



teste de adn perda de peso saudável

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Referência: 859857 - 1963-NUTR-4413 v2

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Data do Relatório: 01/09/2019

IMPORTANTE

Este produto não se destina a diagnosticar, tratar, curar ou prevenir qualquer doença. Este teste é apenas para a sua educação e informação.

Análise + Relatório



YOUR PERSONALIZED REPORT

CONGRATULATIONS!

You will receive insights about your body that have never before been available. The DNA analysis to provide a roadmap of your genes that are specifically connected to diet and exercise. This report also gives direction on how to potentially optimize your health and well-being with this knowledge. **No more trial and error!**

BODY TRAITS ANALYZED

This report provides results in four key areas that can affect the way your body looks and feels:

1. **Weight Loss Ability**
2. **Food**
3. **Nutrients**
4. **Response to Exercise**

Your analyzed genotype results are followed by a **detailed explanation** of and **success strategy** for each of these four categories.

Some of the results are directly related to weight loss efforts from diet and exercise. Others are relevant because they can affect how you feel and how your body functions optimally, and so can affect your performance and your efforts to manage your body weight.

HOW RESULTS ARE DETERMINED

We provide a genetic analysis that indicates which gene combinations you have in each category. You receive a rating based on our calculated score for each trait in a category. Some categories only have one gene associated with that trait; other categories have several genes associated with that trait. Our calculated score reflects the potential combined influences from one or more genes.

LEVERAGING THE LATEST RESEARCH

We use the largest and most scientifically valid genome-wide association studies to calculate a score for the different genes or gene combinations. Healthy DNA Test maintains a continually updated research database, and our analyses are modified as new and better research becomes available. We have carefully selected the **best available research** upon which to base our analysis and recommendations.

THIS REPORT SHOWS YOU:

We use the largest and most scientifically valid genome-wide association studies to calculate a score for the different genes or gene combinations. Healthy DNA Test maintains a continually updated research database, and our analyses are modified as new and better research becomes available. We have carefully selected the **best available research** upon which to base our analysis and recommendations.

- What your genotypes suggest about your ability to lose weight and body fat in response to different types of diets and exercise programs.

YOUR PERSONALIZED REPORT

- Your potential response to a variety of micronutrients
- The likely health-effects you may experience from regular exercise

Our medical team has evaluated your potential response and provides you with concrete success strategies based on the latest research recommendations. This guidance may give you that extra edge in finding the right plan that helps you maximize the results you get from dieting and exercise.

While we can't change our genes, we can change our behaviors to take advantage of what our genes say about our bodies.





WHAT IS A GENE?

A gene is the basic physical and functional unit of heredity. Genes, which are made up of DNA, act as instructions to make molecules called proteins. In humans, genes vary in size from a few hundred DNA bases to more than 2 million bases. The Human Genome Project has estimated that humans have between 20,000 and 25,000 genes.

Every person has two copies of each gene, one inherited from each parent. Most genes are the same in all people, but a small number of genes (less than 1 percent of the total) are slightly different between people. Alleles are forms of the same gene with small differences in their sequence of DNA bases. These small differences can contribute to each person's unique physical features. Keep in mind that genes for certain traits can be present, but might not be "expressed." Whether a gene is turned "on" or "off" to express, or not express, a specific trait often depends on lifestyle behaviors and environmental factors.

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REPORT SUMMARY

CATEGORY	RATING	GENES
 WEIGHT LOSS ABILITY		
Weight Loss Ability with Diet and Exercise	LOW	FTO,TCF7L2,MTNR1B,PPARG,BDNF,ABCB11
 FOOD		
Protein Utilization	ENHANCED	FTO
Fat Utilization	LOW	PPARG,TCF7L2,APOA5,CRY2,MTNR1B,PPM1K
Carb Utilization	NORMAL	IRS1
 NUTRIENTS		
Vitamin B9 – Folate Tendency	BELOW AVERAGE	MTHFR
Vitamin A Tendency	BELOW AVERAGE	BCMO1
Vitamin B6 Tendency	LOW	NBPF3
Vitamin B12 Tendency	LOW	FUT2
Vitamin C Tendency	NORMAL	SLC23A1
Vitamin D Tendency	BELOW AVERAGE	GC, NADSYN1, CYP2R1
 EXERCISE		
Fat Loss Response to Cardio	NORMAL	ADRB2, LPL
Fitness Response To Cardio	BELOW AVERAGE	AMPD1, APOE
Body Composition Response to Strength Training	BELOW AVERAGE	NRXN3, GNPDA2, LRRN6C, PRKD1, GPRC5B, SLC39A8, FTO, FLJ35779, MAP2K5, QPCTL-GIPR, NEGR1, LRP1B, MTCH2, MTIF3, RPL27A, EC16B, FAIM2, FANCL, ETV5, TFAP2B
HDL Response to Cardio	ENHANCED	APOE
Insulin Sensitivity		
Response to Cardio	BELOW AVERAGE	LIPC
Glucose Response To Cardio	NORMAL	PPARG



WEIGHT LOSS ABILITY

SUMMARY

Is Your Ability to Lose Weight Normal, Below Average, or Low?

The genes tested in this section relate to your ability to lose weight from a program of regular diet and exercise. Results can provide insights into how you might tweak your approach to diet and exercise to optimize fat-loss results.

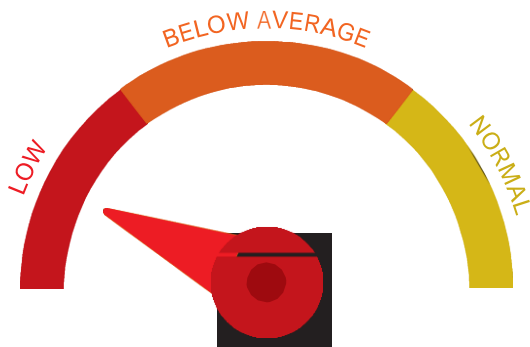
The genes included in this category have all been shown in studies to have statistically significant associations with a person's ability to lose weight and keep it off.

Several large studies showed that people who participated in intensive and long-term diet and exercise programs exhibited significantly different weight loss responses based upon their genetic profile. Those people who carried the most “unfavorable” pairs of these 6 genes lost weight with the diet and exercise program—but, on average, they tended to lose less weight compared to other participants who did not carry, or who have fewer of the “unfavorable” genotypes. Also, after completing the diet and exercise program, people with more of the “unfavorable” genes were, on average, also more likely to regain some of the weight that they had lost.

Our analysis investigated which genotype for each of these 6 genes was present in your DNA. Your rating of either **LOW**, **BELOW AVERAGE**, **NORMAL** or reflects whether your genotypes included those that carried a risk of reduced weight loss ability.



WEIGHT LOSS ABILITY



YOUR GENETIC PROFILE INDICATES THAT YOUR WEIGHT LOSS ABILITY IS **LOW**

You may lose less weight or fat than you expect from a lifestyle change in diet and exercise, and/or you may regain weight back if you do not stick to the program.

WHAT YOUR GENES SAY ABOUT YOU

Your score reflects the fact that among the genes investigated, your genotypes included many of the unfavorable gene combinations. What this means is that you may find it tougher to lose weight and to keep it off compared to other people who do not have the same genetic profile as you.

The good news is that this does NOT mean that you will not or cannot lose weight. You can lose weight, but you just may not lose as much as you expect, or you may have to work a little harder to lose it and keep it off. Remember that these results only indicate your potential ability to lose weight based on genetic factors, but they are not a guarantee of how your body will respond to diet and exercise. Even if you carry genotypes that potentially reduce your ability to lose weight, your lifestyle and environmental choices

affect whether those genes are expressed or not. However, your results suggest that it is smart to choose the most effective program for you and to adopt behaviors that help you to stick to the lifestyle changes.

SUCCESS STRATEGIES

Weight loss comes from reducing the number of calories you eat and increasing the number of calories that you burn. The most powerful—and permanent—weight loss comes when you do both. Study your Healthy Weight results in **FOOD CATEGORIES** and **EXERCISE**. They will give you more insight into what could be the best type of diet and exercise plan that may make it easier for you to lose weight. Keep in mind that different approaches work for different people and your personality and the logistical factors in your life affect what works best. Here are some tips that can help.

DIET TIPS

- Pay special attention to the number of calories that you consume since any weight loss resistance may be overcome by making sure that you are maintaining a caloric deficit that leads to weight loss
- Based on your reported body weight and estimated activity level, our recommendations include a calorie target highlighting how much you should eat each day
- Tracking your calorie intake on paper or with a dietary app can help you monitor whether you are meeting your goals
- Identify the influences that make it hard for you to choose the right foods or to stick to a diet. Develop back-up plans so that you aren't derailed from your diet if the same, or similar, circumstances arise again.



WEIGHT LOSS ABILITY

Before making changes to your diet, consult with your physician, registered dietitian, and/or nutritionist.

EXERCISE TIPS

Exercise can significantly bump up your calorie burn to help you lose more weight and greater amounts of body fat, especially deep fat around your belly. You are more likely to see optimal results by exercising at least **5 and up to 7 days per week, or from 200 minutes up to 300 minutes per week.**

- *Cardio workouts: walking, running, cycling, swimming, aerobics, dancing and any of the cardio machines*
- *Fast-paced, bootcamp-style or circuit training with weights*

NOTE: Slower-paced workouts like yoga and pilates do not burn as many calories, so if you are doing these types of workout on most days of the week, focus on doing more cardio workouts instead.

- *Intensity is key for most people: the harder you work, the more calories you can burn. But if you are not fit enough to work hard, you'll need to start easy and work up to workouts that last longer and feel harder. Start with 10-20 minute walking sessions and over weeks add more time to the sessions and work at a harder intensity*
- *Weight-training should be a part of your exercise plan. When you lift weights, you can make a diet more effective by preventing or minimizing the loss of muscle that occurs with dieting alone. Plus, certain types of high-intensity weight-lifting (doing circuits with cardio intervals, for example), may help rev your body up to burn a few extra calories in the hours after a workout*
- *Reduce your sitting time! While standing more or moving around throughout the day is not considered exercise, the physical activity does add up and can help you burn more calories all day and also improve health risk factors.*

If you are inexperienced in cardio/resistance training/power moves, consult with your physician to see if you are healthy enough to begin an exercise program. Also, please consult a fitness trainer to help determine the safest way to incorporate the recommendations into your workout.

RELATED GENES / SNPS

The six genes and their associated SNPs that are included in this category have all been shown in scientifically sound studies to have statistically significant associations with a person's ability to lose weight and keep it off. Several large studies have shown that people who participated in intensive and long-term diet and exercise programs exhibited significantly different weight loss responses based upon their genetic profile. Those people who carried the most 'unfavorable' pairs of genes, or genes, lost weight with the diet and exercise program—but, on average, they tended to lose less weight compared to other participants who had fewer, or who did not carry the 'unfavorable' genotypes. Also, after completing the diet and exercise program, people with more of the 'unfavorable' genes were, on average, also likely to regain some of the weight that they had lost. Keep in mind, however, that great individual variation is seen in research studies like these. The stated results are an average of all those within a group, but there can still be differences even among those with the same genotype.

Our analysis investigated which genotype for each of these 6 genes was present in your DNA. Your rating of either **LOW**, **BELOW AVERAGE**, **NORMAL** reflects whether your genotypes included those that carried a risk of reduced weight loss ability.



SUMMARY

WHAT FOODS DO YOU NEED TO EAT?

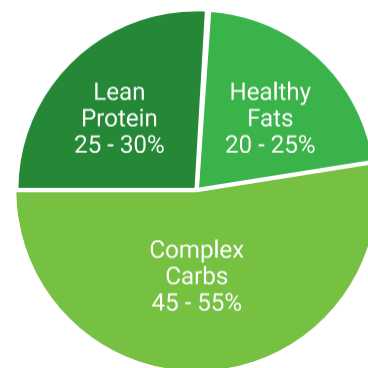
Your genotype suggests that you may have a better response to a weight-loss diet if daily calories come from the following proportions of fat, carbohydrates, and protein. You can monitor this with a diet log.

Based on your gender, age, height, current weight and current activity level, we recommend a diet of approximately 1,507 calories per day to lose weight. This number was calculated estimating your total energy expenditure, or the number of calories your body needs each day. Since you are interested in losing weight, you will need to eat fewer calories than your total energy expenditure. We suggest a modest calorie reduction of 20 percent. We have calculated this reduction into our calorie recommendation for you, so if you eat around 1,507 calories per day, you can expect to

lose weight. This is not a drastic calorie reduction, so you should not feel hungry or like you are denying yourself food if you eat this many calories.

The amount of exercise you get can change your energy requirements. Therefore, you may need to eat more calories than this is if you are performing 45 minutes or more of moderate-to-high intensity cardio exercise on a daily basis.

Here are suggested macronutrient ranges to follow that may optimize the weight loss from your diet.



RECOMMENDATION	PERCENT	GRAMS	CALORIES
PROTEIN Choose a reduced-calorie diet that is between 25-30% protein. Get your protein from mostly plant food sources such as beans, legumes, nuts, seeds, whole grains and vegetables.	25% to 30%	94g to 113g	377 to 452
FAT Choose a diet low in fat and saturated fat. Get your fats mostly from plant foods, but avoid excess added oils.	20% to 25%	33g to 42g	301 to 377
CARBOHYDRATES You can lose weight on a reduced calorie diet that is either moderate or low in carbs. Choose complex carbs for more nutrients (veggies, beans, whole grains, etc.) and avoid simple or processed carbs (fries, chips, crackers, etc.).	45% to 55%	170g to 207g	678 to 829

* Before making changes to your diet, consult with your physician, registered dietitian, and/or nutritionist.



SUMMARY

CARBOHYDRATES: You can lose weight on a reduced calorie diet that is either moderate or low in carbs. Choose complex carbs for more fiber and nutrients (veggies, beans, whole grains, etc.) and avoid simple or processed carbs (fries, chips, crackers, etc.).

FAT: Choose either a low- or moderate-fat, reduced-calorie diet. Get your fats mostly from plant foods, but avoid excess added oils.

PROTEIN: Get your protein from mostly plant food sources such as beans, legumes, nuts, seeds, whole grains and vegetables.

The total number of calories or grams from each food category shown represents a recommended amount to consume each day. To determine your percentages from each category, such as the fat or protein content of ALL the foods you eat in a day, you'll need to use a dietary app or online food log. You input what you eat and it will assess your overall breakdown at the end of each day. We provide you with sample menus that can give you an idea of what a menu with your recommended ranges will look like, but still recommend you use these other resources.



Your genetic profile indicates your response is **ENHANCED**

This indicates that you may lose more weight from dieting if you eat a moderate-to-high percentage of protein. Aim for 25% to 30% of your total calories to come from plant or animal-based protein.

WHAT YOUR GENES SAY ABOUT YOU

Your genotype includes the allele combination that results in greater weight loss when a higher percentage of protein is eaten as part of a diet. Studies that investigated this genotype found that a **diet consisting of 25% of protein resulted in optimal weight loss**. This suggests that **the amount of weight or body fat that you lose from a diet is very likely to be affected by the percentage of protein you eat**.

This genotype also results in the loss of more lean body mass from dieting compared to those without this genotype. Lifting weights during dieting is an effective way to minimize or prevent the loss of muscle that can occur with weight loss.

SUCCESS STRATEGIES

Consuming a diet that is moderate-to-high in protein when you diet may help you to optimize your weight loss. Since you have a higher risk of losing muscle mass when you lose weight, it is important to include regular resistance training during your weight loss period.

DIET

The body needs a certain minimum amount of protein to meet its needs to produce muscle, hormones, enzymes, skin and for other functions. The recommended daily allowance for protein is determined based on your body weight. On average, the recommendation is to obtain between 0.8 and 1 gram of protein per 1 kilogram of body weight.

- *If you weigh 175 lbs, or 80 kg, it is recommended that you get between 64 and 80 grams of protein per day. That means if you eat 2,500 calories daily while on a normal food plan, you can get this amount by eating between 10% and 13% protein in your diet*
- *If you go on a calorie-reduced diet and consume only 1,500 calories, to reach your quota, you may need to eat a slightly higher percentage of protein, around 17% to 21% protein. Your genotype suggests that, while dieting, you may benefit from an even higher percentage of protein—from 25% to 30%*
- *Protein in your foods should contain all of the essential amino acids. Animal foods contain all of the essential amino acids in one food item, such as meat, fish or dairy products*



FOOD | PROTEIN UTILIZATION

- You can also obtain all of the essential amino acids in many single plant foods, including grains such as quinoa, seeds such as shelled hemp hearts (hemp seeds), and beans such as edamame or tofu. Or you can consume several complementary plant foods in the same day and obtain the essential amino acids that your body needs (brown rice and black beans; nuts, grains and beans; veggies, beans and grains, etc.)
- If your genetic profile suggests you should reduce your intake of total fat or saturated fat, choose leaner versions of animal foods or, best, opt for plant-based protein foods

To track the percentage of protein you get, record your food intake for at least a week and enter it into a diet app or online nutrition log that can calculate the percentage of each of the macro nutrients that you eat.

Before making changes to your diet, consult with your physician, registered dietitian, and/or nutritionist.

EXERCISE

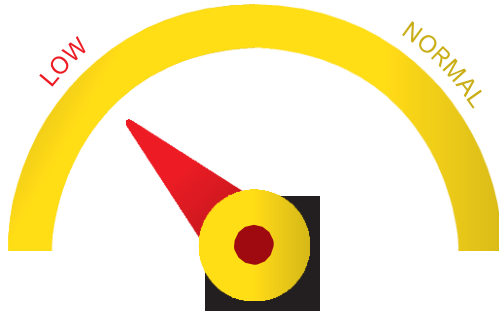
- Since these genes are also associated with reduced lean body mass from dieting (which can include the loss of muscle tissue), it is recommended that you include exercise, especially heavier weight training, as part of your plan when you are losing weight. This may help minimize or prevent the loss of lean body mass that can occur with weight loss
- Study your results for your genetic analysis for exercise-related genes for a more specific exercise prescription. But for optimal muscle strengthening, you should do exercises with weights targeting your major muscle groups. On two to three non-consecutive days per week, do three (3) sets of 12 reps with weight heavy enough to feel "hard" or "very hard" by the end of each set

If you are inexperienced in cardio/resistance training/power moves, consult with your physician to see if you are healthy enough to begin an exercise program. Also, please consult a fitness trainer to help determine the safest way to incorporate the recommendations into your workout.

RELATED GENES / SNPS

The genes included in this category have consistently been shown to be associated with body fat mass and BMI (Body Mass Index). One large study found that people with the unfavorable genotype who dieted lost more weight, body fat and fat in the torso if they ate a moderate-to-high protein diet (25% of total daily calories) compared to a lower protein diet (15% of total daily calories), regardless of fat and carbohydrate distribution. However, they also lost more non-fat mass—which includes muscle—with the weight loss, even though they were eating a higher-protein diet and exercising.

Our analysis of your genes investigated which genotype is present in your DNA. Your rating of either **NORMAL**, **SLIGHTLY ENHANCED**, or **ENHANCED** reflects whether your genotype includes those alleles that exhibit protein sensitivity. Their presence can result in increased weight and fat loss on a moderate-to-high protein, reduced-calorie diet.



YOUR GENETIC PROFILE INDICATES THAT YOUR PROTEIN UTILIZATION OF FAT IS **LOW**

You may be sensitive to too much total fat and/or too much saturated fat in your diet. If you are dieting, or reducing calories to create a negative energy balance, you may experience less weight loss with a higher-fat diet.

WHAT YOUR GENES SAY ABOUT YOU

For the genes investigated, your genotype includes some of the unfavorable allele combinations. This means that **you may be sensitive to the amount and type of fat in your diet.** Research has shown that people with a similar genotype tend to have more body fat when they have more fat in their diet and they lose less weight when they are on a diet that contains a high amount of fat, especially saturated fat. This result also suggests that **you may have a reduced level of fat oxidation, or fat-burning ability, when you eat a high fat diet.**

SUCCESS STRATEGIES

Since your genes suggest that you may be sensitive to the fat in your diet and that you may be less efficient at burning fat when you eat a high-fat diet, following a low-fat diet and keeping saturated fat to a minimum may help you to control your body weight and body fat, and to lose more weight when you diet.

So how much fat should you eat?

There are varying definitions of what is considered “low fat.” Studies that look at dietary fat vary in how they quantify fat and there is no clear consensus on what constitutes a “high fat” vs. a “low fat” diet. The Acceptable Macro nutrient Distribution Range (AMDR) for dietary fat that is recommended by the Institute of Medicine is a daily fat intake that is between 20% and 35% of total daily calories and it is recommended to eat fewer than 10% of calories from saturated fats.

- *A high-fat diet has a percentage of fat intake on the upper end of the AMDR range, so from 30% to 40% of the day's total calories. People who eat a lot of fast food and animal foods like meat and cheese can have fat intakes that are 50% or greater. However, some people who choose to eat a very low carb diet may consume up to 60% or 70% fat*
- *A low-fat diet is usually considered to be one consisting of a percentage of fat intake that is on the lower end of the AMDR range, so from 15% to 25% of the day's total calories*

Since your genetic profile indicates that you might benefit from a lower-fat diet, it is suggested that you **aim for the lower end of the fat intake range, so from 20% to 25% of**

total calories



FOOD | FAT UTILIZATION

coming from fat, and very little saturated fat.*

It's tough to know how much fat you get unless you are actively tracking what you eat and entering it into a diet app or online nutrition log. You might find it helpful to first determine how much fat you are currently eating so that you can identify ways to decrease it to desired levels if it is too high. If you are eating more fat than is recommended, analyze what you eat and use the tips below to reduce the fat.

**Before making changes to your diet, consult with your physician, registered dietitian, and/or nutritionist.*

EASY WAYS TO REDUCE YOUR TOTAL FAT INTAKE

- *Stick to a plant-based diet: Eat fewer animal foods (meat, poultry and dairy foods)*
- *If you eat animal foods, choose leaner or lower-fat versions. Since even lean meats still contain fat, including saturated fat, control portion sizes and avoid eating meat at every meal, or even every day*
- *Substitute plant versions of animal foods: Try almond, soy or coconut-based yogurts, substitute plant milks (soy, almond, rice, etc.) for dairy milk*
- *Identify foods you prepare that you normally add fat to (oil, butter, cream, cheese, meat) and try to find a non-fat substitute*
- *Reduce the amount of oil you use, or omit it completely*

TO REDUCE SATURATED FAT

- *Try vegan cheeses (such as nut cheeses made from cashews, almonds or macadamia nuts)*
- *Use healthy oils (sunflower, safflower, coconut) instead of butter or cream for cooking or seasoning*

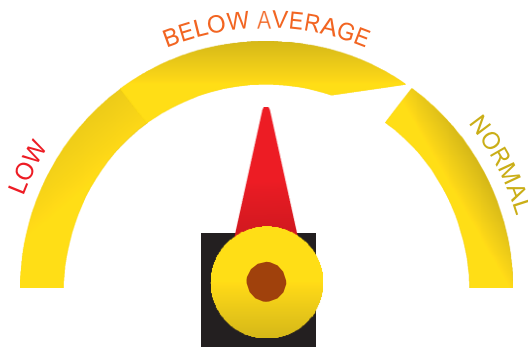
- *Choose plant-based spreads instead of using butter. Use peanut butter, hummus, pesto sauce, avocado, etc.*

Before making changes to your diet, consult with your physician, registered dietitian, and/or nutritionist.

RELATED GENES / SNPS

The genes included in this category have all been shown in scientifically-sound studies to have statistically-significant associations with the sensitivity people may have to eating a diet high in fat. These studies showed that the amount of fat in the diet affected how much weight individuals lost, depending on their genotype for these genes. One study found that those people with an unfavorable genotype were more likely to have more body fat, a larger waist size, and a higher BMI (Body Mass Index) proportionate to how much fat they ate, compared to others without the same genotypes. Another study found that people with a protective genotype appeared to be able to consume greater amounts of fat but without exhibiting higher BMIs. Another study found that people who went on a higher-fat, low-calorie diet lost weight, but they lost less weight if they had an unfavorable genotype, compared to those with a more favorable genotype.

Our analysis of your genes investigated which genotype for each of these six genes was present in your DNA. Your rating of either **LOW** or **NORMAL** reflects whether your genotypes include some or all of those factors that carry a risk of reduced weight loss ability from a high-fat diet.



YOUR GENETIC PROFILE INDICATES THAT YOUR RESPONSE IS **BELOW AVERAGE**

This suggests that your ability to convert high doses of beta-carotene from a supplement into an active form of Vitamin A may be reduced. You may want to get a blood test to assess your blood levels of Vitamin A, and, if your levels are low, then consume more beta-carotene and Vitamin A-rich foods, or possibly take low-dose supplements if you are deficient.

WHAT YOUR GENES SAY ABOUT YOU

Your score reflects the fact that, for the gene investigated, your genotype showed some of the allele combinations that resulted in less beta-carotene in supplement form being converted into Vitamin A as reflected in a blood test. This means that if you take high doses of a beta-carotene supplement, your ability to convert the nutrient into an active form of Vitamin A may be reduced compared to someone with a different genotype.

SUCCESS STRATEGIES

- You may want to request a blood test from your doctor to assess your levels of Vitamin A
- Vitamin A is needed for good vision. Needs may increase in women who are pregnant or lactating. If your levels are low or your body is deficient, vision and other aspects of health can be affected. You may want to increase your intake of beta-carotene and Vitamin A-rich foods, and perhaps take Vitamin A supplements
- If you do take a supplement, make sure not to exceed recommended levels of supplemental beta-carotene or Vitamin A, as toxicity can occur
- Be aware that some medications, alcohol or health conditions may interact with Vitamin A supplements and cause adverse effects. Discuss supplementation with your doctor

Before making changes to your diet, consult with your physician, registered dietician, and/or nutritionist. Eating healthful, vitamin-rich foods is the best way to incorporate micronutrients into your diet. Consult with your physician, dietician, and/or nutritionist before adding over-the-counter supplements to your wellness regimen.

RELATED GENES / SNPS

Genes included in this category have been shown to have statistically significant associations with a person's blood levels of Vitamin A. Vitamin A promotes good vision, is involved in protein synthesis that affects skin and membrane tissues, and helps support reproduction and growth. The nutrient is found in plant foods in its precursor forms such as beta-carotene. Beta-carotene is converted by the body as it is needed into different active forms of Vitamin A: retinol, retinal and retinoic acid. Animal foods, such as



meat and dairy, provide the retinol form of Vitamin A.

Vitamin A in the form of beta-carotene is found in foods such as vegetables, especially leafy greens like spinach and orange foods such as carrots, sweet potatoes, apricots, mango and cantaloupe. Vitamin A is found in its active, retinol, form in dairy and in organ meats such as liver.

VITAMIN A-RICH FOODS TO INCLUDE IN YOUR DIET:



Broccoli



Swiss Chard



Collard Greens



Kale



Carrots



Butternut Squash



Apricots



Goat's Cheese



Liver



Tuna



SUMMARY

HOW MUCH SHOULD YOU EXERCISE?

Your body weight and body fat levels are the direct result of how much you eat as well as how much and how you move. Certain genes can play a role in your response to what you eat and how you exercise.

Traditionally, most people focus on dieting to lose weight, but exercise is a key part of losing weight effectively and it's been proven in research to be crucial for keeping the weight you lose off.

THERE ARE TWO MAJOR THINGS YOU SHOULD KNOW ABOUT EXERCISING TO LOSE WEIGHT?

1. **Any regular exercise can enhance weight loss from dieting.** If you have a certain genotype, you may experience a greater or lesser response compared to others, but your response still depends on the type and amount of exercise that you do. For weight loss and fat loss, the more calories you burn through exercise, the better your results will be.

Achieve a greater calorie burn by focusing on cardio exercise such as walking, running, swimming, cycling, or cardio machines. When you move, you can increase your calorie burn in one of two ways: you can exercise harder at a higher intensity, or you can keep your intensity easier and exercise at a moderate pace, but for longer sessions. We'll explain how to monitor and manipulate your intensity in greater detail later in your report.

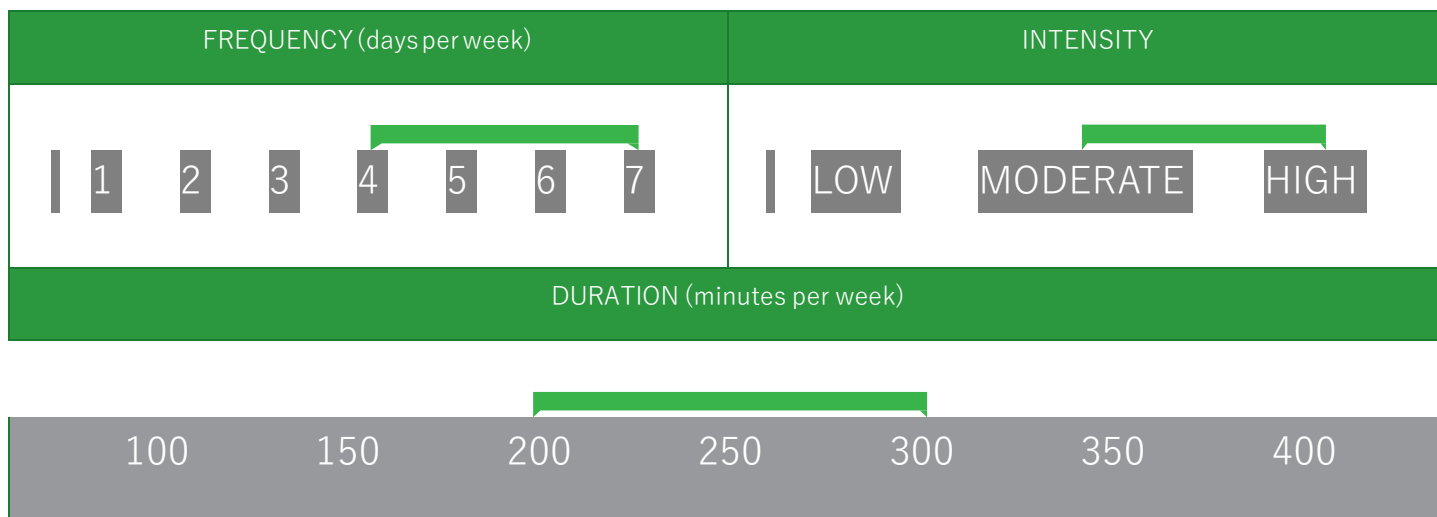
2. **Muscle matters, too.** It keeps you strong and it helps your body stay firm and shapely. You may have a certain genotype that makes you more or less muscular, or that makes you more or less strong, but your muscle response to both dieting and exercise will still be affected by the type and amount of exercise that you do.

When you are dieting, it is very important to include exercise that helps to strengthen muscle. When a person loses weight by only dieting and not exercising, they are likely to lose muscle mass along with the pounds of fat that are lost. If you exercise, especially if you do resistance training (lift weights), you can prevent or minimize the loss of muscle mass that can occur with weight loss.



SUMMARY

CARDIO EXERCISE



If you are inexperienced in cardio/resistance training/power moves, consult with your physician to see if you are healthy enough to begin an exercise program.

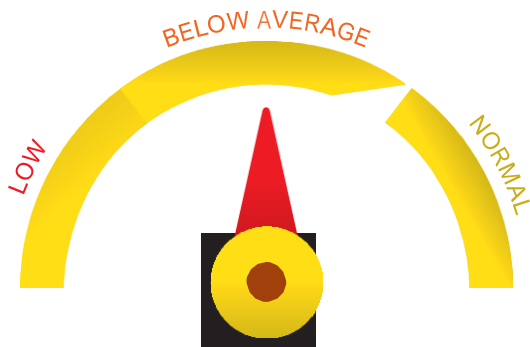
Also, please consult a fitness trainer to help determine the safest way to incorporate the recommendations into your workout.

Perform moderate to vigorous intensity cardiovascular exercise at least 4 days a week for a minimum of 200 minutes per week. You can achieve greater results by lengthening the duration of moderate intensity cardio, focusing on endurance activities like biking or running.

STRENGTH TRAINING



Lift weights 3 days per week using weights that are heavy enough to challenge you at the end of each of 3 sets of 12 reps. Include at least one day of power training, doing 1 to 3 sets of 5 to 8 reps with significantly heavier weight. If by the end of each set of repetitions, you feel like you could keep performing the exercise, the weight you are using is too light to provide a sufficient muscle-strengthening stimulus. As you near the end of the exercise, you should feel like the last 2 to 3 reps are difficult to complete while maintaining good form.



YOUR GENETIC PROFILE INDICATES THAT YOUR FITNESS RESPONSE TO MODERATE-TO-HIGH-INTENSITY CARDIO IS **BELOW AVERAGE**

You may be less likely to experience optimal cardiovascular fitness improvements from high-intensity cardio compared to others with a more favorable genotype.

WHAT YOUR GENES SAY ABOUT YOU

Your genotype shows the “unfavorable” gene combinations. This means you have the potential to not see the same improvements in fitness from high-intensity cardio workouts as someone else with a more favorable genotype would. The good news is that you might be able to attain the same cardiovascular benefits by working at lower intensities.

SUCCESS STRATEGIES

- Your genotype suggests you might benefit most from sticking to moderate intensity workouts. Therefore, you might see better fitness results from longer endurance workouts.
- Aim for more moderate-intensity cardio workouts on four (4) or more days per week that last longer overtime. Start with 20 to 30 minute sessions and work up to 60 to 90 minutes. You may want to consider training for an endurance event like a charity bike race or a 10K, half-marathon, or even a full marathon.

If you are inexperienced in cardio/resistance training/power moves, consult with your physician to see if you are healthy enough to begin an exercise program. Also, please consult a fitness trainer to help determine the safest way to incorporate the recommendations into your workout.

RELATED GENES / SNPS

The genes included in this category have been shown to have significant associations with a person's cardiovascular fitness response to moderate-to-high intensity exercise.

The more you exercise, the fitter you become. This allows you to work harder and longer—and to continue developing higher levels of fitness. The more exercise you can handle, the more calories you can burn because you can work at higher intensities. Getting fitter is a key aspect that affects your ability to manage your body weight with exercise.

Many factors play a role in being able to push hard without feeling overly fatigued when exercising. One indication of fitness is oxygen capacity, also known as VO2 Max. As a person becomes fitter, their ability to take in more oxygen improves, which helps them to work out harder and longer. The greater one's VO2 Max, the more exercise they can handle since they can take in more



CUSTOM MEAL PLAN

The following custom meal plan was created by combining a variety of healthy recipes with the appropriate macronutrient percentages for your genetic profile. Due to the nature of recipe sizes, the total suggested calories for each day will have some variation above or below the specific number of calories recommended for your diet, but the average daily calories for the week will approximate your suggested daily caloric intake.

DAY 1

BREAKFAST - OATMEAL TOP W/CIN, NUTS, FRUIT

INGREDIENT	QTY	MEAS.	PROTEIN	FAT	CARBS	CAL.
Strawberries, raw	1.0	cup, halves	1.02g	0.46g	11.67g	48.64
Nuts, walnuts, english	0.33	ounce (14 halves)	1.41g	6.03g	1.27g	60.43
Almond Breeze, unsweetened vanilla almond milk	0.5	cup	0.5g	1.5g	1.0g	20.0
Dry steel cut oats	0.75	cup	7.5g	3.75g	40.5g	225.0
Cinnamon	0.5	teaspoon	0.15g	0.1g	2.7g	9.0

MORNING SNACK - FRUIT & CHEESE

INGREDIENT	QTY	MEAS.	PROTEIN	FAT	CARBS	CAL.
Cheese, goat, soft type	0.25	ounce(s)	1.31g	1.49g	0.0g	18.71
Apple - medium with peel	1.0	each	0.3g	0.5g	21.0g	81.0

LUNCH - SPINACH SALAD TOP W/VEG & BEANS

INGREDIENT	QTY	MEAS.	PROTEIN	FAT	CARBS	CAL.
Mushrooms, white, raw	0.5	cup, pieces	1.08g	0.12g	1.14g	7.7
Chickpeas	0.33	cup	4.8g	1.4g	14.84g	88.76
Lentils, mature seeds, cooked, boiled, without salt	0.5	cup	8.93g	0.38g	19.93g	114.84
Spinach, raw	4.0	cup	3.43g	0.47g	4.36g	27.6
Olives, ripe, canned (small-extra large)	3.0	large	0.11g	1.41g	0.83g	15.18
Salad dressing, home recipe, vinegar and oil	1.0	tablespoon	0.0g	8.02g	0.4g	71.84
Cucumber, raw, slices	0.5	cup	0.4g	0.0g	1.4g	7.0
Pepper, sweet bell, all colors, chopped	0.33	cup	0.4g	0.07g	3.04g	12.54
Lemon juice	0.5	tablespoon	0.05g	0.0g	0.65g	2.0



CUSTOM MEAL PLAN

DAY 1

AFTERNOON SNACK - USE GROUND FLAXSEED TO MIX IN YOGURT

INGREDIENT	QTY	MEAS.	PROTEIN	FAT	CARBS	CAL.
Nuts, almonds	6.0	almond	1.27g	3.0g	1.29g	34.74
Yogurt, plain, skim milk, 13 grams protein per 8 ounce	1.0	container (8 oz)	13.01g	0.41g	17.43g	127.12
Blueberries, raw	0.75	cup	0.8g	0.36g	15.76g	61.99
Seeds, flaxseed	0.5	tablespoon	1.1g	2.53g	1.73g	32.04

DINNER - SHRIMP, COUSCOUS; MIX TOM, ZUCC AND OIL

INGREDIENT	QTY	MEAS.	PROTEIN	FAT	CARBS	CAL.
Couscous, cooked	0.5	cup, cooked	2.98g	0.13g	18.23g	87.92
tomato, diced	0.5	cup	0.76g	0.3g	4.18g	19.0
zucchini, boiled, drained	0.5	cup	0.58g	0.05g	3.54g	14.4
Shrimp- boiled or steamed	3.5	ounce(s)	20.72g	1.05g	0.0g	98.0
Garlic powder	0.5	tablespoon	0.7g	0.05g	3.05g	14.0
Olive oil, pure	0.33	tablespoon	0.0g	4.62g	0.0g	42.9

EVENING SNACK - FRUIT, PROTEIN SHAKE

INGREDIENT	QTY	MEAS.	PROTEIN	FAT	CARBS	CAL.
Kiwifruit, green, raw	0.5	fruit, without skin (medium)	0.43g	0.2g	5.57g	23.18
Protein powder	2.0	scoop	30.0g	2.0g	0.0g	140.0

DAY 1 TOTALS

103.74g 40.4g 195.51g 1505.53



CUSTOM EXERCISE PLAN

CARDIO EXERCISE

STRENGTH TRAINING

FREQUENCY	INTENSITY	FREQUENCY	SETS & REPS
More than or equal to 4 days per week	Moderate to vigorous	3 days per week	3 sets; 12 reps per muscle group
DURATION		MUSCLE GROUPS	
More than or equal to 200 minutes per week		Chest, back, legs, shoulders, core (abs and low back), arms	

GYM MA CHINES

*description included

Day 1	* Step Machine HIIT - 30 minutes	
Day 2	Treadmill Walk - 45 minutes	* Power Moves - 3 sets; 12 reps
Day 3		
Day 4	Bike - 30 minutes	
Day 5	Treadmill Walk - 45 minutes	Weight Machines - 3 sets; 12 reps
Day 6		
Day 7	Elliptical Trainer - 45 minutes	Weight Machines - 3 sets; 12 reps

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