genopalate™

NUTRITION PROFILE

PERSONALIZED FOODS

Charles warden Ancestrydna

Eating For Your Genes

FTO GENE

GENE-BASED RECOMMENDATIONS

Contents

Fun Fact: If you stretched the DNA found in one cell all the way out, it would be about 2 meters long.

Welcome to GenoPalate

Dear Charles warden,

Discovery can be fun, and we're excited that you want to learn more about yourself.

Every day you're making decisions about what to eat. Now with insights about your genes, you'll be able to make even smarter decisions. Whether you're in a grocery store, a farmer's market or your neighborhood restaurant, you now have the power to personalize your nutrition based on your genetic results.

Enjoy Eating For Your Genes!

GenoPalate®

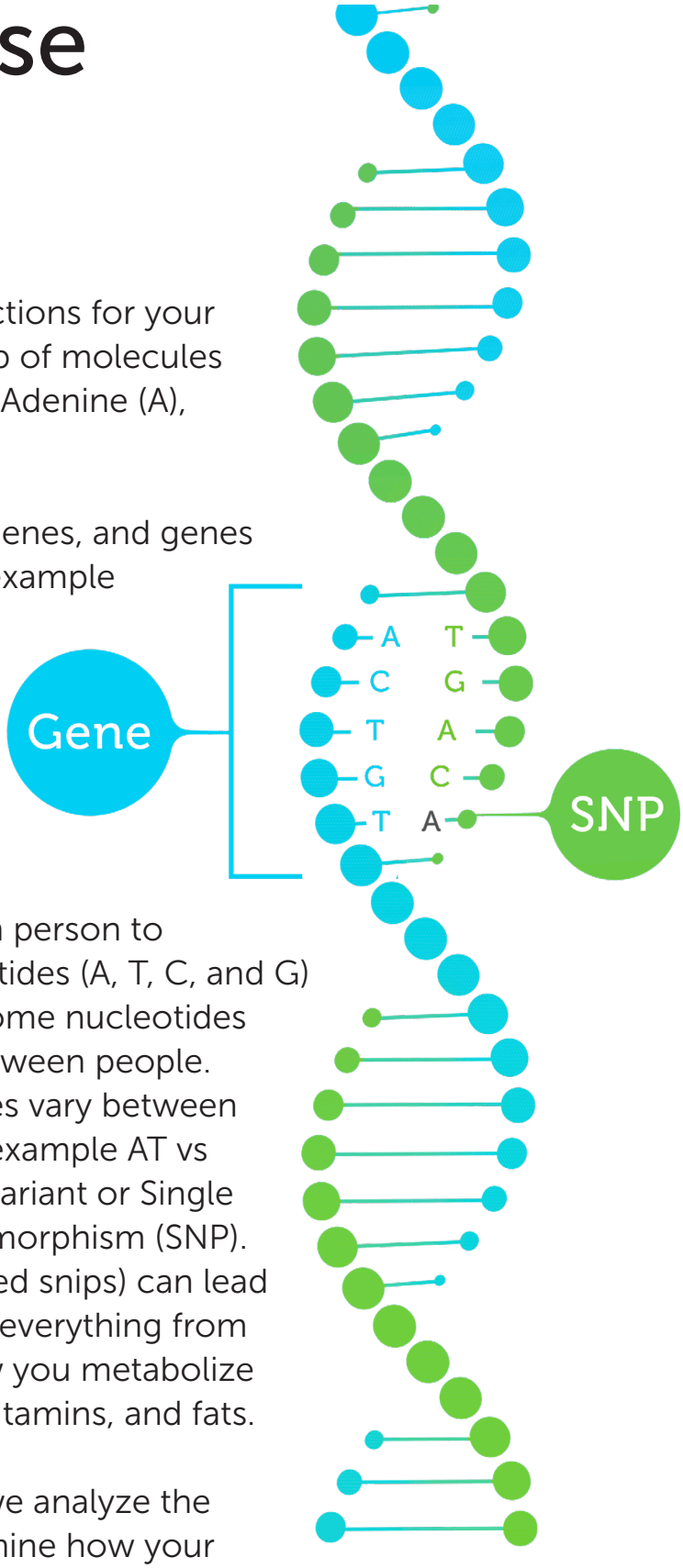
Fun Fact: 25% of the population are supertasters – people who have an increased number of taste buds.

Your Crash Course in Genetics

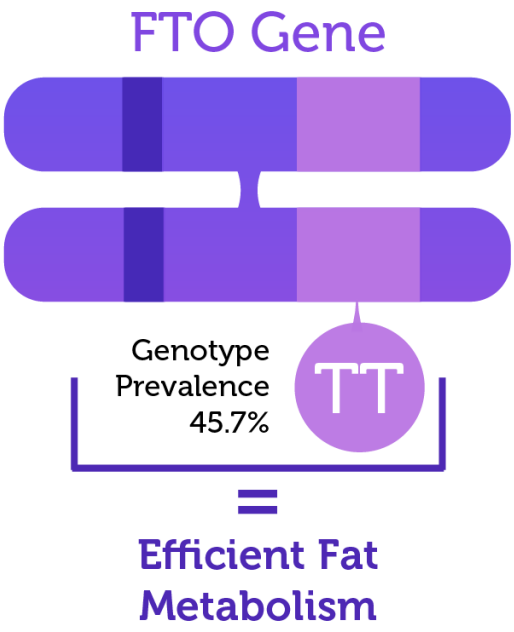
DNA is genetic material that carries the instructions for your body's structure and function. DNA is made up of molecules called nucleotides, which come in four types: Adenine (A), Thymine (T), Cytosine (C), and Guanine (G).

Specific sequences of nucleotides are called genes, and genes provide instructions for making proteins. For example ACTCG is a gene.

Proteins do most of the work in your cells and are responsible for the function of your body's tissues and organs. Proteins also control the way your body processes food.



Instructions for making proteins can vary from person to person depending on the sequence of nucleotides (A, T, C, and G) in their genes. Some nucleotides tend to differ between people. When nucleotides vary between two people, for example AT vs TT, it is called a variant or Single Nucleotide Polymorphism (SNP). SNPs (pronounced snips) can lead to differences in everything from eye color to how you metabolize carbohydrates, vitamins, and fats.



At GenoPalate, we analyze the SNPs that determine how your body processes food.

Fun Fact: Identical twins have the exact same DNA, so if you're recommending GenoPalate to any twins you know, tell them they only need to buy one.

What is a Carrot?

Maybe you see some delicious carrots at your local farmer's market. What GenoPalate sees is a vegetable with moderate fiber, no vitamin D, and an abundance of vitamin A.

The different nutrients in carrots each play a unique role in your body. Fiber supports your intestinal health, vitamin D promotes calcium absorption, and vitamin A helps you maintain healthy skin and vision.

When we consume these nutrients, our bodies each respond differently based on our genes. For example, if you have the GG genotype of the BCO1 gene, your body will not absorb vitamin A optimally. Therefore you will benefit from consuming foods higher in vitamin A like carrots, sweet potatoes, and eel.

We analyze your unique genetic profile to determine your optimal intake levels for key macro- and micronutrients. By combining your genotype results and the nutrient composition of foods, we provide you with a comprehensive list of foods that are healthier for you.

Fun Fact: You share 50% of your DNA with bananas.

Your Genes + Nutritional Science = Your Foods

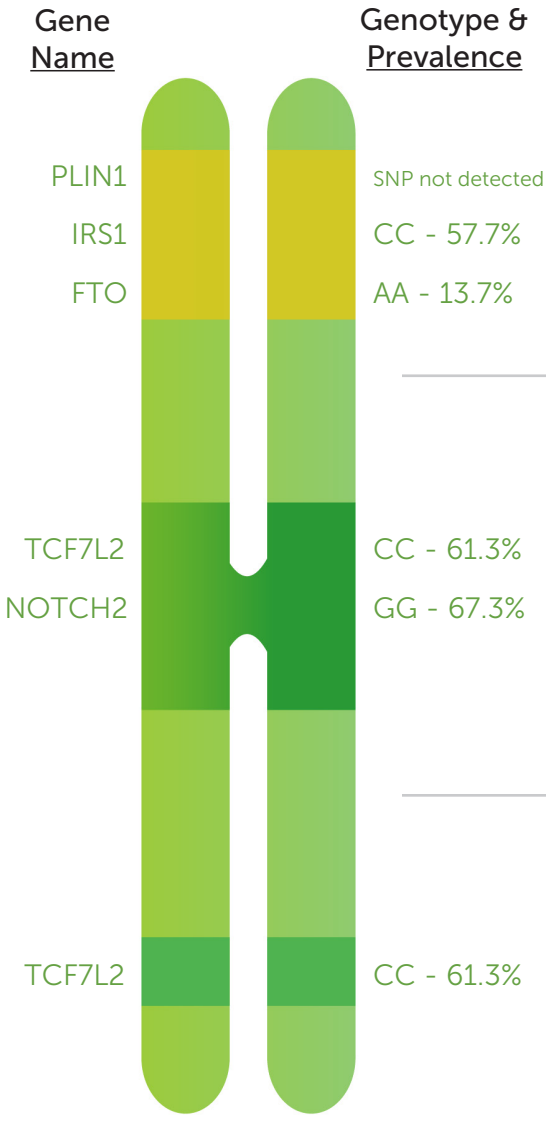
We analyzed your genetic variants (SNPs) that impact your nutrition. Below you will see the genes that these SNPs are located on, along with their associated genotype and prevalence. Your **Genotype** is your unique set of nucleotides that determines your nutrition recommendation. The **Prevalence** is the percentage of the population that has this genotype.

Your recommended macro- and micronutrient levels are based on the analysis of the most impactful nutrition SNPs. On the following pages, you will see examples of some of the SNPs we analyzed.

Your Recommendations are derived from research showing positive health outcomes associated with your genotype.

If you are recommended a high intake for a nutrient, we are suggesting you will benefit from consuming foods higher in that nutrient. If given a low recommendation, we are suggesting that you don't need to consume as many foods that are high in that nutrient.

Carbohydrates



Your Recommendation: High Total Carbohydrates

Carbohydrates are your body's main source of fuel. They break down into glucose and enter the bloodstream. Insulin then brings glucose into your cells to be used for energy.

Your Result: Research has shown that people with your genetic profile may have improved weight loss, lower Body Mass Index (BMI), and improved insulin resistance by consuming 50%-65% of your daily caloric intake from carbohydrates.

Key Sources: Starches & Grains, Bread, Fruit, Pasta

Your Recommendation: High Fiber

Fiber is a type of carbohydrate that delays the amount of time it takes for your stomach to empty after eating, which can keep you feeling full for a longer period of time and help you manage blood sugars. Consuming adequate fiber can also benefit your intestinal health and reduce cholesterol levels.

Your Result: Research has shown that people with your genetic profile may have improved weight loss and a decreased risk of obesity and type 2 diabetes when consuming a higher fiber intake. You may benefit from a daily intake that is on the higher end of the National Institutes of Health's recommendation of 21-26 grams for females and 30-38 grams for males.

Key Sources: Vegetables, Fruit, Legumes, Starches & Grains, Bread, Pasta

Your Recommendation: Moderate Sugar

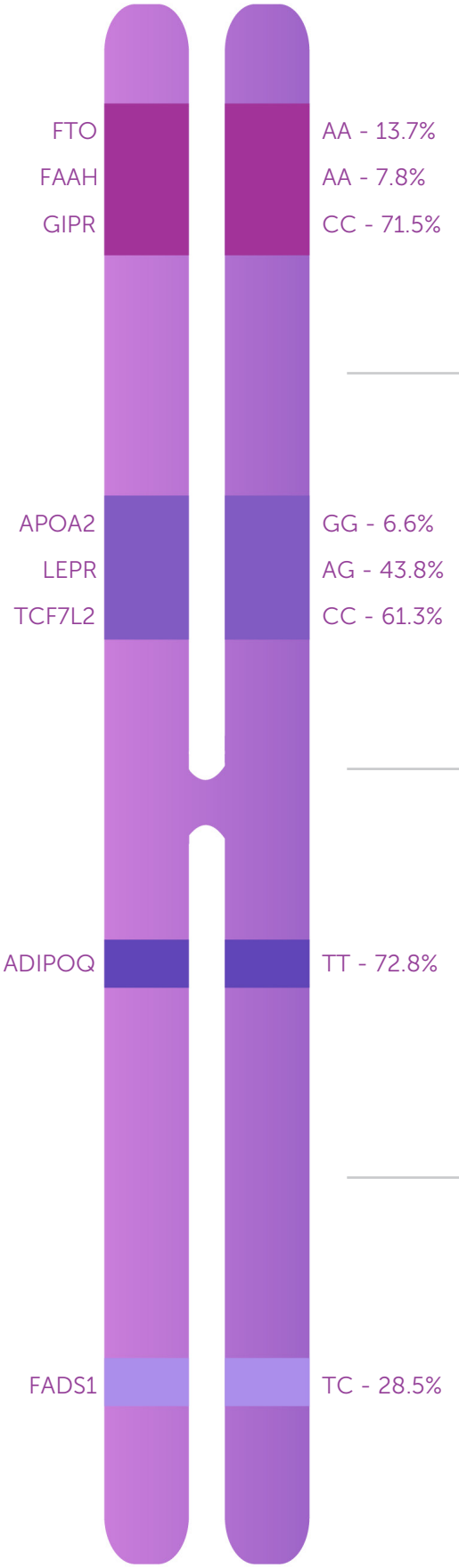
Sugar is a simple carbohydrate called a monosaccharide. Sugar's simple structure allows it to be broken down very quickly and used for energy. When the amount of sugar consumed exceeds your body's energy needs, it is stored as fat.

Your Result: Research has not correlated your genotype with a lower risk of type 2 diabetes and improved glucose levels when limiting sugar intake. We recommend following the National Institutes of Health's recommendation of limiting your intake of added sugars to less than 10% of your daily caloric intake.

Key Sources: Fruit, Milk, Yogurt

Your Genes + Nutritional Science = Your Foods

Fats



Your Recommendation: Moderate Total Fat

Fats provide your body with energy and also support cell growth. They protect your organs, help keep your body warm and produce important hormones. Your body needs fats for the absorption of vitamins A, D, E and K.

Your Result: We analyze a comprehensive list of genes to determine your nutrition recommendations. Research has shown that your genes have associated health benefits with consuming a high fat intake and health benefits with consuming a low fat intake. Due to this genetic occurrence, we recommend consuming a moderate fat intake that is consistent with the National Institutes of Health's recommendation of 20%-35% of your daily caloric intake.

Key Sources: Nuts & Seeds, Meat, Seafood, Fats & Oils, Cheese

Your Recommendation: Low Saturated Fat

Saturated Fats are fat molecules "saturated" with hydrogen molecules. Consuming too much saturated fat can increase total cholesterol and increase levels of the Low-Density Lipoprotein (LDL) cholesterol, the "bad" cholesterol.

Your Result: Research has shown that people with your genetic profile may have a reduced risk of obesity and Metabolic Syndrome when consuming less than 9% of their daily caloric intake from saturated fats. Metabolic Syndrome is associated with increased triglyceride levels, cholesterol, blood pressure, blood sugar, and body fat around the waist.

Key Sources: Meat, Cheese, Fats & Oils

Your Recommendation: High Omega-3 Fatty Acids

Omega-3 Fatty Acids are a type of polyunsaturated fat that the body cannot produce so they must be obtained from food or other sources. These fats contribute to heart health, the building of brain cells and may even help improve memory.

Your Result: Research has shown that your genotype may result in increased adiponectin levels, which regulate glucose levels and break down fatty acids, when consuming approximately 1800 milligrams of omega-3 fatty acids per day.

Key Sources: Seafood, Nuts & Seeds

Your Recommendation: High Polyunsaturated Fatty Acids

Polyunsaturated Fatty Acids are a type of healthy fat that provides nutrients that help fight Low-Density Lipoprotein (LDL) cholesterol, the "bad" cholesterol. These healthy fats can also contribute nutrients that help develop and maintain your body's cells. The two main types of polyunsaturated fat are omega-3 and omega-6.

Your Result: Research has shown that people with your genetic profile may increase their High-Density Lipoprotein (HDL) cholesterol, the "good" cholesterol, by consuming more than 6% of their daily caloric intake from polyunsaturated fats.

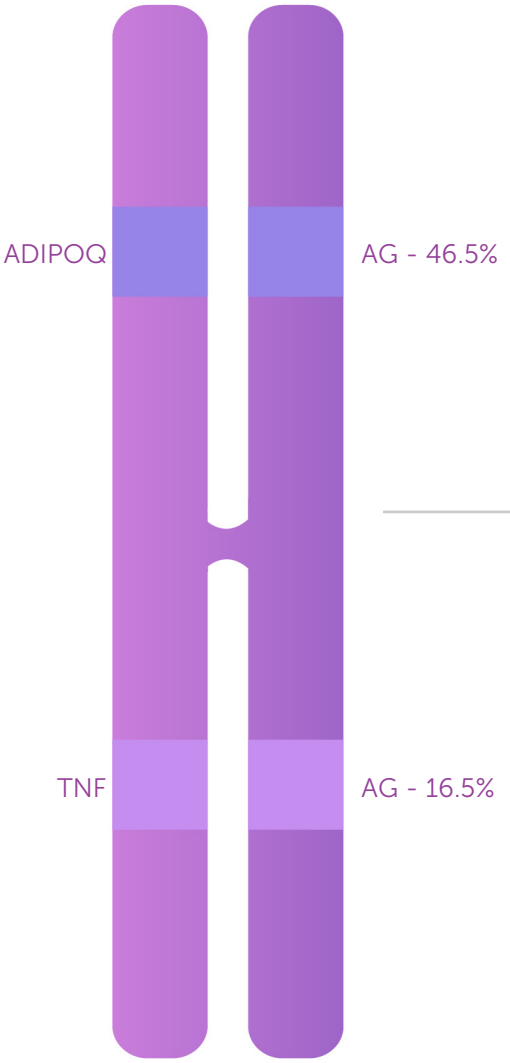
Key Sources: Nuts & Seeds, Fats & Oils

Your Genes + Nutritional Science = Your Foods

Fats

Gene Name

Genotype & Prevalence



Your Recommendation: Moderate Monounsaturated Fatty Acids

Monounsaturated Fatty Acids are a type of healthy fat that can help decrease Low-Density Lipoprotein (LDL) cholesterol, the "bad" cholesterol as well as provide nutrients that help develop and maintain your body's cells.

Your Result: Based on your genetic profile, you may not benefit from an increased or decreased intake of monounsaturated fat. We recommend consuming a monounsaturated fat intake that is consistent with the National Institutes of Health's recommendation of 15%-20% of your daily caloric intake.

Key Sources: Nuts & Seeds, Meat, Fats & Oils

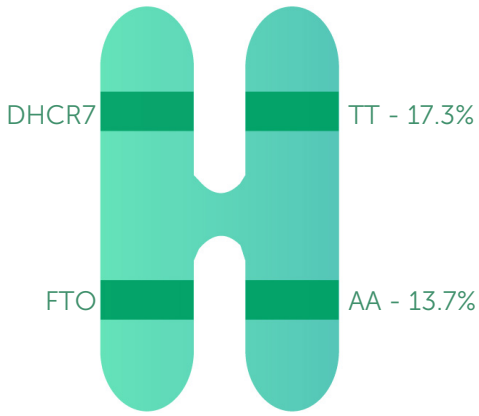
Your Recommendation: Low Linoleic Acid

Linoleic Acid, or omega-6 fatty acids, is a type of polyunsaturated fat that the body cannot produce so it must be obtained from food or other sources. These fats are needed for brain function and cell growth.

Your Result: Research has shown that people with your genetic profile may have a reduced risk of obesity when consuming a low linoleic acid intake. You may benefit from a daily intake that is less than the National Institutes of Health's recommendation of 11-12 grams for females and 14-17 grams for males.

Key Sources: Nuts & Seeds, Fats & Oils, Meat

Protein



Your Recommendation: High Protein

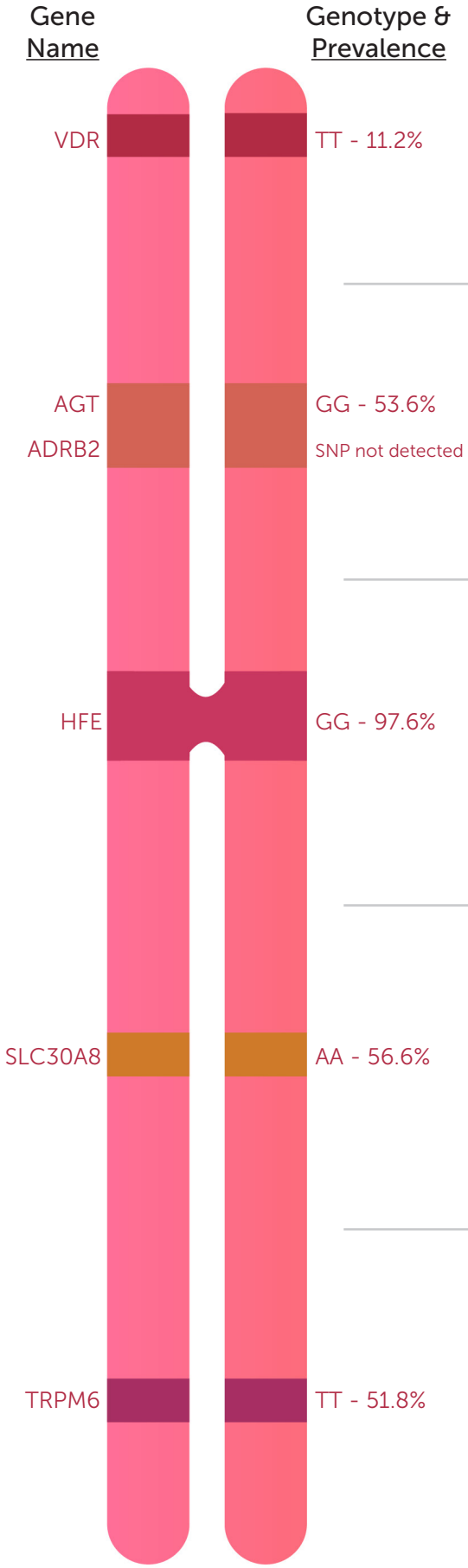
Proteins are made up of amino acids, which are building blocks for your body's tissues such as muscle, skin, and hair. Proteins also support the proper functioning of enzymes and hormones.

Your Result: Research has shown that people with your genetic profile may have improved weight loss, insulin resistance, and metabolic health when consuming 25%-35% of your daily caloric intake from protein.

Key Sources: Meat, Seafood, Other Protein, Milk, Yogurt, Cheese

Your Genes + Nutritional Science = Your Foods

Minerals



Your Recommendation: High Calcium

Calcium is a mineral that is essential to bone health. It also plays a role in muscle contraction and blood clotting.

Your Result: Research has shown your genotype to be associated with lower calcium absorption levels and your bone health may improve by consuming more than the National Institutes of Health's recommendation of 1,000-1,300 milligrams of calcium per day.

Key Sources: Milk, Yogurt, Cheese, Leafy Vegetables

Your Recommendation: Low Sodium

Sodium is an essential mineral that helps control your body's fluid balance. It's also needed for your muscles and nerves to work properly. However, too much sodium can pull extra fluid into your blood vessels, causing increased blood pressure.

Your Result: Research has shown that people with your genetic profile may have a reduced incidence of hypertension by consuming less than 1,800 milligrams of sodium per day.

Key Sources: Meat, Seafood, Cheese, Bread

Your Recommendation: Moderate Iron

Iron is a component in hemoglobin, the substance in red blood cells that carries oxygen throughout your body.

Your Result: Research has correlated your genetic profile with a normal iron absorption rate. We recommend a daily consumption of iron that is consistent with the National Institutes of Health's recommendation of 8-18 milligrams for females 8-11 milligrams for males.

Key Sources: Meat, Leafy Vegetables, Starches & Grains, Bread, Pasta

Your Recommendation: High Zinc

Zinc is a mineral that is important for your immune system, wound healing and maintaining the health of your bones and eyes. It's also important for your sense of taste and smell.

Your Result: Research has shown your genetic profile to be associated with lower zinc levels and you may benefit by consuming more than the National Institutes of Health's recommendation of 8-9 milligrams for females and 11 milligrams for males per day.

Key Sources: Meat, Starches & Grains, Cheese, Milk, Yogurt

Your Recommendation: Moderate Magnesium

Magnesium is a mineral that helps keep your bones and heart healthy. It also plays an important role in many functions including muscle contractions and the production of energy and proteins.

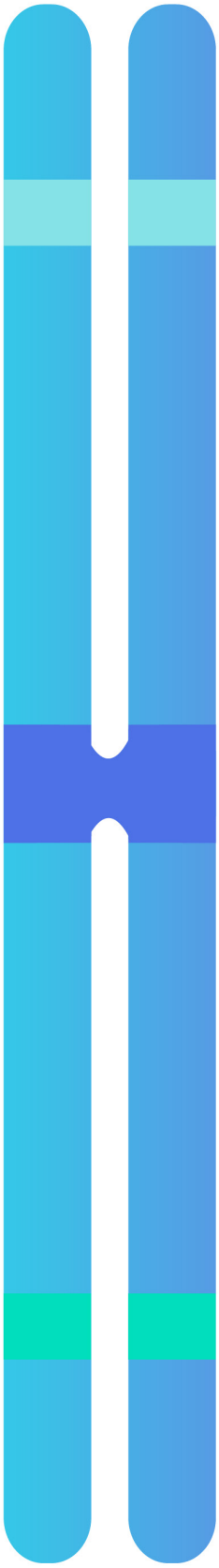
Your Result: Research has shown that people with your genetic profile may not decrease their risk of type 2 diabetes when consuming an increased magnesium intake. We recommend consuming a daily magnesium intake that is consistent with the National Institutes of Health's recommendation of 310-360 milligrams for females and 400-420 milligrams for males.

Key Sources: Nuts & Seeds, Legumes, Starches & Grains

Your Genes + Nutritional Science = Your Foods

Vitamins

Gene Name	Genotype & Prevalence
BCO1	TG - 44.8%
ALPL	TC - 39.5%
FUT2	AG - 35.4%



Your Recommendation: High Vitamin A

Vitamin A is a fat-soluble vitamin that is important for your immune system, normal vision and reproduction. It also plays a role in keeping organs working properly.

Your Result: Research has shown your genotype to be associated with lower circulating levels of B-carotene, a precursor of vitamin A, and you may benefit from a daily consumption that is higher than the National Institutes of Health's recommendation of 700 micrograms for females and 900 micrograms for males.

Key Sources: Milk, Yogurt, Cheese, Vegetables, Leafy Vegetables

Your Recommendation: High Vitamin B6

Vitamin B6 is a water-soluble vitamin that helps your body fight infection. It's also important for brain development and the production of amino acids, which are the building blocks of proteins.

Your Result: Research has shown your genotype to be associated with lower vitamin B6 levels and you may benefit from increasing your daily vitamin B6 consumption to a level that is above the National Institutes of Health's recommendation of 1.2-1.5 milligrams for females and 1.3-1.7 milligrams for males.

Key Sources: Meat, Seafood

Your Recommendation: Moderate Vitamin B12

Vitamin B12 is a water-soluble vitamin that plays an important role in creating new red blood cells and is needed for making DNA.

Your Result: Research has shown your genetic profile may not be associated with malabsorption of vitamin B12. We recommend a daily consumption of vitamin B12 that is consistent with the National Institutes of Health's recommendation of 2.4 micrograms.

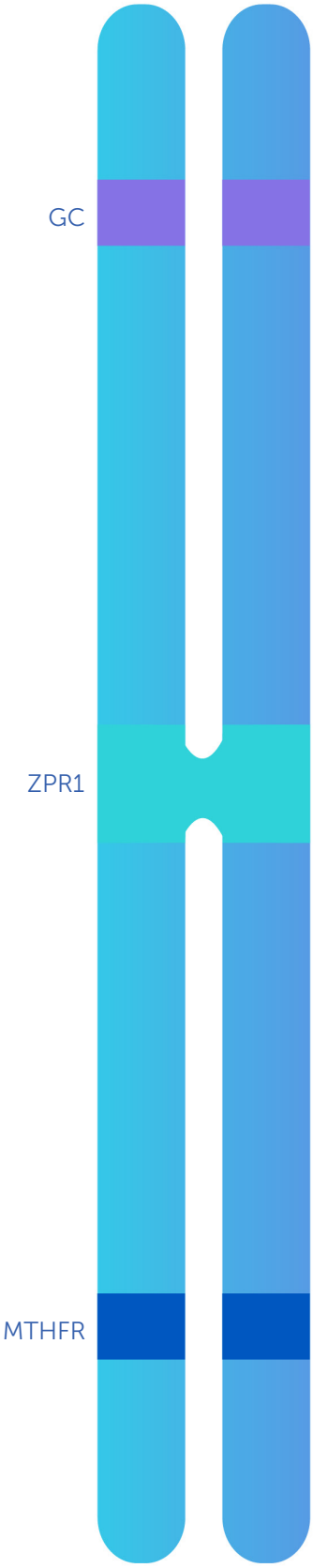
Key Sources: Milk, Yogurt, Meat, Seafood, Other Protein

Your Genes + Nutritional Science = Your Foods

Vitamins

Gene Name

Genotype & Prevalence



GC

TT - 64.3%

Your Recommendation: High Vitamin D

Vitamin D is a fat-soluble vitamin that supports bone health by aiding in calcium absorption. It's also needed for the immune system and muscle function.

Your Result: Research has shown your genetic profile to be associated with lower vitamin D levels and you may benefit from a daily consumption that is greater than the National Institutes of Health's recommendation of 15-20 micrograms of per day.

Key Sources: Seafood, Milk, Yogurt

ZPR1

CC - 61.2%

Your Recommendation: High Vitamin E

Vitamin E is an antioxidant that protects your cells from damage and supports your immune system.

Your Result: Research has shown your genetic profile to be associated with lower vitamin E levels and consuming more than 9 milligrams per day may reduce waist circumference.

Key Sources: Nuts & Seeds, Fats & Oils

MTHFR

AG - 32.7%

Your Recommendation: High Folate

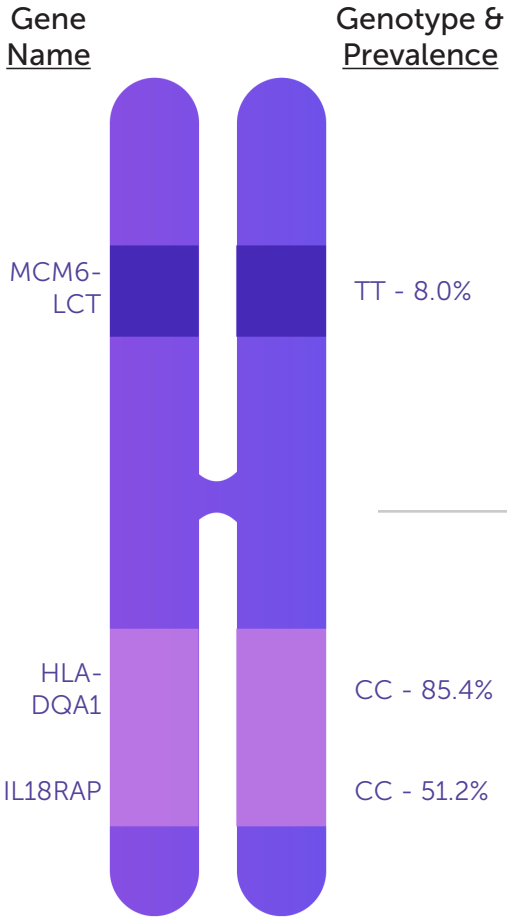
Folate is a B-vitamin that is important for proper fetal development, normal maturation of red blood cells and lowering homocysteine levels. High homocysteine levels have been associated with artery damage.

Your Result: Research has shown your genetic profile to be associated with lower folate levels. Consuming more than the National Institutes of Health's recommendation of 400 micrograms of folate per day may lower your risk for cardiovascular disease.

Key Sources: Vegetables, Leafy Vegetables, Legumes

Your Genes + Nutritional Science = Your Foods

Sensitivities



Your Recommendation: Low Lactose Sensitivity

Lactose is the sugar found in milk and is digested by the enzyme lactase. Lactase gives babies the ability to digest their mother's milk without getting an upset stomach. As a baby grows into adulthood, the enzyme turns off, leading to digestive discomfort when consuming lactose. The genetic mutation that developed over time actually helps to digest lactose in adulthood by keeping the lactase enzyme turned on.

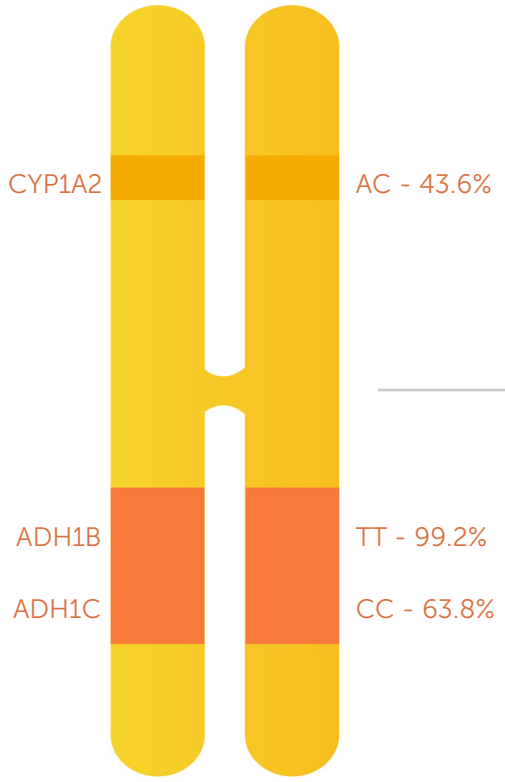
Your Result: Research has shown that people with your genetic profile have a genetic variant associated with the ability to break down lactose. You are unlikely to be sensitive to lactose. However, this is not a diagnosis of an allergy or intolerance.

Your Recommendation: Likely Sensitive to Gluten

Gluten is a protein that helps food maintain its shape. It is found primarily in wheat, rye and barley and can also be found in oats. Some people react to gluten consumption with an immune response, which can cause inflammation, intestinal damage, and abdominal discomfort.

Your Result: Research has shown that people with your genetic profile are likely to be sensitive to gluten. We have identified gluten-free foods on your list of recommended foods to accommodate for a sensitivity. However, this is not a diagnosis of an allergy or intolerance.

Substances



Your Recommendation: Slow Caffeine Metabolizer

Caffeine is a dietary component that acts as a stimulant. It stimulates your central nervous system and may cause you to feel more alert and energized. Caffeine reaches its peak level in your body within one hour of consuming, and its effects can be felt for up to 4-6 hours after consumption. Genetic variants can affect how quickly your body breaks down caffeine.

Your Result: Research has shown that people with your genetic profile metabolize caffeine slowly. After drinking caffeinated beverages, you may feel jittery, anxious and experience a headache.

Your Recommendation: Slow Alcohol Metabolizer

Alcohol is a hydrocarbon that is produced by the fermentation of sugar. When consumed, it acts as a depressant and interferes with the brain's communication pathways until it can be metabolized by enzymes. This rate of metabolism can change depending on your genetic variant.

Your Result: Research has shown that your genetic profile may be associated with a decreased rate of alcohol metabolism. Studies have correlated slow metabolizers with a tendency to drink less. You may experience facial flushing, nausea and rapid heart beat when consuming alcohol. If you choose to consume alcohol, the National Institutes of Health recommend drinking in moderation: 1 drink per day for women, 2 drinks per day for men.

Your Genes + Nutritional Science = Your Foods

Based on your genetic results and your nutrition recommendations, some foods have a nutrient profile that matches your genetic based nutrition recommendations better than others.

The example below illustrates why you were recommended one food over another. The number of stars represents how well each nutrient matches your macro- and micronutrient recommendations.

We combine all of your nutrition recommendations together to determine your food recommendations.

Why Kiwi over Strawberries?

Your Winner

Kiwi

Your genes recommend:

Strawberries

★★★	High Fiber	★★
★★★	High Vitamin E	★
★★	High Calcium	★

More total stars indicates that the nutrition profile of Kiwi matches better with your genetic recommendations.

Less stars indicates that the nutrition profile of Strawberries matches less with your genetic recommendations.

Fun Fact: We could store all the digital information in the world with only 2 grams of DNA because it is capable of holding so much data!

Your Genes + Nutritional Science= Your Foods

Below are your food recommendations for Fruit, Vegetables, Leafy Vegetables and Fresh Herbs which are good sources of carbohydrates and fiber. Leafy vegetables are also good sources iron, folate and calcium. Your top foods in these categories were uniquely chosen based on all of your genetic-based nutrition recommendations.

Your top **Fruits** were chosen based on your recommendations to consume High Fiber, High Vitamin E and High Calcium.

Your top **Vegetables** were chosen based on your recommendations to consume High Vitamin A, High Fiber, High Omega-3 Fatty Acids and High Vitamin B6.

Your top **Leafy Vegetables** were chosen based on your recommendations to consume High Vitamin A, High Calcium, High Fiber and High Vitamin E.

Your top **Fresh Herbs** were chosen based on your recommendations to consume High Fiber, High Omega-3 Fatty Acids, High Folate and High Vitamin B6.

Fruits


Kiwi


Raspberries


Blackberries


Mangos


Bananas


Oranges


Persimmons


Papaya

Vegetables


Winter Squash


Artichoke


Red Bell Pepper


Okra


Soybean Sprouts


Pumpkin


Banana Peppers


Broccoli

Leafy Vegetables


Turnip Greens


Collard Greens


Kale


Mustard Greens


Bok Choy


Beet Greens

Fresh Herbs


Bay Leaf


Spearmint


Garlic


Parsley


Scallions

Your Genes + Nutritional Science= Your Foods

Below are your food recommendations for Meat, Seafood and Other Protein which are key sources of protein and vitamins B6 and B12. Meat and Seafood are good sources of iron and zinc can be found in most meats. Your top foods in these categories were uniquely chosen based on all of your genetic-based nutrition recommendations.

Your top **Meats** were chosen based on your recommendations to consume High Folate, High Vitamin B6, High Vitamin A and Low Sodium.

Your top **Seafoods** were chosen based on your recommendations to consume High Omega-3 Fatty Acids, High Calcium, High Polyunsaturated Fatty Acids and High Vitamin E.

Your top **Other Proteins** were chosen based on your recommendations to consume Low Saturated Fat, Low Linoleic Acid, High Vitamin B6 and High Zinc.

Meats


Chicken Liver


Eye of Round Beef


Top Sirloin Steak


Bottom Round Steak


Rabbit


Top Round Steak


Beef Chuck Roast


Pork Tenderloin

Seafoods


Sardines


Eel


Mackerel


Salmon


Sea Bass


Herring


Whitefish

Other Proteins


Nutritional Yeast


Tofu


Whole Eggs


Soy Burger

Your Genes + Nutritional Science= Your Foods

Below are your food recommendations for Breads, Starches and Pasta which are key sources of carbohydrates, fiber, iron and magnesium. Your top foods in these categories were uniquely chosen based on all of your genetic-based nutrition recommendations.

Your top **Breads** were chosen based on your recommendations to consume High Fiber, High Protein and High Calcium.

Your top **Starches & Grains** were chosen based on your recommendations to consume High Vitamin A, High Fiber and High Vitamin B6.

Your top **Pastas** were chosen based on your recommendations to consume High Folate and High Protein.

Breads

Potato Bread

Multigrain Bagel

Plain Bagel

Brown Rice Bread*

Corn Tortilla*

Tapioca Bread*

*Gluten-Free

Starches & Grains

Sweet Potatoes

Amaranth

Quinoa

Russet Potatoes

Bulgur*

*Contains Gluten

Pastas

Egg Noodles*

Whole Wheat Noodles*

Corn Pasta

Brown Rice Pasta

*Contains Gluten

Your Genes + Nutritional Science= Your Foods

Below are your food recommendations for Nuts & Seeds, Legumes, and Fats & Oils which are key sources poly- and monounsaturated fats and vitamin E. Nuts & Seeds are also good sources of omega-3 fats, zinc and magnesium. Legumes are also a good source of fiber, folate and magnesium. Your top foods in these categories were uniquely chosen based on all of your genetic-based nutrition recommendations.

Your top **Nuts & Seeds** were chosen based on your recommendations to consume High Fiber, High Omega-3 Fatty Acids, High Polyunsaturated Fatty Acids and High Calcium.

Your top **Fats & Oils** were chosen based on your recommendations to consume High Omega-3 Fatty Acids and High Polyunsaturated Fatty Acids.

Your top **Legumes** were chosen based on your recommendations to consume High Fiber and High Zinc.

Nuts & Seeds

Chia Seeds

Flaxseeds

Sunflower Seeds

Soy Nuts

Sesame Seeds

Fats & Oils

Flaxseed Oil

Canola Oil

Corn Oil

Soybean Oil

Walnut Oil

Legumes

Adzuki Beans

Navy Beans

White Beans

Lentils

Your Genes + Nutritional Science= Your Foods

Below are your food recommendations for Milk, Yogurt and Cheese which are key sources of calcium, protein, vitamin B12 and vitamin D. Milk is also be a good source of vitamin A. Your top foods in these categories were uniquely chosen based on all of your genetic-based nutrition recommendations.

Your top **Cheeses** were chosen based on your recommendations to consume Low Sodium and Low Saturated Fat.

Your top **Milks** were chosen based on your recommendations to consume Low Saturated Fat, High Omega-3 Fatty Acids, High Polyunsaturated Fatty Acids and High Folate.

Your top **Yogurts** were chosen based on your recommendations to consume High Vitamin A, High Vitamin D, High Total Carbohydrates and High Protein.

Cheeses

Ricotta, Part Skim

Fontina

2% Cottage Cheese

Swiss*

Parmesan*

Gruyere*

*Low Lactose

Milks

Chocolate Soy Milk**

1% Chocolate Milk

Vanilla Almond Milk**

Chocolate Whole Milk

*Low Lactose or **Lactose-free

Yogurts

Lowfat Kefir*

Plain Lowfat Greek Yogurt*

Plain Nonfat Yogurt

Plain Lowfat Yogurt

*Low Lactose or **Lactose-free

Start Eating For Your Genes

You now have the information and power to walk into a store and know exactly which foods are healthier for you, based on your genes.

It's also important to mention that eating for your genes is only one part of building a healthy lifestyle. Exercise, sleep, and stress management are also essential for a balanced and healthy life.

The next time you're making decisions about what food to eat, Eat For Your Genes!

GenoPalate®