



# Charles warden AncestryDNA

## Eat For Your Genes

NUTRITION  
PROFILE



PERSONALIZED  
FOODS



FTO GENE



GENE-BASED  
RECOMMENDATIONS





# Contents

Welcome to GenoPalate **3**

Your Crash Course in Genetics **4**

What is a Carrot? **5**

Your Genes **6**

Nutritional Science **13**

Your Recommended Foods **14**

Start Eating For Your Genes **19**



**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.

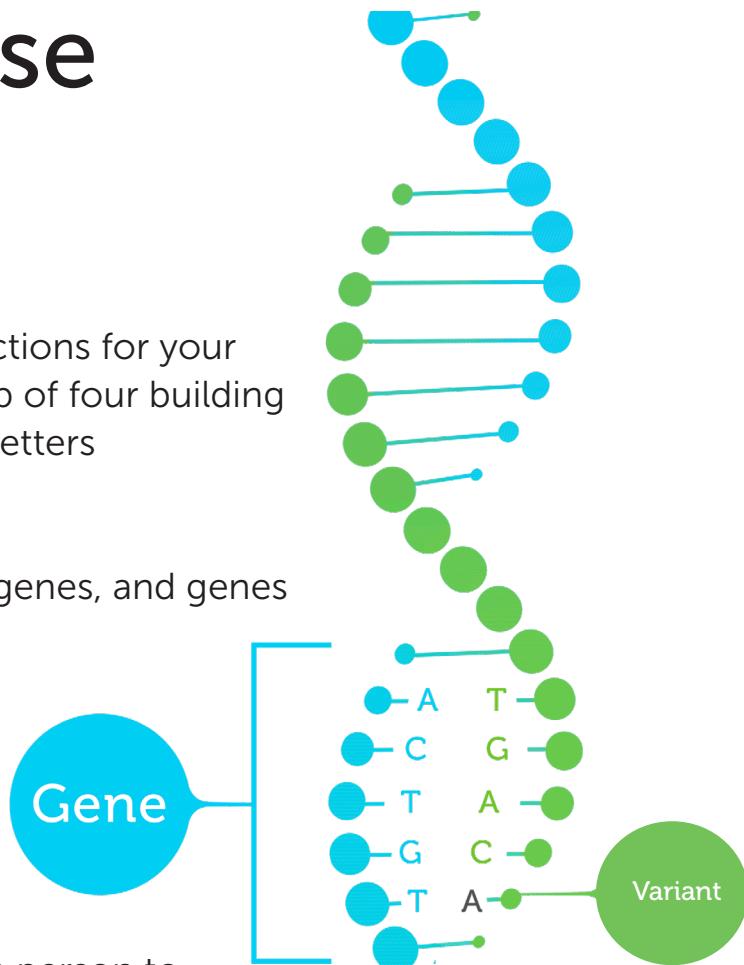


# Your Crash Course in Genetics

DNA is genetic material that carries the instructions for your body's structure and function. DNA is made up of four building blocks, which are commonly denoted by the letters A, T, C and G.

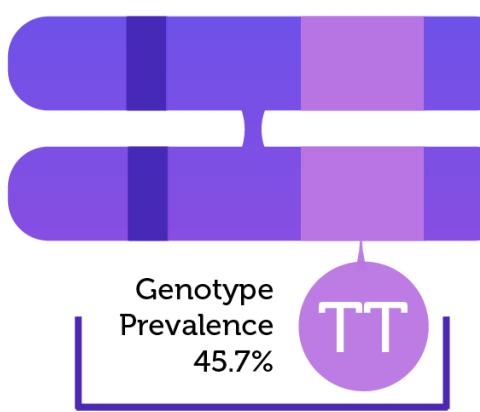
Specific sequences of these letters are called genes, and genes provide instructions for making proteins.

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 variants within their genes. In the example to the left, the TT variant within the FTO gene is shown.

## FTO Gene



**Efficient Fat Metabolism**

People with this variant may have a more efficient fat metabolism compared to people who have the AT variant. Different variants can lead to differences in everything from eye color to how you metabolize carbohydrates, vitamins, and fats.

At GenoPalate, we analyze the genetic variants that determine how your body processes food. We use this information to discover which foods work best for your body.



**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 TT variant 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

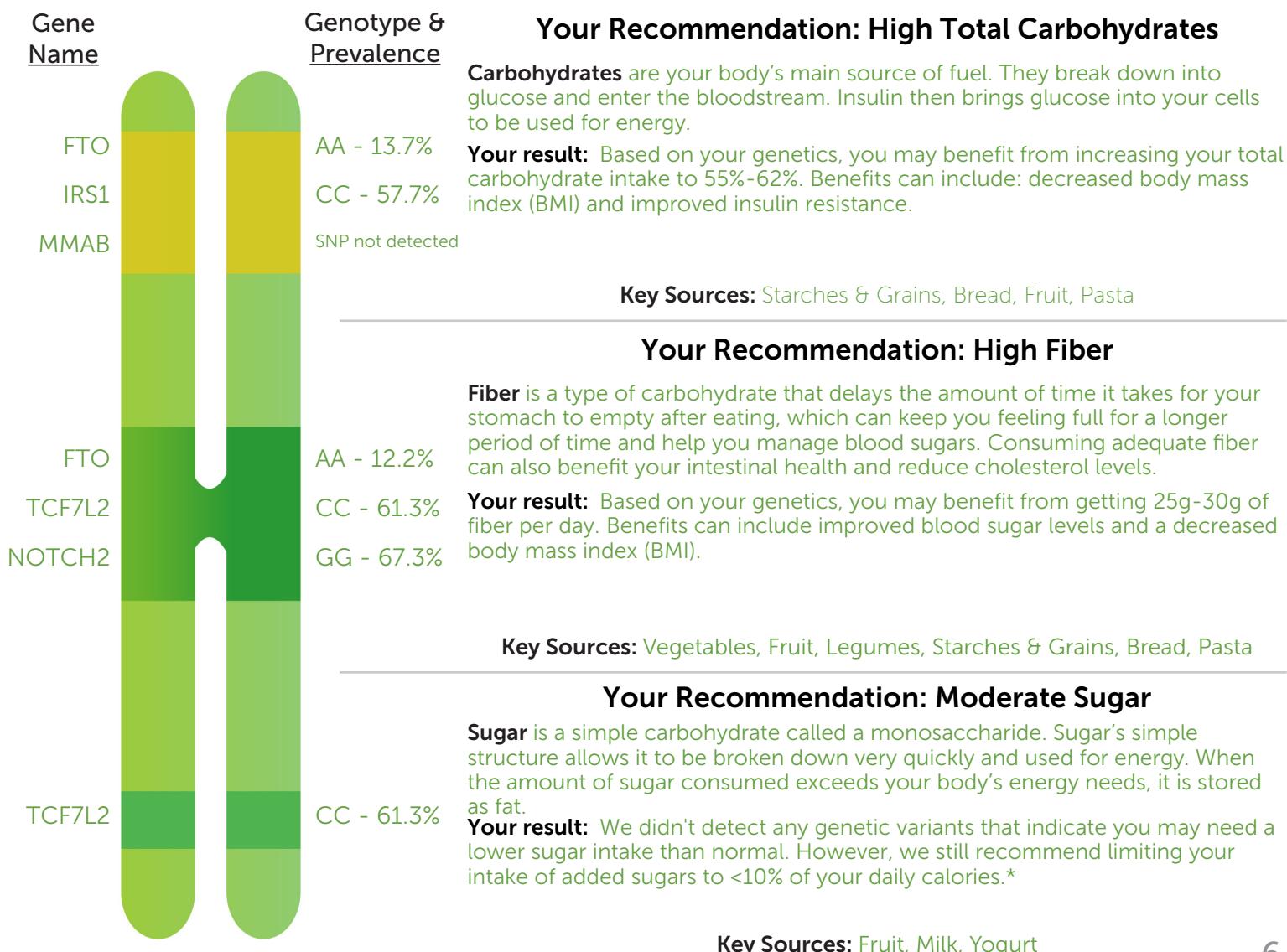
We analyzed your genetic variants (SNPs) that impact your nutrition. Below you will see the genes that these SNPs are located on, along with their associated genotype and prevalence. Your **Genotype** is your unique set of nucleotides that determines your nutrition recommendation. The **Prevalence**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

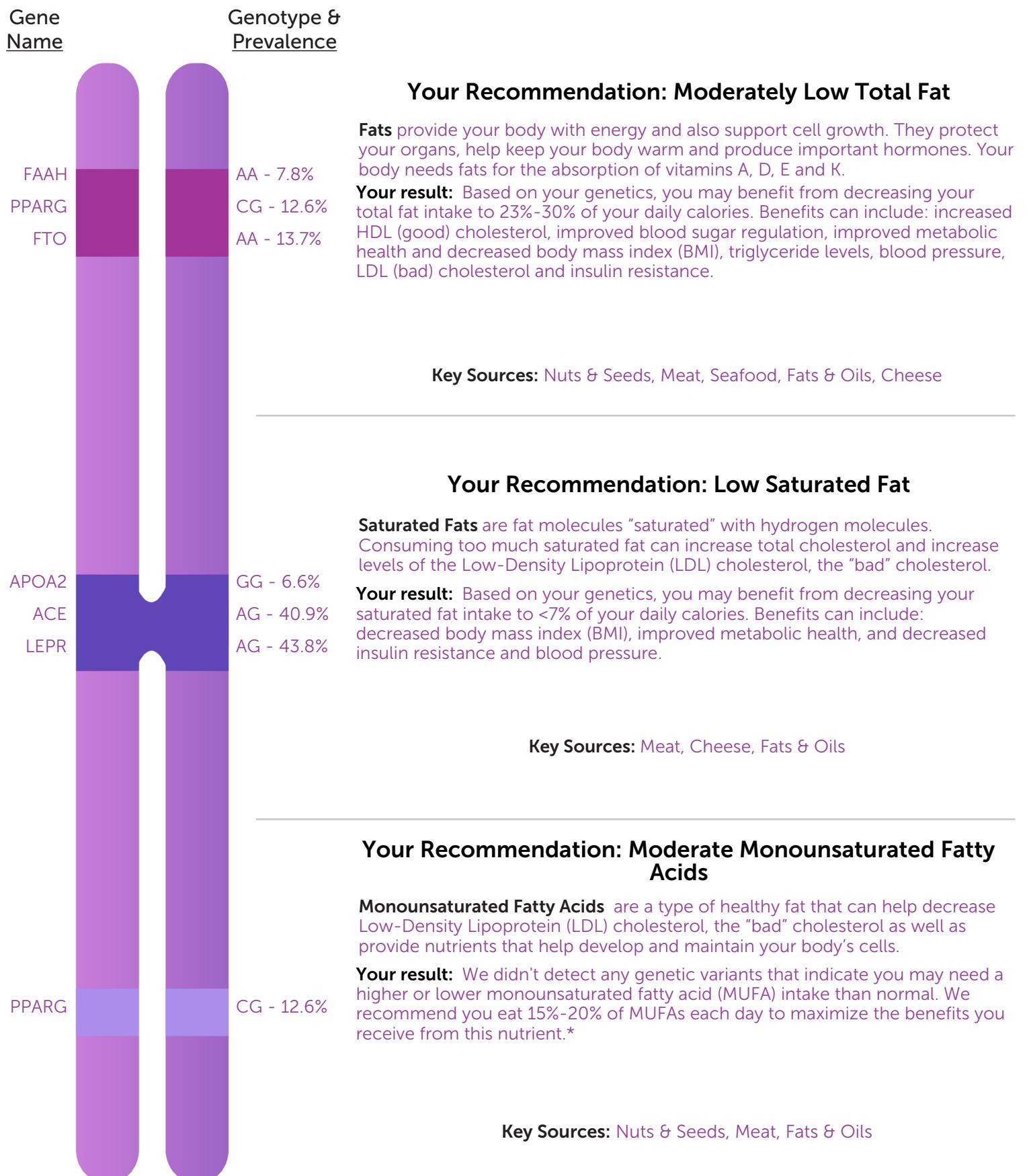
## Carbohydrates



\*This recommendation follows the National Institutes of Health's guidelines.

# Your Genes + Nutritional Science = Your Foods

## Fats

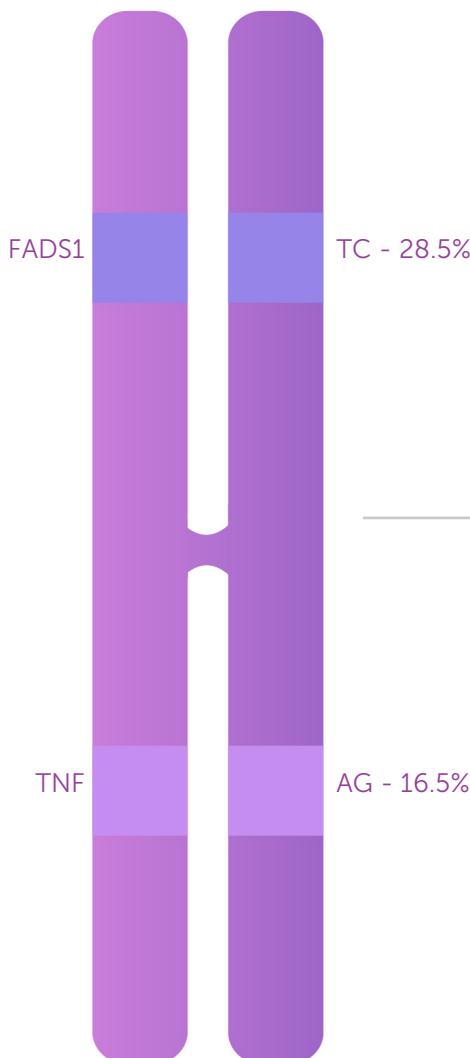


\*This recommendation follows the National Institutes of Health's guidelines.

# Your Genes + Nutritional Science = Your Foods

## Fats

Gene Name	Genotype & Prevalence
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### Your Recommendation: Moderate 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:** We didn't detect any genetic variants that indicate you may need a higher omega-3 fatty acid intake than normal. We recommend you eat 1600mg of omega-3 fatty acids per day to maximize the benefits you receive from this nutrient.\*

**Key Sources:** Seafood, Nuts & Seeds

### Your Recommendation: Low Omega-6 Fatty Acids

**Omega-6 Fatty Acids** are 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:** Based on your genetics, you may benefit from decreasing your omega-6 fatty acid intake to 5%-7% per day. Benefits can include: decreased body mass index (BMI) and decreased triglyceride levels.

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

## Protein



### Your Recommendation: Moderately 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:** Based on your genetics, you may benefit from increasing your protein intake to 19%-24% of your daily calories. Benefits can include: decreased insulin resistance and improved fat distribution.

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

# Your Genes + Nutritional Science = Your Foods

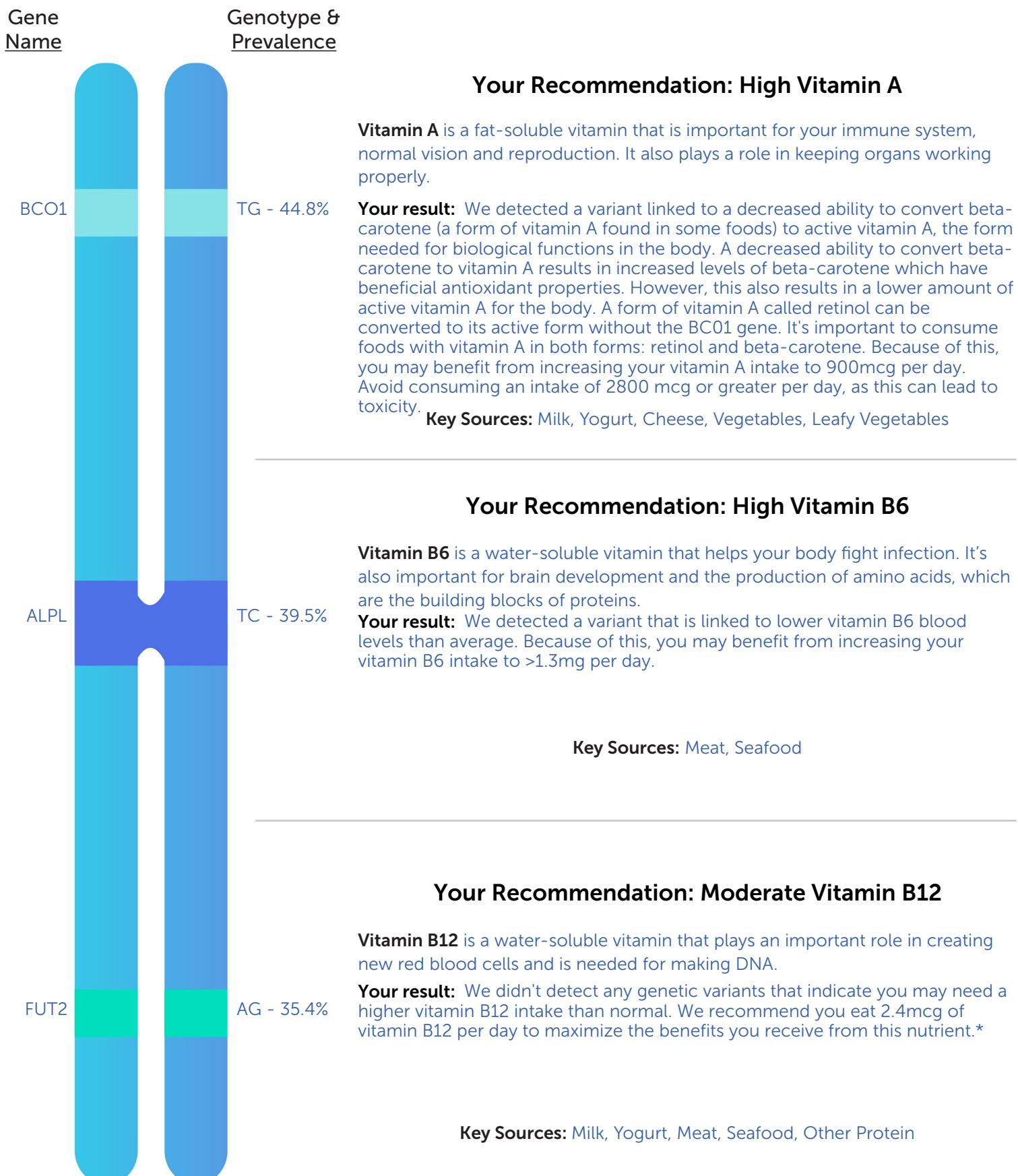
## Minerals

Gene Name	Genotype & Prevalence	Your Recommendation
CASR	AA - 82.7%	<b>Moderate Calcium</b>  <b>Calcium</b> is a mineral that is essential to bone health. It also plays a role in muscle contraction and blood clotting. <b>Your result:</b> We didn't detect any genetic variants that indicate you may need a higher calcium intake than normal. We recommend you eat 1000mg of calcium each day to maximize the benefits you receive from this nutrient.*  <b>Key Sources:</b> Milk, Yogurt, Cheese, Leafy Vegetables
AGT	TT - 54.3%	<b>Low-Moderate Sodium</b>  <b>Sodium</b> 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. <b>Your result:</b> We detected a variant linked to decreased blood pressure when consuming a low sodium intake. Because of this, you may benefit from decreasing your sodium intake to 1520mg-1820mg per day.  <b>Key Sources:</b> Meat, Seafood, Cheese, Bread
HFE	CC - 86.6%	<b>Moderate Iron</b>  <b>Iron</b> is a component in hemoglobin, the substance in red blood cells that carries oxygen throughout your body. <b>Your result:</b> We didn't detect any genetic variants that indicate you may need a higher or lower iron intake than normal. We recommend you eat 8mg of iron per day to maximize the benefits you receive from this nutrient.*  <b>Key Sources:</b> Meat, Leafy Vegetables, Starches & Grains, Bread, Pasta
SLC30A8	AA - 56.6%	<b>High Zinc</b>  <b>Zinc</b> 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. <b>Your result:</b> We detected a genetic variant that is linked to lower fasting glucose levels when consuming a higher zinc intake. Because of this, you may benefit from increasing your zinc intake to 9mg-17mg per day.  <b>Key Sources:</b> Meat, Starches & Grains, Cheese, Milk, Yogurt
ADIPOQ	SNP not detected	<b>Moderate Potassium</b>  <b>Potassium</b> is a mineral that helps maintain normal blood pressure by reducing the effects of sodium. It also may help in preventing recurrent kidney stones and bone loss as we age. <b>Your result:</b> We didn't detect any genetic variants that indicate you may need a higher potassium intake than normal. We recommend you eat 3400mg of potassium each day to maximize the benefits you receive from this nutrient.*  <b>Key Sources:</b> Vegetables, Fresh Herbs, Fruits, Yogurt

\*This recommendation follows the National Institutes of Health's guidelines.

# Your Genes + Nutritional Science = Your Foods

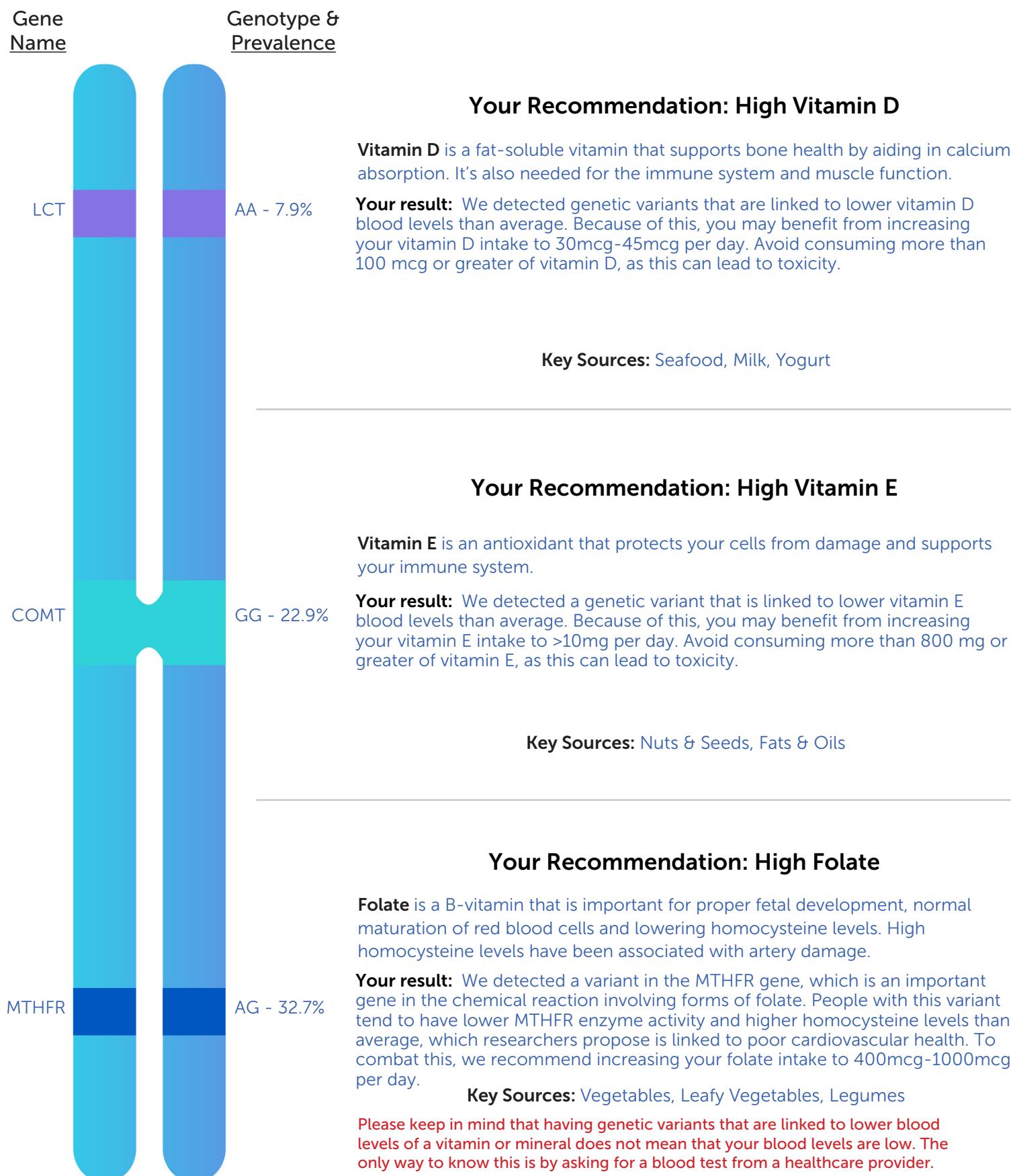
## Vitamins



\*This recommendation follows the National Institutes of Health's guidelines.

# Your Genes + Nutritional Science = Your Foods

## Vitamins



\*This recommendation follows the National Institutes of Health's guidelines.

# Your Genes + Nutritional Science = Your Foods

## Sensitivities

Gene Name	Genotype & Prevalence	Your Recommendation
LCT	AA - 7.9%	<b>Your Recommendation: Not Likely Sensitive to Lactose</b>  <b>Lactose</b> 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.  <b>Your result:</b> People with genetics like yours have a lower chance of being sensitive to lactose. However, this test cannot diagnose an allergy or intolerance. Your likelihood of having a lactose sensitivity depends on more than just genetics.
HLA-DQ8	CC - 0.7%	<b>Your Recommendation: Likely Sensitive to Gluten</b>  <b>Gluten</b> 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.  <b>Your result:</b> People with genetics like yours may have a higher chance of being sensitive to gluten. However, this is not a diagnosis of an allergy or intolerance. Your likelihood of having a gluten sensitivity depends on more than just genetics. Because of this, your food list will have gluten-free options to accommodate a possible sensitivity, as well as gluten-containing options.
HLA-DQA1	CC - 85.4%	

## Substances

	Your Recommendation	
CYP1A2	<b>Your Recommendation: Slow Caffeine Metabolizer</b>  <b>Caffeine</b> 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.  <b>Your result:</b> People with genetics like yours may have a slower/normal ability to clear alcohol/caffeine from their system. After drinking caffeinated beverages, you may feel jittery, anxious and experience a headache. If you choose to drink caffeine, drink in moderation. Aim for less than 400 mg per day (400 mg equates to about 4 cups of regular coffee).*	
ADH1C	<b>Your Recommendation: Slow Alcohol Metabolizer</b>  <b>Alcohol</b> 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 variants.  <b>Your result:</b> People with genetics like yours may have a slower ability to clear alcohol from their system. You may experience facial flushing, nausea and rapid heart beat when consuming alcohol. If you choose to consume alcohol, try to drink in moderation: 1 drink per day for women, 2 drinks per day for men.*	
ADH1B		

\*This recommendation follows the National Institutes of Health's guidelines.

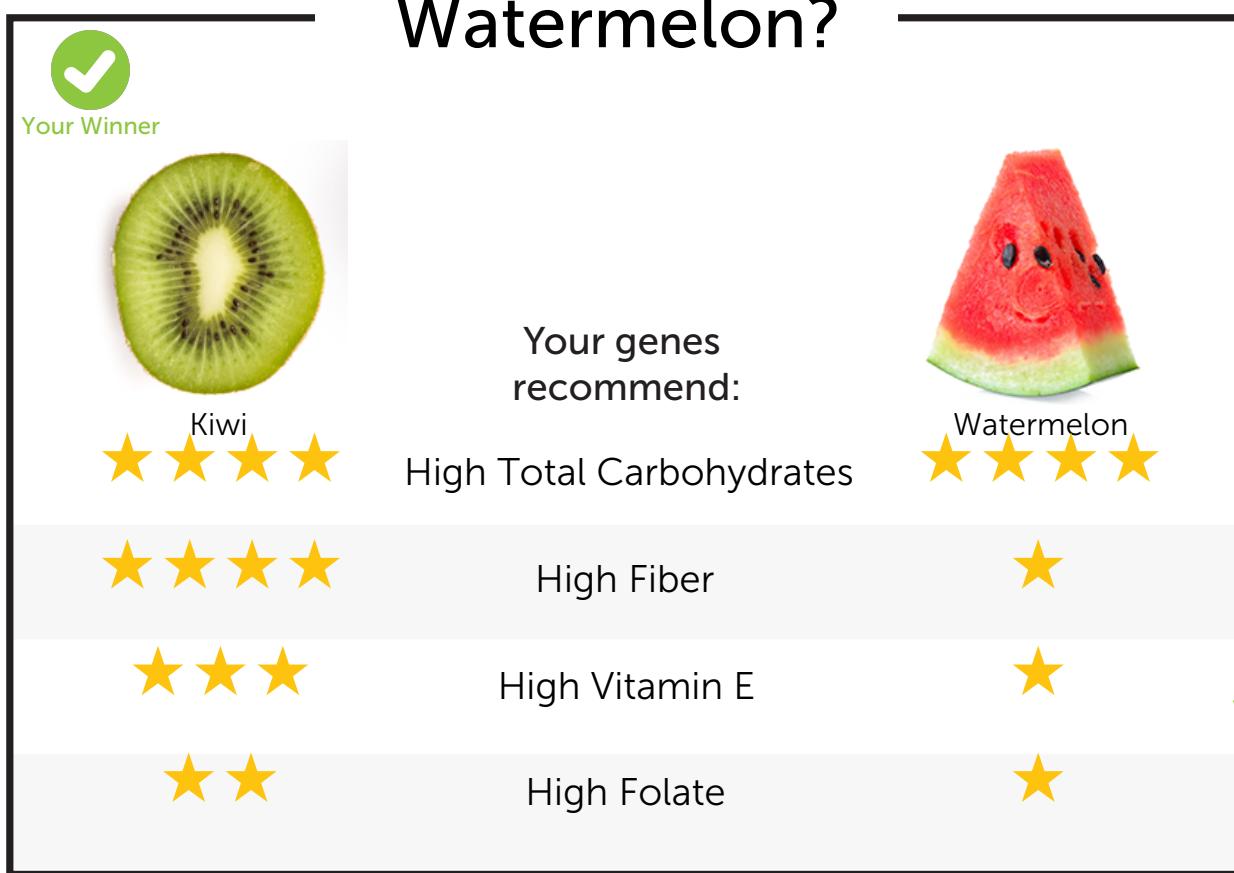
# Your Genes + Nutritional Science = Your Foods

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 Watermelon?



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

Less stars indicates that the nutrition profile of Watermelon 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 Total Carbohydrates, High Fiber, High Vitamin E and High Folate.

Your top **Vegetables** were chosen based on your recommendations to consume Moderately High Protein, High Fiber, High Folate and High Total Carbohydrates.

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

Your top **Fresh Herbs** were chosen based on your recommendations to consume High Fiber, Moderately High Protein, High Folate and Moderately Low Total Fat.

## Fruits



Kiwi



Bananas



Persimmons



Raspberries



Blackberries



Passion Fruit



Oranges



Pears

## Vegetables



Artichoke



Winter Squash



Red Bell Pepper



Carrots



Pumpkin



Beets



Okra



Banana Peppers

## Leafy Vegetables



Turnip Greens



Collard Greens



Escarole



Bok Choy



Romaine Lettuce



Swiss Chard

## Fresh Herbs



Bay Leaf



Garlic



Spearmint



Scallions



Parsley

# 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 Low Omega-6 Fatty Acids, Moderately High Protein, High Folate and High Vitamin B6.

Your top **Seafoods** were chosen based on your recommendations to consume High Vitamin A, High Vitamin D, Low-Moderate Sodium and High Vitamin E.

Your top **Other Proteins** were chosen based on your recommendations to consume High Total Carbohydrates, Moderately High Protein, High Vitamin B6 and High Zinc.

## Meats



Chicken Liver



Veal



Eye of Round Beef



Turkey Breast



Top Round Steak



Bottom Round Steak



Pork Tenderloin



Rabbit

## Seafoods



Eel



Halibut



Tuna



Herring



Whitefish



Mackerel



Salmon

## Other Proteins



Nutritional Yeast



Soy Burger



Whole Eggs



Tofu

# 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 Total Carbohydrates, High Fiber, Moderately High Protein and Low-Moderate Sodium .

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

Your top **Pastas** were chosen based on your recommendations to consume High Fiber, Low-Moderate Sodium , High Folate and High Zinc.

## Breads



Potato Bread



Multigrain Bagel



Plain Bagel



Tapioca Bread\*



Brown Rice Bread\*



Corn Tortilla\*

\*Gluten-Free

## Starches & Grains



Sweet Potatoes



Amaranth



Russet Potatoes



Peas



Teff

\*Contains Gluten

## Pastas



Whole Grain 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 Moderately High Protein, Low Saturated Fat, Moderately Low Total Fat and High Folate.

Your top **Fats & Oils** were chosen based on your recommendations to consume High Vitamin E and Low Saturated Fat.

Your top **Legumes** were chosen based on your recommendations to consume High Total Carbohydrates, High Fiber, Moderately High Protein and High Folate.

## Nuts & Seeds



Soy Nuts



Chia Seeds



Ground Flaxseeds



Almonds



Pumpkin Seeds

## Fats & Oils



Safflower Oil



Hazelnut Oil



Almond Oil



Olive Oil



Sunflower Seed Oil

## Legumes



Adzuki Beans



Lentils



Navy Beans



Mung Beans

# 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 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 Moderately High Protein, Moderately Low Total Fat, Low Saturated Fat and Low-Moderate Sodium .

Your top **Milks** were chosen based on your recommendations to consume High Total Carbohydrates, High Vitamin D, High Vitamin E and Low-Moderate Sodium .

Your top **Yogurts** were chosen based on your recommendations to consume High Vitamin A, High Vitamin D, Moderately Low Total Fat and Low Saturated Fat.

## Cheeses



Ricotta, Part Skim



Ricotta, Whole Milk



2% Cottage Cheese



Neufchatel



Mozzarella



1% Cottage Cheese

\*Low Lactose

## Milks



Vanilla Almond Milk\*\*



Nonfat Chocolate Soy milk\*\*



1% Chocolate Milk



Chocolate Almond Milk\*\*

\*Low Lactose or \*\*Lactose-free

## Yogurts



Lowfat Kefir\*



Plain Soy Yogurt\*\*



Plain Lowfat Greek Yogurt\*



Plain Nonfat Greek 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®**



The laboratory genetic testing was performed by GenoPalate, Inc. or one of its contracted labs. The information provided in this report is prepared by GenoPalate, Inc., and is based in part on publicly available databases. Neither the test nor the organization of this information have been cleared or approved by the FDA or any other government authority. Neither the test nor the information provided in any report are intended to diagnose any disease, and they are not intended to tell you anything about your current state of health or used to make medical decisions. Our nutrition recommendations should never be used as a substitute for direct medical advice from your doctor or other qualified clinician.