GX slim Personal Report

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genetic DIRECTION

Welcome To Your GxSlim Personal Report

GxSlim Personal Report

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Congratulations! You are about to receive insights about your body that, up until now, have never been available. The science of the human body only recently evolved enough to allow scientists to identify and analyze a person's DNA. GxSlim not only provides you with a roadmap of your specific genes, but gives direction on how you can potentially optimize your health and well-being with this knowledge.

We spend a lifetime trying to learn more about ourselves, especially how our body works and how our health is affected by our habits and behaviors. Traditionally, we have learned what works and what doesn't through trial and error. *But experience alone doesn't always give us the information we need. GxSlim will help you to better understand the factors that can affect how your body ticks.*

This report will provide you with results in 4 key areas that can affect the way your body looks and feels. Your report includes an analysis of your genotype for certain key genes that are related to weight management, nutrition and exercise.

What is Genetic Testing?

Genetic testing utilizes a physical specimen from the body (saliva, blood, or other tissues) to reveal information about a person's chromosomes or their genes. In addition to identifying key genes, information is evaluated about areas on each gene that may differ between people. These areas are known as single nucleotide polymorphisms (SNPs). We use the term genotype to describe the outcome of your individual genetic tests.

Which Body Traits Were Analyzed?

To produce your results GxSlim looks at genes that are related to four major categories: *Weight Loss Ability, Macronutrients in the Diet, Micronutrients in the Diet and Response to Exercise*. Some of the results are directly related to weight loss efforts from diet and exercise. Other results are relevant because they can affect how you feel and how your body functions optimally. This can affect your performance and your efforts to manage your body weight.

How Are Your Results Determined?

We provide a genetic analysis that indicates which gene combinations you have in each category. You will 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.

We also provide personalized health tips based on the potential implications of these results. In most cases, the outcomes

for a genotype are a response to a specific diet or exercise prescription. For example, many of the results are based on looking at study subjects' response to an exercise program where participants did cardio exercise on only three days per week for a certain amount of time each session. Participants may have differed in their response to this regimen based on their genetics. Some may have had better weight or fat loss results than others. If your results suggest a more unfavorable response, be careful of assuming that this suggests that you cannot lose weight from exercise or from a certain diet. You may simply need a slightly different approach to get more favorable results. In some cases, it is unclear exactly what the ideal approach might be. But we have evaluated your potential genetic response and provided suggestions on how to enhance it based on evidence-based dietary and exercise research recommendations, as well as the experience of our medical team.

GxSlim uses the best available research on which to base your results. We have established stringent criteria for studies that can be used to help us evaluate the potential impact of your genotype for each gene tested. There are many studies that include genetic analyses, but for a variety of reasons, not all of them are reliable or valid. In determining how to process your genetic analysis, we do not accept just any research that has been performed on a gene. We use the largest and most scientifically valid genome-wide association studies to calculate a score for the different genes or gene combinations. It's important to keep updating the analyses as the science evolves. GxSlim maintains a continually updated research database, and our analyses are modified as new and better research becomes available. There is still much to learn in the field of genetic analysis. We chose the best available research upon which to base our analysis and recommendations.

Why Is Your Genotype Important?

Your genotype reveals the blueprint for your body. The ratings we provide reflect your genotypes for each gene or set of genes. This shows you your potential response, based on your genetic analysis, to different aspects of body weight management (e.g., how you might be affected by different types of diets and regular exercise.) Keep in mind that if your results show the presence of certain genotypes and your result suggest that you will exhibit either an "enhanced" or "below average" response, for example, this does not mean that the outcome associated with that genotype is definitely how your body will or does react.

Your phenotype is the physical manifestation, or expression, of your genotype. But your phenotype may be different than your genotype—not all the genetic variations seen in an analysis are manifested. That's because **how the genes that you have are expressed is largely affected by your lifestyle and other environmental factors.** While your analysis might show that you have an increased or decreased potential for a certain health trait, it does not mean that you will, in fact, express that trait. Your phenotype for the trait may be different than the genotype the analysis shows.

This is very important to keep in mind because there is a tendency to view genotype results as a definitive diagnosis and to assume that you absolutely have certain traits, when this is not what a genetic analysis measures. The analysis only measures your risk for different outcomes, or the likelihood that your phenotype will express what your genotype predicts. Your results only suggest that there is a greater or lesser chance that you may exhibit certain traits or responses. The fields of nutrigenomics and exercise genomics are new, but growing, areas of research. Much still needs to be known to understand about genes and their interactions with each other, and the role in which other influences such as diet, exercise and the environment play in whether you will express a trait associated with a certain genotype.

That said, results from a genetic analysis may provide insights into how your body might perform optimally. If you have a certain genotype for a specific trait, knowing how it might affect you and adjusting your behaviors to maximize this information could make a difference in getting better results from lifestyle changes such as diet and exercise. *We provide personalized suggestions that may help you achieve the best results from your weight management efforts.* Our team considers the results of your genetic analysis, along with an analysis of personal factors that you report which may also influence your body weight, as well as evidence-based guidelines that suggest the most effective strategies for weight management. All of this information combined is used to determine which lifestyle behavioral changes may be most helpful to you.

What You'll Learn About Your Body

On the following pages, you will see a summary of your results. You'll learn what your genotypes suggest about your ability to lose weight and body fat in response to different types of diets and exercise programs. You will also gain insights into your potential status for a variety of micronutrients, as well as the likely health effects you may experience from regular exercise. Your analyzed genotype results are followed by a detailed explanation and success strategy. Our medical team has evaluated your potential response and taken in to account what evidence-based research recommendations on diet and exercise suggest are the optimal approach for effective body weight management to provide you with concrete success strategies. 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.

REPORT SUMMARY

WEIGHT LOSS ABILITY

Weight Loss Ability with Diet and Exercise	BELOW AVERAGE	FTO, TCF7L2, MTNR1B, PPARG, BDNF, ABCB11

FOOD

Protein Utilization	SLIGHTLY ENHANCED	FTO
Fat Utilization	NORMAL	PPARG, TCF7L2, APOA5, CRY2, MTNR1B, PPM1K
Carb Utilization	NORMAL	IRS1

NUTRIENTS

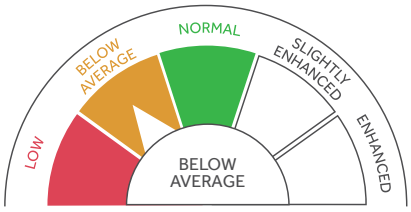
Vitamin B9 – Folate Tendency	NORMAL	MTHFR
Vitamin A Tendency	BELOW AVERAGE	BCMO1
Vitamin B6 Tendency	BELOW AVERAGE	NBPF3
Vitamin B12 Tendency	LOW	FUT2
Vitamin C Tendency	NORMAL	SLC23A1
Vitamin D Tendency	BELOW AVERAGE	GC, NADSYN1, CYP2R1

EXERCISE

Fat Loss Response to Cardio	NORMAL	ADRB2, LPL
Fitness Response To Cardio	NORMAL	AMPD1, APOE
Body Composition Response to Strength Training	ENHANCED	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	BELOW AVERAGE	APOE
Insulin Sensitivity Response to Cardio	ENHANCED	LIPC
Glucose Response To Cardio	NORMAL	PPARG

WEIGHT LOSS ABILITY

WHAT YOUR GENES SAY ABOUT YOU:



Our analysis indicates that your genetic profile is rated **BELOW AVERAGE** for Weight Loss Ability. Your score reflects the fact that among the genes investigated, you had a few of the unfavorable gene combinations that could make you slightly resistant to both losing weight and keeping it off. This means that, compared to someone else with a more favorable genotype, *you might lose less weight than someone else with a different genotype when you make lifestyle changes by cutting calories in your diet and by burning extra calories when you exercise*. This result also suggests that you may be at a slightly higher risk of later regaining the weight you lose compared to someone else with a more favorable genotype.

Your genetic profile indicate that your weight loss ability is BELOW AVERAGE.

You may lose slightly less weight or body fat than expected from a lifestyle intervention. So make sure to choose a well-designed plan and employ strategies to stick with it for the long term.

Does this result mean that you cannot lose weight? Absolutely not! Remember that these results only indicate your potential based on genetic factors, but many other factors also affect the outcome. Even if you have the genotypes that may decrease your ability to lose weight, whether those genes are expressed or not depends upon diet, exercise and environmental influences. However, your results do suggest that it may be a good idea to employ strategies that will maximize your results.

SUCCESS STRATEGIES

Weight loss comes from reducing the number of calories you eat and increasing the number of calories that you burn from exercise. The most powerful — and permanent — weight loss comes when you do both. Choose a plan that is most likely to work for you. Following the GxSlim suggestions from the genetic analysis of your Food and Exercise genes can help you identify foods and a fitness plan that may make it easier o lose weight. Different approaches work for different people. Here are some diet and exercise tips that may be helpful.

RELATED GENES / SNPS

FTO, TCF7L2, MTNR1B , PPARG, BDNF, ABCB11

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

WEIGHT LOSS ABILITY

TIPS FOR EFFECTIVE DIETING:

- Choose a plan that you will enjoy and that you will be able to stick to. It should include foods that taste good to you and an approach that fits with your lifestyle.
- Pay attention to influences that make it hard for you to choose the right foods or stick to a diet. For example, if you travel frequently and find it hard to eat well on the road, identify foods you can carry with you and the healthiest fast-food choices you might need to rely on.
- Identify reasons why you didn't stick to past diets. Develop back-up plans so that you aren't derailed from your diet if the same, or similar, circumstances arise again. For example, if you know that you will eat an entire bag of chips or package of cookies if you keep them at home, then take them off your shopping list. But give yourself a back-up snack that you can go to when you are having an I-Need-A-Cookie moment. It might be a nutritious nut energy bar, or simply some fresh blueberries.

a group, but there can still be differences even among those with the same genotype.

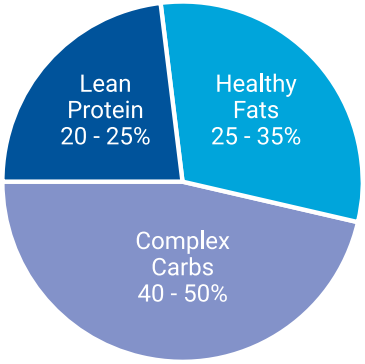
Our analysis investigated which genotype for each of these 6 genes was present in your DNA. Your rating of either NORMAL, BELOW AVERAGE or LOW reflects whether your genotypes included those that carried a risk of reduced weight loss ability.

TIPS TO GET THE GREATEST EXERCISE CALORIE BURN:

- If you are trying to burn more calories through exercise, favor the kind of exercise that burns the most calories in the amount of time that you spend exercising. This tends to be cardio workouts like walking, running, cycling, swimming, aerobics, dancing and any of the cardio machines. You can also get a sizable calorie burn from a fast-paced, boot camp-style or circuit training with weights workout. 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.
- Exercise intensity is key for most people: the harder you work during both cardio and muscle conditioning exercise, the more calories you can burn, and the fitter your muscles and heart will become. But if you are a new exerciser, or if you are trying a new type of workout, you'll need to start easy and, over time, work up to workouts that last longer and feel harder. Start with 10-20 minute walking sessions if you need to, and over weeks add more time to the sessions and work at a harder intensity. When lifting weights, start with light weights and as movements feel easier, work you way up, over time, to using heavier weights.
- If you are a regular exerciser, you may need to push harder than you think. Many people believe that they are exercising intensely, when they are not.
- *For the most effective results, you'll need to burn enough calories to affect your body weight: aim to get in a minimum of 150 minutes and up to 300 minutes per week—or more—of moderate-to-vigorous cardio exercise* (e.g., jogging, walking, swimming, etc.). Ideally, you should incorporate some cardio every day, at least five days per week.
- 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.

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 1,866 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 1,866 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 15-20% protein from mostly plant food sources.	20% to 25%	93g to 117g	373 to 467
FAT Choose a diet low in fat and saturated fat.	35% to 25%	52g to 73g	467 to 653
CARBOHYDRATES Choose a plant-based diet that is high in complex carbs (veggies, beans, whole grains, etc.), and avoid simple or processed carbs fries, chips, crackers, etc.).	50% to 40%	187g to 233g	746 to 933

The total number of calories or grams of each macronutrient shown represent a recommended amount to consume each day.

It's tough to keep track of this simply by reading food labels. That's because most foods contain a combination of the macronutrients. A food item usually contains either protein and fat (such as meat), carbohydrates and fat (such as oil-saute´ed vegetables or French fries), or protein, carbohydrates and fat (beans, nuts and seeds, a chicken salad or a hamburger with a bun). It's not easy to know how much of any one macronutrient you are getting or if you are achieving your macronutrient goals simply

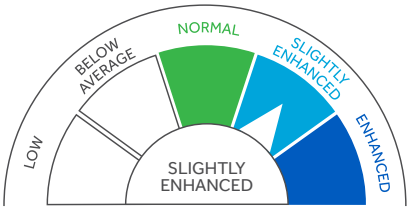
SUMMARY

by looking up the content of one food item. To determine your percentages of macronutrients, 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 macronutrient 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 macronutrient ranges will look like. But the only way to really know if you are reaching the suggested ranges for each macronutrient is to keep track by entering what you eat into a food log online or on an app.

PROTEIN UTILIZATION

WHAT YOUR GENES SAY ABOUT YOU:

Your genetic profile indicates that your response is **SLIGHTLY ENHANCED** utilization of protein. Your score reflects the fact that your genotype does include one of the allele combinations that lost slightly more weight when including a higher percentage of protein. Studies that investigated this genotype found that a diet consisting of 25% of protein resulted in optimal weight loss. However, people with this allele also lost more lean body mass compared to those without this genotype. This suggests that the amount of weight or body fat that you lose from a diet may be increased by eating a moderate, instead of a low, percentage of protein, but that you may lose more muscle mass along with it.



Your genetic profile indicate that your response is SLIGHTLY ENHANCED.

This indicates you may respond more favorably to a diet if you eat a moderate percentage of protein. Aim for 25% of the total calories in your diet to come from plant or animal-based protein

Since this genotype also suggests that you may lose more muscle mass when you are dieting compared to others with a different genotype, it is recommended to include resistance training in your exercise routine to prevent or minimize muscle loss that may come with weight loss.

SUCCESS STRATEGIES

Consuming a diet that is moderate-to-high in protein and including a balanced exercise routine that includes resistance training may help you to optimize your weight loss.

RELATED GENES / SNPS

FTO

The gene and associated SNP included in this category has consistently been shown to be associated with body fat mass and BMI. 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.

Our analysis of your genes investigated which genotype for this SNP was present in your DNA. Your rating of either NORMAL, SLIGHTLY ENHANCED or ENHANCED reflects whether your genotype included those alleles that exhibited protein sensitivity because their presence resulted in increased weight and fat loss on a moderate-to-high protein, reduced-calorie diet.

PROTEIN UTILIZATION

DIET

Protein in your foods should contain all of the essential amino acids, since your body requires these to produce proteins, as well as the other amino acids it uses to make compounds such as enzymes, hormones and tissues in your body. Animal foods contain all of the essential amino acids in one food item, such as meat, fish or dairy products. But if your genetic analysis for the other macronutrients suggests that you should reduce your intake of total fat or saturated fat, choose leaner versions of animal foods or, better, opt for plant-based protein foods.

You can 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 your body needs (brown rice and black beans; nuts, grains and beans; veggies, beans and grains, etc.)

It's a good idea to get a sense of how much protein you are getting by recording your food intake for at least a week and entering it into a diet app or online nutrition log that can calculate the percentage of each of the macronutrients that you eat. Then you can tweak your menu as needed to obtain your recommended percentage of protein.

EXERCISE

Since this SNP is 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 exe cise 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 sets of 12 reps with weight heavy enough to feel "hard" or "very hard" by the end of each set.

SUGGESTED PROTEINS

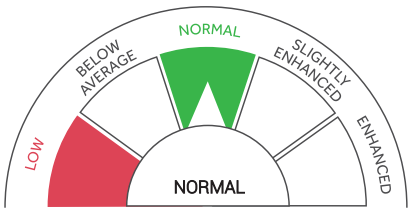
suggested servings contain listed grams of protein

Chicken Breast (3oz) - 25g
Ground Turkey (3oz) - 22.5g
Lean Beef (3oz) - 22g
Broiled Fish (3oz) - 20g
Lentils/Black Beans (1/2c) - 9g
Tofu (1/2c - 4.4oz) - 11g
Turkey (3oz) - 24g
Pork/Lean Ham (3oz) - 18g
Lamb (3oz) - 21g
Quinoa (1/2c) - 12g
Mixed Nuts (1/4c) - 5g

FAT UTILIZATION

WHAT YOUR GENES SAY ABOUT YOU:

Our analysis indicates that your genetic profile exhibits a **NORMAL** utilization of fat. Your score reflects the fact that for the genes investigated, your genotype showed few, if any, of the unfavorable allele combinations. *This means that you appear to have a normal ability to lose weight from a diet and exercise program, whether the diet that is low, moderate or high in fat, as long as you are eating fewer calories than you expend each day. This result also suggests that you have a normal level of fat oxidation, or fat-burning ability in response to different levels of fat in your diet.*



Your genetic profile indicates that your utilization of fat is NORMAL.

If you are dieting, or reducing calories to create a negative energy balance, you can expect to lose similar amounts of weight on either a low or a moderate fat diet.

SUCCESS STRATEGIES

While you may experience similar results in terms of weight loss from following a reduced-calorie diet, no matter if it is low, moderate or high in fat, you may still be sensitive to other effects that higher intakes of fat may have on the body, especially from saturated fat from animal foods. It's tough to know how much fat you are consuming 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 keep it at desired levels.

If you choose to eat higher-fat foods, be mindful of their high energy density. Since fat contains more calories per gram compared to the other macronutrients, foods and meals that are high in fat tend to have more calories. This makes it easier to overeat because you can easily consume more calories than you may realize.

RELATED GENES / SNPS

PPARG, TCF7L2, APOA5, CRY2, MTNR1B , PPM1K

The six genes and their associated SNPs that are included in this category all have been shown in scientifically sound studies to have statistically significant associations with how sensitive people are to eating a diet high in fat. In other words, these studies showed that the amount of fat in the diet affected how much weight individuals lost from a lifestyle intervention depending on the genotype at 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 the more 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 low-calorie diet that was higher in fat lost less weight if

FOOD

FAT UTILIZATION

they had an unfavorable genotype.

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

While your genetic profile suggests that you may be better able at handling higher levels of fat when you diet, if you are trying to lose weight, you will still need to reduce the number of calories that you eat. You may still need to reduce how much of these foods that you eat. You may be better able to handle a high-fat French fry or food that contains high-fat cheese, but if you are trying to lose weight, limit yourself to a few fries and only a small portion of the food.

SUGGESTED FATS

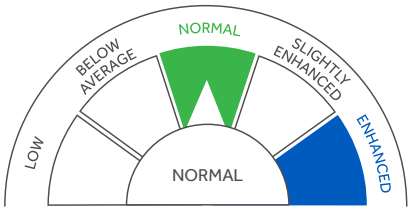
suggested servings contain listed grams of fat

Avocado (1/2 fruit) - 10g
Coconut Oil (1T) - 14g
Olive Oil (1T) - 14g
Nut Butters (1T) - 8g
Coconut (1 piece, 2" x 2" x 1/2") - 15g
Olives (1T) - .9g
Nuts (1/4c) - 13g
Butter (1T) - 12g
Oils (1T) - 14g

CARB UTILIZATION

WHAT YOUR GENES SAY ABOUT YOU:

Our analysis indicates that your genetic profile exhibits a **NORMAL** utilization of complex carbohydrates. Your score reflects the fact that your genotype does not appear to produce greater weight loss with a higher complex carbohydrate diet, and *you can expect to lose around the same amount of weight with either a low, moderate or higher complex carb diet.* Complex carbs provide the most nutrients and fiber and, if you exercise, can provide you with longer-lasting energy.



Your genetic profile indicates that your utilization of complex carbohydrates is NORMAL.

This suggests that the percentage of complex carbohydrates in a reduced-calorie diet may not affect your weight loss results – you can expect to lose a similar amount of weight with either a low, moderate or high complex carbohydrate diet. Complex carbs provide the most nutrients and fiber and, if you exercise, can provide you with longer lasting energy.

SUCCESS STRATEGIES

To lose weight, your genotype suggests that you can lose weight with any reduced calorie diet, regardless of proportions of the macronutrients (fat, protein and carbs) as long as you reduce overall calories to less than you burn each day.

Study your results from the other Macronutrient genetic analyses for more guidance on the best type of diet to choose. Also, if you have certain health conditions, it may be optimal to adapt your eating choices based on established dietary recommendations for specific issues. For example, if you have health conditions like poor cholesterol or hypertension, a lower carb and higher fat diet may not be beneficial. You may experience more health benefits from a plant-based diet that is very low in fat from foods

RELATED GENES / SNPS

IRS1

The gene and associated SNP included in this category has been shown to be associated with a person's insulin sensitivity and the effects of carbohydrates in the diet. Insulin is a hormone produced by the body that helps cells take in glucose, or sugar, that is present in the blood after the digestion of carbohydrates in foods. All cells use glucose for fuel, and brain cells and red blood cells use glucose as a primary source of energy. If cells have trouble absorbing blood sugar, the body releases greater amounts of insulin to help. Increased amounts of insulin can lead to insulin resistance. People who are overweight and/or physically inactive are at higher risk of insulin resistance and the condition can lead to diabetes, or uncontrolled high blood sugar. Greater amounts of insulin released can also encourage fat storage.

Since carbohydrate intake triggers insulin release, many people assume that eating more carbs is not healthy and can lead

CARB UTILIZATION

(such as meat, cheese and even avocado) or added fats (like oils and butter).

But remember, to achieve success with any approach, and to keep the weight you lose off for the long term, you must choose a plan that is easy to stick to. It's the long term adherence that will make a difference in how lean you are over time. Choose the type of plan that will help you maintain the healthier lifestyle changes that you make.

SUGGESTED CARBOHYDRATES

Preferred Vegetables - 1 1/2 cups raw or cooked contains 15g of carbohydrates

Artichoke
Asparagus
Bean sprouts
Beans (green, wax, Italian)
Beets
Broccoli
Brussels sprouts
Cabbage
Carrots
Cauliflower
Celery
Cucumber
Eggplant
Green onions or scallions
Greens (collard, kale, mustard, turnip)
Kohlrabi
Leeks
Mixed vegetables (no corn or peas)
Mushrooms
Okra
Onions
Pea pods
Peppers
Radishes
Salad greens
Sauerkraut
Spinach
Summer squash
Tomato (canned, sauce, juice)
Turnips
Water chestnuts
Watercress
Zucchini

to body fat and weight gain, as well as diabetes. But the relationship is not that simple: many people who eat a high carbohydrate diet are not overweight and do not have diabetes. The type of carbs consumed as well as other foods in the diet and physical activity levels can all play a role. The gene in this category seems to influence insulin resistance and the body's response to carbs in the diet. One long term study found that people with a variant of this gene who ate a high carbohydrate, low fat diet, that consisted of high fiber, whole plant foods, as opposed to processed, lower fiber carbs, had greater insulin sensitivity—and lower levels of insulin and insulin resistance—and experienced greater weight loss compared to a lower carb, higher fat diet.

Our analysis of your genes investigated which genotype for this gene was present in your DNA. Your rating of either NORMAL or ENHANCED reflects whether your genotype included those genes that increase risk of reduced weight loss ability from a low carb, higher fat diet.

CARB UTILIZATION

Preferred Legumes (Beans) - 1/2 cup contains 15g of carbohydrates

Garbanzo beans
Kidney beans
Split peas
Pinto beans
White beans
Black-eyed peas

Preferred Starchy Vegetables - suggested serving size contains 15g of carbohydrates

Peas, green (1/2 c)
Potato, mashed (1/2 c)
Yam, sweet potato, plain (1/2 c)
Potato, baked or boiled, 1 small (3 oz)
Squash, winter - acorn, butternut (1 c)

Preferred Fruits - suggested serving size contains 15g of carbohydrates

Apple, unpeeled, 1 small (4 oz)
Apricots, fresh, 4 whole (5 1/2 oz)
Banana, small 1 (4 oz) Blackberries
(3/4 c)
Blueberries (3/4 c)
Cantaloupe, small (1/3 melon or 1 c cubes)
Cherries, sweet, 12 fresh (3 oz)
Grapefruit, 1/2 large (11 oz)
Grapes, 17 small (3 oz)
Honeydew, 1 slice (10 oz or 1 c cubes)
Kiwi, one (3 1/2 oz)
Mango, small, 1/2 fruit (5 1/2 oz or 1/2 c)
Nectarine, 1 small (5 oz.)
Orange, 1 small (6 1/2 oz)
Papaya, 1/2 fruit (8 oz or 1 c cubes)
Peach, fresh, 1 medium (6 oz)
Pear, fresh, 1/2 large (4 oz)
Pineapple, fresh 3/4 c
Plums, 2 small (5 oz)
Raisins (2 T)
Raspberries (1 c)
Strawberries, whole berries (1 1/4 c)
Tangerines, 2 small (8 oz)
Watermelon, 1 slice (13 1/2 oz or 1 1/4 c cubes)

Preferred Grains - 1/2 cup contains listed grams of carbohydrates

Couscous - 15g
Quinoa - 28g
Oats - 15g
Kamut -26g

PROCESSED/LESS DESIRABLE CARBOHYDRATES

Starchy Vegetables - suggested serving size contains 15g of carbohydrates

Mixed vegetables with corn or peas (1 c)
Corn on the cob, 3" medium (5 oz)
Corn (1/2 c)

Preferred Grains - suggested serving size contains listed grams of carbohydrates

Bread, 1 regular slice – 15-23g
Cereal, bran, dry (3/4 cup) – 24g
Rice (1/3 cup) – 15g
Bagel, 1 plain – 60g Pancake,
Crackers, 6 saltine – 15g
Pasta (1/3 cup) – 15g
6” diameter – 30g

SUMMARY

What nutrients do you need?

NUTRIENTs	TENDENCY	GOOD SOURCES INCLUDE
Folate	NORMAL	Pinto Beans, Asparagus, Broccoli
Vitamin A	BELOW AVERAGE	Carrots, Kale, Tuna
Vitamin B6	BELOW AVERAGE	Pistachios, Watermelon, Potatoes
Vitamin B12	LOW	Lean meat, Seafood, Fortified Dairy Product
Vitamin C	NORMAL	Red Bell Peppers, Strawberries, and Oranges
Vitamin D	BELOW AVERAGE	Salmon, Egg Yolks, Fortified Dairy Milk

HOW DO MICRONUTRIENTS AFFECT MY BODY WEIGHT?

Micronutrients have not been shown to have a direct effect on body weight or body fat. So why are they included in this genetic analysis?

The vitamins tested play important roles in a variety of functions in the body that may affect your body weight—or your ability to manage it.

Many micronutrients are involved in the body's metabolism of fat, carbohydrates and protein. When you are eating and exercising, you want your metabolism to function smoothly. The body does find ways to cope when some nutrients are not available. But for optimum performance and energy, you'll do best when your body has all it needs to work properly.

Some nutrients such as vitamin C and vitamin D may not affect body weight directly, but they play a role in bone health, inflammation and healing. The stresses you put your body under when exercising may be bolstered if you are well nourished in these nutrients.

DO MY RESULTS SHOW THAT I AM LOW IN NUTRIENTS?

If you scored LOW or BELOW AVERAGE, your genotype results show that you may have a higher risk for having blood levels of certain nutrients that may be in the lower end of the normal range. For a few nutrients, such as vitamin B12, it may be optimal to be in the mid range of normal, or higher. This genotype risk assessment is based on studies where study participants with certain genotypes for the various nutrients tested were shown to be more likely to be in the lower end of the normal range for a nutrient.

Be careful of assuming these results indicate you are low, or deficient in a certain nutrient. The only way to know for sure if you are in the low end of the normal range for a nutrient, or if you are actually deficient, is to consult with your physician and get a specific blood test designed to assess a specific nutrient. This genetic test can only assess your risk; the blood test is what can assess your actual levels.

SUMMARY

WHICH FOOD CHOICES FOR CERTAIN MACRONUTRIENTS ARE THE BEST FOR ME?

Our genetic testing analyzes your genotype and assesses your potential levels of macronutrients. This testing does not test your individual sensitivity or response to certain foods that may contain these macronutrients. You may have other individualized responses that are not detected in the genetic tests. For example, you may be allergic to the proteins in dairy foods. Or you may have a negative response to the lactose sugars in dairy products. This report cannot inform you about these reactions. Any food recommendations that are suggested to help you obtain certain nutrients should be modified based on other factors that you may already know about.

HOW CAN I MONITOR MY NUTRIENT INTAKE?

Your body absorbs a certain amount of nutrient as food or supplements are digested. Then your body uses or stores the nutrient as needed. There are many factors that affect how much of a nutrient you take in, how much of a nutrient is absorbed and used by your body, and whether your body stores are in the normal range.

Your genotype for certain nutrients can indicate that you may be at risk for having lower levels of certain nutrients. But since the genotype analysis is not measuring what you eat, the supplements you take, or actually measuring levels in your blood or tissues, the genotype analysis alone cannot relate your true status.

People who are low or deficient in a nutrient may absorb more from food than someone who is not deficient. A person who needs more of a certain nutrient may absorb more of it from a food than someone who has normal levels. There are also other factors that can affect absorption positively or negatively, and that can affect how your body uses what you take in.

How do you know what your true nutritional status is? A blood test is generally the only way to truly test your true nutritional status. What is in the blood when tested may not always reflect what is in the tissues or how much is being used by the body. But at present, this is the measure used for most nutrients. There may also be different blood tests that monitor the same nutrient.

Keep these factors in mind as you interpret your genotype results and the suggestions given. No one result is going to give you all the information you need. But taken together, the results of your genotype analysis, along with a blood test can help you spot potential areas where you can optimize your nutrition.

SHOULD YOU TAKE A SUPPLEMENT?

Most nutritionists recommend that nutrients be obtained first through food. Research studies have tended to show more favorable outcomes when research participants obtained nutrients from food sources rather than from supplements. Nutritional experts vary in their opinions about whether people should take supplements or not.

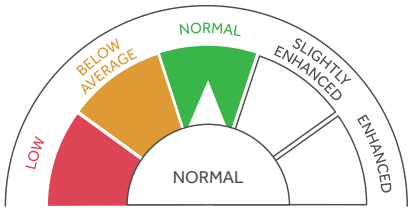
Most supplements are considered safe. But be cautious with dosing because research on appropriate levels has identified ranges for some nutrients beyond which toxic effects can occur. These ranges are known as the Upper Intake Level, or UL. It is difficult to reach the UL by getting the nutrients from food, but it is easy to reach these high risk levels from supplementation.

If you do choose to supplement, keep track of the nutrients you get from all foods. Read food labels since some foods that you eat may also be fortified in the supplements you are taking. Use dietary software to input what you eat and supplement with so you can keep an estimate of your total nutrient intake and will be less likely to overdose. Also consult with your doctor if needed. Some supplements, including vitamin A and vitamin B6, can interact with medications you may be taking.

VITAMIN B9 – FOLATE TENDENCY

WHAT YOUR GENES SAY ABOUT YOU:

Our analysis indicates that your genetic profile is **NORMAL**. It appears that you are likely to have normal blood levels of folate. This suggests that you may not have to worry about increased heart disease risk from higher levels of homocysteine.



Your genetic profile indicates that your response is NORMAL.

You appear to be likely to have normal blood levels of folate. To make sure you get enough, make sure to eat plenty of whole plant foods every day.

SUCCESS STRATEGIES

- All women should ensure they get enough folate in their diet. You will get folate that is added to whole grains in cereals and breads, but you should also eat other food sources of folate. The foods highest in folate include legumes, fruits and vegetables, especially greens.

- Smoking can also decrease folate levels. You may need to consume more through food and/or supplements if you smoke — or better yet, quit smoking!

- If you eat few vegetables and fruits, your folate intake and blood levels may be low, despite having a more favorable genotype. You may wish to ask your doctor to assess your levels of serum folate with a blood test.

RELATED GENES / SNPS

MTHFR

This gene and its associated SNPs have been shown to have significant associations with a person's folate, or vitamin B9, status. Folate plays many important roles in the body, including acting as a coenzyme in DNA creation and in energy metabolism reactions. Folate also plays a role in biochemical processes that affect the metabolism of an amino acid, homocysteine. One SNP associated with this gene is associated with enzyme activity that can lead to higher levels of homocysteine. Since homocysteine is a risk factor for heart disease, high levels may be of concern. In child-bearing women, getting sufficient amounts of folate is important because low levels can lead to neural tube birth defects. As a public health measure, grains are fortified with folate to ensure that women of childbearing age get enough. Low levels of folate can also lead to anemia.

In studies on this gene, people who carried the most unfavorable pairs of genes, or alleles, had only a 10%-20% efficiency

VITAMIN B9 – FOLATE TENDENCY

at processing folate. And those with the below average allele had a 60% efficiency at processing folate. People with more of the unfavorable alleles are more likely to have high homocysteine and low Vitamin B12 levels. Poor ability to process folate may be fairly common: Around 53% of women appear to have these unfavorable genotypes.

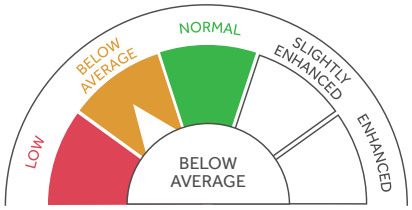
FOLATE-RICH FOODS TO INCLUDE IN YOUR DIET:

Lentils, pinto beans, asparagus and broccoli are excellent sources of folate.

VITAMIN A TENDENCY

WHAT YOUR GENES SAY ABOUT YOU:

Our analysis indicates that your genetic profile exhibits a **BELOW AVERAGE** ability to process Vitamin A from a beta-carotene supplement compared to others with a different genotype. 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.



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.

SUCCESS STRATEGIES

- You may want to request a blood test assessing your levels of Vitamin A from your doctor.
- 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.

RELATED GENES / SNPS

BCMO1

The gene and its associated SNPs that are 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 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.

It is rare to overconsume beta-carotene in plant foods to reach toxic levels. However, it is possible to consume toxic levels of Vitamin A from organ meats or fortified foods. Pregnant women are advised to eat liver no more than once every two weeks.

NUTRIENTS

VITAMIN A TENDENCY

- Be aware that some medications, alcohol or health conditions may interact with Vitamin A supplements and cause adverse effects. Discuss supplementation with your doctor.

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, as well as in the retinol form in dairy and in organ meats like liver.

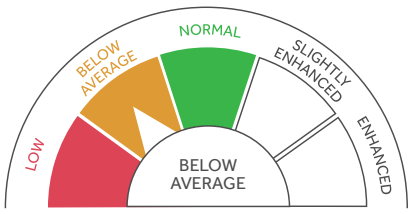
VITAMIN A-RICH FOODS TO INCLUDE IN YOUR DIET:

Broccoli, Swiss chard, collard greens, kale, carrots, butternut squash, apricots, goat's cheese, liver, tuna.

VITAMIN B6 TENDENCY

WHAT YOUR GENES SAY ABOUT YOU:

Our analysis indicates that your genetic profile response is **BELOW AVERAGE**. Your score reflects the fact that your genotype showed an unfavorable allele combination. This means that there is a risk that your blood levels of Vitamin B6 may be slightly lower than normal. Keep in mind that increased risk does not mean that your blood levels are low. You can only know this by requesting a blood test from your physician or other healthcare provider.



Your genetic profile indicates that your response is BELOW AVERAGE.

You may want to get a blood test to check your levels of Vitamin B6. Eat enough Vitamin B6-rich foods and consider supplementing if you are low.

SUCCESS STRATEGIES

Since you are at risk for having lower levels of Vitamin B6 in your blood, make sure you get adequate amounts of this nutrient in your diet. Keep a food log using a dietary app to monitor how much Vitamin B6 you consume.

You may wish to ask your doctor for a blood test. If your blood tests show low levels, obtain more of this nutrient from foods or take a Vitamin B6 supplement. Be sure to avoid high doses of a supplement, as they can cause nerve damage.

VITAMIN B6-RICH FOODS TO INCLUDE IN YOUR DIET:

Pistachios, pinto beans, wheat germ, bananas, watermelon, carrots, spinach, peas, squash, potatoes, avocados, yellowfin tuna, sunflower seeds.

RELATED GENES / SNPS

NBPF3

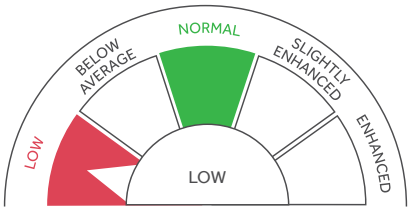
The gene and its associated SNPs included in this category have been shown to have statistically significant associations with a person's blood levels of Vitamin B6. In one large study, people who carried the most unfavorable pairs of genes, or alleles had lower levels of Vitamin B6.

Vitamin B6 is important for nerve cell function, energy metabolism and the production of hormones, such as serotonin and epinephrine. Low levels of B6 are also linked to higher levels of homocysteine, which increases heart disease risk. B6 is found in many foods including grains, legumes, vegetables, milk, eggs, fish, lean meat and flour products.

VITAMIN B12 TENDENCY

WHAT YOUR GENES SAY ABOUT YOU:

Our analysis indicates that your genetic response is **LOW**. Your score reflects the fact that your genotype showed a higher risk allele combination. This suggests that you may have a chance of having blood levels of Vitamin B12 that are at the low end of the acceptable range. This does not mean that you are likely to be deficient, but even levels at the low end of the normal range have been associated with subclinical symptoms.



Your genetic profile indicates that your response is LOW.

This suggests that your blood levels of Vitamin B12 may be at the low end of the acceptable range. Ask your doctor to check your Vitamin B12 levels and get them checked on a regular basis. If your levels are low, in addition to getting more Vitamin B12 through foods, you may wish to supplement.

Since Vitamin B12 is stored in the body and is also recycled for reuse, it can take several years before deficiency symptoms may appear.

SUCCESS STRATEGIES

Since you may be at risk of having lower Vitamin B12 levels, it is recommended to speak to your doctor about getting periodic blood tests to monitor your levels of Vitamin B12, as well as a related test for methyl malonic acid (MMA.)

Monitor your intake with a food log using a dietary app that will give you a nutrient analysis of what you eat. If your intake appears to be low, you may wish to supplement or include more fortified foods, especially if you are a vegan.

A blood test can assess how well nutrients from food and supplements are absorbed. If absorption is impaired, your blood levels may still be low despite

RELATED GENES / SNPS

FUT2

The gene and associated SNPs included in this category have been shown to have significant associations with a person's blood levels of Vitamin B12. In one large study, those women who carried the most unfavorable pairs of genes, or alleles, had slightly lower levels of Vitamin B12, although they were in the acceptable, but low, end of the range. Around 70% of people have genotypes that suggest they may be at risk for having blood levels of B12 that are at the lower end of the normal range. There are several reasons why blood levels of B12 can be low. Some people do not get enough in their diet and so they are simply not getting enough of the nutrient. Some other people get enough, but do not absorb it efficiently. A small percentage of people over 50 or those who have had gastrointestinal surgery or GI disorders such as Crohn's disease may also have reduced abilities to absorb it.

Vitamin B12 is important for many processes in the body, including red blood

VITAMIN B12 TENDENCY

an adequate intake. If absorption may be a problem, it is often recommended to bypass the digestive system with either under-the-tongue tablets that are absorbed into the mouth, or injections or a nasal gel which are both available by prescription.

VITAMIN B12-RICH FOODS TO INCLUDE IN YOUR DIET:

Lean meat, seafood, dairy products, eggs, fortified nutritional yeast, fortified plant milks.

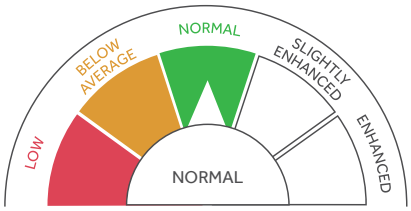
cell formation, neurological function and cognitive performance. Deficiencies of B12 can cause pernicious anemia, and is also associated with high levels of homocysteine, which may impair arteries and increase risk of heart disease. There is some evidence that subclinical symptoms may be associated with being in the low end of the normal range.

Vitamin B12 is produced by microorganisms found in soil and water, and in both the guts of animals and humans. In the modern world, highly-sanitized food processing systems have eliminated many naturally-occurring sources of B12-providing bacteria in plant products. So B12 is typically obtained from animal foods such as meat, or fortified foods such as dairy and plant milks or breakfast cereals. Certain mushrooms and seaweed may provide some B12, but are not considered to be reliable sources.

VITAMIN C TENDENCY

WHAT YOUR GENES SAY ABOUT YOU:

Our analysis indicates that your genetic profile suggests that you are likely to have **NORMAL** levels of Vitamin C. Your score reflects the fact that for the gene investigated, your genotype did not show the unfavorable allele combinations. This means that if you consume enough Vitamin C in the foods you eat, blood levels of L-ascorbic acid should be in the normal range. If you smoke, however, you may deplete some of your Vitamin C and may need more.



Your genetic profile indicates that your response is NORMAL.

If you eat enough Vitamin C-rich foods, you should have normal levels in your blood.

SUCCESS STRATEGIES

- To ensure your body gets the Vitamin C it needs, make sure to include a wide variety of plant foods, including citrus in your diet.
- If you wish to supplement with Vitamin C, avoid very high doses because they can cause diarrhea and gastro-intestinal distress.

VITAMIN C-RICH FOODS TO INCLUDE IN YOUR DIET:

Broccoli, red bell peppers, kiwi fruit, Brussels sprouts, strawberries, oranges, watermelon, pinto beans.

RELATED GENES / SNPS

SLC23A1

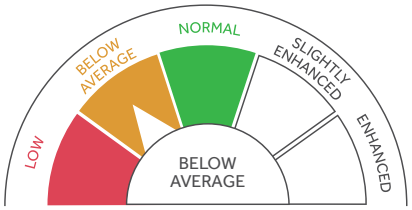
The gene and associated SNP included in this category has been shown to have statistically significant associations with a person's blood levels of L-ascorbic acid, or Vitamin C. Those people who carried more unfavorable pairs of genes, or alleles, were more likely to have lower blood levels of the nutrient.

Vitamin C is a nutrient that has many functions in the body, including acting as an antioxidant, and is needed for skin and membrane tissues. Low levels have also been associated with diseases such as heart disease and cancer. Vitamin C also helps with the absorption of iron. The nutrient must be obtained from foods since the human body cannot make its own, as some other animals can. Vitamin C can be found in citrus fruits, but is also in many fruits, vegetables and legumes.

VITAMIN D TENDENCY

WHAT YOUR GENES SAY ABOUT YOU:

Our analysis indicates that your genetic response is **BELOW AVERAGE**. Your score reflects the fact that for the genes investigated, your genotype showed some of the unfavorable allele combinations. This means you have a risk of having low levels of Vitamin D. You will not know your actual levels, however, unless you obtain a blood test.



Your genetic profile indicates that your response is BELOW AVERAGE.

so your levels of Vitamin D may be low and possibly deficient. Get your blood tested for Vitamin D. If your levels are low, increase your sun exposure and add more Vitamin D-rich foods or supplements.

SUCCESS STRATEGIES

- Get tested! Even though you may be at risk of having low Vitamin D levels, you will not know if you do unless you get a blood test from your doctor.
- Expose yourself to the sun on most days of the week for at least 10 to 15 minutes (30 to 50 minutes if you have naturally dark skin). Spend more time outdoors in winter months, or if you live in northern latitudes.
- If you are deficient in Vitamin D, do a nutrient analysis to determine how much Vitamin D you consume, then eat more foods that contain Vitamin D.
- If you are low, you may wish to take a Vitamin D supplement. Avoid overly-high doses, unless by prescription through your doctor, as they may cause adverse effects.

RELATED GENES / SNPS

GC, NADSYN1, CYP2R1

The genes and their associated SNPs that are included in this category have been shown to have statistically significant associations with a person's blood levels of Vitamin D (which is actually a hormone). One study found that several SNPs linked to low levels of Vitamin D were from genes that may play a role in the Vitamin D conversion and delivery process. Those people who carried unfavorable pairs of genes, or alleles, had a higher risk of low levels of Vitamin D, and those who carried several unfavorable SNPs had a much higher chance of being deficient in Vitamin D.

Vitamin D has been proven in research to be crucial for bone health. Low levels of Vitamin D have been associated with a variety of health conditions, including heart disease, diabetes, depression and cancer.

A blood test from your doctor can determine your blood levels of Vitamin D. Vitamin D is primarily produced by the body from exposure to ultraviolet rays from

VITAMIN D TENDENCY

VITAMIN D-RICH FOODS TO INCLUDE IN YOUR DIET:

Salmon, mackerel, sardines, egg yolks, fortified almond, soy or other plant milk, fortified dairy milk.

sunlight, and this is considered to be the optimal source since Vitamin D generated by the body lasts longer in the body than Vitamin D taken in supplement form. Your levels are likely to be higher if you live in the southern latitudes and during the summer. However, it is not uncommon for people with lots of exposure to the sun to still have low levels of Vitamin D. In general, only 10 to 15 minutes of sun exposure to bare skin per day during the summer months is needed for a Caucasian to produce the Vitamin D he or she needs. Darker skinned people will need to spend 2-5 times more time in the sun. Since Vitamin D is stored in the body, stores can be built up during warmer months and may compensate for less sun exposure during winter months.

Vitamin D can be obtained through foods such as oily fish and egg yolks, as well as fortified dairy and plant milks, and fortified cereals. Vitamin D can also be taken in supplements. If you test low and choose to take a Vitamin D supplement, be careful of taking higher doses because there can be adverse effects.

SUMMARY

How much should I 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, 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, 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 more 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.

EXERCISE

SUMMARY

CARDIO EXERCISE

FREQUENCY (days per week)

INTENSITY

DURATION (minutes per week)

Perform moderate to vigorous intensity cardiovascular exercise 3 days a week for a minimum of 150 minutes per week. You can achieve greater results with increased frequency, intensity and through High Intensity Interval Training (HIIT).

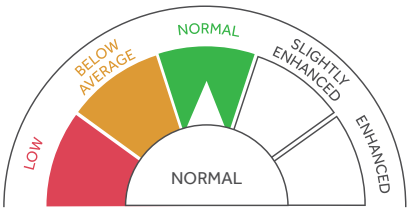
STRENGTH TRAINING

Lift weights 2 to 3 days per week using weights that are heavy enough to challenge you at the end of each of 2 to 3 sets of 8 to 15 reps. 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.

FAT LOSS RESPONSE TO CARDIO

WHAT YOUR GENES SAY ABOUT YOU:

Our analysis indicates that your genetic profile exhibits a **NORMAL** fat loss response to cardio. Your score reflects the fact that your genotype showed few, if any, of the 'unfavorable' gene combinations. This means that, based on your genes, you likely would not show a reduced fat loss response to a basic cardio exercise program. Thus, you can expect to lose a usual amount of body fat by participating in three days per week of cardio exercise that is of a moderate-to-vigorous intensity.



Even though you may have a normal response to a lifestyle intervention, this doesn't mean that losing body fat and keeping it off will be effortless. Not everyone loses the same amount of body fat when they embark upon an exercise program. Genetic predisposition plays a role in fat loss, but other factors can also affect how much fat you lose. You can experience greater fat loss by exercising longer, more frequently and/or at a higher intensity.

Your genetic profile indicates that your fat loss response to cardio is NORMAL.

You should experience fat loss when performing cardio exercise three days per week for a total of 90 to 150 minutes. Examples of what this type of exercise plan would look like are either two Zumba classes and one indoor cycling class per week, or three sessions in a week walking or climbing briskly on a treadmill or elliptical trainer for 30 to 50 minutes.

SUCCESS STRATEGIES

Your genetic profile predicts that you can expect a favorable fat-loss result from doing at least 150 minutes of cardio exercise three days per week, working out at a moderate-to-high intensity.

- If you want to see greater fat loss benefits from exercise, you should increase one or all of the following: the number of days per week you exercise, the length of time of your exercise session, and/or the intensity of your exercise session.

RELATED GENES / SNPS

ADRB2, LPL

The genes and their associated SNPs that are included in this category have been shown in a study to have significant associations with a person's ability to lose fat from a regular program of cardio exercise.

A large study investigating these genes put sedentary men and women on a 20-week endurance exercise program. They exercised on a bike 3 times per week, starting at a moderate intensity for 30 minutes per session over the first few weeks. They built up to a longer, slightly harder workout that lasted 50 minutes for the last 6 weeks. Men in the study did not appear to have a different response based on their genotype. However, women who carried the most 'unfavorable' genotypes

EXERCISE

FAT LOSS RESPONSE TO CARDIO

- Make sure to include muscle-strengthening moves such as squats, lunges and upper body exercises with weight on at least two days per week.

lost fat from the exercise program—but they tended to lose less fat compared to other participants who did not carry the 'unfavorable' genotypes.

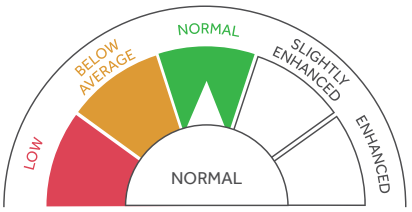
No matter the genotype, even though some fat loss was seen with the 3 days per week, 90-to-150-minutes-per-week regimen in this study, for dramatic decreases in body fat that also result in weight loss, most people will get better results if they do more exercise per week.

Our analysis investigated which genotype for each of these genes was present in your DNA. Your rating of either NORMAL, BELOW AVERAGE or LOW reflects whether your genotypes included those that carried a risk of reduced fat loss response from a regular program of cardio exercise.

FITNESS RESPONSE TO CARDIO

WHAT YOUR GENES SAY ABOUT YOU:

Our analysis indicates that your genetic profile exhibits a **NORMAL** fitness response to high-intensity exercise. Your score reflects the fact that your genotype showed few, if any, of the 'unfavorable' gene combinations. This means that you can expect to experience optimal cardiovascular benefits when you push yourself to higher intensities during cardio workouts.



Your genetic profile indicates that your fitness response to moderate-to-high-intensity cardio is NORMAL.

You are likely to experience improved cardiovascular fitness from high-intensity cardio. You will likely see greater gains from longer or more frequent workouts. For optimal fitness, you should incorporate resistance training as well.

SUCCESS STRATEGIES

All exercise is beneficial, but research shows that working at higher intensities can bring greater benefits. You appear to be primed to respond to high intensity exercise.

- Increase the calorie burn of your workouts by pushing a little harder for a little longer. Try High Intensity Interval Training (HIIT) where you intersperse maximal effort doing fast or hard cardio intervals or challenging resistance exercises with a recovery interval of lower-intensity cardio movement.

- The more intense your workout is, the more difficult it is. Tough workouts generally need recovery periods. If you are exercising five or more days per week, make sure to intersperse harder and easier workout days.

RELATED GENES / SNPS

AMPD1, APOE

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

Many factors play roles in being able to push hard without feeling overly fatigued when exercising. One reflection 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 oxygen that working muscles need during intense physical activity.

Several large studies investigating these genes had sedentary men and women do cardio exercise 3 to 4 days per week for 5 to 6 months. They used a variety of cardio machines (bike, treadmill, rowing machine, step-climber, etc.) for up to 50 minutes. Those people with the 'unfavorable' genotype experienced smaller gains in their

FITNESS RESPONSE TO CARDIO

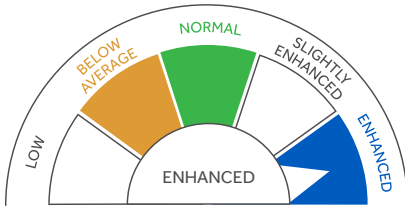
cardiovascular fitness from the training. They seemed to show a decreased ability to perform at higher effort levels, suggesting their optimal fitness response may be better achieved at a lower intensity of exercise.

Our analysis investigated which genotype for these genes was present in your DNA. Your rating of either NORMAL, BELOW AVERAGE OR LOW reflects whether your genotypes included those that carried a risk of reduced cardiovascular fitness response from moderate-to-higher-intensity exercise.

BODY COMPOSITION RESPONSE TO STRENGTH TRAINING

WHAT YOUR GENES SAY ABOUT YOU:

Our analysis indicates that your genetic profile exhibits an **ENHANCED** body composition response to muscle-strengthening exercise. Your score reflects the fact that your genotype showed the 'favorable' gene combinations. This means that, in addition to improvements in strength and muscle mass, you are likely to experience weight loss and a reduction in your body fat percentage from weight training.



Your genetic profile indicates that your body composition response to strength training is ENHANCED.

In addition to strength improvements, you are more likely to see reductions in your body fat percentage from weight training. Make sure to include resistance exercise two to three times a week.

SUCCESS STRATEGIES

Make sure to lift weights that are heavy enough to work at a moderate-to-hard intensity, performing two to three sets of eight to 15 repetitions of each exercise. When the exercises become easy, add more weight to continue to obtain the benefits.

You will experience greater fat and weight loss by incorporating cardio workouts on most days of the week, aiming to accumulate 150 to 300 minutes or more of physical activity per week.

RELATED GENES / SNPS

NRXN3, GNPDA2, LRRN6C, PRKD1, GPRC5B, SLC39A8, FTO, FLJ35779, MAP2K5, QPCTL-GIPR, NEGR1, LRP1B, MTCH2, MTIF3, RPL27A, SEC16B, FAIM2, FANCL, ETV5, TFAP2B

The genes and their associated SNPs that are included in this category all have been shown to have significant associations with a person's ability to improve their body composition and decrease their body fat percentage from resistance exercise. Resistance training, or weight training, improves strength and the amount of muscle a person has. Weight training can also reduce the percentage, and sometimes amounts, of body fat. An improved body composition, which is a higher proportion of muscle to body fat, contributes to a leaner look and, potentially, a greater number of calories burned each day.

Although resistance training alone has

BODY COMPOSITION RESPONSE TO STRENGTH TRAINING

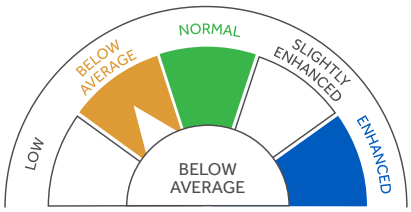
not been shown to produce clinically-significant weight loss (because weights workouts do not burn as many calories as cardio), people with the more 'favorable' genotype in a large study experienced an improved ability to lose weight and reduce their body fat percentage with resistance training. Those with the 'unfavorable' genotypes showed a decreased ability to lose weight and reduce body fat percentage from resistance training. When you are trying to lose weight, it is very important to include resistance training in your routine. Resistance training can minimize or prevent that loss of muscle mass that occurs with weight loss when you are dieting.

Our analysis investigated which genotype for these genes was present in your DNA. Your rating of either ENHANCED, NORMAL or BELOW AVERAGE reflects whether your genotypes included those that carried a risk of an enhanced or reduced HDL response to cardio exercise.

HDL RESPONSE TO CARDIO

WHAT YOUR GENES SAY ABOUT YOU:

Our analysis indicates that your genetic profile exhibits a genotype that is rated **BELOW AVERAGE** for HDL response to cardio exercise. Your score reflects the fact that your genotype showed the 'unfavorable' gene combinations. This means that you are likely to see a boost in HDL levels from exercise, but it may be a small improvement.



Your genetic profile indicates that your HDL response to cardio is BELOW AVERAGE.

Aim to burn at least 1,500 to 2,000 calories per week by exercising at least 5 days per week. Perform longer cardio sessions and/or work at higher intensities. Keep other cholesterol levels in check by eating plenty of beans, nuts and other plant foods.

SUCCESS STRATEGIES

- Aim to perform cardio exercise at least 5 to 7 days per week for 300 minutes or more.
- Include high exercise intensities. You should feel breathless and as if you are working out 'hard', or even 'very hard.' But work up gradually to working out at harder levels. If you are working out 7 days per week, you may want to do 1 or 2 days at an easier effort level.
- You may benefit from keeping other cholesterol levels, such as LDL, low. Reducing your intake of saturated fat may help, especially if your genotype was rated High Sensitivity to Fat. Limit or avoid animal foods such as meat, poultry, eggs and dairy, or choose lean or lower-fat versions.

RELATED GENES / SNPS

APOE

The gene and associated SNPs included in this category have been shown to have significant associations with a person's HDL cholesterol response to cardio exercise. HDL is a protein particle in the blood that carries cholesterol to the liver, helping to clear it from the blood. Excess cholesterol lingering in the blood can contribute to plaque that causes heart disease. So having higher levels of HDL is beneficial—which is why it's considered "good" cholesterol. Even one session of cardio exercise can boost HDL, and regular exercisers tend to have higher HDL.

This gene plays a role in the HDL response to cardio. One large study had men and women exercise for 30 to 50 minutes, 3 times a week for 5 months. Those people with the more "favorable" genotype experienced greater than average boosts to their HDL levels. Those with the 'unfavorable' genotype showed a decreased response: smaller increases in HDL.

EXERCISE

HDL RESPONSE TO CARDIO

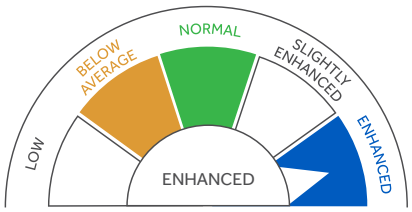
Our analysis investigated which genotype for this gene was present in your DNA. Your rating of either ENHANCED, NORMAL or BELOW AVERAGE reflects whether your genotypes included those that carried a risk of an enhanced or reduced HDL response to cardio exercise.

- What you eat is crucial to help normalize all of your cholesterol levels. A diet high in fiber-filled plant foods and low in saturated animal fats will help lower your total cholesterol, LDL cholesterol and triglyceride values. Incorporate more beans, nuts, fruits and vegetables into your diet, as all have been shown to improve cholesterol.

INSULIN SENSITIVITY RESPONSE TO CARDIO

WHAT YOUR GENES SAY ABOUT YOU:

Our analysis indicates that your genetic profile exhibits an **ENHANCED** insulin sensitivity to cardio exercise. Your score reflects the fact that your genotype showed the 'favorable' gene combinations. This suggests that you are likely to see beneficial improvements to your insulin sensitivity if you exercise regularly.



Your genetic profile indicates that your insulin sensitivity response to cardio is ENHANCED.

Performing 3 or more days of cardio per week should improve your glucose uptake. You can optimize these effects by working out more than three days per week and including resistance training in your workouts.

SUCCESS STRATEGIES

- The more often you exercise, the greater the benefits. For optimal insulin response, perform cardio exercise at least three to four times a week and stick to it.

- Strength training can also improve insulin sensitivity, so include some form of resistance training two to three times per week, targeting all the major muscle groups as part of your weekly routine.

RELATED GENES / SNPS

LIPC

The gene and associated SNPs included in this category have been shown to have significant associations with a person's insulin sensitivity in response to cardio exercise. Insulin is a hormone that plays a crucial role in delivering glucose, a form of sugar, in the blood to cells in the body that use it for energy. In a healthy person, cells are sensitive to this action of insulin and blood glucose levels are kept in their optimal range. If insulin sensitivity declines, a person may become insulin resistant. This keeps blood glucose levels high and diabetes can develop.

Even one session of exercise can improve insulin sensitivity. Exercise also helps keep blood glucose levels low because exercising muscles can absorb glucose without needing insulin to do so. Exercise over time can prevent diabetes—and it can help those who already have it.

INSULIN SENSITIVITY RESPONSE TO CARDIO

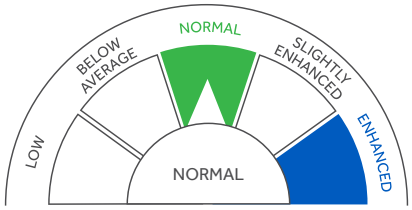
This gene seems to play a role in the insulin sensitivity response to cardio. One large study had men and women perform cardio exercise at a moderate-to-high intensity for 30 to 50 minutes, 3 times a week. Those people with the more 'favorable' genotype experienced greater than average improvements in their insulin sensitivity. Those with the 'unfavorable' genotype were less likely to improve their insulin sensitivity by exercise.

Our analysis investigated which genotype for this gene was present in your DNA. Your rating of either ENHANCED, NORMAL or BELOW AVERAGE reflects whether your genotypes included those that carried a risk of an enhanced or reduced HDL response to cardio exercise.

GLUCOSE RESPONSE TO CARDIO

WHAT YOUR GENES SAY ABOUT YOU:

Our analysis indicates that your genetic profile exhibits a **NORMAL** glucose response to cardio exercise. Your score reflects the fact that your genotype showed the 'unfavorable' gene combinations. This means that you are likely to experience smaller decreases in glucose from doing cardio exercise at least 2 to 3 times per week.



Your genetic profile indicates that your glucose response to cardio is NORMAL.

You are likely to experience minimal decreases in blood glucose from cardio exercise. However, you can boost your response by exercising 4 or more days per week, by working out at higher intensities and by adding resistance training to your routine.

SUCCESS STRATEGIES

Increasing the amount and intensity of exercise you do will help to improve your glucose regulation. Perform cardio on five or more days a week.

And rather than just performing moderate-intensity workouts, after you are fit enough to push a little harder, include more high-intensity minutes into your cardio workouts. Aim to work at an intensity level that leaves you slightly breathless and that feels 'hard.' After a few minutes, recover by continuing to move at an easier pace. Then pick up the intensity for a harder interval, again followed by an easier recovery interval.

- Incorporate resistance training 2 to 3 days per week to enhance your blood glucose response.

RELATED GENES / SNPS

PPARG

The gene and associated SNPs included in this category have been shown to have significant associations with a person's glucose response to cardio exercise. Glucose is one of the body's main sources of energy and it comes from the breakdown of carbohydrates in the diet. Brain and nerve cells, as well as red blood cells, exclusively use glucose for energy. That's why blood glucose is maintained at constant levels—so that all the cells in the body that need it can access it. If blood glucose levels rise and stay high, eventually insulin resistance and diabetes can develop. Exercise helps regulate blood glucose levels because every session of exercise uses glucose in the muscle for energy, and the blood glucose supply is then tapped into to replenish the muscle reserves.

GLUCOSE RESPONSE TO CARDIO

- What you eat also affects your blood glucose level. Increase the amount of fiber you eat by eating more whole plant foods at every meal. But make sure that these foods are unprocessed so that you obtain more nutrients and experience a lower glycemic response from the food.

This gene seems to play a role in the glucose response to cardio and appears to be a reliable indicator of whether exercise will have beneficial effects on insulin resistance. Several studies involved a variety of individuals, both diabetics and non-diabetics, performing regular cardio for 2 to 3 days per week for up to 5 months. Those people with the more 'favorable' genotype experienced greater-than-average clearance of blood glucose. Those with the 'unfavorable' genotype showed a decreased response, or smaller drop in glucose levels. People with this genotype also had a decreased weight-loss ability—they loss less weight compared to people with different genotypes.

Our analysis investigated which genotype for this gene was present in your DNA. Your rating of either ENHANCED or NORMAL reflects whether your genotypes included those that carried a risk of an enhanced or reduced glucose response to cardio exercise.

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FOOD – FAT UTILIZATION

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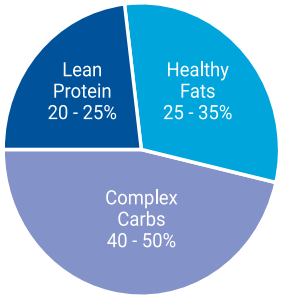
CUSTOM MEAL PLAN

A MEAL PLAN GENETICALLY DESIGNED JUST FOR YOU



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

*** recipe included**

BREAKFAST	PROTEIN	FAT	CARBS	CALORIES
*Omelette *(1 1/4 Serving)*	20g	14g	11g	249
Mixed berries *(1 Cup)*	1g	1g	17g	81
LUNCH	**PROTEIN**	**FAT**	**CARBS**	**CALORIES**
*Quinoa stuffed tomato *(1 1/4 Serving)*	13g	13g	58g	393
DINNER	**PROTEIN**	**FAT**	**CARBS**	**CALORIES**
Baked Turkey breast *(3 3/4 Ounce)*	34g	0g	0g	135
*Side salad #1 *(1 1/2 Serving)*	6g	5g	23g	155
Olive oil *(3 1/2 Tsp)*	0g	18g	0g	158
Avocado slices *(1/4 Cup)*	1g	6g	3g	60
Sweet potato (medium) *(1 Each)*	2g	0g	24g	104
SNACK	**PROTEIN**	**FAT**	**CARBS**	**CALORIES**
Apple (medium) *(1 1/4 Each)*	0g	0g	41g	165
Natural peanut or almond butter *(1 Tbsp)*	4g	9g	3g	109
Air popped popcorn *(1 1/4 Cup)*	1g	0g	8g	35
Pear (medium) *(1 Each)*	1g	0g	27g	112
Pea protein *(3/4 Scoop)*	18g	2g	1g	89
DAY 1 TOTALS	**101g**	**68g**	**216g**	**1845**

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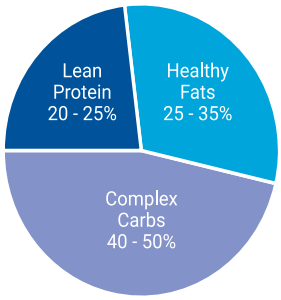

Day 2

*** recipe included**

BREAKFAST	PROTEIN	FAT	CARBS	CALORIES
Steel cut oatmeal *(1 1/4 Cup)*	9g	4g	35g	209
Blueberries *(3/4 Cup)*	1g	0g	16g	66
Pecans *(1 3/4 Tbsp)*	2g	9g	2g	93
LUNCH	**PROTEIN**	**FAT**	**CARBS**	**CALORIES**
*Turkey club burger *(1 Serving)*	29g	11g	26g	319
Olive oil *(3 1/2 Tsp)*	0g	18g	0g	158
*Cucumber tomato salad *(1 1/4 Cup)*	1g	0g	13g	55
Black beans *(3/4 Cup)*	11g	0g	30g	162
DINNER	**PROTEIN**	**FAT**	**CARBS**	**CALORIES**
*Baja salmon tacos *(1 1/2 Serving)*	36g	17g	44g	467
SNACK	**PROTEIN**	**FAT**	**CARBS**	**CALORIES**
Plain Greek nonfat yogurt *(1/4 Cup)*	2g	0g	5g	30
Mixed berries *(1/2 Cup)*	1g	1g	9g	41
Pea protein *(1/2 Scoop)*	12g	1g	1g	59
Apple (medium) *(1 1/4 Each)*	0g	0g	41g	165
Nut Seed Mix *(1/2 Ounce)*	3g	8g	3g	90
DAY 2 TOTALS	**107g**	**69g**	**225g**	**1914**

CUSTOM MEAL PLAN

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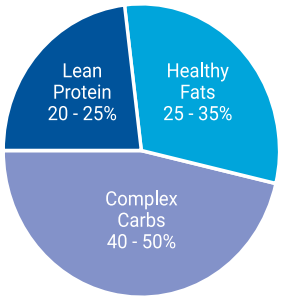
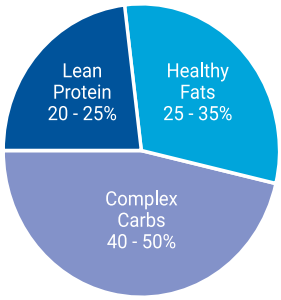


Day 3

*** recipe included**

BREAKFAST	PROTEIN	FAT	CARBS	CALORIES
Plain Greek nonfat yogurt *(1 Cup)*	9g	0g	21g	120
Almonds (slivered) *(2 1/2 Tbsp)*	3g	10g	3g	110
Raw honey *(1/2 Tbsp)*	0g	0g	9g	34
Strawberries *(3/4 Cup)*	0g	0g	8g	33
LUNCH	**PROTEIN**	**FAT**	**CARBS**	**CALORIES**
*Tuna avocado cobb salad *(1 3/4 Serving)*	26g	16g	42g	415
Avocado slices *(1/4 Cup)*	1g	6g	3g	60
Baby spinach leaf *(3/4 Cup)*	2g	0g	2g	15
Olive oil *(4 1/2 Tsp)*	0g	23g	0g	203
DINNER	**PROTEIN**	**FAT**	**CARBS**	**CALORIES**
*Three bean chili *(1 1/4 Serving)*	28g	10g	91g	565
Broccoli *(1 1/4 Cup)*	3g	0g	8g	40
SNACK	**PROTEIN**	**FAT**	**CARBS**	**CALORIES**
Pea protein *(1 1/4 Scoop)*	30g	3g	1g	148
Pear (medium) *(1 1/4 Each)*	1g	0g	34g	140
DAY 3 TOTALS	**103g**	**68g**	**222g**	**1883**

A MEAL PLAN GENETICALLY DESIGNED JUST FOR YOU

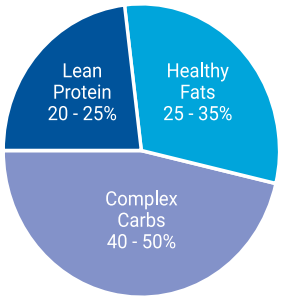


Day 4

*** recipe included**

BREAKFAST	PROTEIN	FAT	CARBS	CALORIES
*Breakfast eggs *(2 1/2 Serving)*	43g	5g	0g	215
White potato (cubed) *(1/2 Cup)*	4g	0g	37g	164
Strawberries *(3/4 Cup)*	0g	0g	8g	33
LUNCH	**PROTEIN**	**FAT**	**CARBS**	**CALORIES**
*Quinoa and black bean salad *(1 1/2 Serving)*	14g	8g	51g	326
Asparagus (steamed) *(1 1/2 Cup)*	5g	0g	8g	48
DINNER	**PROTEIN**	**FAT**	**CARBS**	**CALORIES**
*Thai style chicken curry *(1 1/2 Serving)*	35g	11g	21g	317
Zucchini steamed *(1 1/4 Cup)*	1g	0g	9g	40
Olive oil *(4 1/2 Tsp)*	0g	23g	0g	203
SNACK	**PROTEIN**	**FAT**	**CARBS**	**CALORIES**
Apple (medium) *(1 1/4 Each)*	0g	0g	41g	165
Plum *(1 Each)*	1g	1g	10g	53
Nut mix *(2 1/4 Tbsp)*	7g	20g	11g	254
DAY 4 TOTALS	**110g**	**68g**	**196g**	**1818**

A MEAL PLAN GENETICALLY DESIGNED JUST FOR YOU



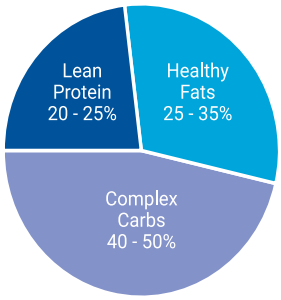
Day 5

*** recipe included**

BREAKFAST	PROTEIN	FAT	CARBS	CALORIES
*Coconut blueberry quinoa *(1 1/4 Serving)*	6g	19g	56g	419
Blueberries *(1/2 Cup)*	1g	0g	11g	44
LUNCH	**PROTEIN**	**FAT**	**CARBS**	**CALORIES**
*Oven crusted chicken *(1 1/2 Serving)*	36g	17g	27g	401
*Side salad #2 *(1 1/4 Serving)*	3g	9g	16g	154
DINNER	**PROTEIN**	**FAT**	**CARBS**	**CALORIES**
*New Orleans red beans *(1 3/4 Serving)*	25g	4g	51g	333
Broccoli *(1 1/2 Cup)*	3g	0g	9g	48
SNACK	**PROTEIN**	**FAT**	**CARBS**	**CALORIES**
Air popped popcorn *(1 1/2 Cup)*	2g	0g	9g	42
Pear (medium) *(1 1/4 Each)*	1g	0g	34g	140
Almonds (slivered) *(3 1/4 Tbsp)*	3g	13g	3g	143
Pea protein *(1 1/4 Scoop)*	30g	3g	1g	148
DAY 5 TOTALS	110g	65g	217g	1872

CUSTOM MEAL PLAN

A MEAL PLAN GENETICALLY DESIGNED JUST FOR YOU



Day 6

*** recipe included**

BREAKFAST	PROTEIN	FAT	CARBS	CALORIES
Hardboiled egg whole *(1 Each)*	6g	4g	0g	60
Hardboiled egg white only *(2 Each)*	8g	0g	0g	32
*Blueberry muffin *(1 Serving)*	3g	7g	32g	203
LUNCH	**PROTEIN**	**FAT**	**CARBS**	**CALORIES**
Plain Greek nonfat yogurt *(1/2 Cup)*	5g	0g	11g	60
Mixed berries *(1/2 Cup)*	1g	1g	9g	41
*Tuna with chickpea & spinach salad *(1 1/4 Serving)*	40g	9g	55g	459
DINNER	**PROTEIN**	**FAT**	**CARBS**	**CALORIES**
*Broccoli with Asian tofu *(1 1/4 Serving)*	20g	14g	25g	304
Apple (medium) *(1 1/4 Each)*	0g	0g	41g	165
Natural peanut or almond butter *(1 Tbsp)*	4g	9g	3g	109
SNACK	**PROTEIN**	**FAT**	**CARBS**	**CALORIES**
Nut mix *(1 3/4 Tbsp)*	5g	16g	9g	198
Granola (low sugar) *(3 Tbsp)*	0g	0g	15g	60
Pea protein *(1/2 Scoop)*	12g	1g	1g	59
DAY 6 TOTALS	**104g**	**61g**	**201g**	**1750**

CUSTOM MEAL PLAN

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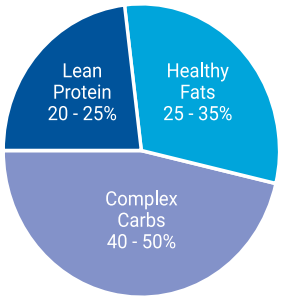

Day 7

*** recipe included**

BREAKFAST	PROTEIN	FAT	CARBS	CALORIES
Steel cut oatmeal *(1 Cup)*	7g	3g	28g	167
Mixed berries *(3/4 Cup)*	1g	1g	13g	61
Plain Greek nonfat yogurt *(3/4 Cup)*	7g	0g	16g	90
Almonds (slivered) *(2 1/2 Tbsp)*	3g	10g	3g	110
LUNCH	**PROTEIN**	**FAT**	**CARBS**	**CALORIES**
*Spaghetti with turkey meatsauce *(1 1/2 Serving)*	44g	3g	89g	555
Strawberries *(3/4 Cup)*	0g	0g	8g	33
Peas (from frozen) *(1/2 Cup)*	4g	1g	10g	61
DINNER	**PROTEIN**	**FAT**	**CARBS**	**CALORIES**
*Chicken and mushroom fricassee *(1 1/4 Serving)*	25g	11g	30g	321
Cauliflower (steamed) *(1/2 Cup)*	1g	0g	3g	14
Olive oil *(5 3/4 Tsp)*	0g	29g	0g	259
*Side salad #3 *(1 1/4 Serving)*	5g	4g	19g	129
SNACK	**PROTEIN**	**FAT**	**CARBS**	**CALORIES**
Sweet potato (baked or steamed - medium) *(3/4 Each)*	2g	0g	18g	78
DAY 7 TOTALS	**99g**	**62g**	**237g**	**1878**

Omelette

makes 1 serving

Ingredients

1 whole egg

2 egg whites

2 Tbsp onions

1/4 C green peppers

1/4 C mushrooms

1/4 avocado

Quinoa Stuffed Tomatoes

makes 4 servings

1 serving = 1 tomato stuffed with 3/4 C quinoa stuffing

Ingredients

4 medium (2 1/2 inches) tomatoes, rinsed

1 Tbsp olive oil

2 Tbsp red onions, peeled and chopped

1 C cooked mixed vegetables - such as peppers, corn, carrots, or peas leftover friendly)

1 C quinoa, rinsed

1 C low-sodium chicken broth

1/2 ripe avocado, peeled and diced

1/4 tsp ground black pepper

1 Tbsp fresh parsley, rinsed, dried, and chopped (or 1 tsp dried)

Directions

1. Preheat oven to 350 degrees F.
2. Cut off the tops of the tomatoes and hollow out the insides. (The pulp can be saved for use in tomato soup or sauce, or salsa.) Set tomatoes aside.
3. Heat oil in a saucepan over medium-high heat. Add onions, and cook until they begin to soften, about 1-2 minutes.
4. Add cooked vegetables, and heat through, about another 1-2 minutes.
5. Add quinoa, and cook gently until it smells good, about 2 minutes.
6. Add chicken broth, and bring to a boil. Reduce the heat and cover the pan. Cook until the quinoa has absorbed all of the liquid and is fully cooked, about 7-10 minutes
7. When the quinoa is cooked, remove the lid and gently fluff quinoa with a fork. Gently mix in the avocado, pepper, and parsley.
8. Carefully stuff about 3/4 cup of quinoa into each tomato.
9. Place tomatoes on a baking sheet, and bake for about 15-20 minutes, or until tomatoes are hot throughout (tomatoes may be stuffed in advance and baked later). Serve immediately.

Side Salad

makes 1 serving

Ingredients

1 3/4 C Romaine lettuce

1/4 C chopped red peppers

1/4 C chopped onion

1/4 Tbsp olive oil

1 1/2 Tbsp lemon juice or Vinegar

Turkey Club Burger

1 serving = 1 burger

Ingredients

12 oz 99% fat free round turkey

1/2 c green onions (scallions) sliced

1/4 t ground black pepper

1 large egg

Spread:

2 Tbsp light mayo

1 Tbsp olive oil

Toppings:

4 oz spinach rinsed and dried

4 oz portabella mushroom

4 whole wheat hamburger buns

Cucumber Tomato Salad

makes 1 serving

Ingredients

1 large cucumber, cubed

1-2 medium tomatoes, cubed

1/2 small onion, chopped

fresh basil, chopped

garlic salt

pepper

Directions

1. Add cucumber, tomato and onion to a bowl with a cover.
2. Add garlic salt, pepper and basil to taste.
3. Seal bowl and shake.
4. Refrigerate for at least 1 hour.

Baja Salmon Tacos

1 serving = 1 taco (3 oz salmon fillet, 1 tortilla, 3/4 C filling)

Ingredients

12 oz salmon fillet (3 oz ea)

4 whole wheat tortillas

1 C green cabbage

1 t lime juice

1 t raw honey

1/2 cup red onion

1 med jalapeno

1 t fresh cilantro

Marinade:

1/2 Tbsp safflower oil

1 T lime juice

1/2 t cumin

2 tsp chili powder

1/2 t coriander

1/4 t salt

Directions

1. Preheat grill or oven broiler (with the rack 3 inches from heat source) on high temperature.
2. Prepare taco filling by combining all ingredients. Let stand for 10-15 minutes to blend the flavors.
3. To prepare the marinade, combine the oil, lime juice, chili powder, cumin, coriander, and salt in a bowl.
4. Place salmon fillets in a flat dish with sides. Pour marinade evenly over fillets.
5. Place salmon fillets on grill or broiler. Cook for 3-4 minutes on each side, until fish flakes easily with a fork in the thickest part (to a minimum internal temperature of 145 degrees F). Remove from the heat and set aside for 2-3 minutes. Cut into strips.
6. To make each taco, fill one tortilla with 3/4 cup filling and one salmon fillet.

Tuna and Avocado Cobb Salad

1 serving = 1.5 oz tuna, 2 C salad ingredients, 2 Tbsp dressing

Ingredients

For salad:

4 C red leaf lettuce, rinsed and chopped (about 8 leaves)

1 C frozen whole kernel corn, roasted (on a pan in the oven or toaster oven at 400 degrees F for 7-10 minutes)

1 C carrots, shredded

1 tomato, rinsed, halved and sliced

1/2 ripe avocado, peeled and sliced*

1 C frozen green peas, thawed

1 can (6 oz) canned white albacore tuna in water

For dressing:

2 Tbsp lemon juice (or about 1 fresh lemon)

1 Tbsp lime juice (or about 1 fresh lime)

1 Tbsp honey

1 Tbsp fresh parsley, rinsed, dried, and minced (or 1 tsp dried)

1 Tbsp water

1 Tbsp olive oil

Directions

1. Divide and arrange 2 cups of salad ingredients in each of 4 serving bowls.
2. For dressing, combine all ingredients and mix well. Spoon 2 tablespoons over each salad, and serve.

Three Bean Chili with Chunky Tomatoes

1 serving = 2 C chili

Ingredients

1 Tbsp canola oil

1 C onion, coarsely chopped

1/2 C celery, rinsed and chopped

1 C green bell pepper, rinsed and diced

1 can (15 1/2 oz) low-sodium black beans, drained and rinsed

1 can (15 1/2 oz) low-sodium red kidney beans, drained and rinsed

1 can (15 1/2 oz) low-sodium pinto beans, drained and rinsed

2 cans (14 1/2 oz each) no-salt-added diced tomatoes with basil, garlic, and oregano

1 Tbsp ground cumin

1 Tbsp chili powder

Directions

1. In an 8-quart soup or pasta pot, heat the oil over medium heat until hot but not smoking. Add onion. Cook and stir until onion starts to soften, about 5 minutes.
2. Add celery and green pepper. Cook and stir another 5 minutes, until all vegetables soften.
3. Add drained and rinsed beans to pot.
4. Stir in tomatoes, cumin, and chili powder.
5. Bring to a boil. Cover, reduce heat, and simmer 10-20 minutes to blend flavors. Serve immediately.

Breakfast Eggs

makes 1 serving

Ingredients

4 egg whites

1/4 slice cheddar cheese

Quinoa & Black Bean Salad

makes 6 servings

1 serving = 1 C

Ingredients

1/2 C quinoa

1 1/2 C water

1 1/2 Tbsp olive oil

3 Tbsp lime juice

1/4 tsp cumin

1/4 tsp ground coriander (dried cilantro seeds)

2 Tbsp cilantro, chopped

2 medium scallions, minced

1 can (15 1/2 oz) low-sodium black beans, drained and rinsed

2 C tomato, chopped

1 medium red bell pepper, chopped

1 medium green bell pepper, chopped

2 fresh green chilis (or to taste), minced

Ground pepper to taste

Directions

1. Rinse the quinoa in cold water. Boil 1 1/2 cups water in a saucepan, then add the quinoa. Return to boil, then simmer until the water is absorbed, 10 to 15 minutes. Cool for 15 minutes.
2. While the quinoa is cooking, mix olive oil, lime juice, cumin, coriander, cilantro, and scallions in a small bowl, and set aside.
3. Combine chopped vegetables with the black beans in a large bowl, and set aside.
4. Once the quinoa has cooled, combine all ingredients and mix well.
5. Cover and refrigerate until ready to serve.

Thai Style Chicken Curry

makes 4 servings

1 serving = 3 oz chicken breast, 1 C veggies

Ingredients

For Sauce:

1 Tbsp Peanut or Safflower oil

1 Tbsp minced ginger

1/2 Tbsp minced garlic

1/4 C chopped scallions

1 Tbsp Lemongrass

1 Tbsp Thai Green curry paste

1/2 C light coconut milk

1 tsp raw honey

1 tsp lite soy sauce

1 tsp fish sauce

1 Tbsp arrowroot powder preferred or cornstarch

1/2 C low sodium chicken broth

For chicken and vegetables:

1 bag (12 oz) frozen vegetable stir-fry

12 oz boneless, skinless chicken breast, cut into thin strips

Directions

1. Thaw frozen vegetables in the microwave (or place entire bag in a bowl of hot water for about 10 minutes). Set aside until step 7.
2. For sauce, heat oil in a small saucepan on medium heat. Add ginger, garlic, scallions, and lemongrass, and cook gently until tender, but not brown, about 2-3 minutes.
3. Add curry paste, and cook for an additional 2-3 minutes.
4. Add coconut milk, honey, soy sauce, and fish sauce, and bring to a boil over high heat.
5. In a bowl, mix cornstarch with chicken broth. Add mixture to the saucepan, and return to a boil while stirring constantly.
6. Lower heat to a simmer, and add chicken strips. Simmer gently for 5-8 minutes.
7. Add thawed vegetables, and continue to cook gently with lid on until the vegetables are heated through, an additional 2-3 minutes.
8. Divide into four even portions, each about 3 ounces chicken breast and 1 cup vegetables, and serve.

Coconut Blueberry Breakfast Quinoa

makes 2 servings

Ingredients

1 tsp coconut oil

3/4 cup raw quinoa, rinsed and dried

1 (15 ounce) can lite coconut milk

Pinch of salt

2 Tbsp maple syrup

2 Tbsp unsweetened shredded coconut

3/4 cup blueberries (fresh or frozen)

Directions

1. Melt the coconut oil over medium heat.
2. Add the quinoa and cook, stirring frequently, until it is toasted and golden brown, about five minutes.
3. Add the coconut milk and a pinch of salt and bring to a boil.
4. Reduce the heat, cover, and simmer until the liquid is absorbed, about 12-20 minutes.
5. Fluff the quinoa with a fork.
6. Stir in the maple syrup to taste.
7. Top each bowl with the shredded coconut and blueberries.

Oven Crusted Chicken Breast

makes 4 servings

1 serving = 3 oz chicken breast, 1 C salad

Ingredients

4 boneless skinless chicken breasts 3 oz each

1 egg white

1 C fat free evaporated milk

1 C breadcrumbs

1/4 C rolled oats crushed in blender

1 C whole wheat flour or gluten free baking flour

For salad

2 Tbsp Lemon Juice

1/2 Tbsp olive oil

4 C red leaf lettuce washed and dried

1 C cherry tomatos

1/4 tsp salt

1/4 tsp black pepper

Directions

1. Preheat oven to 350 degrees F.
2. Place chicken in a freezer bag with the air squeezed out, and pound each breast down to 1/2-inch thickness.
3. Combine the egg white and evaporated milk in a bowl, and mix well. In a separate bowl, combine the breadcrumbs and crushed oats, and mix well.
4. Coat the chicken breasts in flour, and shake off the excess. Dip the chicken breasts in the egg and milk mixture, and drain off the excess. Then dip the chicken breasts in the breadcrumb mixture to coat, and shake off the excess. After all chicken breasts have been coated, discard any leftover breading mixture.
5. Heat oil in a large saute pan. Stir fry the chicken over medium-high heat on one side until golden brown, about 2-3 minutes. Turn carefully, and pan fry the second side for an additional 2-3 minutes or until golden brown. Remove from the pan, and place on paper towels to soak up excess oil. Place on baking sheet, and finish cooking in a 350 degrees F oven for about 5-8 minutes (to a minimum internal temperature of 165 F).
6. For the salad, combine lemon juice and olive oil, and mix well to make a dressing. Toss the lettuce leaves and cherry tomatoes with the dressing, salt, and pepper.
7. Serve 1 cup salad with one piece of chicken.

Side Salad

makes 1 serving

Ingredients

2 C red leaf lettuce

1/2 Tbsp olive oil

1 1/2 Tbsp lemon juice or Vinegar

6 each cherry tomato

New Orleans Red Beans

makes 8 servings

1 serving = 1 1/4 C

Ingredients

1 lb dry red beans

8 C (2 quarts) water

1 1/2 C chopped onion

1 C chopped celery

4 bay leaves

1 C chopped green pepper

3 Tbsp chopped garlic

3 Tbsp chopped parsley

2 tsp dried thyme, crushed

1 tsp salt

1 tsp ground black pepper

Directions

1. Pick through beans to remove bad beans; rinse thoroughly.
2. In a large pot combine the beans, water, onion, celery, and bay leaves. Bring to a boil; reduce heat. Cover and cook over low heat for about 1 1/2 hours or until beans are tender. Stir. Use a spoon to mash the beans against the side of the pot.
3. Add green pepper, garlic, parsley, thyme, salt, and black pepper. Cook, uncovered, over low heat until creamy, about 30 minutes. Remove bay leaves.
4. Serve with hot cooked brown rice, if desired.

Easy Gluten Free Blueberry Muffins

makes 8 muffins

1 serving = 1 muffin

Ingredients

1 1/2 cups King Arthur Gluten-Free All-Purpose Baking Mix

1/2 cup sugar

1/4 cup melted butter or vegetable oil

2 large eggs

1/2 cup milk

1/2 teaspoon gluten-free vanilla extract

3/4 cup fresh or frozen blueberries

Cinnamon-sugar, optional; for sprinkling on top

Directions

1. Preheat the oven to 350 degrees F. Grease 8 wells of a standard muffin pan, or line with papers.
2. Stir together the dry ingredients in a medium-sized bowl; set aside.
3. Whisk together the melted butter or oil, eggs, milk, and vanilla.
4. Stir the dry mixture into the wet ingredients. Scrape the bottom and sides of the bowl, and continue to mix just until blended - a few lumps will remain.
5. Fold in the berries.
6. Fill the muffin cups almost full. Sprinkle with cinnamon-sugar, if desired.
7. Let the muffins rest for 10 minutes, then bake for 20 to 25 minutes, until a cake tester inserted into the center of a muffin comes out clean.
8. Remove the muffins from the oven, and after 5 minutes transfer them to a rack to cool.

Grilled Tuna w Chickpea & Spinach Salad

makes 4 servings

serving = 3 oz tuna steak, 1 C salad

Ingredients

1 Tbsp olive oil

1 Tbsp minced garlic

2 Tbsp lemon juice

1 Tbsp oregano minced

12 oz tuna steaks in 4, 3 oz portions

For Salad:

1 can low sodium chickpeas/garbanzo beans

1 bag (10oz) leaf spinach

1 Tbsp lemon juice

1 tomato wedge

1/8 tsp salt

1/8 tsp pepper

Directions

1. Preheat grill pan or oven broiler (with the rack 3 inches from heat source) on high temperature.
2. Combine oil, garlic, lemon juice, and oregano, and brush over tuna steaks. Marinate for 5-10 minutes.
3. Meanwhile, combine all salad ingredients. (Salad can be made up to 2 hours in advance and refrigerated.)
4. Grill or broil tuna on high heat for 3-4 minutes on each side until the flesh is opaque and separates easily with a fork (to a minimum internal temperature of 145 degrees F).
5. Serve one tuna steak over 1 cup of mixed salad.

Broccoli with Asian Tofu

makes 4 servings

1 serving = 2 tofu slices with broccoli and marinade mixture

Ingredients

1 pkg (16 oz) firm Tofu

2 Tbsp lite soy sauce

1 tsp sesame oil

1/2 Tbsp organic brown sugar

1 Tbsp chopped fresh ginger

1 lb fresh broccoli (12 cups)

1 Tbsp peanut oil

1/4 tsp crushed red pepper

4 Tbsp minced garlic

1 Tbsp Sesame seeds

Directions

1. Slice tofu into eight pieces. Place on a plate or flat surface covered with three paper towels. Top with four more paper towels. Top with another flat plate or cutting board. Press down evenly and gently to squeeze out moisture. Throw away paper towels. Replace with fresh paper towels and press again. (The more liquid you remove, the more sauce the tofu will absorb.)
2. Place tofu in a bowl just big enough to hold all eight pieces lying on their widest side without overlapping.
3. In a small bowl, combine the soy sauce, sesame oil, brown sugar, and ginger into a marinade, and stir thoroughly. Pour over tofu. Carefully turn the tofu several times to coat well. Set aside.
4. Meanwhile, heat a large nonstick saute pan coated with cooking spray. Add broccoli and saute for about 5 minutes, until it turns bright green and becomes tender and crispy. Remove broccoli from pan and set aside.
5. Heat a grill pan or flat saute pan over high heat. Drain tofu, reserving marinade. Place on grill pan to heat for about 3 minutes. Gently turn. Heat the second side for 3 minutes.
6. At the same time, in the saute pan over medium-low heat, warm the peanut oil, crushed red pepper, and garlic until the garlic softens and begins to turn brown, about 30 seconds to 1 minute. Add broccoli and reserved marinade, and gently mix until well- coated.
7. Place two slices of tofu on each plate with one-quarter of the broccoli and marinade mixture. Sprinkle with sesame seeds (optional).

Spaghetti with Turkey Meat Sauce

makes 6 servings

1 serving = 5 oz sauce, 9 oz spaghetti

Ingredients

Nonstick cooking spray as needed

1 lb 99% fat free ground turkey

1 can (28 oz) no-salt added tomatoes, cut up

1 C finely chopped green pepper

1 C finely chopped onion

2 cloves garlic, minced

1 tsp dried oregano, crushed

1 tsp black pepper

1 lb spaghetti, uncooked

Directions

1. Spray a large skillet with nonstick spray coating. Preheat over high heat.
2. Add turkey; cook, stirring occasionally, for 5 minutes. Drain fat and discard.
3. Stir in tomatoes with their juice, green pepper, onion, garlic, oregano, and black pepper. Bring to a boil; reduce heat. Simmer covered for 15 minutes, stirring occasionally. Remove cover; simmer for 15 minutes more. (If you like a creamier sauce, give sauce a whirl in your blender or food processor.)
4. Meanwhile, cook spaghetti in unsalted water. Drain well.
5. Serve sauce over spaghetti.

Chicken and Mushroom Fricassee

makes 4 servings

1 serving = 1 chicken leg, 1 C veggies and sauce

Ingredients

1 Tbsp olive oil

1 carton white button mushrooms quartered

1 C leeks quartered then sliced

1 C potatos sliced and diced

1 C celery diced

1 C pearl onions

3 C low sodium chicken broth

1 lb skinless chicken legs or thighs

2 Tbsp fresh herbs like parsley and chives

1 Tbsp lemon juice

1 Tbsp Arrowroot powder (preferred) or corn starch

2 Tbsp fat free sour cream

1/2 tsp salt

1/4 tsp pepper

Directions

1. Preheat oven to 350 degrees F.
2. Heat olive oil in a medium-sized heavy-bottom roasting or braising pan (a large saute pan with a metal handle will work as well).
3. Add mushrooms to pan, and cook until golden brown, about 3-5 minutes. Add leeks, potatoes, celery, and pearl onions, and continue to cook until the vegetables become soft, about 3-5 additional minutes.
4. Add chicken broth to the pan, and bring to a boil. Add chicken legs to the pan, cover, and place in the heated oven for about 20 minutes or until the chicken legs are tender when pierced with a fork (to a minimum internal temperature of 165 F).
5. When chicken legs are tender, remove legs from the pan, return the pan to the stovetop, and bring the liquid to a boil. Add herbs and lemon juice.
6. In a bowl, mix the cornstarch with the sour cream, and add to the pan. Bring back to a boil and then remove from the heat.
7. Season with salt and pepper, and pour 1 cup of veggie and sauce mixture with chicken.

Side Salad

makes 1 serving

Ingredients

2 C red leaf lettuce

1/4 Tbsp olive oil

1 Tbsp red onion

1/2 C cauliflower florets

1 1/4 Tbsp lemon juice or Vinegar

6 each cherry tomato

AN EXERCISE PLAN GENETICALLY DESIGNED JUST FOR YOU

Your exercise genotype suggests that you may benefit from the following exercise prescription. You can personalize your plan according to the facilities and equipment you have. Below are 5 examples of what your weekly workout plan might look like. These are simple examples based on your personalized exercise recommendation. Look at your synopsis in the top boxes and choose the type of workouts that bests suit you to create a weekly plan. For example, if you work out at a health club or you have cardio machines at home, you can design a plan that looks like Gym – Cardio Machines. If you belong to a club that offers fitness classes (or if you have fitness DVDs at home), you can design your weekly workouts to look something like Gym – Fitness Classes. If you like to keep it simple by walking and using minimal equipment, use some dumbbells or exercising resistance bands and walk outside with a routine that looks like Home - Walk. If you want a higher intensity workout at home, try Home – Run+Bike. If you alternate your workouts between exercising at home and at the gym, format your workout week to look something like Mix – Home+Gym. The activities shown in each week are only suggestions. If Zumba or Kickboxing classes are not for you, then substitute another cardio workout that you would enjoy. You can (and should) choose activities that you love to do and that are suited for your personal needs and preferences. But also, be adventurous and try new activities on occasion.

- These sample plans are based on attaining at least the minimum number of recommended minutes of exercise per week that is indicated in your personalized exercise prescription. If your prescription suggests that you need to get at least 150 minutes per week, one sample week may list workouts that total 150 cardio exercise minutes, another week way add up to 165 minutes. You can modify as needed - remember to build up to greater amounts of exercise slowly if you are new to exercise. For optimal results, this amount of exercise can (and should) be increased as you get fitter and when you have extra time to exercise. The more exercise minutes you perform, the greater your weight loss potential. To increase the number of exercise minutes you get in each week, add in extra sessions or make your sessions longer (or both!)

- Perform at the recommended intensity by adjusting your speed, incline, level of resistance, etc. If your prescription says to exercise at a moderate-to-vigorous intensity, for example, you might alternate effort levels within one workout (walk faster, then slower in one session), or you might have one moderate-intensity day where you workout at a moderate level on the elliptical trainer and then have a vigorous intensity workout on another session where you walk fast uphill or you take a spin class (indoor cycling tends to be intense.)

- The 2008 DHHS Physical Activity Guidelines recommend to perform moderate or high intensity muscle-strengthening moves that target all major muscle groups (shoulders, arms, chest, abdomen, back, rear end, thighs and calves) on 2 or more days a week. Use weights that are heavy enough to fatigue you by the end of each set. Perform the recommended number of reps and sets during your strength workouts. For example, when using dumbbells at home or weight machines at the gym, choose exercises that target your major muscles in your upper and lower body and do 2 to 3 sets of 8 to 15 reps.

- Incorporate the special types of workouts indicated in your exercise recommendation. For example, you might be recommended to try HIIT (high-intensity interval training) or to use kettlebells or to follow a barbell-based muscle strength and endurance workout. HIIT, or high-intensity interval training, is a training technique in which you give all-out, one hundred percent effort through quick, intense bursts of exercise, followed by short, sometimes active, recovery periods. This type of training gets and keeps your heart rate up and burns more fat in less time.

- Fit in your strength workouts on the same day or different days as your cardio workouts. Although the minutes that you spend doing strength exercises do add up and can count towards total exercise minutes, strength workouts tend not to burn as many calories as a cardio workout. For optimal weight loss results, we have counted only cardio exercise minutes as minutes that meet your exercise prescription quota.

- At the gym, you may want to lift free weights, use weight machines or take a weights class. At home, you may want to use dumbbells or bands by following a fitness video.

- You can also try other forms of strength workouts at the gym or at home (kettlebells, barbell classes, circuit training, etc.). Your exercise recommendation may suggest some specific workout activities. If you have access to these (i.e., if you have the equipment at home or in a gym, or if you have access to the class types at a club or by DVD), try them. If you do not, substitute with a similar activity if you can.

- Your home workouts can be designed based on the equipment you have: treadmill, bike, elliptical trainer, dumbbells, bands, etc.

CUSTOM EXERCISE PLAN

CARDIO EXERCISE

FREQUENCY	INTENSITY
More than or equal to 3 days per week	Moderate to vigorous

DURATION

More than or equal to 150 minutes per week

STRENGTH TRAINING

FREQUENCY	SETS & REPS
2-3 days per week	2-3 sets; 15 reps per muscle group

MUSCLE GROUPS

Chest, back, legs, shoulders, core (abs and low back), arms

GYM MACHINES

* description included

Day 1		
Day 2	Eliptical Trainer - 45 minutes	Weight Machines - 2-3 sets; 15 reps
Day 3		
Day 4	Bike - 60 minutes	
Day 5		
Day 6	* Treadmill Walk HIIT - 45 minutes	Weight Machines - 2-3 sets; 15 reps
Day 7		

CUSTOM EXERCISE PLAN

CARDIO EXERCISE

FREQUENCY

More than or equal to 3 days per week

INTENSITY

Moderate to vigorous

DURATION

More than or equal to 150 minutes per week

STRENGTH TRAINING

FREQUENCY

2-3 days per week

SETS & REPS

2-3 sets; 15 reps per muscle group

MUSCLE GROUPS

Chest, back, legs, shoulders, core (abs and low back), arms

GYM FITNESS CLASSES

* description included

Day 1	* Zumba Class - 60 minutes	
Day 2		Weight Class - 2-3 sets; 15 reps
Day 3	* Zumba Class - 60 minutes	
Day 4		
Day 5	Spin Class - 45 minutes	
Day 6		Weight Class - 2-3 sets; 15 reps
Day 7		

CUSTOM EXERCISE PLAN

CARDIO EXERCISE

FREQUENCY	INTENSITY
More than or equal to 3 days per week	Moderate to vigorous

DURATION
More than or equal to 150 minutes per week

STRENGTH TRAINING

FREQUENCY	SETS & REPS
2-3 days per week	2-3 sets; 15 reps per muscle group

MUSCLE GROUPS
Chest, back, legs, shoulders, core (abs and low back), arms

HOME WALK

* description included

Day 1	* Walk HIIT - 60 minutes	
Day 2	Walk - 30 minutes	Dumbbells - 2-3 sets; 15 reps
Day 3		
Day 4		
Day 5		
Day 6	Walk - 60 minutes	Dumbbells - 2-3 sets; 15 reps
Day 7		

CUSTOM EXERCISE PLAN

CARDIO EXERCISE

FREQUENCY	INTENSITY
More than or equal to 3 days per week	Moderate to vigorous

DURATION
More than or equal to 150 minutes per week

STRENGTH TRAINING

FREQUENCY	SETS & REPS
2-3 days per week	2-3 sets; 15 reps per muscle group

MUSCLE GROUPS
Chest, back, legs, shoulders, core (abs and low back), arms

HOME RUN + BIKE

* description included

Day 1	Run - 20 minutes	Dumbbells - 2-3 sets; 15 reps
Day 2		
Day 3	* Bike HIIT - 45 minutes	
Day 4	Bike - 45 minutes	Dumbbells - 2-3 sets; 15 reps
Day 5		
Day 6	* Run/Walk HIIT - 40 minutes	
Day 7		

CUSTOM EXERCISE PLAN

CARDIO EXERCISE

FREQUENCY	INTENSITY
More than or equal to 3 days per week	Moderate to vigorous

DURATION

More than or equal to 150 minutes per week

STRENGTH TRAINING

FREQUENCY	SETS & REPS
2-3 days per week	2-3 sets; 15 reps per muscle group

MUSCLE GROUPS

Chest, back, legs, shoulders, core (abs and low back), arms

MIX HOME + GYM

* description included

Day 1	Spin Class - 45 minutes	Weight Class - 2-3 sets; 15 reps
Day 2	* Walk/Jog HIIT - 60 minutes	
Day 3		
Day 4	Eliptical Trainer - 30 minutes	Weight Class - 2-3 sets; 15 reps
Day 5		
Day 6	Run - 20 minutes	Dumbbells - 2-3 sets; 15 reps
Day 7		

DEFINITIONS

WHAT IS HIIT?

HIIT, or high intensity interval training, is a way to structure any cardio workout that involves alternating high and low intensity intervals of movement. After warming up, a high intensity interval is performed for 30 seconds or longer. This is followed by a recovery interval where the same activity is performed at an easier, low intensity for 30 seconds and up to 5 minutes or longer. This is in contrast to a steady-state cardio workout where an activity is performed at a similar effort level over a sustained period of time.

How long each high and low intensity interval lasts depends on fitness level. A trained person can perform longer high intensity intervals and may not need as much time to recover during lower intensity intervals. A person new to exercise should perform very short high intensity intervals (~30 seconds to 1 minute) followed by longer low intensity intervals. (~2 minutes or longer.) HIIT can be applied to any type of cardio workout including walking, running, cycling, etc. Any indoor cycling class such as 'Spinning' is usually formatted to alternate between higher and lower intensity intervals.

WHAT IS ZUMBA?

Zumba is a dance-based low-impact cardio class. It features music and dance styles from a variety of cultures including Latin-based rhythms such as salsa and merengue. Many health clubs offer low-impact, dance-based classes that are similar to Zumba.