

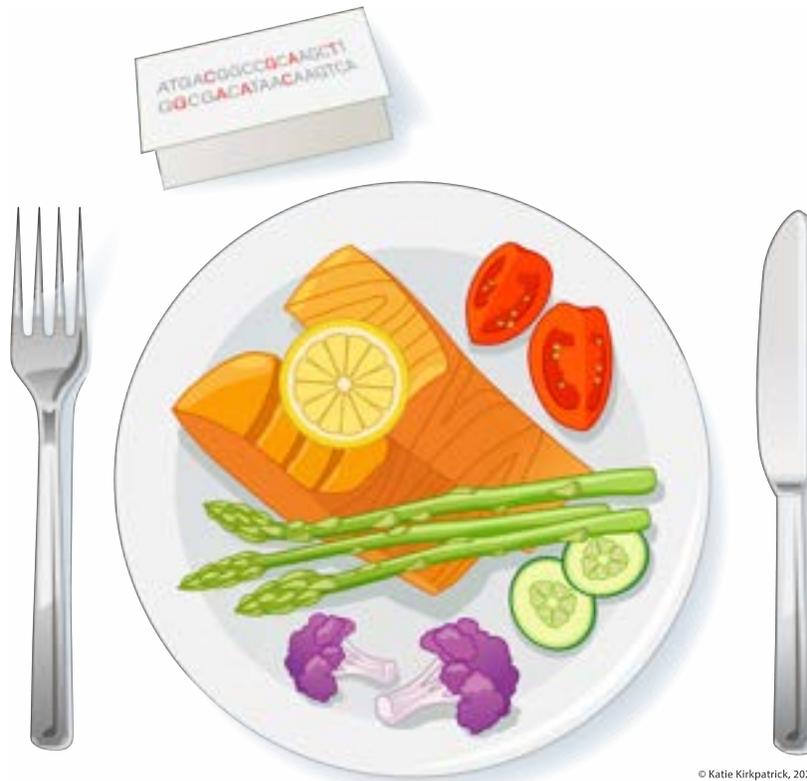


Personalized Weight & Nutrition Genetic Panel

A nutrigenomic assessment for revealing enduring metabolic health

Welcome to

Personalized Weight & Nutrition Genetic Panel



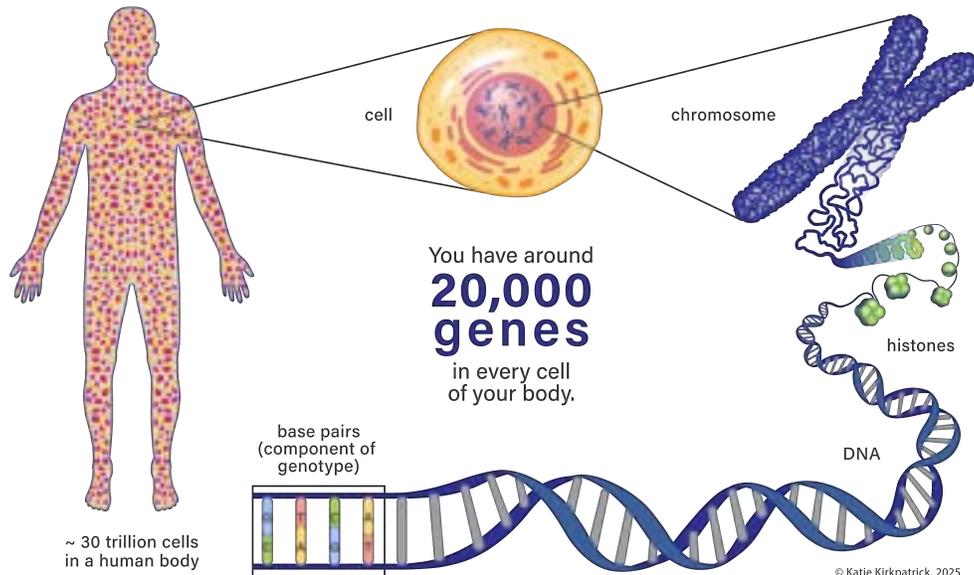
In today's landscape of endless nutrition advice, effective nutrition is less about doing what's "good" and more about doing what's right for you. Much of the prevailing advice takes a one-size-fits-all approach to nutrition despite overwhelming evidence that we're genetically unique in our abilities to absorb nutrients, build lean muscle mass, respond to macronutrients, and so much more. While these variations aren't easily observed, like hair color or height, Personalized Weight & Nutrition Genetic Panel is a comprehensive genetic analysis that reveals your DNA fingerprint encoding your metabolism. It translates your genetics into a personalized nutrition protocol that aligns with your biology.

Personalized Weight & Nutrition Genetic Panel includes two main sections: The first section is designed to support you in understanding your risk for metabolic disease, vulnerability to disruption of cellular pathways that contribute to metabolic dysfunction, and response to strategies like physical activity and GLP-1 receptor agonists. The second section is designed to provide insight into your unique dietary needs and preferences. It's designed to aid in the formulation of a nutritional strategy that you find both effective and enjoyable. Whether you're struggling with excess weight and symptoms of metabolic syndrome or looking to sustain a lifetime of thriving health, Personalized Weight & Nutrition Genetic Panel is a holistic blueprint for your foundations of resilient metabolic health.

A Brief Reminder about *Genetics*

Our genetic code houses our body's blueprint. Distinct sequences of our genetic code, called genes, inscribe the instructions to make molecules called proteins. Proteins perform almost all the critical functions in our body, including transporting nutrients, catalyzing biochemical reactions, forming the structure of cells and tissues, and more. For example, the SLC44A1 gene encodes the CTL1 protein that transports choline from circulation into cells and mitochondria. The gene contains the instructions; the protein that it encodes does the work.

Your genetic code is composed of DNA, which is a string of millions of molecules called nucleotides that bind together to form base pairs. There are four types of nucleotides in DNA: A (adenine), C (cytosine), T (thymine) and G (guanine). Variations of these nucleotides in the genetic code determine your unique features. SNPs (pronounced "snips") are the most common type of genetic variation among people. Each SNP represents a difference in the DNA at a specific site in the genetic code, which is identified by an "rsID"—such as rs9939609.



What can I expect from a genetic test?

Understanding your genetic code provides valuable information about what you're predisposed to. It doesn't provide a diagnosis. For example, your report may indicate that you have a predisposition to poor blood sugar control. However, it doesn't guarantee that your blood sugar is abnormal because your nutrition, lifestyle, and environment also contribute to your body's ability to manage blood sugar. This means that your habits, including your nutrition, physical activity, sleep, etc., matter! The awareness that this genetic test provides is no way a limitation, but rather an opportunity to optimize your metabolism through the application of precise and personalized strategies. This test is not a substitute for the guidance of qualified healthcare professionals. We strongly recommend that you use these results in conjunction with their knowledge and oversight to ensure safety and effectiveness.

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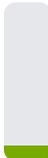
Customer Identification Data

Requesting Provider		Derrick Bowling
Customer Name		Example Testing
Date of Birth		08-08-2000
Sex		Male
Sample Code		RGN2026-00010
Sample Type		Buccal Swab
Collection Date		01-05-2026
Reception Date		01-15-2026
Reported Date		01-21-2026

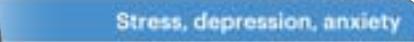
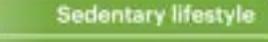
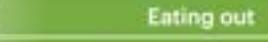
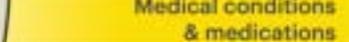
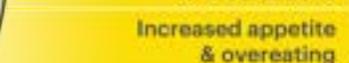
Summary

While unwanted weight gain is a common symptom of metabolic dysfunction, it's important to note that vibrant metabolic health is more than a number on a scale. In fact, your metabolism is essential for maintaining all parameters of life, including body temperature, blood sugar, blood pressure, and more. Below is a summary of your genetic results for the ten categories considered by the report. Red points to areas that may need the most attention and support, whereas green points to those that may need the least. Yellow suggests that some support may be beneficial.

Genetic Predisposition for Metabolic Disease

		Obesity Your results indicate a medium risk of excess weight gain, so you may struggle somewhat to maintain a healthy weight.
		Type 2 Diabetes Your results indicate a medium risk of type 2 diabetes, so you may struggle somewhat to control your blood sugar.
		Hypertension Your results indicate a high risk of hypertension, so you're more likely to struggle with elevated blood pressure.
		Dyslipidemia Your results indicate a medium risk of dyslipidemia, so you may struggle somewhat with abnormal levels of circulating lipids and cholesterol.
		Accelerated Aging Your results indicate a normal risk of accelerated age, so your body is more likely to be resilient to damage from processed foods and sugar.

Many factors contribute to excess weight gain. How many apply to you?

	Psychological	
	Stress, depression, anxiety	<input type="checkbox"/>
	Fatigue	<input type="checkbox"/>
	Poor work-life balance	<input type="checkbox"/>
	Behavioral	
	Sedentary lifestyle	<input type="checkbox"/>
	Eating out	<input type="checkbox"/>
	Excessive screen time	<input type="checkbox"/>
	Poor sleep quality	<input type="checkbox"/>
	Biological	
	Family history	<input type="checkbox"/>
	Medical conditions & medications	<input type="checkbox"/>
	Increased appetite & overeating	<input type="checkbox"/>
	Socioeconomical	
	Limited support from healthy community	<input type="checkbox"/>
	Income instability	<input type="checkbox"/>

Chrononutrition



Circadian Rhythm

Your results indicate that you may have biorhythms that stress your metabolism, especially if your sleep-wake cycle is disrupted.



NAD+ Recycling

Your results indicate that you're more likely to have a normal ability to recycle NAD+, which links metabolism to the body's internal clock.



Cortisol

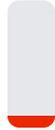
Your results indicate that you produce a slightly increased amount of cortisol, so your sleep-wake cycle may be disrupted by stress.



Melatonin

Your results indicate that you have normal melatonin production and response, so you're more likely to fall asleep easily if you avoid light exposure at night.

Drivers of Metabolic Dysfunction



Thyroid Function

Your results indicate reduced production and activation of thyroid hormone, so you may have a slower metabolism.



Muscle Maintenance

Your results indicate a slightly reduced ability to maintain lean muscle mass, so you may have a somewhat lower metabolic rate.



Mitochondria Function

Your results indicate a slightly reduced capacity to generate cellular energy and burn excess energy as heat.



Oxidative Stress Management

Your results indicate a slightly reduced ability to manage free radicals, so you may be somewhat sensitive to the damage and inflammation that they can cause.



Detoxification Capacity

Your results indicate a normal ability to clear toxins, so you may be more resilient to the damage and inflammation that they can cause.



Inflammation

Your results indicate slightly increased production of pro-inflammatory signals, so you may experience inflammation that can disrupt metabolism.

Exercise Response



Exercise Efficiency

Your results indicate normal sensitivity to exercise to promote fat breakdown, so you're more likely to experience noticeable weight loss from exercise of any intensity.



Exercise to Improve Blood Lipid Profile

Your results indicate reduced sensitivity to exercise to improve blood lipid profile, so while exercise has many benefits, it's less likely to help you lower LDL and raise HDL levels.

Pharmacological Factors



GLP-1 Sensitivity

Your results indicate slightly reduced sensitivity to GLP-1 hormone, so you may not experience weight loss and blood sugar improvements from GLP-1 therapies.



Resistance to Weight Gain Associated with Antipsychotic Medication Use

Your results indicate that you have reduced resistance to antipsychotic medications increasing your appetite, so you may be more likely to gain unwanted weight from their use.

Psychological Factors



Satiety

Your results indicate that you may be more likely to have a normal appetite and to experience feelings of fullness after eating.



Eating Behaviors

Your results indicate that you may engage in destructive eating patterns, like eating as a “reward” or excessively overeating.



Adherence Willingness

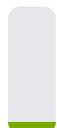
Your results indicate that you may have more motivation and consistency to implement healthy habit changes.



Regulation and Relaxation

Your results indicate that you may be less likely to experience increased stress.

Food Intolerances



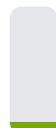
Gluten and Casein



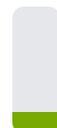
Lactose



Histamine



Caffeine



Alcohol

Essential Nutrients

Vitamins

Vitamin D	■	■	■
Vitamin B3	■	■	■
Vitamin B6	■	■	■
Vitamin B9	■	■	■
Vitamin B12	■	■	■
Vitamin A	■	■	■
Vitamin E	■	■	■
Vitamin C	■	■	■

Minerals

Calcium	■	■	■
Magnesium	■	■	■
Iron Deficiency	■	■	■
Iron Overload	■	■	■
Copper	■	■	■
Zinc	■	■	■
Selenium	■	■	■

Other Nutrients

Choline	■	■	■
CoQ10	■	■	■
Essential Fatty Acids	■	■	■

Taste Preferences



Salty



Bitter

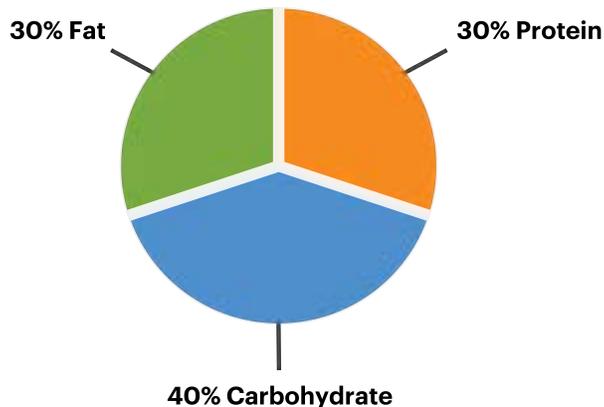


Sweet



Richness

Macronutrient Response



Response to PUFAs & Phytosterols

Your results indicate that you may benefit from eating more fats from foods like fatty fish, nuts, seeds, legumes, and whole grains.



Response to Fasting

Your results indicate an increased ability to adapt to fasting, so you may experience benefits from it.



Genetic Predisposition for Metabolic Disease

Result Score Key:

● High Risk ● Medium Risk ● Normal Risk

Obesity

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	FTO	rs9939609	AA	Predisposition for increased risk of excess weight gain and obesity
	MC4R	rs17782313	TT	Predisposition for normal risk of excess weight gain and obesity

Lifestyle Recommendations

Many factors contribute to the development of obesity. If significant weight gain is an issue, explore the remaining sections of the report for insight into key physiological and psychological factors that may contribute to unwanted weight gain.

Type 2 Diabetes

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	TCF7L2	rs7903146	CT	Predisposition for increased risk for type 2 diabetes
	CDKN2A/B	rs10811661	TT	Predisposition for significantly increased risk for type 2 diabetes
	ADIPOQ	rs1501299	GG	Predisposition to reduced levels of adiponectin, an insulin sensitizing hormone
	MTNR1B	rs10830963	CC	Predisposition to increased blood sugar control and decreased risk for gestational diabetes and type 2 diabetes
	SLC30A8	rs3802177	AG	Predisposition to normal blood sugar control and normal risk of type 2 diabetes

Lifestyle Recommendations

If blood sugar maintenance is a concern, consider prioritizing blood sugar balance and engaging in routine exercise, even if it's brisk walking. Consider monitoring biomarkers, like fasting insulin and HbA1c.



Hypertension

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	ACE	rs4343	AG	Predisposition to moderately increased risk for salt-sensitive hypertension due to slightly increased production of angiotensin II, a vasoconstrictor
	NOS3	rs2070744	CC	Predisposition to reduced production of nitric oxide, a potent vasodilator and vasoprotector

Lifestyle Recommendations

If elevated blood pressure is an issue, consider limiting salt intake unless electrolytes are needed for fasting or ketogenesis. To promote vasodilation through nitric oxide production, avoid antiseptic oral care, consume a diet rich in antioxidants and vegetables rich in nitrates (i.e. celery, beetroot, spinach, etc.), and engage in moderate-to-vigorous exercise a few times a week.

Dyslipidemia

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	LPL	rs13702	CT	Predisposition to decreased levels of circulating triglycerides and increased levels of HDL
	APOA5	rs662799	AA	Predisposition to decreased levels of circulating triglycerides
	APOC3	rs5128	CG	Predisposition to increased levels of circulating triglycerides
	GCKR	rs1260326	CC	Predisposition to normal conversion of excess glucose to fatty acids and normal levels of circulating triglycerides
	CETP	rs5882	AG	Predisposition to normal levels of circulating triglycerides and LDL and normal levels of circulating HDL
	APOA2	rs5082	AG	Predisposition to produce moderately smaller HDL particles, which are considered less cardioprotective than large HDL particles
	APOB	rs676210	GG	Predisposition to increased levels of circulating triglycerides and cholesterol-rich VLDL and decreased levels of circulating HDL

Lifestyle Recommendations

If blood lipids are a concern, consider ensuring that suboptimal thyroid function and poor blood sugar control are not contributing factors. Avoid alcohol, and if appropriate for dietary plan, incorporate sources of soluble fiber. Consuming bitter foods or bitter extracts may help promote bile flow and cholesterol excretion.



Genetic Predisposition for Metabolic Disease

Accelerated Aging

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	GLO1	rs1049346	GG	Predisposition to reduced accumulation of advanced glycation end-products (AGEs) due to normal glyoxalase activity to metabolize them
	AGER	rs2070600	CC	Predisposition to reduced inflammation prompted by advanced glycation end-products (AGEs) and increased levels of soluble AGE receptor, which can further limit AGE-induced inflammation by binding AGEs in circulation

Lifestyle Recommendations



Result Score Key:

● High Action Suggested

● Medium Action Suggested

● Little to No Action Needed

Circadian Rhythm

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	CLOCK	rs1801260	AA	Predisposition to an early chronotype that is less susceptible to circadian rhythm disruption and associated with normal metabolic function
	CLOCK	rs4580704	CC	Predisposition to an early chronotype associated with improved parameters of metabolic health, including decreased risk of weight gain, type 2 diabetes, and hypertension, especially when intake of saturated fats is minimized
	CLOCK	rs3749474	TT	Predisposition to a later chronotype associated with sensitivity to evening carbohydrate consumption, reduced sleep duration, higher energy intake, and increased weight gain
	CRY1	rs2287161	CC	Predisposition to a later chronotype that is associated with weight gain, leptin insensitivity, and poor blood sugar control, which may be exacerbated by increased intake of carbohydrates
	PER2	rs2304672	GG	Predisposition to an extremely early chronotype that is associated with health eating patterns and normal metabolic function
	NR1D1	rs2314339	CC	Predisposition to reduced propensity to engage in physical activity and reduced protection from abdominal obesity
	MTNR1B	rs10830963	CC	Predisposition to a timely melatonin response and early chronotype that is associated with normal blood sugar control

Lifestyle Recommendations

Optimize light exposure by getting natural sunlight first thing in the morning and avoiding screens and artificial light after sunset. Consider the use of blue light blocking filters and red-tone lights in the evenings. Avoid consuming late-night meals or snacks. Establish and maintain a consistent sleep/wake schedule. If needing to adjust the timing of sleep/wake schedule, make small gradual changes, such as 15-minute shifts.



NAD+ Recycling

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	NAMPT	rs9770242	AC	Predisposition to normal risk of metabolic dis-ease, which is associated with normal circadian rhythmicity of NAMPT activity and NAD+ recycling
Lifestyle Recommendations				

Cortisol

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	CRHR1	rs110402	AG	Predisposition to moderately increased production of cortisol in response to stress exposure
Lifestyle Recommendations				
If a high stress level is a concern, consider engaging in stress management techniques, such as yoga, meditation, breathing exercise, etc. Prioritize a diet that promotes balanced blood sugar and consider reducing caffeine intake. Aim for 7-9 hours of quality sleep and stick to a consistent schedule.				



Melatonin

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	TPH2	rs4570625	GG	Predisposition to normal synthesis of serotonin, a precursor of melatonin
	MAOA	rs6323	T	Predisposition to normal clearance of serotonin, a precursor of melatonin
	MTNR1B	rs10830963	CC	Predisposition to normal response to melatonin
Lifestyle Recommendations				



Drivers of Metabolic Dysfunction

Result Score Key:

● High Action Suggested

● Medium Action Suggested

● Little to No Action Needed

Thyroid Function

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	PDE8B	rs4704397	AA	Predisposition to increased risk for hypothyroidism, including sub-clinical hypothyroidism
	DIO1	rs2235544	AA	Predisposition to reduced conversion of thyroxine (T4) to active thyroid hormone, triiodothyronine (T3)

Lifestyle Recommendations

Ensure optimal status of essential nutrients needed for thyroid function, including vitamin A, vitamin D, magnesium, zinc, iodine, and selenium. Prioritize blood sugar balance and cortisol management. Consider monitoring biomarkers of thyroid functions, including TSH, free T4, free T3, reverse T3, TPO Ab, and TgAb.

Muscle Maintenance

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	TRHR	rs7832552	CT	Predisposition to increased muscle mass mass and power
	IGF2	rs680	CT	Predisposition to decreased muscle mass, power, and Predisposition to moderately decreased muscle mass, power, and resiliency
	ACTN3	rs1815739	CT	Predisposition to produce a mix of full-length and truncated alpha-actinin-3, an important muscle protein and to have slightly reduced muscle strength and power

Lifestyle Recommendations

Incorporate routine resistance training to maintain or gain muscle mass. Distribute protein intake evenly throughout the day. Aim to consume at least 20 g of protein four times a day.



Mitochondria Function

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	SIRT1	rs1467568	GG	Predisposition to reduced activation of the SIRT1/PGC-1α signaling that can induce mitochondrial biogenesis
	PPARGC1A	rs8192678	TT	Predisposition to reduced activation of the SIRT1/PGC-1α signaling that can induce mitochondrial biogenesis
	TFAM	rs1937	CG	Predisposition to normal mitochondrial synthesis
	UCP1	rs2071415	AA	Predisposition to less risk of weight gain, regardless of physical activity, related to a normal capacity to release excess energy as heat
	UCP1	rs12502572	GG	Predisposition to less risk of weight gain, related to a normal capacity to release excess energy as heat
	UCP2	rs659366	CT	Predisposition to less risk of weight gain, related to a normal capacity to release excess energy as heat
	UCP3	rs1800849	GG	Predisposition to decreased resting metabolic rate and cold adaptability, related to reduced capacity to release excess energy as heat

Lifestyle Recommendations

Consider high-intensity cardiovascular training, sauna, and/or contrast therapy. If appropriate for age and stage, consider fasting and/or calorie restriction. Ensure optimal status of nutrients needed for mitochondrial health, including CoQ10, vitamin C, vitamin E, B vitamins, magnesium, zinc, selenium, essential fatty acids, etc.



Oxidative Stress Management

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	NFE2L2	rs6721961	GG	Predisposition to normal activation of the antioxidant response
	PON1	rs662	CT	Predisposition to moderately reduced protection of lipoproteins from oxidation
	NQO1	rs1800566	GG	Predisposition to normal reduction of harmful quinones to hydroquinones, which prevents the formation of free radicals
	SOD2	rs4880	AG	Predisposition to moderately decreased enzymatic breakdown of superoxide anion in the mitochondria, the main source of this oxidant
	PRDX3	rs3740562	GG	Predisposition to reduced mitochondrial clearance hydrogen peroxide, which is naturally generated in the process of metabolizing superoxide anion
	GPX1	rs1050450	GG	Predisposition to normal clearance of hydrogen peroxide and lipid peroxidases, which can promote oxidative stress
	CAT	rs7943316	AT	Predisposition to moderately reduced clearance of hydrogen peroxide, which is naturally generated in the process of metabolizing superoxide anion

Lifestyle Recommendations

Consume an antioxidant rich diet. Engage in regular exercise and allow for adequate recovery time in between sessions of physical activity.



Detoxification Capacity

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	CYP1A1	rs1048943	TT	Predisposition to a slow rate of activation of polycyclic aromatic hydrocarbons (PAHs) and heterocyclic aromatic amines (HAAs) to potent, DNA-damaging intermediates, which require further metabolism by phase 2 detoxification enzymes prior to elimination
	CYP1B1	rs1056836	CG	Predisposition to an intermediate rate of activation of polycyclic aromatic hydrocarbons (PAHs) and heterocyclic aromatic amines (HAAs) to potent, DNA-damaging intermediates, which require further metabolism by phase 2 detoxification enzymes prior to elimination
	GSTP1	rs1695	AA	Predisposition to normal transfer of glutathione to facilitate the elimination of various metabolites and toxins from the body
	COMT	rs4680	AG	Predisposition to intermediate enzyme activity and moderately reduced transfer of S-adenosyl methionine (S-AMe) to facilitate the elimination of various metabolites and toxins from the body

Lifestyle Recommendations

If aiming to lose a significant amount of weight, consider supporting the body's detoxification pathways because many toxins, such as pesticides, industrial chemicals, heavy metals, and phthalates, can be stored in adipose tissue and released during its break down.



Inflammation

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	NLRP3	rs10733113	AG	Predisposition to moderately increased responsiveness to inflammatory signals, including oxidative stress
	IL6	rs1800795	CC	Predisposition to normal levels of IL6, a proinflammatory signal
	IL10	rs1800896	TT	Predisposition to decreased levels of IL10, an anti-inflammatory signal
	TNF	rs1800629	GG	Predisposition to normal levels of TNF- α , a proinflammatory signal

Lifestyle Recommendations

Consider consuming an anti-inflammatory diet, rich in nutrients and antioxidants. Also limit intake of sugar, alcohol, and caffeine, and avoid foods suspected of causing an intolerance. Prioritizing rest and quality sleep, as well as managing stress, can also aid in reducing inflammation.



Exercise Response

Result Score Key:

● High Action Suggested

● Medium Action Suggested

● Little to No Action Needed

Exercise Efficiency

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	ADRB2	rs1042713	AG	Predisposition to moderately reduced responsiveness to exercise for weight loss, indicating that higher intensity exercise may be needed to promote the breakdown of fat stores
	ADRB3	rs4994	AA	Predisposition to normal responsiveness to exercise for weight loss, indicating that moderate or even low intensity exercise is likely sufficient promote the breakdown of fat stores

Lifestyle Recommendations

Even light to moderate may promote the breakdown of fat stores. However, there may be other health benefits associated with more intense exercise.

Exercise to Improve Blood Lipid Profile

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	PPARD	rs2016520	TT	Predisposition to have an unimproved blood lipid profile in response to exercise
	LIPC	rs1800588	CC	Predisposition to unchanged HDL levels in response to exercise

Lifestyle Recommendations

Combine endurance exercise with other diet and lifestyle factors to promote blood lipid health.



Pharmacological Factors

Result Score Key:

● High Action Suggested

● Medium Action Suggested

● Little to No Action Needed

GLP-1 Sensitivity

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	GLP1R	rs6923761	GG	Predisposition to normal response to glucagon-like peptide-1 (GLP-1) receptor agonists to reduce blood sugar
	GLP1R	rs10305420	CT	Predisposition to reduced response to glucagon-like peptide-1 (GLP-1) receptor agonists to reduce body weight

Lifestyle Recommendations

Prioritize blood sugar balance and engage in routine exercise, even if it's brisk walking. To promote satiety, prioritize protein and fiber intake. Consider monitoring biomarkers, like fasting insulin and HbA1c.

Resistance to Weight Gain Associated with Antipsychotic Medication Use

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	HTR2C	rs3813929	C	Predisposition to increased risk of weight gain from anti-psychotic medications

Lifestyle Recommendations

To promote satiety, prioritize protein and fiber intake. Consume healthy fats, such as those rich in antioxidants, with each meal or snack and stick to a structured eating schedule.



Psychological Factors

Result Score Key:

- High Action Suggested
- Medium Action Suggested
- Little to No Action Needed

Satiety

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	TPH2	rs4570625	GG	Predisposition to normal synthesis of serotonin, which regulates appetite by promoting satiety
	MAOA	rs6323	T	Predisposition to normal clearance of serotonin, which regulates appetite by promoting satiety
	HTR2C	rs3813929	C	Predisposition to less responsive serotonin receptors, which may reduce satiety and increase appetite
	LEP	rs791600	AG	Predisposition to moderately decreased levels of leptin, a hormone that signals satiety
	LEPR	rs1137101	AA	Predisposition to normal hunger signals, indicating that the leptin receptor responds normally
	GHRL	rs696217	GG	Predisposition to normal levels of ghrelin, the "hunger hormone"
Lifestyle Recommendations				

Eating Behaviors

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	DDC	rs4947582	AG	Predisposition to moderately increased risk for a propensity to overeat
	DRD2	rs6277	AG	Predisposition to normal risk for a propensity to binge eat
	COMT	rs4680	AG	Predisposition to moderately increased desire for highly palatable foods that can lead to weight gain when consumed in excess
Lifestyle Recommendations				
If experiencing food as a reward, consider ensuring that you have sufficient outlets for healthy rewards, such as hobbies, self-care practices, movement, sun exposure, etc. Aim for 7-9 hours of quality sleep.				



Adherence Willingness

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	TPH2	rs4570625	GG	Predisposition to normal synthesis of serotonin, suggesting that habit change may feel manageable due to a propensity to experience normal focus and contentment
	MAOA	rs6323	T	Predisposition to normal clearance of serotonin, suggesting that habit change may feel manageable due to a propensity to experience normal focus and contentment
Lifestyle Recommendations				

Regulation and Relaxation

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	GAD1	rs3749034	AG	Predisposition to normal conversion of glutamate, a neurostimulator, to GABA, a neuroinhibitor that promotes relaxation
	COMT	rs4680	AG	Predisposition to an intermediate rate of catecholamine (adrenaline, noradrenaline, and dopamine) clearance, which can somewhat sustain a "fight or flight" response
Lifestyle Recommendations				



Food Intolerances

Result Score Key:

● High Risk ● Medium Risk ● Normal Risk

Gluten and Casein

Risk is determined by the haplotype or specific combination of risk variants that are present. It is not determined by a tally of risk variants.

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	HLA	rs2187668	CC	Indicates the absence of the DQ2.5 allele or haplotype
	HLA	rs4639334	GG	Indicates the absence of the DQ7 allele or haplotype
	HLA	rs7454108	TT	Indicates the absence of the DQ8 allele or haplotype
	HLA	rs2395182	GT	Indicates the possibility of the presence of the DQ2.2 allele or haplotype, which is associated with medium to high risk for gluten intolerance depending on the combination of genotypes that are present
	HLA	rs7775228	TT	Indicates the absence of the DQ2.2 allele or haplotype
	HLA	rs4713586	AA	Indicates the possibility of the presence of the DQ2.2 allele or haplotype, which is associated with medium to high risk for gluten intolerance depending on the combination of genotypes that are present
Lifestyle Recommendations				
No detectable haplotype				

Lactose

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	MCM6	rs4988235	AG	Predisposition to moderately reduced production of lactase, the digestive enzyme needed to break down lactose in the small intestine
Lifestyle Recommendations				
If experiencing digestive upset following the consumption of dairy, consider avoiding lactose.				



Food Intolerances

Histamine

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	AOC1	rs10156191	CT	Predisposition to moderately reduced production of diamine oxidase, the digestive enzyme needed to break down dietary histamines in the small intestine

Lifestyle Recommendations

Consider reducing intake of histamine rich foods (i.e. alcohol, processed meats, cheeses, tomatoes, spinach, bananas, strawberries, bone broth, chocolate, etc.). Ensure adequate intake of nutrients and amino acids if following a strict elimination protocol.

Caffeine

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	CYP1A2	rs762551	AA	Predisposition to a fast rate of caffeine clearance

Lifestyle Recommendations

Rapid ability to metabolize caffeine may lead to increased consumption of it.

Alcohol

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	ADH1B	rs1229984	CC	Predisposition to a fast rate of phase I alcohol detoxification, which converts alcohol to acetaldehyde
	ADH1C	rs698	CT	Predisposition to an intermediate rate of phase I alcohol detoxification, which converts alcohol to acetaldehyde
	ALDH2	rs886205	AA	Predisposition to a normal rate of acetaldehyde clearance, which can help manage levels of this toxic intermediate assuming that it isn't present in excess

Lifestyle Recommendations

Rapid ability to metabolize alcohol may lead to increased consumption of it, which can still negatively impact metabolic health.



Result Score Key:

★ ★ ★ Strongly Preferred ★ ★ Preferred ★ Non-Preferred

Salty

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
★ ★ ★	SCNN1A	rs239345	TT	Salt Supertaster: Predisposition to an increased ability to taste salt, indicating a reduced preference for salty foods

Lifestyle Recommendations

Ensure adequate salt intake if engaged in vigorous physical activity, heat exposure, fasting, or ketogenesis.

Bitter

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
★ ★ ★	T2R38	rs713598	CC	Bitter Non-Taster: Predisposition to a reduced ability to taste bitterness, indicating an increased preference for bitter foods

Lifestyle Recommendations

Reduced sensitivity to bitterness may lead to increased preference for bitter substances, such as coffee, alcohol, and nicotine.



Taste Preferences

Sweet

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
★ ★ ☆	T1R2	rs35874116	CT	Sweet Normal Taster: Predisposition to a normal ability to taste sweetness, indicating an average preference for sweet foods
Lifestyle Recommendations				

Richness

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
★ ☆ ☆	CD36	rs1761667	GG	Richness Supertaster: Predisposition to an increased ability to taste richness, indicating a reduced preference for rich and creamy foods
Lifestyle Recommendations				
May have reduced preference for diets that are high in fat.				



Result Score Key:

- High Action Suggested
- Medium Action Suggested
- Little to No Action Needed

Vitamin D

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	GC	rs2282679	TT	Predisposition to a normal ability to circulate vitamin D to target tissues and maintain calcium homeostasis
	DHCR7	rs12785878	TT	Predisposition to normal consumption of 7-dehydrocholesterol (7-DHC), the precursor needed to synthesize vitamin D in the skin, suggesting that sun (ultra violet light) exposure is more likely to be effective at raising vitamin D levels
	CYP2R1	rs10741657	AG	Predisposition to moderately reduced hydroxylation of vitamin D to produced 25-hydroxyvitamin D, the form available for bioactivation
	CYP24A1	rs6127099	AT	Predisposition to a moderately increased rate of clearance of bioactive vitamin D (1,25-dihydroxyvitamin D3)
Lifestyle Recommendations				

Vitamin B3

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	NAMPT	rs9770242	AC	Predisposition to increased blood sugar control, suggesting increased recycling of NAD+
Lifestyle Recommendations				



Vitamin B6

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	NBPF3	rs4654748	CC	Predisposition to increased risk of vitamin B6 insufficiency
Lifestyle Recommendations				
As appropriate for dietary plan, consume foods rich in vitamin B6.				

Vitamin B9

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	MTHFR	rs1801131	GG	Predisposition to reduced conversion of folate to the bioactive form, methyltetrahydrofolate (L-5-MTHF)
	MTHFR	rs1801133	GG	Predisposition to normal conversion of folate to the bioactive form, methyltetrahydrofolate (L-5-MTHF)
Lifestyle Recommendations				
As appropriate for dietary plan, consume foods rich in reduced folate or methyltetrahydrofolate (5-MTHF).				

Vitamin B12

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	CUBN	rs1801222	GG	Predisposition to normal absorption of vitamin B12 in the small intestine and normal level of vitamin B12
	MTRR	rs1801394	GG	Predisposition to reduced synthesis of methylated vitamin B12 (methylcobalamin), a bioactive form of vitamin B12
Lifestyle Recommendations				
As appropriate for dietary plan, consume foods rich in vitamin B12. If minimizing consumption of animal products, consider appropriate supplementation to obtain adequate vitamin B12.				



Choline

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	SLC44A1	rs2771040	AG	Predisposition to increased sensitivity to choline restriction, suggesting reduced capacity to transport choline into cells and mitochondria
	PEMT	rs4646343	GT	Predisposition to increased sensitivity to choline restriction, suggesting reduced capacity for de novo synthesis of phosphatidylcholine and choline
	CHDH	rs12676	AC	Predisposition to moderately increased risk of choline insufficiency

Lifestyle Recommendations

As appropriate for dietary plan, consume foods rich in choline.

Vitamin A

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	BCO1	rs12934922	AT	Predisposition to moderately reduced conversion of B-carotene, a plant-based vitamin A precursor, to bioactive vitamin A
	BCO1	rs7501331	CC	Predisposition to normal conversion of B-carotene, a plant-based vitamin A precursor, to bioactive vitamin A

Lifestyle Recommendations

Vitamin E

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	APOA5	rs964184	CC	Predisposition to increased risk of vitamin E insufficiency
	CYP4F2	rs2108622	TT	Predisposition to a normal rate of vitamin E clearance

Lifestyle Recommendations

As appropriate for dietary plan, consume foods rich in vitamin E and vitamin C, as vitamin C extends the antioxidant capacity of vitamin E.



Vitamin C

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	SLC23A1	rs33972313	CC	Predisposition to normal absorption of vitamin C in the small intestine
	SLC23A2	rs1279683	AA	Predisposition to normal absorption of vitamin C in the small intestine
Lifestyle Recommendations				

Calcium

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	GC	rs2282679	TT	Predisposition to a normal ability to circulate vitamin D to target tissues, which is necessary for maintaining calcium levels
	CYP24A1	rs6127099	AT	Predisposition to moderately reduced calcium absorption and moderately increased risk of calcium insufficiency related to a slightly increased rate of bioactive vitamin D clearance
	CASR	rs1801725	GG	Predisposition to a more sensitive calcium-sensing receptor, which may reduce calcium absorption and promote calcium elimination
Lifestyle Recommendations				
<p>As appropriate for dietary plan, consume foods rich in calcium. Adequate calcium intake may be difficult to achieve through food alone, especially if avoiding dairy products. If calcium intake is a concern, consider appropriate supplementation.</p>				



Magnesium

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	TRPM6	rs2274924	TT	Predisposition to normal absorption of magnesium in the small intestine
Lifestyle Recommendations				

Iron Deficiency

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	TMPRSS6	rs4820268	AA	Predisposition to normal intestinal absorption of iron and release of iron stores due to normal expression of hepcidin
	TF	rs8177253	CC	Predisposition to reduced capacity to bind and circulate iron
Lifestyle Recommendations				
As appropriate for dietary plan, consume foods rich in iron along with a source of vitamin C to improve absorption. If minimizing the consumption of animal products, consider accounting for the reduced bioavailability of non-heme iron.				

Iron Overload

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	HFE	rs1800562	GG	No risk detected for excessive iron absorption and overaccumulation
	HFE	rs1799945	CC	No risk detected for excessive iron absorption and overaccumulation
Lifestyle Recommendations				



Copper

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
  	CP	rs35691438	TT	Predisposition to decreased levels of circulating copper

Lifestyle Recommendations

As appropriate for dietary plan, consume foods rich in copper. Zinc can limit copper absorption, so consider separating intake, especially if supplementing with high doses of zinc. Remember that copper is a trace mineral; only very small amounts are needed.

Zinc

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
  	SLC30A8	rs3802177	AG	Predisposition to limited improvement of blood sugar control with increased zinc intake

Lifestyle Recommendations

Selenium

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
  	SELENOP	rs3877899	CT	Predisposition to moderately decreased capacity to store and circulate selenium

Lifestyle Recommendations

As appropriate for dietary plan, consume foods rich in selenium. Remember that selenium is a trace mineral; only very small amounts are needed.



Essential Nutrients

CoQ10

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	NQO1	rs1800566	GG	Predisposition for normal regeneration of oxidized coenzyme Q10 (ubiquinone) to reduced, bioactive coenzyme Q10 (ubiquinol)
Lifestyle Recommendations				

Essential Fatty Acids

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	FADS1	rs174547	CT	Predisposition for moderately reduced conversion of linolenic acid (omega 3) and linoleic acid (omega 6) to long-chain forms, such as EPA, DHA, and AA
Lifestyle Recommendations				
<p>As appropriate for dietary plan, consume foods rich in long-chain, essential fatty acids, such as DHA, EPA, and AA. Optimal intake of long-chain, essential fatty acids may be difficult to achieve through food alone, especially if minimizing consumption of animal products. If intake of these fatty acids is a concern, consider appropriate supplementation.</p>				

Where can you find the essential nutrients that you need?

VITAMINS



Vitamin D

Cod liver oil, fatty fish (trout, salmon, tuna), eggs, mushrooms (exposed to UV)



Vitamin B3

Beef liver, meats (chicken, turkey, beef), fish (salmon, tuna), brown rice, peanuts



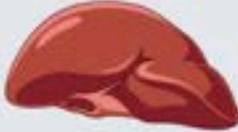
Vitamin B6

Chickpeas, beef liver, fish (salmon, tuna), potato & sweet potato, banana



Vitamin B9

Beef liver, asparagus, brussel sprouts, leafy greens (kale, spinach, lettuce), lentils



Vitamin B12

Beef liver, clams, fish (salmon, tuna), beef, eggs, nutritional yeast



Vitamin A

Beef liver, eggs, butter, full-fat dairy | β -carotene: sweet potato, carrot, pumpkin, spinach



Vitamin E

Wheat germ, sunflower seeds, almonds, avocado, peanut butter



Vitamin C

Orange, strawberry, pepper, broccoli, kiwi

MINERALS



Calcium

Yogurt, cheese, milk, canned fish with bones, spinach



Magnesium

Pumpkin & chia seeds, almonds, spinach, black beans, brown rice



Iron

Beef, clams, oysters, mussels, lentils, dark leafy greens (kale, spinach, collard greens), raisins



Copper

Beef liver, shellfish (oysters, crab, lobster), cashews, sweet potato, quinoa



Zinc

Oyster, beef, crab, pumpkin seeds, oats



Selenium

Brazil nuts, shrimp, pork, eggs, oats

OTHER



Choline

Beef liver, eggs, poultry (chicken, turkey), legumes (soybeans, kidney beans, peas), broccoli



CoQ10

Organ meats (liver and hearts), pork, fish (mackerel, salmon, trout), broccoli, sesame seeds



Essential Fatty Acids

Fatty fish (salmon, mackerel, anchovies), crab, seaweed, walnuts, flax seeds

*This page does not include any personalized food recommendations. It is for educational purposes only.

Graphics by Katie Kirkpatrick



Macronutrient Response

Result Score Key:

- High Action Suggested
- Medium Action Suggested
- Little to No Action Needed

Response to High Carbohydrate Diets

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	AHSG	rs4917	CT	Predisposition to moderately reduced levels of fetuin-A, suggesting a somewhat increased ability to process carbohydrates
	PLIN1	rs2289487	TT	Predisposition to limited weight loss with higher intakes of complex carbohydrates
	LIPC	rs1800588	CC	Predisposition to benefit less from low fat diets to improve blood lipid profile
	FABP2	rs1799883	CT	Predisposition to benefit some from low fat diets to improve blood lipid profile

Lifestyle Recommendations

Diets that are lower in fat (~20%) and higher in carbohydrates (~50%) may be useful to support weight loss and/or improve blood lipid measurements, depending on the response to other macronutrients. If incorporating higher intakes of carbohydrates, choose quality, complex carbohydrates sources.

Response to Low Carbohydrate Diets

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	UCP3	rs1800849	GG	Predisposition to benefit from low carbohydrate, moderate fat diets to improve weight loss
	FTO	rs9939609	AA	Predisposition to benefit from low carbohydrate, moderate fat diets to improve weight loss
	GCKR	rs1260326	CC	Predisposition to benefit less from low carbohydrate, moderate fat diets to improve blood lipid profile
	APOC3	rs5128	CG	Predisposition to benefit from low carbohydrate, moderate fat diets to improve blood lipid profile

Lifestyle Recommendations

Consider diets that are lower in carbohydrates (~40%) and moderate in fats (~30%) to support weight loss and/or improve blood lipid measurements.



Response to High Fat Diets

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	LIPF	rs814628	AA	Predisposition to limited weight loss with high fat intake
	ACSL5	rs2419621	TT	Predisposition to a normal ability to metabolize fat for energy
	PPARA	rs1800206	CC	Predisposition to normal ability to adapt to metabolizing fat as the body's primary fuel source

Lifestyle Recommendations

Diets that are very low in carbohydrates (~10%) and higher in fats (~60%) may be useful to support weight loss. If significantly reducing carbohydrates, ensure proper electrolyte intake.

Response to PUFAs & Phytosterols

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	PPARG	rs1801282	CC	Predisposition to benefit from increased intake of polyunsaturated fats
	FADS1	rs174547	CT	Predisposition to benefit some from increased intake of long-chain, omega-3 fats
	TNF	rs1800629	GG	Predisposition to benefit less from increased intake of polyunsaturated fats
	FABP2	rs1799883	CT	Predisposition to benefit some from increased intake of polyunsaturated fats
	ABCG8	rs6544713	CT	Predisposition to benefit some from increased intake of phytosterols to limit dietary cholesterol absorption

Lifestyle Recommendations

Considering limiting saturated fat intake to 7-10% of total fat intake with the remaining amount being supplied by unsaturated sources. As appropriate for dietary plan, consider consuming fatty fish, walnuts, flaxseeds, chia seeds, and flaxseed oil, as these are rich sources of polyunsaturated fats.

If the T allele is present for ABCG8 rs6544713, consider including phytosterols to limit absorption of dietary cholesterol. As appropriate for dietary plan, consider including foods such as seeds, nuts, whole grains, and legumes, as these are rich sources of phytosterols.



Macronutrient Response

Response to Fasting

YOUR RESULT	GENE	rsID	GENOTYPE	DESCRIPTION
	PPARA	rs1800206	CC	Predisposition to normal ability to metabolically adapt to using fat as fuel to sustain the body during fasting
	ACSL5	rs2419621	TT	Predisposition to a normal ability to metabolize fat for energy, which may support the ability to sustain a fast

Lifestyle Recommendations

If appropriate for age and life stage, consider incorporating fasting to benefit metabolic health.

Personalized Weight & Nutrition Genetic Panel

METHODOLOGY AND LIMITATIONS DISCLAIMER:

Testing for genetic variation/mutation on listed genes was performed using RealTime PCR with TaqMan® allele-specific probes on the QuantStudio 12K Flex. All genetic testing is performed by GX Sciences, LLC d/b/a Fagron Genomics US (“Fagron Genomics US”), located at 807 Las Cimas Pkwy, Suite 145, Austin TX, 78746. This test will not detect all the known alleles that result in altered or inactive tested genes. This test does not account for all individual variations in the individual tested. Test results do not rule out the possibility that this individual could be a carrier of other mutations/variations not detected by this gene mutation/variation panel. Rare mutations surrounding these alleles may also affect our detection of genetic variations. Thus, the interpretation is given as a probability. Therefore, this genetic information shall be interpreted in conjunction with other clinical findings and familial history. Patients should receive appropriate genetic counseling to explain the implications of these test results. The calculations and supplement recommendations presented in this report are not suitable for children under the age of 16. The analytical and performance characteristics of this laboratory developed test (LDT) were determined by GX Sciences’ laboratory (Laboratory Director: James Jacobson, PhD) pursuant to Clinical Laboratory Improvement Amendments (CLIA) requirements (CLIA #: 45D2144988).

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References:

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