavin sources in a cool dark place to minimise this issue.

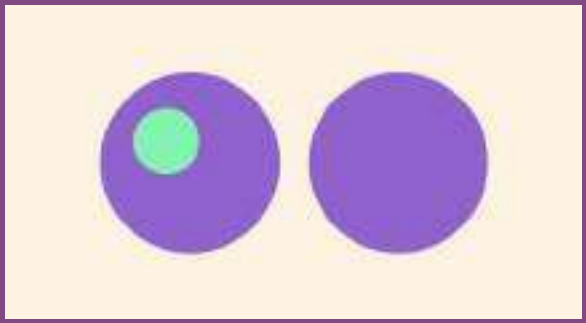
Riboflavin is very sensitive to industrial processes. Blanching, milling, and fermenting may result in significant losses of riboflavin. For this reason, it's best to choose whole food options and avoid processed foods.

The best sources of riboflavin are liver, beef, turkey, chicken, eggs, milk, and almonds.

Vitamin B6

Vitamin B6 is a water-soluble vitamin that is naturally present in many foods that plays a broad role in the body.

Based on your results you have a normal need for vitamin B6



Function

Vitamin B6 contributes to the activity of a huge range of enzymes (proteins that control chemical reactions) in the body. 140 enzymes are influenced by vitamin B6 so it is crucial to have sufficient intake of this vitamin. New evidence suggests that vitamin B6 also contributes to the antioxidant system by generating hydrogen sulphate, which supports proper blood vessel function, healthy blood clotting, and proper brain functions.

Deficiency

Dietary source of vitamin B6 are versatile and it is difficult to get vitamin B6 deficiency, except malnutrition, alcoholism and absorption issues (Crohn's disease, celiac disease, etc). High protein intake and mental stress also increase B6 requirements. Insomnia, problems with mood or mental health, and anemia are common signs of needing more B6.

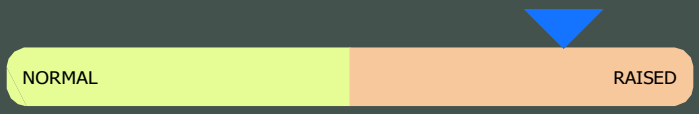
How to improve

Good sources include salmon, chicken breast, beef, pork, sweet potatoes, bananas. The vitamin B6 in plant foods is more difficult to absorb, so for vegans it is important to have a varied diet to improve chances of absorption from different sources. Nutritional yeast is a good supplement for vegans to include.

Your Vitamin B6 Genes

Based on your results you have a normal need for vitamin B6

For full genetic details contact us.



The genes tested were selected because they influence vitamin B6 requirement

Advice for you

Here's some recommended lifestyle tips and practices based on your result

Vitamin B6 in plant-based sources is bound to sugars and it is less bioavailable than B6 from animal sources. If you are vegan or vegetarian, aim for a variety of plant-based sources of vitamin B6, as some will be easier to absorb than others.

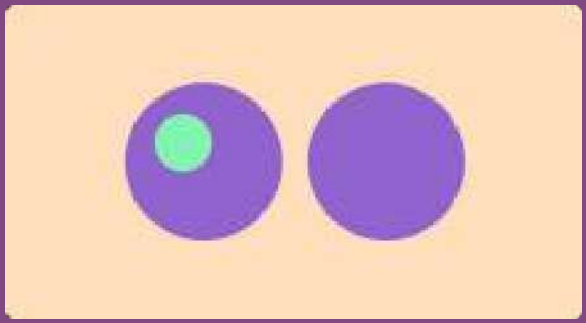
Vitamin B6 like the rest of vitamins B is easily washed out by excess of water so steam or microwave your meals rather than cook them. If you need to cook them, please do it in very small amount of water.

Around 15% of people have difficulty converting plant based B6 into its active form. If you are vegan and have a raised genetic need for B6, consider supplementing with B-complex or nutritional yeast.

Folate

B-vitamins are a group of compounds that help the body to release energy from food and transport it around the body

Based on your results you have a normal need for B-group vitamins



Function

Folate works together with vitamin B12, B6 and riboflavin as part of a "vitamin network" that is responsible for one carbon metabolism, which underpins many essential aspects of health. Folate intake also prevents high homocysteine levels, which would otherwise increase the risk of cardiovascular diseases, strokes and clotting disorders as well as dysfunctional immune responses. In many chronic inflammatory conditions, for example diabetes, one carbon metabolism is impaired which increases homocysteine and and leads to cardiovascular issues and accelerated aging.

Deficiency

The principal symptom of folate deficiency is high levels of homocysteine, which can damage the cardiovascular system and contribute to faster biological aging. Folate levels are particularly important during pregnancy, deficiency at this time can cause spina bifida in the baby.

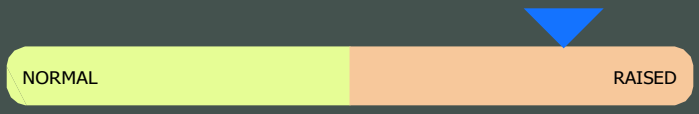
How to improve

The richest sources of folate are dark green leafy vegetables (turnip greens, spinach, brussel sprouts, broccoli, romaine lettuce), beans, peanuts, sunflower seeds, orange juice, and whole grains.

Your Folate Genes

Based on your results you have a normal need for B-group vitamins

For full genetic details contact us.



The genes tested were selected because they are involved folate metabolism and transport

Advice for you

Here's some recommended lifestyle tips and practices based on your result

Depending on the food source, folate can be found in different forms. In bread, meat, eggs and milk it has a mono-glutamate tail. In plant foods it has a polyglutamate tail. Men absorb mono-glutamate sources better than polyglutamate sources. Women can absorb both sources equally well.

Folate can be hard to absorb from raw vegetables due to being bound to fibre and protein. Lightly cook your vegetables with a small amount of olive oil to improve folate absorption.

Avoid boiling as a cooking method as a large amount of the folate content will be lost to the water. Steaming is preferable.

Vitamin B12

Vitamin B12 functions as a coenzyme within the body. It is the only vitamin that contains a metallic element, cobalt, so is sometimes referred to as cobalamin.

Based on your results you have a normal need for vitamin B12

Function

Vitamin B12 helps maintain brain function and development, neurological function, and the production of red blood cells. It is part of the vitamin B and folic acid network and contributes to one carbon metabolism, which underpins many aspects of good health. Vitamin B12 is also required for converting protein and fat into energy and is essential for cell division and DNA synthesis.

Deficiency

Vitamin B12 is stored in the liver, so it can take a long time for deficiency to develop. Vitamin B12 is found almost exclusively in animal foods, so vegetarians and vegans are at the greatest risk of deficiency. The elderly are also vulnerable to deficiency because our ability to absorb vitamin B12 declines as we age. Deficiency is seen in as much as 40% of the elderly population. Deficiency may cause various health problems, such as megaloblastic anemia, appetite loss, sore tongue, neurological problems and dementia.

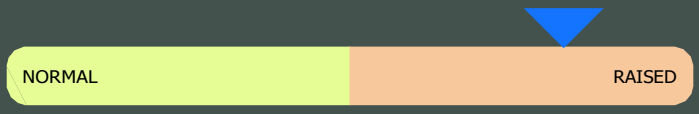
How to improve

Animal-sourced foods are virtually the only dietary sources of vitamin B12. These include meat, dairy products, seafood and eggs. Tempeh and some kind of algae, such as nori seaweed, may also contain small amounts of vitamin B12.

Your Vitamin B12 Genes

Based on your results you have a normal need for vitamin B12

For full genetic details contact us.



The genes tested were selected because they are involved in the absorption and useage of B12.

Advice for you

Here's some recommended lifestyle tips and practices based on your result

Fruits and vegetables contain zero vitamin B12. Therefore vegans and vegetarians are high risk for deficiency and need to manage their intake carefully.

Spirulina, chlorella and other algae have some vitamin B12 but it is mostly a pseudo-form that cant be used by humans. The best source of plant-based vitamin B12 is nori seaweed and dry purple laver. Nutritional yeast is another non-animal alternative.

In the event of deficiency, vitamin B12 supplements are a safe and effective way to restore levels.

Vitamin C

Vitamin C is an essential nutrient involved in the repair of tissue, the formation of collagen, and the production of certain neurotransmitters. It also important for immunity and the antioxidant system. Most animals are able to synthesize their own vitamin C, however humans have to get it from the diet.

Based on your results you have a normal need for vitamin C

Function

Vitamin C plays many roles in the body. It is well known as an antioxidant, and importantly maintains the glutathione antioxidant system which protects against chronic disease. It is critical for collagen production which is the connective tissue in your skin, muscles, gums and bones. Vitamin C is involved in the production of many hormones, including the stress hormones adrenaline and cortisol, thyroid hormone, oxytocin, antidiuretic hormone, and sex hormones. Because vitamin C plays so many roles, we need it for strong bones, immunity, resistance to stress, energy, brain function, libido and healthy skin.

Deficiency

Vitamin C deficiency results in scurvy, which causes fragile blood vessels, bleeding gums, and slow wound healing. It can also have severe consequences, such as a heart attack, irregular heartbeat, and internal bleeding. Diabetic people have higher needs for vitamin C intake, as higher blood glucose levels compete with vitamin C for uptake to important target tissues, mainly immune cells. Smoking damages vitamin C and dramatically increases the need for it in the diet.

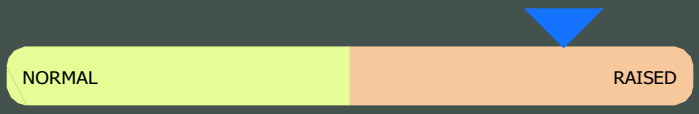
How to improve

Fresh fruits and vegetables are the richest source of vitamin C, kiwi and red peppers are some of the best sources. Herbs and spices like paprika and parsley are packed with vitamin C as well. Many people get the majority of their vitamin C from potatoes as these are eaten in large amounts compared to other foods. Fresh meat and fish contain a small amount of vitamin C but not enough to meet our minimum requirements.

Your Vitamin C Genes

Based on your results you have a normal need for vitamin C

For full genetic details contact us.



The genes tested were selected because they influence blood levels of vitamin C

Advice for you

Here's some recommended lifestyle tips and practices based on your result

Vitamin C is very sensitive to heat and can break down during cooking, so make sure to include raw and lightly cooked sources of vitamin C in your diet.

If you want to preserve vitamin C, do not use boiling as a cooking method as the heat + water is particularly bad for vitamin loss. Steaming is preferable.

Potatoes are a good source of vitamin C. Cooking them with the skin on will preserve a higher vitamin C content than if you peel them.

Vitamin D

Vitamin D is considered a “hormone-like” vitamin, which governs bone mineralisation, immune responses, inflammation and even aging processes.

Based on your results you have a normal need for vitamin D

Function

Vitamin D is found in some foods, but is also produced by our skin when it's exposed to sunlight. It has long been known to improve bone health by helping the body retain calcium and phosphorus. Vitamin D is essential for healthy muscle function, and studies have also shown that vitamin D can reduce inflammation, improve immunity, and support insulin signalling. Many of the body's cells and tissues have receptors for vitamin D, suggesting it plays an important role in many processes.

Deficiency

Due to the essential role vitamin D plays in bone health, deficiency can lead to rickets in children or osteomalacia in adults - conditions of painful, deformed bones. Other consequences of deficiency are neuromuscular conditions like tetany, which results in muscle tremors and confusion. Vitamin D levels are inversely correlated with BMI, so overweight people typically require more. Though vitamin D is generally safe, extremely high intakes over a long period of time can result in the calcification of soft tissues.

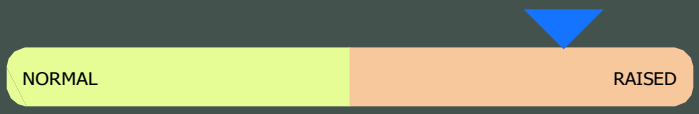
How to improve

The skin can produce all the vitamin D we need if exposed to enough sunlight. However, we get very little sunlight in modern life due to an indoor lifestyle, clothing, and UV-blocking creams. Vitamin D production is particularly poor in northern latitudes like the UK, where the sun is weak for much of the year. In the diet, vitamin D is mostly found in animal foods. Fatty fish such as salmon, tuna, and herring are some of the best sources of vitamin D. Other sources include egg yolk, dairy products, and animal liver. Mushrooms are the best plant-based source of vitamin D.

Your Vitamin D Genes

Based on your results you have a normal need for vitamin D

For full genetic details contact us.



The genes tested were selected because they are involved in vitamin D absorption, transport, activation and utilisation.

Advice for you

Here’s some recommended lifestyle tips and practices based on your result

The best source of vitamin D is sun exposure. In the UK, 13 minutes of midday sunlight exposure during summer three times per week is enough to maintain healthy levels among Caucasian adults. The darker your skin, the longer you will need in the sun to produce vitamin D.

During the winter, the sunlight is not strong enough for vitamin D synthesis so it needs to be obtained through diet. Factor 15 UV protection or above will also block vitamin D synthesis almost entirely.

The best dietary sources of vitamin D are fatty fish such as salmon, tuna and herring, pastured egg yolks, and certain mushrooms.

Vitamin E

Vitamin E is a fat-soluble vitamin that is a powerful antioxidant, which we need to protect our tissues from wear and tear as we age.

Based on your results you have a normal need for vitamin E

Function

Vitamin E is a powerful antioxidant and protects the cell membranes from oxidative and toxic stress, which is particularly important for blood vessels, brain health, and fertility. It also supports immune function and reduces the risk of clots forming in the blood, and helps protect us from chronic, degenerative diseases like heart disease and cancer. Recent studies have shown that vitamin E consumption slows the shortening of telomere and cellular senescence, both hallmarks of biological and cellular aging.

Deficiency

Vitamin E is found in a wide range of plant foods, and we only need a very small amount. Therefore, deficiency is rare and is usually only found in people with a medical condition that prevents absorption of fats, or a rare genetic condition known as ataxia. Symptoms of deficiency include weakened immunity, coordination problems, numbness in the arms and legs, and issues with vision.

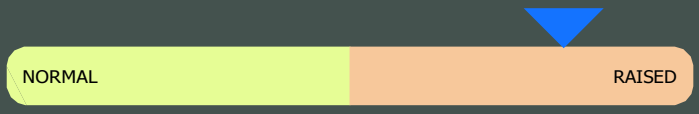
How to improve

Vitamin E is found in plant-based oils like sunflower oil and red palm oil (only use sustainably sourced), and also in nuts, seeds, fruits, and vegetables. Most fresh whole plant foods are good sources of vitamin E, and grass fed animal products also have good levels.

Your Vitamin E Genes

Based on your results you have a normal need for vitamin E

For full genetic details contact us.



The genes tested were selected because they are associated with vitamin E levels

Advice for you

Here's some recommended lifestyle tips and practices based on your result

Vitamin E is fat soluble, and therefore is absorbed best when consumed together with a fat source. Add some healthy fats to your vegetables to maximise vitamin E absorption.

Vitamins A, C and E work protect each other from oxidative damage and have complementary biological functions, so it's beneficial to consume sources of vitamin A, C and E together in the same meal.

If consuming vitamin E as a supplement, make sure it contains alpha-tocopherol along with a healthy fat for absorption.

Iron Overload

Hemochromatosis is a condition where the body absorbs too much iron (i.e. iron "overload") and can result in liver disease, arthritis and heart conditions. If you have a high risk for iron overload it is important to monitor your iron intake and blood markers of iron status such as ferritin, hepcidin or transferrin saturation.

Based on your results you have a low risk for hemochromatosis

Function

Iron is an essential mineral and important component of hemoglobin, the substance in red blood cells that carries oxygen from your lungs to transport it throughout your body. Iron supports a strong immune system and is also necessary to maintain healthy cells, skin, hair, and nails.

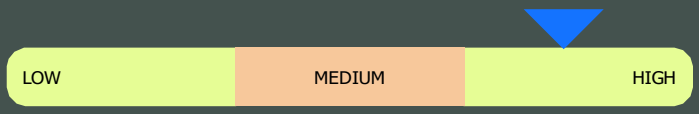
How to improve

Those with a higher risk of iron overload should monitor their iron intake and regularly monitor their blood levels for various iron status markers. It is also important to avoid drinking excessive amounts of alcohol – this can increase the level of iron in your body and put extra strain on your liver.

Your Iron Overload Genes

Based on your results you have a low risk for hemochromatosis

For full genetic details contact us.



The genes tested were selected as they influence gut absorption of iron and risk of iron overload.

Advice for you

Here's some recommended lifestyle tips and practices based on your result

There are two types of dietary iron: heme and non-heme. Heme iron is found in meat and seafood. Non-heme is found in plants, meat, seafood, and fortified products. Heme iron is more bioavailable than non-heme iron, meaning that it's more easily absorbed by your body.

Vitamin C, or ascorbic acid, enhances the bioavailability of non-heme iron. In addition, meat and seafood can also enhance the absorption of nonheme iron.

Phytate, or phytic acid, is a compound found in grains and legumes that decreases the absorption of iron. Other compounds in plant foods, known as polyphenols, can also decrease iron absorption.

Iron Deficiency

Low iron status is determined by measuring certain blood markers such as ferritin, hepcidin or transferrin. Low iron stores can lead to anemia, which is associated with fatigue, pale skin, weakness, shortness of breath and dizziness. Several genes can impact the risk of having low iron status.

Based on your results, you have an increased risk for low iron.

Function

Iron is an essential component of hemoglobin, which is the molecule in red blood cells that carries oxygen. It has a role in body temperature regulation, muscle activity, immune function and even brain activity.

Deficiency

People suffering from iron deficiency anemia don't always show symptoms at first, but as the condition gets worse they may experience tiredness and shortness of breath. Heart palpitations and pale skin are other common symptoms.

How to improve

To minimise your risk for low iron, meet the RDA for iron and consume food sources of vitamin C with non-heme iron-containing foods to increase iron absorption. Focus on foods with a high bioavailability such as animal products (heme iron) and cooked spinach. Men aged 19 years and older and women over 50 should aim for 8 mg/day. Women 19-50 years old should aim for 18 mg/day.

Your Iron Deficiency Genes

Based on your results, you have an increased risk for low iron.

For full genetic details contact us.

The genes tested were selected due to their involvement in regulation of iron in the body, and absorption of iron from food.

Advice for you

Here's some recommended lifestyle tips and practices based on your result

The best animal sources of dietary iron include red meat, fish and shellfish, liver and eggs.

The best plant-based sources of dietary iron include dark green leafy vegetables, dried fruits such as figs and apricots, bean, chickpeas, nuts and seeds.

Large amounts of foods with high levels of phytic acid, such as wholegrain cereals can make it harder for your body to absorb iron.

Antioxidants

Antioxidants are compounds that protect against oxidative stress and free radical damage. The antioxidant system reduces natural wear and tear on our tissues that occurs with age, toxin exposure, metabolic dysfunction, and various illnesses.

Based on your results you have a raised need for antioxidants

Function

The antioxidant system protects cells from free radicals, which is critical for protecting general health and against most degenerative diseases, including fatty liver disease, heart disease, and cancer. It is especially important to energy metabolism, thyroid function, immunity, and insulin sensitivity.

Deficiency

Glutathione is the master antioxidant produced by the body. Antioxidants in the diet helps to preserve or boost glutathione function. Vitamins A, C and E are the best known antioxidants, but many minerals play antioxidant roles as well, especially zinc, selenium, copper and manganese. A diet low in fresh foods, especially fruits and vegetables, can reduce glutathione function and lead to a decline in general health.

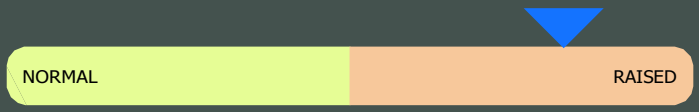
How to improve

Antioxidant compounds are often brightly coloured, so in general eating a wide range of colourful fruits and vegetables is a great way to ensure intake of antioxidant vitamins A, C and E. It's also important to get enough of the antioxidant minerals. The best sources of zinc, copper and selenium are seafood, red meat, poultry, seeds and nuts. Copper is also found in chocolate. Manganese sources include whole grains, legumes, nuts, seeds, coffee, tea, spices, and mussels.

Your Antioxidant Genes

Based on your results you have a raised need for antioxidants

For full genetic details contact us.



The genes tested were selected because they are involved in the antioxidant system.

Advice for you

Here's some recommended lifestyle tips and practices based on your result

Dietary antioxidants will support your internal antioxidant system. Include a wide range of colourul fruits and vegetables in your diets to maximise antioxidant intake.

Make sure you are consuming enough of the minerals zinc, copper, selenium and manganese. These are found in seafood, meat, and nuts.

Some foods contain preformed glutathione (a powerful antioxidant), these include spinach, avocados, asparagus and okra.

Omeofta-3

Omega-3s are a family of essential fats that must be obtained from the diet. They come in several forms - ALA, EPA and DHA, with DHA being the most important.

Based on your results you have a normal need for Omega-3

Function

Omega-3s play an anti-inflammatory role in the body and help to reduce chronic inflammation that is driven by modern lifestyles. DHA is a key structural component of your eyes, nervous system, and other cell membranes. Healthy omega-3 levels can help with recovery from various biological stressors such as poor diet, injury and infection.

Deficiency

Omega-3 deficiency, particularly DHA deficiency increases the risk of chronic low-grade inflammation which can accelerate the development of many chronic conditions related to aging. Deficiency can also cause issues with vision, mental focus, and mood. The balance of omega-3 to omega-6 in the diet is important, those with high omega-6 intake should increase their omega-3 consumption. Vegetarians and vegans need significantly higher omega-3 intake because the plant form of omega-4, ALA, does not convert well to DHA.

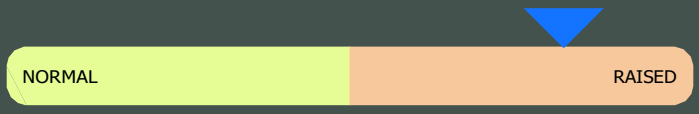
How to improve

DHA is found in large amounts in seafoods (mainly fish, also some crustaceans and certain algae used in supplements) and in smaller amounts in egg yolks when chickens are raised on pasture. A diet low in seafood and based on grain-fed animal products is the major risk factor for low DHA levels.

Your Omeofta 3 Genes

Based on your results you have a normal need for Omega-3

For full genetic details contact us.



The genes tested were selected because they are involved in the conversion of EPA and ALA to DHA

Advice for you

Here's some recommended lifestyle tips and practices based on your result

In the western diet, we have a far higher intake of omega-6 than omega-3. This imbalance drive chronic, low grade inflammation. For optimal health, these should be close to equal intake.

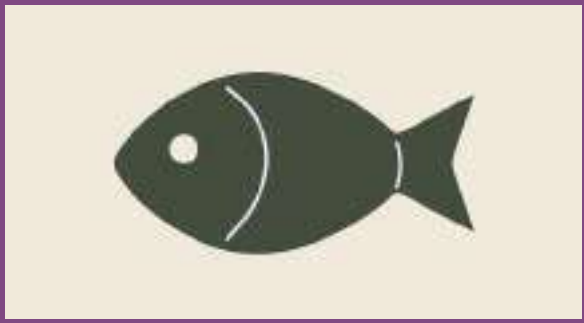
The best sources of omega-3 are fish oil and wild fatty fish like salmon, tuna, and mackerel. Farm raised fish are not good sources. Walnuts, flaxseed oil, and chia seeds are rich in the ALA form of omega-3 , but this converts very poorly to the more useful EPA and DHA forms. To account for this low conversion, vegans and vegetarians need to have a higher intake of ALA.

Processed vegetable oils like corn, sunflower, hemp, safflower, and soy are very high in omega-6 and should be minimised where possible.

Saturated Fat Sensitivity

There are two main types of dietary fat; unsaturated and saturated. We should all aim to eat more unsaturated fat and less saturated fat.

Based on your results you have a very high sensitivity to saturated fat



Function

Fat is a great source of energy and provides essential fatty acids, which our bodies can't make on their own and helps us to absorb vitamins. There are some misconceptions around the effect of fats on our health; it's not always bad and a moderate amount of unsaturated fat in the diet allows your body to function properly and prevent disease. However, high intakes of saturated fat are associated with raised cholesterol which may increase your risk of clogged arteries and heart disease.

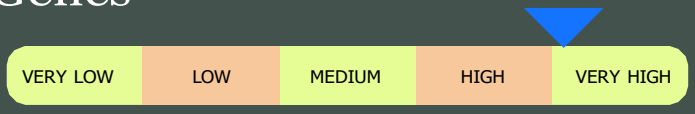
How to improve

Aim to get the majority of your dietary fat from unsaturated fat sources. Fish, avocados, nuts, seeds and olive oil are all good, nutritious sources of unsaturated fats. Try to limit your intake of saturated fats such as butter, cheese, processed or fatty meats and baked goods such as cookies.

Your Saturated Fat Sensitivity Genes

Based on your results you have a very high sensitivity to saturated fat

For full genetic details contact us.



The genes tested were selected because they each play a key role in how your body uses fats. Their functions affect many processes that happen in your body, including how your body absorbs, transports and metabolises different fats.

Advice for you

Here's some recommended lifestyle tips and practices based on your result

Aim for less than 7% of your daily calories through saturated fat intake. Be conscious of fats in cream, butter and oils. Think about increasing portions of healthy foods on your plate to reduce your fat intake. With every meal try to include one palm-sized portion of protein dense food and one fist-sized portion of vegetables.

Try replacing saturated trans fats with unsaturated fats like olive oil, nuts, seeds, avocados and oily fish.

Research has shown that understanding your genetic response helps people to adhere to dietary changes, so knowledge of your result may help you stick to healthier habits for longer.

Carbohydrate Sensitivity

Carbohydrates are a food group that make up a significant portion of most people's diets.

Based on your results you have a medium sensitivity to carbohydrates

Function

Carbohydrates are important in giving your body the energy it needs to function via conversion into glucose, and are the main source of fibre your body needs to maintain a healthy gut. The trick with carbohydrates is to understand how you personally respond to them, and get a handle on how different types of carbohydrates impact your body.

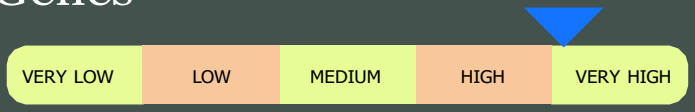
How to improve

Carbohydrates are grouped into two different categories: Low GI and High GI carbohydrates. Low GI carbohydrates tend to be unprocessed and fibre-rich, and promote positive health by delivering fibre, vitamins and minerals. These carbohydrates are converted into glucose slowly, providing sustainable energy levels throughout the day. High GI carbohydrates produce a faster, higher spike in blood sugar levels and are often processed and lacking important nutrients. Aim to get the majority of your carbohydrates from Low GI sources.

Your Carbohydrate Sensitivity Genes

Based on your results you have a medium sensitivity to carbohydrates

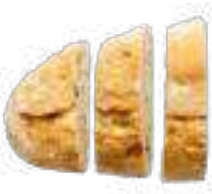
For full genetic details contact us.



The genes tested were selected because they each play a key role in how your body metabolises and absorbs carbohydrates, how sensitive you are to insulin, and how your body uses glucose.

Advice for you

Here's some recommended lifestyle tips and practices based on your result



Carbohydrate intake has a direct impact on your blood sugar levels. When glucose is released too quickly into your body, it disrupts your blood sugar levels. Over time, this can have a negative impact on your health and make it more difficult to manage your weight.

Focus on including more unrefined carbohydrates in your diet, such as fruit, vegetables, legumes and whole grains. This will increase your fibre intake - leading to a healthier digestive system!

Limit your intake of refined carbohydrates. As well as obvious sources such as processed foods and sugary drinks, refined carbohydrates are also found in low-fibre foods such as rice-cakes, fruit juice and ketchup.

Lactose Intolerance

All humans are born with the ability to digest lactose, by generating the enzyme lactase. However, this ability turns off in most of the world's population after early life, apart from those with the variant of the LCT gene tested here.

Based on your result, you are tolerant to lactose.

Function

The LCT gene provides instructions for making an enzyme called lactase, which helps to digest lactose, a sugar found in milk and other dairy products. Babies' bodies make the lactase enzyme so they can digest milk, including breast milk. After the weaning phase in most humans, the production of lactase decreases. However, some humans continue to produce lactase throughout adulthood, a trait known as lactase persistence.

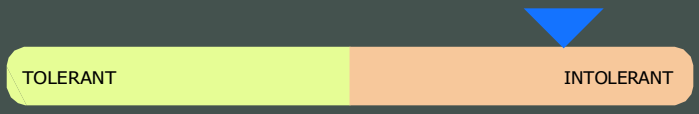
How to improve

In lactose intolerance, the body doesn't make enough lactase to break down lactose. Instead, undigested lactose sits in the gut and is broken down by bacteria. This causes gas, bloating, stomach cramps, and diarrhea. This can be managed by not consuming dairy products, lactose-free milk is also a great way to keep calcium in the diet without the associated issues.

Your Lactose Tolerance Genes

Based on your result, you are tolerant to lactose.

For full genetic details contact us.



The LCT gene has been tested as it is responsible for creating lactase.

Advice for you

Here's some recommended lifestyle tips and practices based on your result

If you can't tolerate any lactose, you can always choose lactose-free milk or dairy alternatives such as almond, soy or oat milk.

Some people who are intolerant to lactose can still include up to 12g of lactose per day. Pay attention to your symptoms when consuming lactose to better understand your tolerance level.

Fermented dairy sources such as kefir and quark are typically lower in lactose. These are also excellent sources of probiotics as they contribute to a healthy digestive system, so are a great source of dairy to include in your diet.

Coeliac Predisposition

Coealiac disease is a condition where your immune system attacks your own tissues when you eat gluten. This damages your small intestine so your body cannot properly take in nutrients.

Based on your results you have a low predisposition for Coeliac disease

Function

Gluten is a protein naturally found in some grains including wheat, barley and rye. It acts as a binder, making dough rise and stay elastic, and helping food hold its shape.

How to improve

People with Coeliac disease have to follow a gluten-free diet, which removes all foods containing or contaminated with gluten. However, since gluten-containing whole grains contain fiber and nutrients including B-vitamins, magnesium and iron, it's important to make up for these missing nutrients elsewhere. Some whole grains are inherently gluten-free, including corn, quinoa, buckwheat and brown rice.

Your Coeliac Predisposition Genes

Based on your results you have a low predisposition for Coeliac disease

For full genetic details contact us.

NORMAL RAISED

The genes tested were selected due to their role in developing Coeliac disease. Having the genetic factor might mean that you will develop Coeliac disease in your lifetime, but it does not mean this is certain.

Advice for you

Here's some recommended lifestyle tips and practices based on your result

People with Coeliac disease can still enjoy foods such as bread and pasta thanks to a wide-range of gluten-free products available in most supermarkets.

Coeliac disease is not the same as gluten intolerance. Whilst people with an intolerance to gluten may experience some discomfort and symptoms in response to eating gluten, Coeliac disease can be very serious when not-detected.

Coeliac disease affects 1 in 100 people in the UK, making it more common than previously thought. Under diagnosis is an issue and it is suggested that up to 500,000 people have not yet been diagnosed.

Fructose Sensitivity

Fructose is a sugar that occurs naturally in fruits, vegetables and honey. When a person is unable to digest or absorb fructose, they may have a fructose intolerance. This may cause bloating, abdominal pain and diarrhea in response to consuming fructose. People with a more severe form of fructose intolerance called hereditary fructose intolerance will develop symptoms in infancy. Without treatment, they may develop life threatening complications, such as liver and kidney failure.

Based on your results you have a normal sensitivity to fructose

Function

Fructose is an important nutrient found naturally in fruit as a component of most healthy diets. It is metabolised in the liver, where it promotes the synthesis of fat. Mutations in the ALDOB gene have been found to cause hereditary fructose intolerance, a condition characterised by nausea and intestinal discomfort following ingestion of fructose.

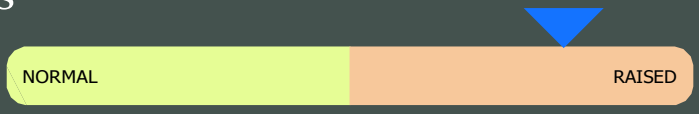
How to improve

Symptoms of fructose intolerance may also be caused by a malabsorption of fructose due to other conditions such as Coeliac disease, excessive consumption of fruit juices, or the presence of an excessively degrading microbial flora.

Your Fructose Sensitivity Genes

Based on your results you have a normal sensitivity to fructose

For full genetic details contact us.



The ALDOB gene has been tested as it is responsible for producing the aldolase B enzyme, which digests fructose in the body.

Advice for you

Here's some recommended lifestyle tips and practices based on your result

In case of fructose malabsorption, avoid fruits that contain large amounts of fructose including cherries, watermelon, pears, apples and mangoes.

Fructose is also found in vegetables such as asparagus, chicory and peas!

Low fructose fruits include blueberries, raspberries, bananas and kiwis.

Salt Sensitivity

Many people eat more than the recommended amount of salt without even knowing it. Salt is often added to pre-prepared foods, so make sure you take a close look at the label.

Based on your results you have a raised sensitivity to salt.

Function

The human body requires a small amount of salt for essential functions such as relaxing and contracting muscles, and maintaining a proper balance of water and minerals. But too much salt in the diet can lead to health complications including high blood pressure, heart disease and stroke. Adults should have no more than 6g of salt per day.

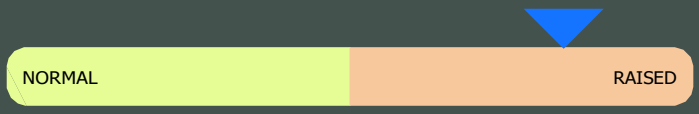
How to improve

The predominant source of salt in the modern adult's diet comes almost entirely from processed foods, so always place an emphasis on whole foods and home cooked meals where possible.

Your Salt Sensitivity Genes

Based on your results you have a raised sensitivity to salt.

For full genetic details contact us.



The genes tested were selected due to the link with predisposition to hypertension when combined with excessive sodium consumption.

Advice for you

Here's some recommended lifestyle tips and practices based on your result

Rather than seasoning food with salt, try adding flavour with garlic, lemon, chilli, ginger or herbs.

Always taste your food before adding salt - it may not need it!

Added salt can be found in processed foods which you may not even think of, including cereals and bread. Where possible check the label and choose a low-sodium option.

Alcohol Response

There are conflicting opinions on whether alcohol can ever be considered as healthy. We champion an approach of balance and moderation, so regardless of your genetic profile, we advise not exceeding the recommended daily intake of alcohol.

Based on your results, you have a negative response to alcohol.

Function

The ADH1C gene codes for a protein responsible for assisting the metabolism of alcohol in the body. Depending on your genetics, this gene may result in the production of an amino acid called Valine. Valine results in a lower activity enzyme, which metabolises the alcohol more slowly. This is positively associated with higher levels of HDL ("good" cholesterol) in moderate drinkers.

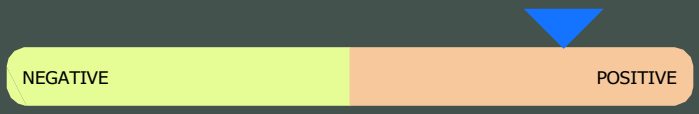
How to improve

Only when drinking in moderation (up to 3 units per day) will there be any positive effects on HDL cholesterol levels in those with the Valine allele.

Your Alcohol Response Genes

Based on your results, you have a negative response to alcohol.

For full genetic details contact us.



We've tested the ADH1C gene due to its role in the metabolism of alcohol and the link to HDL levels.

Advice for you

Here's some recommended lifestyle tips and practices based on your result

One unit of alcohol equals 10ml of pure alcohol, which is roughly the amount of alcohol the average adult can process in one hour.

One unit is the same as half a standard size glass of wine, a single measure of spirit, or half a pint of normal strength (4%) beer.

Alcohol is full of "empty" calories, meaning there is little to no nutritional value derived from drinking it.

Caffeine Sensitivity

Genetics can make a difference in how the body metabolises caffeine, which in turn alters the risk of caffeine consumption on your health.

Based on your results, you have a higher sensitivity to caffeine.

Function

Caffeine is a stimulant, meaning it increases activity in the brain and nervous system. It also increases circulation of chemicals including cortisol and adrenaline in the body. In small doses, caffeine can make you feel refreshed and focused, however too much can lead to feelings of anxiety, trouble sleeping, and more serious health issues.

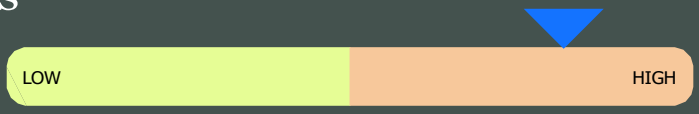
How to improve

A cup of green tea can have roughly 70% less caffeine than a cup of coffee, so makes a great alternative for those looking to cut their caffeine intake.

Your Caffeine Sensitivity Genes

Based on your results, you have a higher sensitivity to caffeine.

For full genetic details contact us.



The CYP1A2 was tested as it is responsible for 95% of caffeine metabolism in the body.

Advice for you

Here's some recommended lifestyle tips and practices based on your result

Caffeine content in coffee can vary a lot, depending on the type of beans used and the way they have been roasted. Filter coffee tends to have the most caffeine content, even more than espresso.

Avoid caffeine for 2-3 hours before you go to bed, as it may harm your sleep - even in fast metabolisers!

Caffeine is not only found in coffee, but in teas, energy drinks, soft drinks and even some medicines.

Detoxification Ability - Phase I

Detoxification occurs in the body in two phases. In the first phase, your genetics impact how quickly you metabolise potentially harmful toxins in the liver.

Based on your results you have a raised risk of DNA damage from eating smoked or chargrilled animal protein.

Function

Cooking meats including beef, pork, fish and poultry at high temperatures can create compounds called heterocyclic amines (HCAs) and polycyclic aromatic hydrocarbons (PAHs). These compounds cause damage to DNA and protein in our cells via a process called oxidative stress, which can lead to health problems in the long term.

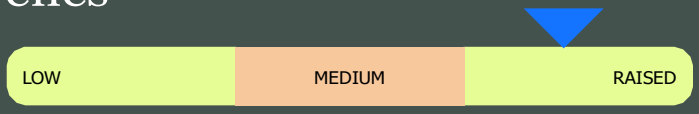
How to improve

Cooking with acidic marinades including lemon, lime, vinegar or wine can reduce the formation of toxic compounds during cooking by up to 90%.

Your Detoxification (Phase I) Genes

Based on your results you have a raised risk of DNA damage from eating smoked or chargrilled animal protein.

For full genetic details contact us.



The genes tested were selected because they influence the speed at which you metabolise potentially harmful toxins in the liver.

Advice for you

Here's some recommended lifestyle tips and practices based on your result

Where possible, take steps to protect your meat from direct heat when cooking.

Steaming, poaching and stewing are all methods which offer more protection against the formation of harmful compounds during cooking.

Marinating your meats in acidic based marinades for as long as possible prior to cooking can greatly reduce toxic compound formation.

Detoxification Ability - Phase II

In the second phase of detoxification, certain genetic variants impact how quickly you remove toxins from the body.

Based on your results you have a normal need for cruciferous vegetables.

Function

Once your body has completed detoxification phase I, it moves into phase II to complete the detoxification process. Eating certain types of vegetables can assist your body with this process. These vegetables are part of a family called cruciferous vegetables - named after the cross shape at their base. Cruciferous vegetables include cauliflower, broccoli, brussel sprouts and cabbage.

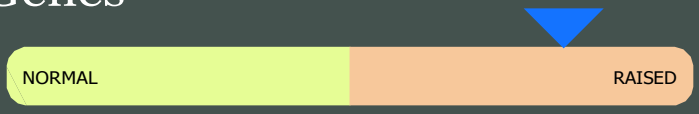
How to improve

Whenever possible, if you are eating charred meat, try to accompany this with some cruciferous vegetables to assist your body's detoxification process.

Your Detoxification (Phase II) Genes

Based on your results you have a normal need for cruciferous vegetables.

For full genetic details contact us.



The genes tested were selected due to their role in supporting phase II of the detoxification process.

Advice for you

Here's some recommended lifestyle tips and practices based on your result

One serving of cruciferous vegetables is equivalent to half a cup of cooked vegetables or a cup of raw vegetables.

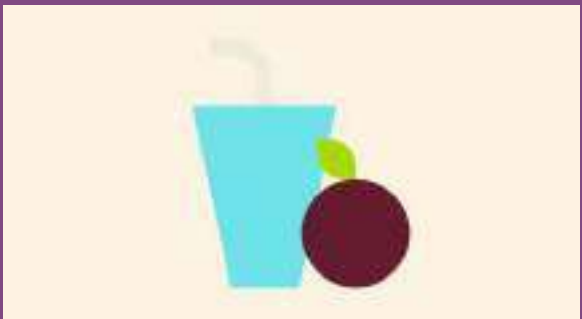
If you struggle to include cruciferous vegetables, try adding microgreens from mustard seeds or watercress.

Get creative with your recipes - try roasting florets of cauliflower to intensify its flavour!

Suoftar preference

Sugar intake is partly determined by our sweet taste preference and cravings for certain foods and beverages. There is considerable variability in individuals' preferences and cravings for sweet foods and beverages. There are many factors that may impact your preference for sugary foods including the age that you are first introduced to sweets, and psychological associations between consuming these foods and certain life experiences or emotions.

Based on your results, you are at a normal risk of over-consuming sugar.



Function

The body does not respond well to over-consumption of sugar, the excess blood glucose can cause a number of health issues including blurred vision, cognitive impairment, physical fatigue, difficulty concentrating.

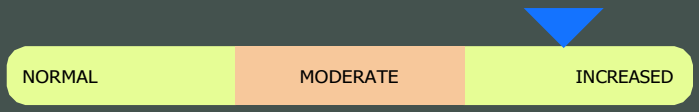
How to improve

Having an occasional sweet treat is fine - no foods should be off-limits. But eating too much sugar can increase your risk of a wide range of health issues, from weight gain and tooth decay to diabetes and heart disease. Try slowly reducing your intake of sugary foods and drinks over a few weeks, as this is likely to be manageable and sustainable.

Your Suoftar Preference Genes

Based on your results, you are at a normal risk of over-consuming sugar.

For full genetic details contact us.



The GLUT2 gene has been tested due to its association with the overconsumption of sugar.

Advice for you

Here's some recommended lifestyle tips and practices based on your result

Pairing foods that contain sugar with foods that contain fiber, protein, or healthy fats can make it easier to reduce your sugary food's portion size. It can also slow the rate at which your body absorbs the sugar.

Be mindful of portion sizes - if you want something, then have it - but try to have a small portion when it comes to sugary treats to keep your daily sugar consumption within the recommended amounts.

It may seem obvious, but keeping sugary foods and drinks out of the house will make them easier to avoid. Try replacing your favourites with healthier alternatives.

Bitter taste perception

Studies report that individuals carrying a C allele on the TAS2R38 gene are likely to be a 'taster' of certain bitter flavours based on the TAS2R38 genotype and can perceive the bitterness in foods and beverages such as cabbage, raw broccoli, soy, green tea, tonic water, coffee and some beers.

Based on your results, you are likely to be a taster of certain bitter flavours.

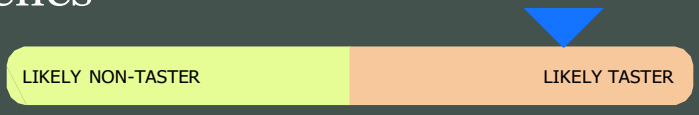
Function

Our experience of taste differs from person to person due to variations in our taste receptors. The 'supertaster' gene determines if you are able to detect certain bitter compounds found in common foods. Our ability to taste bitterness is thought to protect us against consuming toxic foods.

Your Bitter Taste Perception Genes

Based on your results, you are likely to be a taster of certain bitter flavours.

For full genetic details contact us.



The TAS2R38 gene has been tested as it codes for a protein which allows us to detect bitter tastes.

Advice for you

Here's some recommended lifestyle tips and practices based on your result

You are likely a taster of bitter foods, so you might struggle to tolerate the taste of certain foods like broccoli, brussels sprouts, kale, and even coffee. Try adding herbs and spices like basil, coriander, garlic, ginger, or something acidic like lemon juice or vinegar. These will help override bitter tastebud receptors by stimulating other taste receptors such as savoury, salty, or sour.

Try including other vegetables in your diet such as carrots, cucumber, zucchini or peppers to ensure you consume a variety of foods.

Hiding bitter vegetables in larger meals like stews or soups, might neutrilse the taste.