Welcome To Your **DNA**

FULL REPORT

1111-1111-1111

PERSONAL DETAILS

Name	:	Sample
DOB	:	10/10/1990
Gender	:	Female
Report No	:	1111-1111-1111
Report Date	:	01/08/2021

Laboratory Info

Specimen Type	:	Saliva
Specimen ID	:	1111-1111

Hi Sample

Welcome to Your Personal **DNA Report.**

Thank you for choosing **[your company name]** to understand your genetic profile.Using the saliva samples provided by you, we have analyzed over 500 genes to provide insights on your nutrient needs, food and dietary sensitivities, well-being, fitness, skincare, personality and physical traits.

The **[your company name]** report covers aspects on how your genes influence the way your body processes and metabolises nutrients, including carbohydrates, fats, specific vitamins; your food sensitivities to certain nutrients found in foods; as well as how well your genes affect your exercise performance and skin condition in order to achieve the optimal health. In addition, report related to your personality and other traits aim to provide unique insightful perspectives to help you realise your potential in developing important personal aspects in your life.

With the report in hand, we hope to assist you in achieving your health and life goal, with personalised diet, nutrition, fitness, and other areas in daily life recommendation specially for you. We hope that you enjoy reading your unique DNA profile on the journey of self-discovery.

If you have any questions or concerns regarding any aspects of your report, kindly contact us at **[your company email]**.

LjLee

Lee Le Jie, Ph.D.
Co-Founder & Chief Scientific Officer
Prima Nexus Sdn. Bhd.

Disclaimer

The test does not provide a diagnosis or treatment. The report and comments are for informational purposes only and should not be interpreted as specific professional medical advice. The results are based on tested genes and variations in the panel. Untested genes, variations, and nongenetic factors also influence your dietary and fitness needs or sensitivities. Please consult your doctor or qualified healthcare professional before making decisions about medical conditions, or before starting and stopping any treatment prescribed for you. The contents in this report, including (but not limited to) the interpretation of lab results and recommendations, may change in future versions as more scientific discovery and/or research become available. This report is based solely on the sample and information provided to Prima Nexus Sdn. Bhd and does not take all factors of the customer's care into account. Therefore, Prima Nexus Sdn. Bhd and their employees shall have no liability to any person or entity with regards to claims, loss, or damage caused, or alleged to be caused, directly or indirectly, by the use of the information contained herein.

Table of Contents

About Nutrigenomics

Your Results: Nutrient Needs

Your Results: Food and Dietary Sensitivities

Your Results: Well-Being

Your Results: Fitness

Table of Contents

Your Results: Skin Care

Your Results: Personality and Physical Traits

01.

About Nutrigenomics

What is **Nutrigenomics?**

One of the main factors that greatly influence your well-being is your diet. Standard nutritional guidelines tend to be on a one-size-fits-all approach, but do you know that your genetic makeup makes a difference to what and how much you should you eat to achieve optimal health? This is where nutrigenomics can help you. There is vast scientific evidence demonstrating the link between genetics, nutritional requirements and health. With the help of nutrigenomics, your diet can be tailored to your needs.

Nutrient Needs

Normal Needs | **Moderate Needs** | **Higher Needs**

Your nutrient needs, or the amount of a particular nutrient you need to consume, differs depending on your DNA. For instance, some individuals with certain genetic variations may be predisposed to low folic acid levels in their blood. For such individuals, their folic acid intake will need to be higher than the norm to achieve a normal level of this nutrient in their blood, i.e. they have higher needs for folic acid.

Do note that nutrient needs in this report reflects your genetic susceptibility and not your current nutrient status. The foods that you are eating may already be providing sufficient nutrients to make up for moderate or higher needs of a particular nutrient.

Food Sensitivity

Normal Sensitivity | **Moderate Sensitivity** | **Higher Sensitivity**

How your body reacts to everyday foods is termed sensitivity. For example, a person who is sensitive to caffeine may show higher blood caffeine content (compared to someone who is not sensitive to caffeine) after taking a cup of coffee.

Do bear in mind that your actual end results can be influenced by your environment. For example, people who are sensitive to caffeine but have developed a tolerance to the substance may not feel anxious or experience rapid heartbeats after drinking coffee. However, their bodies' reaction to caffeine does not change even though they have developed a tolerance to it and they may still experience other side effects.

Your DNA
Results Summary

Name : Sample
Report No : 1111-1111-1111
Report Date : 01/08/2021

Nutrient Needs

Protein (Pg.14)
Your results suggest that you need normal protein intake. Higher protein intake (25%-35% of daily caloric intake) may not improve weight loss, insulin resistance and metabolic health for this genotype.

Normal Needs

Omega-3 (Pg.15)
Your results suggest that you have inefficient metabolism of omega-3. To maintain optimal brain function and heart health, it is recommended that you consume more omega-3.

Higher Needs

Omega 6 (Pg.16)
Your results suggest that you need moderate omega-6 intake.

Moderate Needs

Fiber (Pg.17)
Your results suggest that you have slightly higher fiber needs. Consider to increase fiber intake to over 38 g/day for men and over 25 g/day for women.

Moderate Needs

Antioxidants (Pg.18)
Your results suggest that you have normal antioxidant activity. Antioxidants help fight aging and prevent diseases.

Normal Needs

Vitamin A & Beta-Carotene (Pg.19)
Your results suggest that you have normal vitamin A needs. Try to maintain your vitamin A intake at 900 ug/day for men and 700 ug/day for women.

Vitamin A

Normal Needs

Beta-Carotene

Normal Needs

Folic Acid (Pg.20)
Your results suggest that you have normal folic acid metabolism. Adequate folic acid intake is vital for heart and reproductive health.

Normal Needs

Vitamin B6 (Pg.21)
Your results suggest that your body is moderately efficient in metabolizing vitamin B6. Try increasing your intake of vitamin B6 for optimal energy levels and a strong immune system.

Moderate Needs

Nutrient Needs

Vitamin B12 (Pg.22)

Your results suggest that you have poor absorption of vitamin B12. It is recommended that you consume more vitamin B12 for a healthy nervous system.

Higher Needs

Vitamin C (Pg.23)

Your results suggest that you have normal vitamin C metabolism. Vitamin C is important for your skin and immune system.

Normal Needs

Vitamin D (Pg.24)

Your results suggest that you have normal vitamin D metabolism. Vitamin D is important for strong bones and muscles.

Normal Needs

Vitamin E (Pg.25)

Your results suggest that you have higher vitamin E needs. Consider to increase vitamin E intake to over 15 mg/day for adults.

Higher Needs

Calcium (Pg.26)

Your results suggest that you have slightly higher calcium needs. Consider to increase calcium intake to over 1200 mg/day for men and women. It is not advisable to exceed more than 2500 mg/day.

Moderate Needs

Iron (Pg.27)

Your results suggest that you have higher iron needs. Consider to increase iron intake to over 8 mg/day for men and 18 mg/day for women. It is not advisable to exceed the intake more than 45 mg/day.

Higher Needs

Zinc (Pg.28)

Your results suggest that you have higher zinc needs. Consider to increase zinc intake to over 11 mg/day for men and over 8 mg/day for women. It is not advisable to exceed more than 40 mg/day.

Higher Needs

Magnesium (Pg.29)

Your results suggest that you have normal magnesium needs. Try to maintain your magnesium intake at 400-420 mg/day for men and 310-320 mg/day for women.

Normal Needs

Phosphorus (Pg.30)

Your results suggest that you have normal phosphorus needs. Try to maintain your phosphorus intake at 700 mg/day for men and women.

Normal Needs

Coenzyme Q10 (Pg.31)

Your results suggest that you have higher coenzyme Q10 needs. Consider to increase coenzyme Q10 intake to over 60 mg/day for adults.

Higher Needs

Selenium (Pg.32)

Your results suggest that you have slightly higher selenium needs. Consider to increase selenium intake to over 55 ug/day for adults. It is not advisable to exceed more than 400 ug/day.

Moderate Needs

Food & Dietary Sensitivities

Carbohydrate (Pg.34)

Your results suggest that your body responds normally to carbohydrates, which is true for about 50% of the population.

Normal Sensitivity

Fat (Pg.35)

Your results suggest that you respond normally to fats. However, your cholesterol level can still be influenced by the amount of fat you consumed.

Normal Sensitivity

Caffeine (Pg.36)

Your results suggest that you have normal sensitivity to caffeine. Anxiety and sleep problems are more likely to show up even with low caffeine intake. Try limiting your caffeine intake to not more than 400 mg daily.

Normal Sensitivity

Sweet (Pg.37)

Your results suggest that you have normal preference towards sugar. Try to consume not more than 10 teaspoons of sugar a day.

Normal Sensitivity

Salt (Pg.38)

Your results suggest that you are sensitive to salt. You have increased risk of high blood pressure. Be mindful of your salt consumption.

Higher Sensitivity

Taste (Pg.39)

Your results suggest that you are sensitive to taste. Your sensation of taste will be enhanced. Your eating behavior is more likely to be influenced by how foods taste.

Super Taster

Alcohol (Pg.40)

Your results suggest that you respond normally to alcohol. You have a better tolerance to alcohol and are less likely to blush. Don't drink more than you can handle.

Normal Sensitivity

Lactose (Pg.41)

Your results suggest that your body cannot tolerate lactose. Your lactose digestion is likely to be poor. Gut bacteria can help to alleviate symptoms of lactose intolerance and allow you to consume moderate amounts of lactose.

Intolerant

Gluten (Pg.42)

Your results suggest that you respond normally to gluten. You have the ability to digest gluten. Wheat is one of the grains that contain gluten.

Normal Sensitivity

Well-Being

Total Cholesterol (Pg.44)

You are more likely to have normal level of total cholesterol.

Normal Level

Low Density Lipoprotein (Pg.45)

You are more likely to have normal level of LDL.

Normal Level

High Density Lipoprotein (Pg.46)

You are at a moderate risk of getting lower level of HDL.

Moderate Level

Triglyceride (Pg.47)

You are at a moderate risk of getting higher level of triglycerides, please pay attention to your food intake.

Moderate Level

Obesity Risk (Pg.48)

Your results suggest that you have normal obesity risk. However, it is still important to consume a healthy balanced diet and be physically active.

Normal Risk

Metabolic Response (Pg.49)

Your results suggest that you have a genetic variation associated with low metabolic rate. You may find it more challenging to lose weight compared to people with normal metabolic response.

Lower Response

Appetite Control (Pg.50)

Your results suggest that you have normal appetite control. Try to consume a balanced healthy diet.

Normal Control

Inflammation (Pg.51)

You are part of the 85% of population with a normal inflammation response. You are less likely to develop arthritis.

Inflammatory Response

Normal Response

Anti-inflammatory Response

Moderately Decreased Response

Detox Phase I: Toxin Generation Speed (Pg.52)

Your results suggest that preserved foods will make your body produce more unhealthy chemical compounds. Over time, these toxins have the potential to harm your health by destroying your DNA and the protein in your cells.

Higher Speed

Detox Phase II: Cruciferous Vegetable Needs (Pg.53)

Your results suggest that you need to consume more foods that can help boost your body's ability to eliminate toxins. Consider eating cruciferous vegetables (e.g. broccoli, cabbage, cauliflower).

Higher Needs

Fitness

Injury Risk
(Pg.55)

Your results suggest that you have a high risk of injury. To avoid injuries, take more time to prepare yourself before engaging in any exercise. Spend 5-10 minutes to stretch and warm up, and also remember to cool down after completing your exercise.

Higher Risk

Oxygen Efficiency
(Pg.55)

Your results suggest that you have normal oxygen efficiency. You can probably manage moderate-duration cardio sessions but find it difficult to complete longer-duration workouts. To enhance your body's ability to utilise oxygen more efficiently, consider endurance-training activities such as brisk walking, jogging or cycling for 30-45 minutes, 4-5 times each week. Higher oxygen efficiency means your body can produce more energy, allowing you to endure longer periods of exercise or physical activity.

Normal Efficiency

Recovery Efficiency
(Pg.55)

Your results suggest that you have a low post-exercise recovery rate, although this is not uncommon; about 8 in 10 people have this trait. Our body needs time to heal itself. Please give yourself additional time to recover between each exercise session (an additional 1-2 days of rest, on top of the usual 2-3 days) so that you can perform at your best. Although it is perfectly fine to stay active while you are recovering, try not to over-exert yourself.

Slower Recovery

Power & Endurance
(Pg.56)

Your results suggest that you have higher level of power. Power is the ability to move weight with speed. You may be more suited for exercises that involve short bursts of high intensity activities/movements.Your results suggest that you have higher level of endurance. You are suitable for exercises that require better

Power

Higher Power

Endurance

Higher Endurance

Fitness

Sprint Performance (Pg.57)

You are likely to show high sprint performance.

Higher Performance

Muscular Strength (Pg.57)

You tend to have greater muscular strength.

Stronger Strength

Athletic Ability (Pg.57)

Your sports performance is average, so it will take some effort to stand out.

Intermediate Ability

Post-Exercise Heart Rate Recovery Rate (Pg.58)

Your heart rate tends to recover more quickly after exercise.

Faster Recovery

Marathon Endurance (Pg.58)

Your running performance in a marathon is likely average.

Intermediate Endurance

Achilles Tendon Ruptures (Pg.58)

You are less likely to have achilles tendon ruptures.

Normal Risk

Anterior Cruciate Ligament Rupture (Pg.59)

You are less likely to have ACL ruptures.

Normal Risk

Marathon Personal Best Time (Pg.59)

You are likely to mark a better marathon personal record.

More Likely

VO2 Max and Training (Pg.59)

You are likely to show average peak oxygen uptake (VO2peak) after high-intensity interval training.

Average Improvement

Skin Care

Skin barrier (Pg.61)

Your results suggest that you have strong skin barrier. Your genotyes did not predispose you to highly permeable keratinocytes which tend to lose water easily and susceptible to damages by foreign harmful substances. You can improve the performance of your skin barrier by keeping your skin moisturized.

Strong Skin Barrier

Moisture (Pg.61)

Your results suggest that you have normal skin moisture capacity. Your DNA does not contain the FLG variant which could lead to a reduction in filaggrin protein which is important in maintaining the structure of the skin's outermost layer.

Normal Capacity

Dermal Sensitivity (Pg.61)

Your results suggest that you do not have related variant which could increase the occurrence of sensitive skin.

Normal Sensitivity

Anti-photoaging (Pg.62)

Your results suggest that you have moderate anti-photoaging ability. Your genotypes are more likely to be associated with photoaging and to exhibit symptoms such as uneven skin tone and dullness.

Moderate Ability

Anti-tanning (Pg.62)

Your results suggest that you have weak anti-tanning ability. You are more easily tanned and your natural skin colour may be darker.

Weak Ability

Freckles (Pg.62)

Your results suggest that you are less likely to have freckles. Freckles are more common in light-skinned individuals, who usually also have difficulties in getting a tan, sunburn and sun spots.

Normal Risk

Anti-oxidant (Pg.63)

Your results suggest that you have strong anti-oxidant capacity. Your genotypes are unlikely to cause accumulation of superoxide and hydrogen peroxide which could lower your skin's antioxidant capacity and become more susceptible to aging.

Strong Capacity

Elasticity (Pg.63)

Your results suggest that you have strong skin elasticity. Your genotypes are not associated with lower collagen synthesis and higher collagen breakdown, which both contribute to the loss of skin elasticity.

Strong Elasticity

Wrinkles (Pg.63)

Your results suggest that you have higher risk of glycation in the skin components. Try to reduce advanced glycation products by consuming more niacinamide, carnosine and green tea.

Higher Risk

Anti-acne (Pg.64)

Your results suggest that you have strong anti-acne ability. You are less likely to have occasional acne breakouts or persistent acne for a period of time. That said, your personal experience could be different as this is also affected by any changes in your diet, sleep pattern and the environment.

Strong Ability

Cellulites (Pg.64)

Your results suggest that you have higher risk to develop cellulite.

Higher Risk

Varicose Veins (Pg.64)

Your results suggest that you are less likely to have varicose veins. Varicose veins tend to run in families as it can be inherited through the genetic variations in the MTHFR gene. Other non-genetic risk factors include obesity, aging, prolonged periods of sitting or standing and hormonal changes.

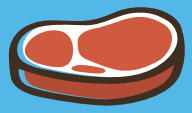
Normal Risk

02.

Your Results:
Nutrient Needs

Nutrient Needs

PROTEIN



Your Result:

Normal Needs | Moderate Needs | Higher Needs

Your Action Items

- Maintain your protein intake at 56 g/day for men and 46 g/day women to build and maintain your bones, muscle and skin.
- Consume protein-rich foods from animal sources, such as meat, poultry, fish, eggs, milk, cheese and yogurt to provide all indispensable amino acids.
- For vegans, in order to meet protein and amino acid requirements, make sure to incorporate a variety of protein-rich, plant-based foods into the diet. This includes grains, beans, legumes, nuts, seeds and vegetables.

About Protein

Proteins are the building blocks of life that are present in every cell in our bodies. Amino acids are the basic structure of protein.

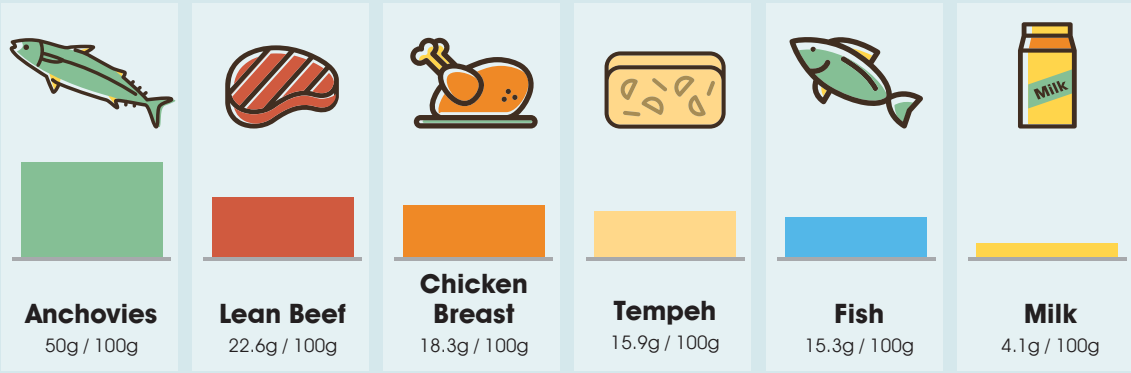
Risk of Insufficient Protein Intake

Lack of proteins leads to anemia, delayed wound-healing process and fractures. Low serum protein levels and hormonal changes might lead to edema and the affected person is susceptible to infection due to the reduced production of antibodies.

Importance of Protein

You need to consume enough protein daily as your body does not store it as protein, instead stores it as fats or carbohydrates. Protein from dietary foods are important to build and maintain bones, muscles and skin, help your body repair cells and make new ones and maintain growth and development in children, teens, and pregnant women.

GOOD SOURCES OF PROTEIN



Anchovies	Lean Beef	Chicken Breast	Tempeh	Fish	Milk
50g / 100g	22.6g / 100g	18.3g / 100g	15.9g / 100g	15.3g / 100g	4.1g / 100g

Random Facts

Proteins are digested into small units called amino acids. A number of amino acids are needed to maintain good health. "Complete proteins" contains all of the amino acids that your body cannot make and are usually from animal sources while "incomplete proteins" contains part of amino acids that your body cannot make and are usually from plant proteins. Therefore, individuals with vegan diet should eat a variety of plant proteins daily in order to get all of the amino acids that your body needs.

Your Genotype Table

		NADSYN1	FTO	Explanation
	Higher Needs	TT	AA	Your body has higher protein needs. Consider to increase protein intake to more than 56 g/day for men and more than 46g/day for women.
	Moderate Needs	GT	AT	Your body has slightly higher protein needs. Consider to increase protein intake to more than 56 g/day for men and more than 46g/day for women.
YOU	Normal Needs	GG	TT	Your body has normal protein needs. Try to maintain your protein intake at 56 g/day for men and 46 g/day women.

Nutrient Needs

OMEGA- 3

Your Result:

Normal Needs | Moderate Needs | Higher Needs

Your Action Items

- Oily fish such as salmon, mackerel and tuna are high in omega-3. Consider consuming at least 3 servings a week.
- You can also include plant-based foods that are rich in omega-3 such as chia seeds and flaxseeds. Limit the intake of omega-6 rich foods such as vegetable oils that is high in omega-6, which may reduce the absorption of omega-3.
- Consider supplementing your diet with 1-2 g of fish oil, if needed.

About Omega-3

Our body cannot produce omega-3, but it is an essential fatty acid which is commonly known as the "good" fat. Omega-3 helps to ward off heart diseases through reducing the blood triglyceride levels and preventing clogged arteries.

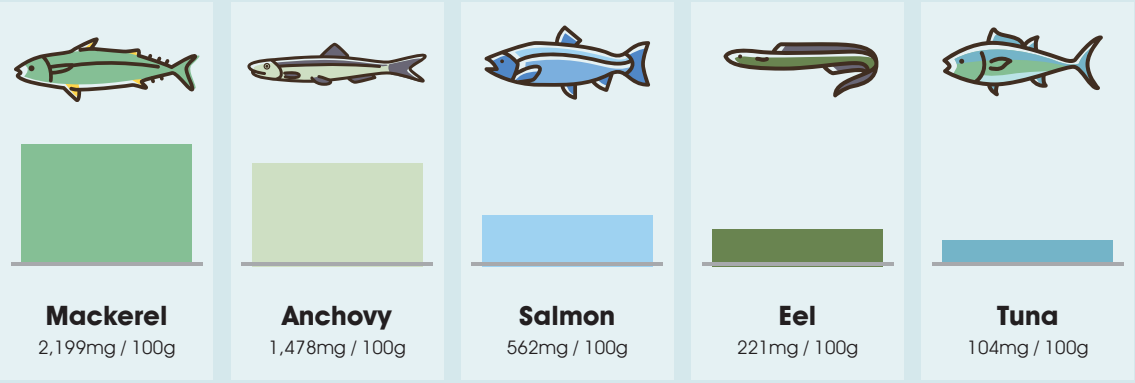
Risk of Insufficient Omega-3 Intake

You will stand a higher chance of getting heart diseases, elevated blood pressure, poor memory, dry skin and depression if you have extremely low level of omega-3.

Importance of Omega-3

Omega-3 is essential in supporting a healthy heart and circulatory system besides maintaining an optimal brain function and keeping inflammation at bay.

Milligrams of Omega-3 per 100g serving of popular fish



Mackerel	Anchovy	Salmon	Eel	Tuna
2,199mg / 100g	1,478mg / 100g	562mg / 100g	221mg / 100g	104mg / 100g

Random Facts

Surprisingly, omega-3 possesses the ability to boost the strength of bones. Most people consume much more omega-6 than omega-3 in the modern diet, although the ideal intake ratio is 1:1.

Your Genotype Table

		FADS1	MYRF	SFRPS	MYRF_1	Explanation
YOU	Higher Needs	CC	AA	CC	AA	You have higher omega-3 needs. Try to increase omega-3 intake by consuming 3 or more servings (at least 270g) of omega-3 rich fish in a
	Moderate Needs	CT	AG	CA	AC	You have slightly higher omega-3 needs. Try to increase omega-3 intake by consuming 3 or more servings (at least 270g) of omega-3 rich fish in a week.
	Normal Needs	TT	GG	AA	CC	Try to follow standard recommended guidelines of 2 servings (1 serving ~ 90g) of omega-3 rich fish in a week.

Nutrient Needs

OMEGA-6

Your Result:

Moderate Needs Lower Needs

Your Action Items

- Consuming adequate intake of omega-6 from dietary sources such as nuts and seeds, poultry, wholegrains and eggs.
- Avoid overconsumption of omega-6 primarily from seed oils such as sunflower, corn and soybean oils as omega-6 may compete with the absorption of omega-3.
- Increase the consumption of omega-3 food sources such as salmon, anchovies or flaxseeds to get a balance intake of both omega 6 and omega 3.

About Omega-6

Scientists believe that omega-6s are pro-inflammatory, while omega-3s are anti-inflammatory. Inflammation is essential for your survival as it helps protect your body from infection and injury. However, excessive inflammation can be damaging and contributes to diseases in a long run.

Risk of Insufficient Omega-6 Intake

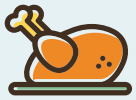
It is unlikely to have any insufficiency in the diet.

Importance of Omega-6

It is a component of structural membrane lipids that is required for normal epithelial cell function, cell signaling pathways and regulation of gene expression.

Foods rich in Omega-6

Soy Bean



Poultry

Nuts

Durum Wheat

Eggs

Random Facts

Omega 6 are abundant in our diet. We do not need to supplement it.

Your Genotype Table

		TNF	Explanation
you ▶	Lower Needs	AA	You have lower omega-6 needs.
	Moderate Needs	GG	You have moderate omega-6 needs.

Nutrient Needs

FIBER

Your Result:

Normal Needs | Moderate Needs | Higher Needs

Your Action Items

- Increase fiber intake gradually over the course of few weeks to allow the natural bacteria to adapt to the change in your digestive system.
- Consume dietary fiber from whole-grain products, fruits, vegetables, beans, legumes, nuts and seeds.
- Drink plenty of water as fiber works best when it absorbs water.

About Fiber

Dietary fiber is a type of non-digestible carbohydrate from plant sources, either water-soluble and insoluble. Water-soluble fiber helps reduce the blood glucose and cholesterol levels. Insoluble fiber promotes digestion and prevents constipation. Both fibers make you feel full and stay satisfied longer.

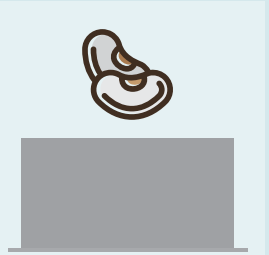
Risk of Insufficient Fiber Intake

Low dietary fiber disrupt your bowel movements and are susceptible to potential health risks such as cardiovascular disease.

Importance of Fiber

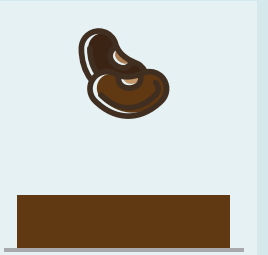
Water-soluble and insoluble fibers are found in different plant foods. To obtain these two type of fibers, you have to eat a wide range of high-fiber foods. High-fiber diet normalizes your bowel movements, lowers cholesterol leves and helps control blood sugar levels. Dietary fiber also promotes satiety, which may help you reduce energy intake and therefore reduce risk of obesity and coronary heart disease.

DIETARY FIBER RICH FOOD



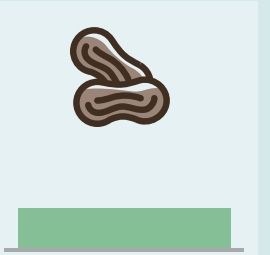
White Beans

15.2g / 100g



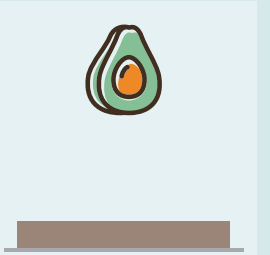
Black Beans

6.9g / 100g



Peanuts (oil roasted)

6.1g / 100g



Avocado

5.8g / 100g

Random Facts

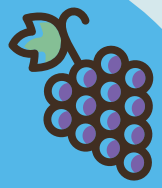
Although high-fiber foods are good for your health, consuming too much fiber too quickly can promote intestinal gas, abdominal bloating and cramping. It is advisable to drink plenty of water as fiber absorbs water to make your stool soft and bulky.

Your Genotype Table

		ZBED3	TCF7L2	Explanation
you ▶	Higher Needs	GG	GG	Your body has higher fiber needs. Consider to increase fiber intake to over 38 g/day for men and over 25 g/day for women.
	Moderate Needs	GA	GT	Your body has slightly higher fiber needs. Consider to increase fiber intake to over 38 g/day for men and over 25 g/day for women.
	Normal Needs	AA	TT	Your body has normal fiber needs. Try to maintain your fiber intake at 30-38 g/day for men and 21-25 g/day for women.

Nutrient Needs

ANTIOXIDANTS



Your Result:

Normal Needs | Moderate Needs | Higher Needs

Your Action Items

- Consume at least 2 servings of fruits a day (1 serving = ½ cup of fruit) such as berries, dragon fruit and papaya.

- Eat at least 3 servings of vegetables with different colours (such as carrots, spinach and red bell peppers) daily. One serving is equal to 1 cup of uncooked vegetable or 1/2 cup of cooked vegetable.

About Antioxidants

Vitamin A, C, E and trace mineral selenium are some of the antioxidants that can be found in fruits and vegetables. The detrimental effects of free radicals on our health include heart disease and cancer which can be reduced by antioxidants.

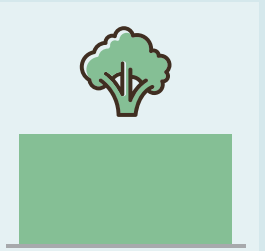
Risk of Insufficient Antioxidants Intake

The level of antioxidants in our blood is controlled by our genetics and the amount of antioxidants we ingest. Insufficient intake of antioxidants will lead to elevated levels of free radicals, which in turn destruct your body cells and DNA. Consequently, you will have higher risks of contracting cardiovascular disease, cancer, Parkinson's disease, Alzheimer's disease, rheumatoid arthritis and many more.

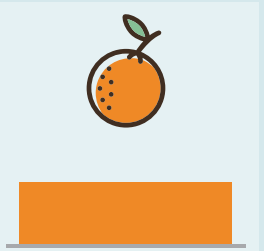
Importance of Antioxidants

Antioxidants provide protection against common colds, cardiovascular disease, cancer and auto-immune disease by countering the damaging effects of free radicals. Antioxidants can also resist premature aging by shielding the skin from the deleterious effects of the sun.

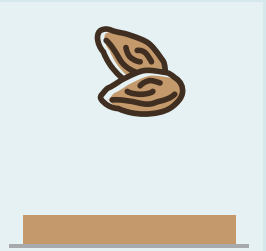
ANTIOXIDANT FOOD TABLE



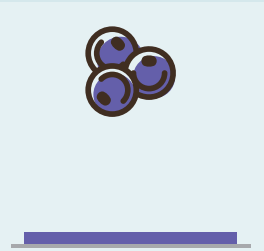
Broccoli
Vitamin K
101.6mg / 100g



Oranges
Vitamin C
53.2mg / 100g



Almonds
Vitamin E
25.6mg / 100g



Blueberries
Vitamin C
9.7mg / 100g

Random Facts

Antioxidants exhibit age-defying properties by combating the harmful effects of environmental exposures on our skin. Over exposure to pollution and ultraviolet (UV) light causes damage to our skin cells resulting in wrinkles, pigmentation and sagging. Antioxidants are abundant in goji berries, blueberries, pomegranates and bananas.

Your Genotype Table

		GPX1	CAT	SOD2	Explanation
	Higher Needs	TT	TT	AA	Consume more than 5 servings of vegetables and fruits a day.
	Moderate Needs	CT	CT	AG	Consume more than 5 servings of vegetables and fruits a day.
YOU ▶	Normal Needs	CC	CC	GG	Consume at least five servings of vegetables and fruits a day according to standard dietary guidelines.

Nutrient Needs

VITAMIN A

Your Result: Vitamin A

Normal Needs | Moderate Needs | Higher Needs

Your Result: Beta Carotene

Normal Needs | Moderate Needs | Higher Needs

Your Action Items

- Maintain your vitamin A intake to 900 ug/day for men and 700 ug/day for women for healthy eyes and skin.
- Consume at least five daily servings of fruits and vegetables to ensure an adequate supply.
- If meeting dietary requirement from food source is difficult, try getting from vitamin A supplement, such as beta carotene with proper recommendation from your doctor, as overdose might pose health risks.

About Vitamin A

Vitamin A is a fat-soluble vitamin and is classified into two groups, i.e. preformed vitamin A (retinol and retinyl esters) from animal sources and provitamin A precursors (mainly beta-carotene) in plant-derived foods. Beta-carotene is a precursor that can be converted into vitamin A in your body.

Risk of Insufficient Vitamin A Intake

Lack of vitamin A can cause problems seeing in the dark (night blindness).

Importance of Vitamin A

Vitamin A is needed for healthy vision, bone, tissue growth and regulation of your immune system to fight infection. It has antioxidant activity that reduces the effects of free radicals from tobacco smoke and radiation.

VITAMIN A RICH FOOD

Spinach
Vitamin A 712ug / 100g
Carotene 4,269ug / 100g

Red Spinach
Vitamin A 552ug / 100g
Carotene 3,313ug / 100g

Carrots
Vitamin A 408ug / 100g
Carotene 2,449ug / 100g

Random Facts

Although beta-carotene from supplement can be converted into vitamin A in your body, vitamin A from animal sources are better absorbed by your body. Research found that people who consume high fruits and vegetables diet have a reduced risk of heart disease and certain cancers due to the content of beta-carotene and other nutrients that may be beneficial. Vitamins cannot work alone and need other dietary nutrients, such as carbohydrate, protein, fat and mineral to help with the absorption into your body.

Your Genotype Table

		FFAR4	TTR	BCO1	Explanation
	Higher Needs	CC	CC	TT	Your body has higher vitamin A needs. Consider to increase vitamin A intake to over 900 ug/day for men and over 700 ug/day women.
	Moderate Needs	CT	CA	TG	Your body has slightly higher vitamin A needs. Consider to increase vitamin A intake to over 900 ug/day for men and over 700 ug/day women.
YOU ▶	Normal Needs	TT	AA	GG	Your body has normal vitamin A needs. Try to maintain your vitamin A intake at 900 ug/day for men and 700 ug/day women.

Nutrient Needs

FOLIC ACID*

(*also referred to as Folate)

Your Result:

Normal Needs Higher Needs

Your Action Items

- Follow recommended intake of folic acid at 400 ug a day.
- Include folate-rich foods in your diet such as beans, spinach, kailan and lentils. A cup of lentils provides 400ug folate.
- If meeting dietary requirement from food source is difficult, try getting from supplement in the active form such as 5-MTHF (methylfolate).

About Folic Acid

Folic acid (also known as vitamin B9, or folate in its natural form) is a water-soluble vitamin. It is essential in the production of DNA. Folic acid cannot be retained by the body, so it has to be consumed daily.

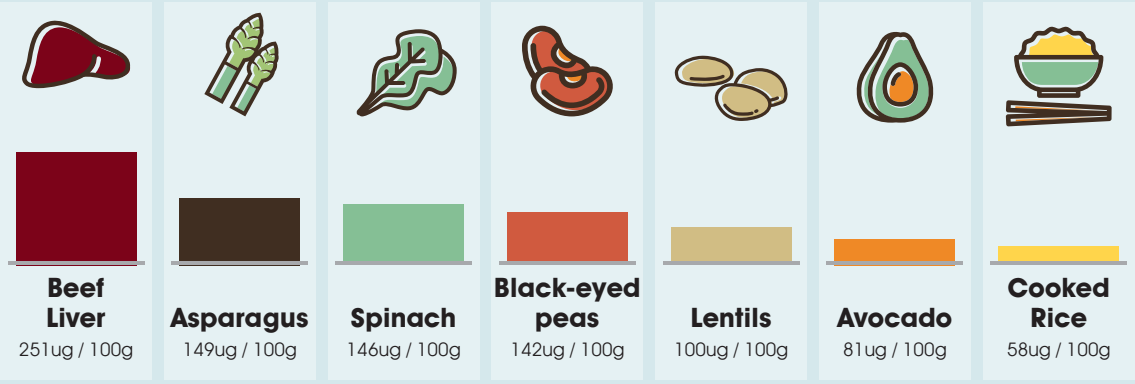
Risk of Insufficient Folic Acid Intake

The efficiency of folic acid utilization by your body is influenced by your genes. Folate deficiency may leave you susceptible to anemia, higher risk of cardiovascular diseases and stroke.

Importance of Folic Acid

Folic acid is needed for a variety of functions such as producing DNA, mending damaged DNA, promoting rapid cell division, supporting cell growth and making healthy red blood cells. Major birth defects in a baby's brain and spine can be prevented if women who are pregnant or trying to conceive consume enough folic acid.

TOP FOLATE FOOD SOURCES



Beef Liver	Asparagus	Spinach	Black-eyed peas	Lentils	Avocado	Cooked Rice
251ug / 100g	149ug / 100g	146ug / 100g	142ug / 100g	100ug / 100g	81ug / 100g	58ug / 100g

Random Facts

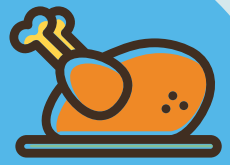
Although chicken liver and pork liver contain high amounts of folate, these animal products are also high in cholesterol content. Therefore, it is advisable to consume these food items in moderation. Fatigue, irritability and difficulty concentrating are some of the easily missed symptoms of folate deficiency. Folic acid is one of the key vitamins for women who are planning to conceive.

Your Genotype Table

		MTHFR (C677T)	MTHFR (A1298C)	Explanation
	Higher Needs	AA	GG	Increase folic acid intake to over 400ug/day. Not advisable to exceed more than 1000 ug/day.
YOU ▶	Normal Needs	GG	TT	Follow recommended intake of folic acid at 400 ug/day.

Nutrient Needs

VITAMIN B6



Your Result:

Normal Needs | Moderate Needs | Higher Needs

Your Action Items

- Consume more than 1.7 mg of vitamin B6 a day, but do not exceed 100 mg/day.
- Include B6-rich foods in your diet such as chicken breast, avocado, wheat bran and banana.
- Consider taking vitamin B complex supplements, if needed.

About Vitamin B6

Vitamin B6 is an important water-soluble vitamin in the process of converting food into energy. You need to consume vitamin B6 every day because it is not produced by your body.

Risk of Insufficient Vitamin B6 Intake

Generally it is unlikely for an individual to have vitamin B6 deficiency, but certain genetic differences are able to affect the vitamin B6 levels in the blood. Anemia, depression and a compromised immune system are some of the consequences of vitamin B6 deficiency. Other minor drawbacks include skin rashes, dry scaly lips and cracks at the corners of your mouth.

Importance of Vitamin B6

More than 100 reactions in the human body requires the presence of vitamin B6. Besides extracting energy from foods, vitamin B6 also plays a crucial role in the manufacture of cells for an optimal immune system. Vitamin B6 also helps in the production of neurotransmitter which is then used for the delivery of information between your brain and other parts of your body.

VITAMIN B6 RICH FOODS

Random Facts

Beef liver is packed with vitamin B6 but at the same time it contains high cholestrol, hence it should be consumed with care. More vitamin B6 is required by your body when you consume more protein as vitamin B6 aids in breaking down proteins into smaller molecules. Low dietary intake of vitamin B6 is associated with the increased risk of heart disease and stroke as vitamin B6 is essential for the body to process fat properly.

Your Genotype Table

		NBPF3	Explanation
you ▸	Higher Needs	CC	Your body has higher need for vitamin B6. Consider to increase vitamin B6 intake to more than 1.7 mg/day. Do not exceed the amount of 100 mg/day if you are taking vitamin B6 supplement.
	Moderate Needs	CT	Your body has higher need for vitamin B6. Consider to increase vitamin B6 intake to more than 1.7 mg/day. Do not exceed the amount of 100 mg/day if you are taking vitamin B6 supplement.
	Normal Needs	TT	Follow standard recommended guidelines for vitamin B6 of 1.3-1.7 mg/day.

1111-1111-1111

Nutrient Needs

VITAMIN B12

Your Result:

Normal Needs | Moderate Needs | Higher Needs

Your Action Items

- Increase vitamin B12 intake to 6-10 ug/day.
- Include more vitamin B12-rich foods in your diet. Example of foods that are rich in vitamin B12 are tuna, chicken and beef.
- If meeting dietary requirement from food source is difficult, try getting from supplements. Try getting B complex vitamins if you are a strict vegan.

About Vitamin B12

Vitamin B12 is stored in the liver and it helps to maintain a healthy nervous system, which includes allowing efficient delivery of brain signals to other parts of the body. Vitamin B12 is generally absent from plant foods, and you can only take it from animal products.

Risk of Insufficient Vitamin B12 Intake

Not getting enough vitamin B12 can lead to anemia and feelings of tiredness and weakness.The absorption of vitamin B12 from food is hindered in the elderly population because elderly people produce less gastric acid during digestion. Therefore, mild B12 deficiency is more common among the elderly than the younger generations.

Importance of Vitamin B12

Vitamin B12 is essential for the conversion of energy from food, maintenance of a healthy nervous system and the manufacture of red blood cells and DNA.

TOP VITAMIN B12 FOOD SOURCES

Beef Liver	Clams	Mussels	Mackerel	Salmon	Tuna
69.99ug / 100g	13.10ug / 100g	12.00ug / 100g	6.94ug / 100g	4.47ug / 100g	2.99ug / 100g

Random Facts

A healthy liver can store tremendous amounts of vitamin B12 for up to 2 years. Seaweed (nori) is also a source of vitamin B12, which is widely used in Japanese cuisine. It is common for vegans who do not consume vitamin B12 fortified foods or take vitamin B12 supplements to develop vitamin B12 deficiency.

Your Genotype Table

		FUT2	MS4A3	FUT6	CLYBL	PRELID2	Explanation
YOU ▶	Higher Needs	GG	CC	GG	TT	TT	Your body has higher vitamin B12 needs. Consider to increase vitamin B12 intake to 6-10ug/day.
	Moderate Needs	AG	CT	AG	CT	CT	Your body has slightly higher vitamin B12 needs. Consider to increase vitamin B12 intake to 6-10ug/day.
	Normal Needs	AA	TT	AA	CC	CC	Your body has normal vitamin B12 needs. Try to follow standard recommended guidelines for B12 of 4.0 ug/day.

Nutrient Needs

VITAMIN C

Your Result:

Normal Needs | Moderate Needs | Higher Needs

Your Action Items

- Consume at least 70 mg of vitamin C per day.
- Include vitamin C rich foods in your diet. You can get 70 mg vitamin C from eating 1 orange, 3/4 cup of broccoli or 1 kiwi.

About Vitamin C

Your vitamin C intake is solely dependent on your diet because the human body cannot manufacture vitamin C. The water-soluble vitamin C is best known for its function in producing collagen, which is a key component of connective tissues, skin, blood vessels, bones and teeth.

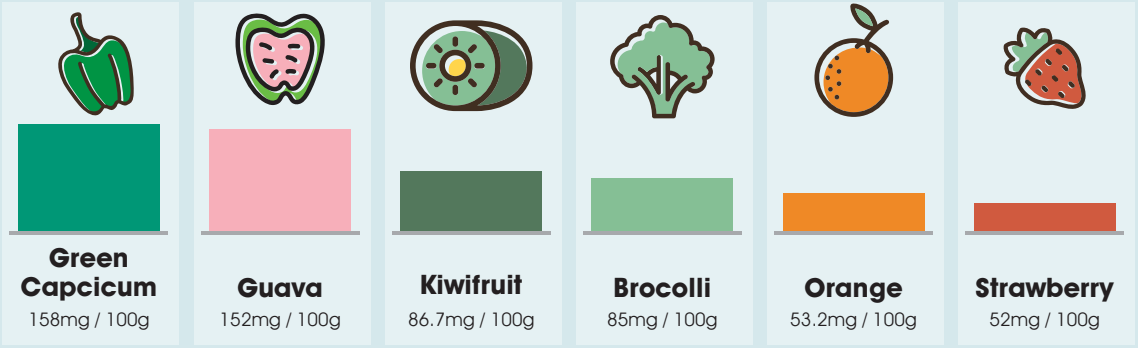
Risk of Insufficient Vitamin C Intake

Your chances of vitamin C deficiency may be higher, attributable to the presence of certain genetic differences, which could affect your body's ability to process vitamin C. The common symptoms of vitamin C deficiency are muscle and joint pains, bleeding gums, compromised wound healing and poor immune system.

Importance of Vitamin C

Vitamin C is a strong antioxidant which guard our cells against harmful free radicals - unstable atoms or molecules that are related to aging. This is especially useful in helping you to achieve a brighter skin and reducing the signs of aging. On top of that, vitamin C can contribute in maintaining a healthy immune system by preventing the body from catching diseases.

VITAMIN C RICH FRUITS



Green Capcicum	Guava	Kiwifruit	Brocolli	Orange	Strawberry
158mg / 100g	152mg / 100g	86.7mg / 100g	85mg / 100g	53.2mg / 100g	52mg / 100g

Random Facts

Since vitamin C is essential for the production of collagen in the body, it is no surprise that vitamin C is the key to maintain a healthy and youthful skin. Absorption of iron from fruits and vegetables is greatly enhanced by vitamin C. Vitamin C level of a food is compromised if it is cooked and/or stored for too long.

Your Genotype Table

		NBPF3	Explanation
	Higher Needs	TT	You need to increase vitamin C intake to 300-400mg a day.
	Moderate Needs	CT	You need to increase vitamin C intake to 200-300mg a day.
you ▶	Normal Needs	CC	You have normal vitamin C needs. Try to follow standard recommended guidelines for vitamin C of 70 mg/day.

Nutrient Needs
VITAMIN D

Your Result:

Normal Needs | Moderate Needs | Higher Needs

Your Action Items

- Follow standard recommended guidelines for vitamin D of 600 IU (15 ug)/day.
- You can achieve your daily requirement by exposing your skin to sunlight for 10-15 minutes.
- Consider taking vitamin D supplements if you find it difficult to get it from food and/or if you lack of exposure to sunlight.

About Vitamin D

Vitamin D supports the maintenance of healthy bones and muscles by enhancing calcium absorption in the body. The fat-soluble vitamin D is produced from your skin when it comes in contact with sunlight.

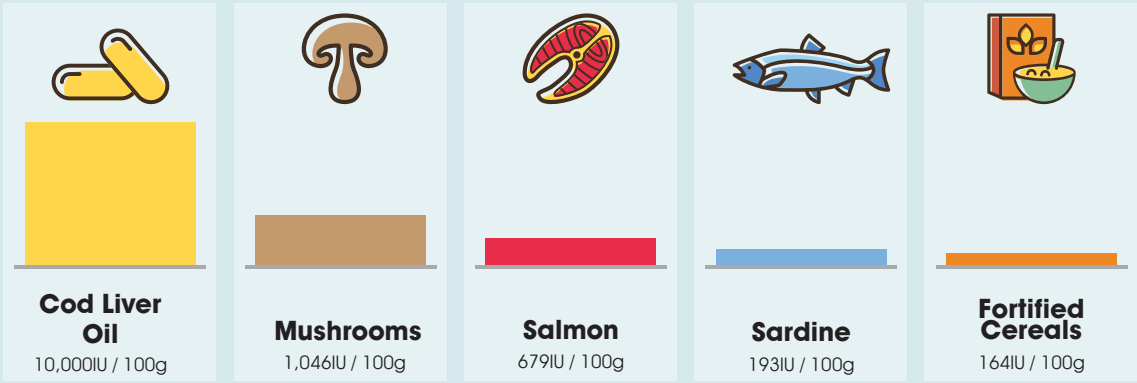
Risk of Insufficient Vitamin D Intake

The vitamin D level in your blood depends on the amount of vitamin D you obtain from your diet and the sun. How vitamin D is processed in your body is influenced by your genetic variations and this could lead to low level of vitamin D. The risk of bone fractures and osteoporosis is elevated in vitamin D deficient individuals due to the lack of vitamin D for modulation of blood calcium levels. When your blood calcium level is low, calcium is released from your skeleton which results in more fragile bones.

Importance of Vitamin D

Vitamin D is also indispensable in building an optimal immune system, besides maintaining strong bones and regulating calcium levels in the blood.

TOP 5 FOODS HIGHEST IN VITAMIN D



Cod Liver Oil
10,000IU / 100g

Mushrooms
1,046IU / 100g

Salmon
679IU / 100g

Sardine
193IU / 100g

Fortified Cereals
164IU / 100g

Random Facts

About 80% of genetics determine the vitamin D content in your blood. Vitamin D deficiency is found in 78-98% of the Asian population. Most of our natural source of vitamin D is produced in our skin.

Your Genotype Table

	CYP2R1_1	NADSYN1_1	PDE3B	GC_1	VDR(BsmI)	VDR(TaqI)	GC	CYP2R1	NADSYN1	Explanation
Higher Needs	AA	AA	GG	TT	TT	AA	GG	GG	TT	You have higher vitamin D needs. It is suggested to increase vitamin D intake to 1000 IU (25ug)/day.
Moderate Needs	AG	AG	CG	CT	CT	GA	GT	AG	GT	You have slightly higher vitamin D needs. It is suggested to increase vitamin D intake to 800 IU (20ug)/day
YOU ▶ Normal Needs	GG	GG	CC	CC	CC	GG	TT	AA	GG	You have normal vitamin D needs. Try to follow recommended guidelines for vitamin D of 600 IU (15ug)/day.

Nutrient Needs

VITAMIN E

Your Result:

Your Action Items

- Increase your vitamin E intake to over 15 mg/day for adults for proper function of nerves and muscles. Ensure that you do not exceed the intake more than 1000 mg/day.
- Consume vitamin E-rich foods such as vegetable oils, whole-grain cereals and green leafy vegetables.
- If meeting dietary requirement from food source is difficult, try getting from vitamin E supplement with proper recommendation from your doctor, as overdose might pose health risks.

About Vitamin E

Vitamin E is a fat-soluble vitamin and is classified into two groups, i.e. tocopherols and tocotrienols.

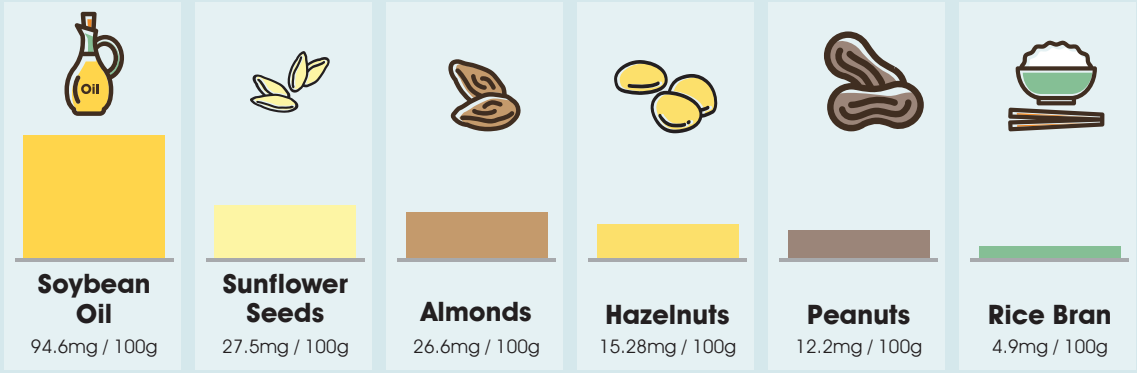
Risk of Insufficient Vitamin E Intake

Lack of vitamin E can cause pain in nerve (neuropathy).

Importance of Vitamin E

Vitamin E is needed for proper function of nerves and muscles, DNA repair, regulation of your immune system and other metabolic functions. It has antioxidant activities that reduces the effects of free radicals from tobacco smoke and radiation. Excessive free radicals in your body can lead to heart disease, cancer and other diseases.

VITAMIN E FOOD TABLE (TOCOPHEROLS CLASS)



Random Facts

Most of us can get adequate vitamin E from a balanced diet. High doses of vitamin E supplementation may be harmful to your health, e.g. increase the risk of heart failure or death. Vitamins cannot work alone and needs other dietary nutrients, such as carbohydrate, protein, fat and mineral to help with the absorption into your body.

Your Genotype Table

	ZPR1	CYP4F2	SCARB1	Explanation
YOU ▶ Higher Needs	CC	CC	GG	Your body has higher vitamin E needs. Consider to increase vitamin E intake to over 15 mg/day for adults.
Moderate Needs	CG	CT	GA	Your body has slightly higher vitamin E needs. Consider to increase vitamin E intake to over 15 mg/day for adults.
Normal Needs	GG	TT	AA	Your body has normal vitamin E needs. Try to maintain your vitamin E intake at 15 mg/day for adults.

Nutrient Needs

CALCIUM

Your Result:

Normal Needs | Moderate Needs | Higher Needs

Your Action Items

- Slightly increase your calcium intake more than 1200 mg/day to build and maintain your bones and teeth. Ensure that you do not exceed the intake more than 2500 mg/day.
- Consume calcium-rich foods together with phosphorus, magnesium and vitamin D in your diet to help absorption and usage of calcium in the body.
- If meeting dietary requirement from food source is difficult, try getting from calcium supplement such as calcium carbonate, calcium citrate, calcium gluconate and calcium lactate.

About Calcium

Calcium is an important mineral that is found plentifully in your body to supply an optimal bone health. Both teeth and bones contain the majority of calcium while the rest of the calcium is found in nerve cells, body tissues, blood and other body fluids.

Risk of Insufficient Calcium Intake

Those who do not receive enough calcium over a long period of time can develop osteoporosis (thinning of bone tissue and loss of bone density). However, receiving high amounts of calcium over a long period of time also has its side effect. It will raise the risk of kidney stones for certain people.

Importance of Calcium

Calcium is not only important for maintaining strong bones and teeth, it also helps with the blood clotting process, maintaining normal muscle and nerve functions and allowing the heart to beat normally.

CALCIUM RICH FOOD

Anchovy	Sardine	Almond	Watercress	Tofu	Milk
500mg / 100g	234mg / 100g	222mg / 100g	200mg / 100g	135mg / 100g	109mg / 100g

Random Facts

You can only get calcium from food as your body does not produce calcium. Body absorbs and uses calcium more effectively with the presence of phosphorus, magnesium and Vitamin D. To keep more calcium in your dishes, you have to cook in small amount of water and as fast as possible, such as steam or sauté instead of boil. Calcium functions together with vitamin D to protect against cancer, diabetes and high blood pressure.

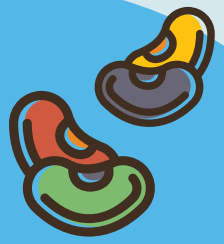
Your Genotype Table

	CASR	CYP24A1	DGKD	GCKR	CARS	RPS28P8	LINC 00709	CASR	Explanation
Higher Needs	TT	TT	TT	TT	TT	TT	AA	GG	Your body has higher calcium needs. Consider to increase calcium intake to over 1200 mg/day for men and women. Not advisable to exceed more than 2500 mg/day.
Moderate Needs	CT	CT	CT	CT	CT	CT	AG	GC	Your body has slightly higher calcium needs. Consider to increase calcium intake to over 1200 mg/day for men and women. Not advisable to exceed more than 2500 mg/day.
Normal Needs	CC	CC	CC	CC	CC	CC	GG	CC	Your body has normal calcium needs. Try to maintain your calcium intake at 1000-1200 mg/day for men and women.

YOU ▶

Nutrient Needs

IRON



Your Result:

Normal Needs | Moderate Needs | Higher Needs

Your Action Items

- Slightly increase your iron intake to more than 8 mg/day for men and 18 mg/day for women to allow red blood cells carrry oxygen around your body. Ensure that you do not exceed the intake more than 45 mg/day.
- Consume red meat (iron-rich), chicken, turkey and fish to get enough dietary iron. Iron from cereals, beans and some vegetables are poorly absorbed, but can be absorbed better in the presence foods rich in vitamin C (citrus fruits and fresh vegetables).
- Consider taking iron supplements if you are pregnant or have periods, vegetarians and frequent blood donors.

About Iron

Iron is an essential mineral found in every cell of the body. It is required to produce hemoglobin, a protein that carries oxygen from lungs to other parts of the body. It is also a part of many other proteins and enzymes.

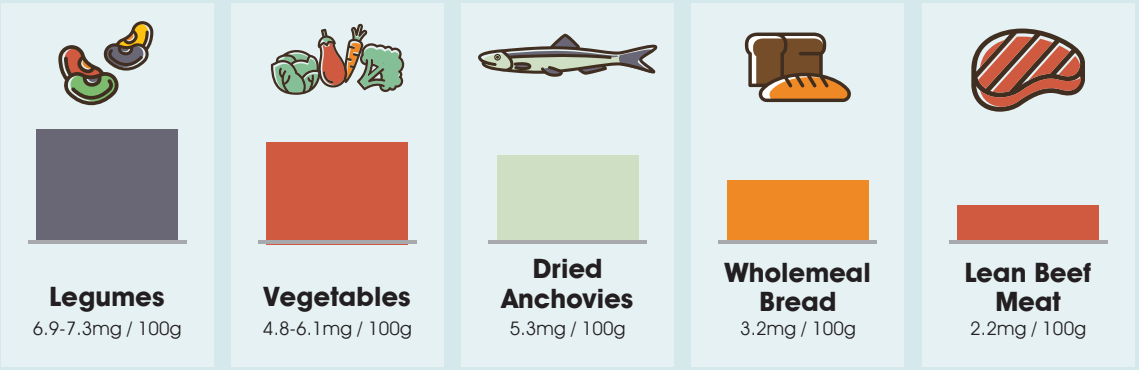
Risk of Insufficient Iron Intake

Lack of iron over long periods can cause iron deficiency anemia as your body cannot produce enough red blood cells to carry oxygen. It may leave you feeling tired, short of breath and a decrease in physical performance. In severe cases, it will cause learning difficulty in children and adults and you will have an increase chance of getting an infection.

Importance of Iron

Iron is needed to produce the oxygen-carrying proteins hemoglobin and myoglobin. Hemoglobin is found in red blood cells while myoglobin is found in muscles.

TOP IRON RICH FOOD



Legumes
6.9-7.3mg / 100g

Vegetables
4.8-6.1mg / 100g

Dried Anchovies
5.3mg / 100g

Wholemeal Bread
3.2mg / 100g

Lean Beef Meat
2.2mg / 100g

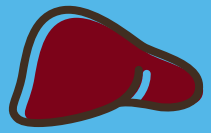
Random Facts

Iron absorption can be enhanced with vitamin C, i.e. eat high-iron foods and drink citrus juice or eating other foods rich in vitamin C at the same time. Iron from meat is more readily to be absorbed into your body. However, do take precaution when you are taking iron supplements (always follow recommended dosage) as excessive iron in our body can be toxic and damaging.

Your Genotype Table

	TMPRSS6	HFE	TF	TFR2	TMPRSS6_1	TMPRSS6_2	Explanation
YOU ▶ Higher Needs	TT	TT	TT	TT	TT	AA	Your body has higher iron needs. Consider to increase iron intake to over 8mg/day for men and over 18 mg/day for women. Not advisable to exceed more than 45 mg/day.
Moderate Needs	CT	CT	CT	CT	CT	AG	Your body has slightly higher iron needs. Consider to increase iron intake to over 8mg/day for men and over 18 mg/day for women. Not advisable to exceed more than 45 mg/day.
Normal Needs	CC	CC	CC	CC	CC	GG	Your body has normal iron needs. Try to maintain your iron intake at 8mg/day for men and 8-18 mg/day for women.

Nutrient Needs
ZINC



Your Result:

Normal Needs | Moderate Needs | Higher Needs

Your Action Items

- Increase your zinc intake more than 11 mg/day for men and more than 8 mg/day for women to maintain good immune system. Ensure that you do not exceed the intake more than 40 mg/day.
- Consume lean red meats, seafood, peas and beans to get dietary zinc. Do avoid taking large amount of whole grains together as it inhibits the absorption of zinc into the body. Leave a 2 hours gap in between.
- If meeting dietary requirement from food source is difficult, try getting from zinc supplement and consume it at least 1 hour before or 2 hours after meals.

About Zinc

Zinc plays a vital role in every cell of our body. It helps to keep your immune system strong to fight off bacteria and viruses. This mineral is also fundamental to skin health, protein production and DNA synthesis. Zinc supports normal growth and development during pregnancy, childhood, and adolescence.

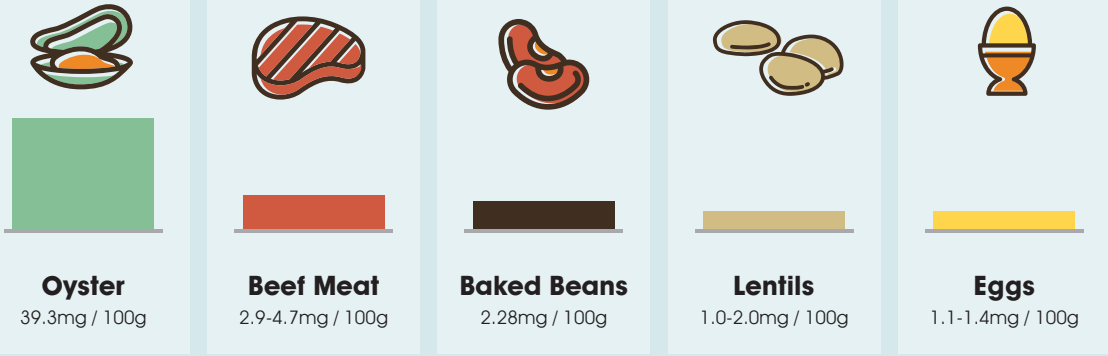
Risk of Insufficient Zinc Intake

Zinc deficiency causes loss of appetite, delayed wound healing and hair loss to name a few. In more severe cases, impaired immune function, growth retardation, delayed sexual development and impotence in men could occur.

Importance of Zinc

Zinc plays an important role in the body's defensive (immune) system. It is also needed in cell division, cell growth, wound healing process and the senses of smell and taste.

ZINC FOOD TABLE



Oyster	Beef Meat	Baked Beans	Lentils	Eggs
39.3mg / 100g	2.9-4.7mg / 100g	2.28mg / 100g	1.0-2.0mg / 100g	1.1-1.4mg / 100g

Random Facts

Zinc may not be absorbed if it is combined with certain foods. Therefore, if you are taking zinc, avoid foods like bran, fiber-containing foods, phosphorus-containing foods such as milk or poultry. Zinc from plant sources are usually harder to be absorbed as there is a compound (phytate) in them that inhibits the absorption. However, food preparation methods such as soaking, heating, fermenting and leavening can help alleviate the situation.

Your Genotype Table

	SLC39A14	SLC30A8	IL6	Explanation
YOU ▶ Higher Needs	GG	TT	GG	Your body has slightly higher zinc needs. Consider to increase zinc intake to more than 11 mg/day for men and more than 8 mg/day for women. Not advisable to exceed more than 40 mg/day.
Moderate Needs	TG	TC	CG	Your body has slightly higher zinc needs. Consider to increase zinc intake to over 11 mg/day for men and over 8 mg/day for women. Not advisable to exceed more than 40 mg/day.
Normal Needs	TT	CC	CC	Your body has normal zinc needs. Try to maintain your zinc intake at 11 mg/day for men and 8 mg/day for women.

Nutrient Needs

MAGNESIUM

Your Result:

Normal Needs | Moderate Needs | Higher Needs

Your Action Items

- Maintain your magnesium intake at 400-420 mg/day for men and 310-320 mg/day for women to carry out biochemical reactions in your body.
- Consume magnesium-rich foods such as nuts, seeds, whole grains, beans, leafy vegetables, milk, yogurt and fortified foods. Just 1 ounce of almonds or cashews contains 20% of the daily magnesium an adult needs.
- If meeting dietary requirement from food source is difficult, try getting from magnesium supplement but do not exceed 350 mg/day.

About Magnesium

Magnesium is an essential mineral for human nutrition and plays many crucial roles in the body, such as supporting muscle and nerve function and energy production.

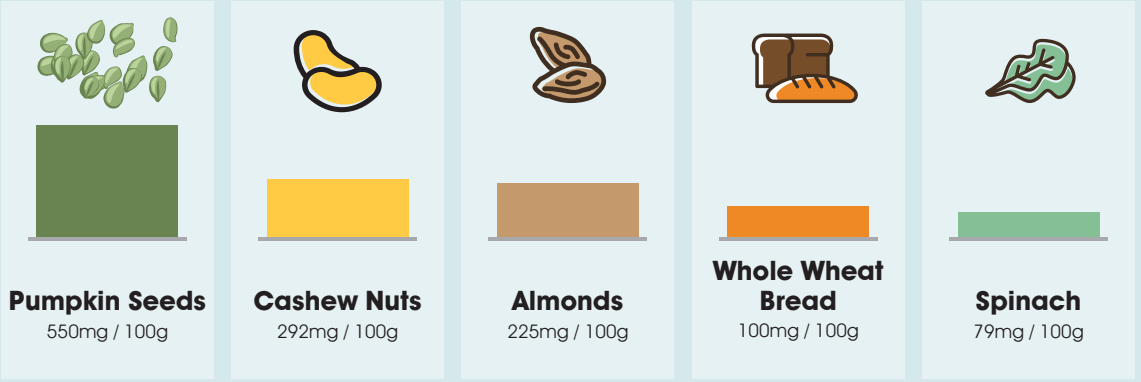
Risk of Insufficient Magnesium Intake

Lack of magnesium can increase the risk of high blood pressure, heart disease, type 2 diabetes and osteoporosis.

Importance of Magnesium

Magnesium is needed for more than 300 biochemical reactions in the body. It helps to ensure normal nerve and muscle function, supports a healthy immune system, keeps a healthy heartbeat and strenghten your bones.

FOODS RICH IN MAGNESIUM



Pumpkin Seeds
550mg / 100g

Cashew Nuts
292mg / 100g

Almonds
225mg / 100g

Whole Wheat Bread
100mg / 100g

Spinach
79mg / 100g

Random Facts

The need for magnesium increases if your diet intake is higher in protein, calcium or vitamin D.

Your Genotype Table

	MUC1	AC009522.1	DCDC1	SHROOM3	MECOM	Explanation
Higher Needs	TT	TT	TT	TT	AA	Your body has higher magnesium needs. Consider to increase magnesium intake to over 420 mg/day for men and over 320 mg/day for women.
Moderate Needs	CT	CT	CT	CT	AG	Your body has slightly higher magnesium needs. Consider to increase magnesium intake to over 420 mg/day for men and over 320 mg/day for women.
YOU ▶ Normal Needs	CC	CC	CC	CC	GG	Your body has normal magnesium needs. Try to maintain your magnesium intake at 400-420 mg/day for men and 310-320 mg/day for women.

Nutrient Needs

PHOSPHORUS

Your Result:

Normal Needs | Moderate Needs | Higher Needs

Your Action Items

- Maintain your phosphorus intake at 700 mg/day for adults to maintain your bones and teeth.
- If your diet contains enough calcium and protein, you will likely have enough phosphorus. You can also get phosphorus from non-protein food sources such as whole grains, potatoes, garlic, dried fruit and carbonated drinks.
- Only few people need to take phosporus supplements.

About Phosphorus

Phosphorus is the second most abundant mineral that makes up 1% of a person's total body weight. Most of the phosphorus in the body is found in the bones and teeth.

Risk of Insufficient Phosphorus Intake

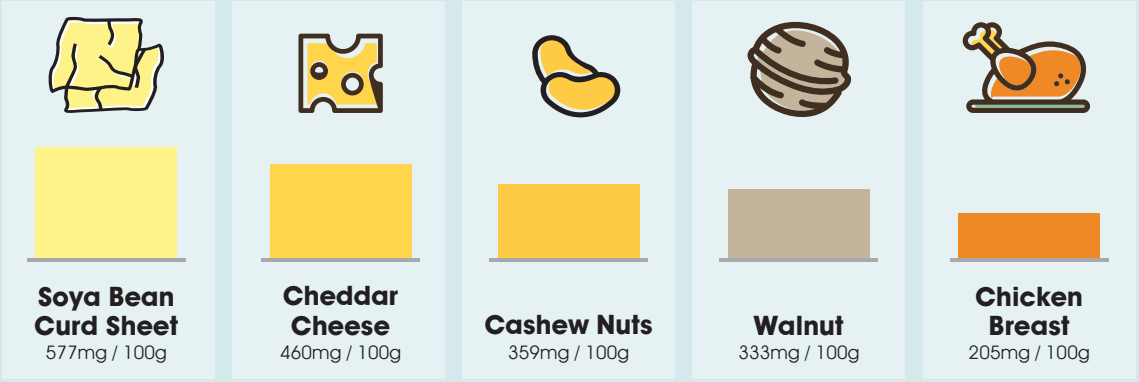
Lack of phosphorus is a rare case as it is readily available in your diet. In fact, it is more common to have too much than to little. Kidney disease or eating too much phosphorus and not enough calcium can lead to an excess of phosphorous. Phosphorus levels that are too high or too low can cause medical complications, such as heart disease, joint pain, or fatigue.

Importance of Phosphorus

You need phosphorus to:

- keep your bones strong
- manage how your body stores and uses energy
- filter out waste in your kidneys
- maintain muscle function (muscle contraction, and normal heartbeat)

PHOSPHORUS FOOD TABLE



Soya Bean Curd Sheet	Cheddar Cheese	Cashew Nuts	Walnut	Chicken Breast
577mg / 100g	460mg / 100g	359mg / 100g	333mg / 100g	205mg / 100g

Random Facts

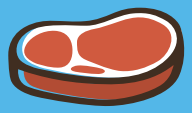
Healthy kidneys help to remove extra phosphorus from the blood. A diet that includes the right amounts of calcium and protein will provide enough phosphorus while fruits and vegetables contain only small amounts of phosphorus. Whole-grain breads and cereals contain more phosphorus than cereals and breads made from refined flour.

Your Genotype Table

		NBPF3	CSTA	IP6K3	PDE7B	C12orf4	Explanation
	Higher Needs	TT	TT	TT	AA	AA	Your body has higher phosphorus needs. Consider to increase phosphorus intake to over 700 mg/day for men and women.
	Moderate Needs	CT	CT	CT	AG	AG	Your body has slightly higher phosphorus needs. Consider to increase phosphorus intake to over 700 mg/day for men and women.
YOU ▶	Normal Needs	CC	CC	CC	GG	GG	Your body has normal phosphorus needs. Try to maintain your phosphorus intake at 700 mg/day for men and women.

Nutrient Needs

COENZYME Q10



Your Result:

Normal Needs Higher Needs

Your Action Items

- Increase your coenzyme Q10 intake to over 60 mg/day for adults for growth and maintanence in your body.
- Consume coenzyme Q10-rich foods such as meats and seafood.
- If meeting dietary requirement from food source is difficult, try getting from coenzyme Q10 supplement.

About Coenzyme Q10

Coenzyme Q10 (CoQ10) is a vitamin-like nutrient lipid-soluble compound which is produced naturally in your body, mainly in the mitochondria of cells. Mitochondria is the powerhouses of cells that produces main energy source.

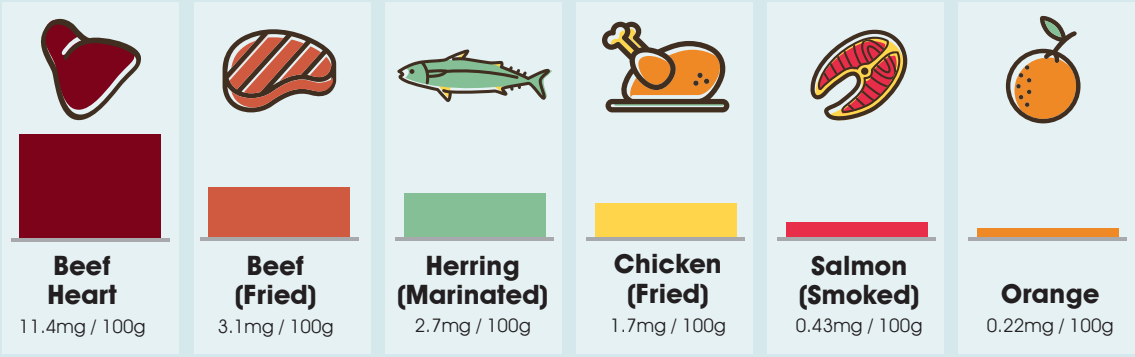
Risk of Insufficient Coenzyme Q10 Intake

Lack of coenzyme Q10 leads to weakness, fatigue, and seizures.

Importance of Coenzyme Q10

Coenzyme Q10 plays an important role in growth and maintenance for your body, especially in energy production, protection from oxidative cell damage and disease-causing bacteria or viruses. CoQ10 is a vital nutrient with many benefits, but we are generally unable to get the amounts of CoQ10 recommended from diet alone. Even if you include a lot of CoQ10 food sources, it would be almost impossible to reach the levels suggested to support cardiovascular health. While including CoQ10-rich foods in your diets can help, adding a CoQ10 supplement to your regimen may be a good way to ensure you are supporting your levels.

COENZYME Q10 FOOD TABLE



Beef Heart	Beef (Fried)	Herring (Marinated)	Chicken (Fried)	Salmon (Smoked)	Orange
11.4mg / 100g	3.1mg / 100g	2.7mg / 100g	1.7mg / 100g	0.43mg / 100g	0.22mg / 100g

Random Facts

Coenzyme Q10 decreases as you age and lower levels has found to be linked with people having certain diseases, such as heart failure, high blood pressure, gum disease, Parkinson's disease, blood infections, certain diseases of the muscles and HIV infection. Some studies showed that coenzyme Q10 may reduce the risk of some complications of heart surgery. Although it has not shown any value in treating cancer, it may reduce the complications of cancer chemotherapy drug.

Your Genotype Table

	NQO1	Explanation
YOU ▶ Higher Needs	GG	Your body has higher coenzyme Q10 needs. Consider to increase coenzyme Q10 intake to over 60 mg/day for adults.
Normal Needs	AA	Your body has normal coenzyme Q10 needs. Try to maintain coenzyme Q10 intake at 30-60 mg/day for adults.

Nutrient Needs
SELENIUM

Your Result:

Normal Needs | Moderate Needs | Higher Needs

Your Action Items

- Slightly increase your selenium intake to over 55 ug/day for adults for normal body functions. Ensure that you do not exceed the intake more than 400 ug/day.
- Consume lean red meats, seafood, liver and grains grown in soil to get dietary selenium.
- If meeting dietary requirement from food source is difficult, try getting from selenium supplement.

About Selenium

Selenium is a trace mineral found mainly in the soil. This mineral migrates to the food source, which are grown on the soil.

Risk of Insufficient Selenium Intake

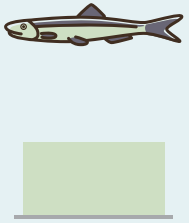
Lack of selenium leads to skeletal myopathy, muscle weakness and cardiomyopathy.

Importance of Selenium

Selenium is needed by certain enzyme to ensure normal body functions. It has antioxidant activity that helps your body to fight off illnesses, maintain the immune system and regulate thyroid function.

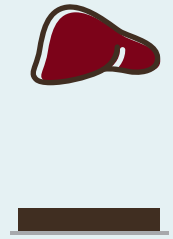
FOODS RICH IN SELENIUM

Brazil Nuts
1,917ug / 100g



Anchovies
589.9ug / 100g

Chicken Liver
100.2ug / 100g



Beef Liver
55.8ug / 100g

Salmon
46.2ug / 100g

Random Facts

Brazil nuts are high in selenium, even though they are grown in soil that is not rich in the element. A single nut contains 68 to 91 ug of selenium, meaning that one nut provides enough selenium to meet the daily requirement for a human adult.

Your Genotype Table

	DMGDH	SEP15	GPX1	SELENOF	Explanation
Higher Needs	CC	TT	TT	TT	Your body has higher selenium needs. Consider to increase selenium intake to over 55 ug/day for adults. Not advisable to exceed more than 400 ug/day.
YOU ▶ Moderate Needs	CT	CT	CT	TC	Your body has slightly higher selenium needs. Consider to increase selenium intake to over 55 ug/day for adults. Not advisable to exceed more than 400 ug/day.
Normal Needs	TT	CC	CC	CC	Your body has normal selenium needs. Try to maintain your selenium intake at 55 ug/day for adults.

03.

Your Results:

Food & Dietary Sensitivities

Food and Dietary Sensitivities

CARBOHYDRATES

Your Result:

Normal Sensitivity | Higher Sensitivity

Your Action Items

- Focus on good carbohydrates such as unrefined and unprocessed whole grains, fruits and vegetables.
- Avoid highly refined and processed foods, e.g. sugary beverages.

About Carbohydrates

Carbohydrates are one of the fundamental nutrients that you cannot live without. Glucose is the building blocks of carbohydrates and the energy source that supports bodily functions and physical activity.

Risks of Excess Carbohydrate Intake

Your blood glucose level will increase for a short period of time following a meal containing carbohydrates. However, excess carbohydrate intake places a large metabolic load on the body. When the body constantly has high levels of blood sugars, over time, this leads to weight gain, poor metabolic health and an increased risk of heart disease.

Types of Carbohydrates

Carbohydrates should be consumed in moderation as too much carbohydrates can cause you to pack on the extra pounds. Although all carbohydrates are our main source of energy, different types of carbohydrates behave in different ways and have different impact on our body. Bad carbohydrates have insignificant amount of key nutrients and may cause substantial fluctuations in blood glucose. In contrast, healthier versions of carbohydrates provide more fiber, vitamins and minerals that are crucial for maintaining good health. At the same time, these healthy carbohydrates will be broken down into glucose at a slower rate. This process allows energy to be released at a more stable level throughout the day.

GOOD CARBOHYDRATES

BAD CARBOHYDRATES

Did You Know?

Carbohydrates are the only energy fuel for our brain and we need at least 150g of carbs per day to do this. Chocolates have high carbohydrates content but the significant amount of fat in chocolates might increase your chance to put on more weight. Another option of carbohydrate-rich food would be apple, which also contains fiber, vitamins and minerals. The name "carbohydrates" is derived from its chemical composition: carbon, hydrogen and oxygen.

Your Genotype Table

	TCF7L2	FABP2	Explanation
Higher Sensitivity	TT	TT	Limit the intake of bad carbohydrates that are highly refined and processed, only consume unprocess, unrefined carbohydrates such as fruits, vegetables and wholegrains.
YOU ▶ Normal Sensitivity	CC	CC	Consume good carbohydrates such as fruits, vegetables and wholegrains.

Food and Dietary Sensitivities

FAT

Your Result:

Normal Sensitivity | Higher Sensitivity

Your Action Items

- Focus on healthy fats such as olive oil, nuts and avocado.
- Avoid overly processed (or bad) fats such as hydrogenated fats which contain trans-fatty acids.

About Fat

Fat functions as the energy reservoir for your body. You cannot live without fats. Not only does it provides protection to your vital organs, it enables the absorption of fat-soluble vitamins A, D, E and K into your body.

Risks of Excess Fat Intake

Obesity, high blood pressure and high cholesterol are some of the negative health effects from consuming too much fat. Your risk of getting heart disease will be greater if you consume too much unhealthy trans fat. Your fat sensitivity profile indicates that you should pay more attention to the type and amount of fat that you eat in order to stay healthy.

Types of Fats

It is good to be aware of the types of fat that you are eating as it has a greater impact to your health compared to just looking at your fat consumption volume. Dietary fats can be divided into saturated and unsaturated fats. A moderate amount of both saturated and unsaturated fat intake promotes optimal bodily functions and can help in the prevention of diseases. In contrast, overconsumption of fats may lead to weight gain and greater risk to develop heart diseases and stroke.

GOOD FATS
Unsaturated Fat

Almonds | Avocado | Olives

NOT-SO-GOOD-FATS
Saturated Fat

Butter | Fatty Beef | Cheese

BAD FATS
Trans Fat

Donut | Pizza | Fries

Random facts

Calories content per gram for fat is at least double of what we see for carbohydrates. (1 gram fat = 9 calories; 1 gram carbohydrates= 4 calories; 1 gram protein = 4 calories). Fat is essential for keeping our hair and skin healthy. To diminish the risk of damage to our vital organs, fat cushions our internal organs and acts as a protective barrier.

Your Genotype Table

		LEPR	FTO1	FTO2	PPARG	APOA2	APOA5	PLIN	Explanation
	Higher Sensitivity	GG	AA	AA	GG	GG	AA	TT	Limit the overall intake of fat, in particular unhealthy fats such as trans fats.
YOU ▶	Normal Sensitivity	AA	TT	GG	CC	AA	GG	CC	Consume good and healthy fats such as monounsaturated fats and avoid the intake of bad fats such as hydrogenated fats.

Food and Dietary Sensitivities

CAFFEINE

Your Result:

Normal Sensitivity | Moderate Sensitivity | Higher Sensitivity

Your Action Items

- You have normal sensitivity to caffeine intake, but try not to exceed the intake of 400 mg of caffeine a day. You can take 1-2 cups of coffee a day.

About Caffeine

Caffeine is a dispensable nutrient, but it can help you to take edge off sleepiness and make you happy. Chances are you can tolerate caffeine better as time goes. Both the frequency and the amount of caffeine intake determines the effect of caffeine on your body. You will lose some caffeine tolerance if you abstain from caffeinated beverages for an extended period of time.

Positive Effects of Caffeine

Improved memory and mental functioning are some benefits of caffeine. If you are sensitive to caffeine, reducing your caffeine intake will promote better sleep at night.

Risks of Caffeine Intake

Excessive caffeine intake can lead to hypertension, as well as making you restless, anxious, irritable and difficult to fall asleep. Higher caffeine sensitivity indicates that one should pay extra attention to his/her caffeine consumption. This is even more crucial if you have sleep problems and anxiety.

CAFFEINE CONTENT IN DRINKS

Random Facts

The most popular stimulant being used in the world as a mood booster is caffeine. People who respond normally to caffeine will be able to reap the benefit of caffeine for 4-6 hours for each cup of coffee they consume.

Your Genotype Table

	CYP1A2	Explanation
Higher Sensitivity	CC	Your may limit your caffeine intake to maximum 100-150mg/day.
Moderate Sensitivity	CA	Your may limit your caffeine intake to maximum 200mg/day.
YOU ▶ Normal Sensitivity	AA	You may limit your caffeine intake to maximum 400mg/day.

Food and Dietary Sensitivities

SWEET TOOTH

Your Result:

Normal Preference — Higher Preference

Your Action Items

- You have a normal genetic profile, but consuming too much sugar can still lead to an increased risk of developing type-2 diabetes.
- Substitute food with processed sugar to food that have natural sugar, e.g. apples, which are packed with nutrients such as dietary fiber, vitamins and minerals.

About Sugar

Sugars can be found in many foods. While some sugars are natural, many are not. Unnatural or highly refined/processed sugars are often found in our commonly eaten foods such as sweets, chocolates as well as baked goods such as cakes and pastries. Too much sugar consumption in a short period of time will cause a spike in your blood sugar levels. It will lead to a sugar crash soon after, leaving you feeling sluggish and tired.

The Risks

Side effects from an overconsumption of sugar includes low energy levels, weight gain and a constant feeling of lethargy (even though you had sufficient rest).

Sweet Alternatives

Fruits is a very good substitute to curb your sweet tooth as they contain natural sugars and many other key nutrients.

HEALTHY SWEET-TASTING FOOD (Teaspoons of sugar per 100g serving of foods)

Dates	Grape	Low Fat Milk	Strawberry	Carrot	Sweet Potato
13.2 teaspoon	3.2 teaspoon	1 teaspoon	0.98 teaspoon	0.95 teaspoon	0.8 teaspoon

Did You Know?

Added sugars only contribute to extra calories without any additional nutrient. It is estimated that 40-60% of people drink more than the recommended 1 litre (450 calories, around 28 teapoons) of sugar-sweetened beverages per week.

Your Genotype Table

	TAS1R2	FUT1	Explanation
Higher Preference	GG	TT	Take less than 5% total calorie (below 6 teaspoons) from simple sugar a day.
YOU ▶ Normal Preference	TT	GG	Take less than 10% total calorie (below 12 teaspoons) from simple sugar a day.

Food and Dietary Sensitivities

SALT

Your Result:

Normal Sensitivity — Higher Sensitivity

Your Action Items

- Limit salt intake to less than a teaspoon (5 g) a day.
- Read food labels carefully while choosing processed foods. Choose foods with the lowest sodium content.
- Natural wholesome foods are usually lower in sodium. You can control your salt intake by preparing your own meals.

About Salt

Sodium and chlorine are the two elements that make up a grain of salt. Salt is a flavor enhancer and is commonly used in all kinds of food preparation globally. Salt is also one of the main ingredients for food preservation.

Risks of Salt Intake

A healthy body will be able to eliminate extra salt under normal condition. However, excessive salt intake elevates your risks of getting high blood pressure, calcium loss, cardiovascular disease and kidney failure. Calcium loss may potentially lead to osteoporosis. Overconsumption of salt will also result in water retention. Individual with high salt sensitivity needs to be more careful on the amount of salt you consume, especially if you have hypertension.

Benefits of Salt

We need sufficient amount of salt to keep us healthy, as sodium deficiency may threaten our health through dehydration, low blood pressure or even death.

5 TIPS TO CUT DOWN ON SALT

Eat less processed food

Flavor food with herbs, spices or pepper

When eating out, request for less salt during food preparation

Watch for hidden salt in sauces such as ketchup

Check food labels and be mindful of the ingredients

Random Facts

Generally we find large amount of salt is used for the preparation of pickled foods (eg. fermented baguio petsay) and processed foods (eg. sausages). That said, you may be surprised by the amount of salt contained in breads and breakfast cereals. Many Asian countries are known to have high salt consumption where we see an average of 10-14g of salt consumption each day, which is 2-3 times more than the amount of salt intake recommended by the World Health Organization.

Your Genotype Table

		ACE	AGT	Explanation
YOU ▶	Higher Sensitivity	AA	GG	Aim to take less than 5g salt (2g sodium) a day.
	Normal Sensitivity	GG	AA	Follow standard dietary guidelines to not exceed a teaspoon (5g) intake of salt a day.

Food and Dietary Sensitivities

TASTE

Your Result:

Non-Taster — Super-Taster

Your Action Items

- There are two sides of the coin. The good news is, honey will taste sweeter but bitter gourd will definitely taste more bitter to you. You are more sensitive to the sweetness of sugar, the burning sensation of chilli peppers and the tannin of tea.

- These taste sensations matter because how food taste to you influences your eating behavior. For example, super tasters typically like their coffee with milk and sugar.

About Taste Sensitivity

Everyone favors different tastes when it comes to food. Probably unknown to you, your genetics play a role in determining the level of taste intensity you experience in life. If you see "super-taster" as your screening results, you are part of the 90% of the population who are highly sensitive to tastes.

Risks of Taste Sensitivity

Any taste becomes more intense when it comes to the tongue of a super-taster, e.g. bitter melons taste more bitter, candies taste sweeter and curry taste spicier. "Super-tasters" may refrain from taking certain foods since they perceive them as unappealing. Therefore, it is important for super-tasters be mindful to keep a well-balanced diet.

Benefits of Taste Sensitivity

"Super-tasters" tend to have greater flair in distinguishing the low-fat foods from the high-fat foods just by their taste. "Super-tasters" are more likely to savor low-fat foods over the high-fat version, so their risk of obesity could be lower than non-tasters.

WHICH HEALTHY FOODS ARE BITTER?

Arugula

Arugula helps with detoxing by helping your liver stimulate bile production.

Bitter Melon

Through its antibacterial properties, bitter melon can decrease inflammation and strengthen the immune system.

Coriander

The rich antioxidant properties of coriander can prevent cancer-causing chemicals from forming in meats during high heat cooking.

Mustard Greens

Mustard green's soluble fiber and sulfur contents, coupled with its many vitamins and antioxidants, make it a powerful detoxifier.

Sesame Seeds

Sesame seeds are high in calcium and magnesium and help cleanse the colon.

Random Facts

We do not usually consume bitter food as this ability is thought to be useful in protecting us from toxic food. Bitterness sensitivity (being able to taste bitterness or not) may affect your drinking habit because some alcoholic beverages taste bitter. Sweet, salty, sour, bitter and umami (a savory, meaty taste) are the five well-established basic tastes. There is also growing popularity of including fat as a sixth basic taste.

Your Genotype Table

		TAS2R38_1	AS2R38_2	TAS2R38_3	Explanation
YOU ▶	SUPER-TASTER	GG	GG	CC	You are more sensitive to taste, bitter foods taste bitter and sweet foods are sweeter.
	NON-TASTER	CC	AA	TT	You are less sensitive to taste, bitter foods taste less bitter and sweet are less sweet.