ULTAGENOMICS

DECODE YOUR DNA. GUIDE YOUR HEALTH.

Metabolic Health and Diabetes Risk

GENETICS REPORT

1	4	71
Report	Report Panels	Gene Variants

Example Client
Prepared for

November 1, 2026
Report Date

Our genetic test provides insights into how your unique genetic profile influences health areas. By understanding these genetic tendencies, you and your healthcare provider can make more informed lifestyle and wellness choices to support long-term health goals.

THESE GENE RESULTS MIGHT TELL YOU

- ✓ How your body may respond to certain nutrients
- ✓ Dietary patterns and environmental factors
- ✓ Potential predispositions in detoxification, metabolism, and physical performance
- ✓ Why some wellness strategies may work differently for you

THESE GENE RESULTS WILL NOT TELL YOU

- ✕ Any medical diagnoses
- ✕ Cancer diagnoses or clinical cancer risk assessments
- ✕ Predictions about future health conditions
- ✕ How lifestyle factors outside of genetics impact health outcomes

This report is intended for informational purposes only and does not constitute medical advice. Results reflect genetic predispositions, not guarantees of health outcomes. Always consult a qualified healthcare practitioner before making changes to your health regimen.

A typical or decreased result does not mean there is no risk, and an increased result does not mean a condition will develop. Environment, lifestyle and family history also play a role. Any result that mentions cancer reflects a genetic tendency only. It is not a clinical cancer risk assessment and does not replace recommended cancer screening.

Talk with a healthcare provider before starting any supplement, especially if pregnant or breastfeeding, taking prescription medications, or managing a medical condition. Do not start, stop or change any medication based on these results without first talking with the prescribing provider.

Statements about supplements in this report have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.

Research on how genes relate to health is still developing. Some recommendations are based on limited evidence and may be updated as new research becomes available.

Testing is performed by a CLIA-certified, CAP-accredited laboratory. Genotyping is highly accurate, but no laboratory test is completely error-free. Results that will change clinical decisions may warrant confirmatory testing.

OVERVIEW

Results at a Glance

This report covers 4 panels and 6 individual results. The summary below shows where the genetic profile indicates areas worth focusing on, areas to monitor, and areas where results are favorable. The Moderate results are where targeted support may have the most impact.

0

NEEDS ATTENTION

2

MODERATE

- T2D Propensity
- Leptin Propensity

4

OPTIMAL

- Adiponectin Levels
- Insulin Resistance Propensity
- Glucose Metabolism
- Metabolic Syndrome Propensity

1 Diabetes

31 variants analyzed

In plain terms: Diabetes, a chronic condition characterized by elevated blood glucose levels, includes several types, most notably Type 2 Diabetes (T2D). Both forms of diabetes are influenced by genetic factors that affect their development and progression. Understanding the genetic predispositions to diabetes can provide valuable insights into risk assessment, prevention strategies, and personalized treatment approaches. This section examines the genetic underpinnings of diabetes, highlighting how genetic variability contributes to disease risk and management.

T2D is primarily associated with insulin resistance and is influenced by both genetic and lifestyle factors. Genetic studies have identified numerous loci associated with T2D risk, with genes affecting insulin secretion, insulin action, and glucose metabolism. Notable genes include TCF7L2, which influences insulin secretion and glucose production, and PPARG and FTO, which are involved in fat metabolism and appetite regulation. Understanding these genetic interactions helps in identifying individuals at high risk and tailoring preventive measures such as dietary modifications, physical activity, and early pharmacological intervention.

Beyond T1D and T2D, there are forms of diabetes that result from mutations in a single gene, known as monogenic diabetes, which includes neonatal diabetes and maturity-onset diabetes of the young (MODY). Identifying specific genetic mutations responsible for monogenic diabetes can lead to highly specific treatments, such as using sulfonylureas in patients with mutations in the KCNJ11 gene, which encodes the Kir6.2 subunit of the potassium channel in pancreatic beta cells.

Genetic testing can enhance the management of diabetes by identifying individuals with a predisposition to the disease and by tailoring treatment approaches to the individual's genetic profile. For T2D, this may involve selecting medications that target specific pathways affected by the patient's genetic makeup. For T1D, understanding genetic risk can inform strategies for early detection and possible intervention to delay or prevent the onset of disease.

YOUR RESULTS

T2D Propensity



INCREASED

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with increased risk for type 2 diabetes genetic results have genetic markers that slightly increase their susceptibility to developing diabetes. This elevated risk indicates the importance of being vigilant about diet and lifestyle choices to manage their predisposition. Measures such as reducing sugar and refined carbohydrates in the diet, increasing physical activity, and regularly monitoring blood sugar levels can be effective in preventing or delaying the onset of diabetes.

RECOMMENDATIONS

SUPPLEMENT

Magnesium

300 to 400 mg daily (glycinate or citrate)

Improves insulin sensitivity, particularly in those who are deficient.

SUPPLEMENT

Alpha-Lipoic Acid (ALA)

300 to 600 mg daily

Antioxidant that improves insulin sensitivity and reduces oxidative stress, with benefit for diabetic neuropathy.

DIET

Low Glycemic Index Foods

Choose berries, sweet potatoes, and lentils to raise blood sugar slowly and improve metabolic control.

DIET

Dietary Fiber

25 g/day

Slows glucose absorption, improving blood sugar control and insulin sensitivity.

LIFESTYLE

Adequate Sleep

7 to 8 hours/night

Sleep deprivation impairs glucose control and endocrine function; consistent sleep is essential.

LIFESTYLE

Intermittent Fasting

14+ hours fasting daily

Restricting eating to a 10-hour window improves insulin sensitivity comparably to a reduced-calorie diet.

FURTHER TESTING

Fasting Glucose & HbA1c

Baseline and ongoing monitoring of blood sugar control and long-term glycemic status.

FURTHER TESTING

Fasting Insulin & HOMA-IR

Measures insulin resistance directly, guiding supplement and dietary interventions.

YOUR RESULTS

Adiponectin Levels



TYPICAL

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with typical adiponectin level genetic results exhibit average hormonal balance, aligning with the general population's metabolic health. This level supports standard metabolic functions, including normal glucose regulation and fat metabolism. Maintaining a healthy lifestyle, including regular exercise and a balanced diet, can support adiponectin levels and potentially enhance metabolic health.

GENETIC SUMMARY

GENE	RS ID	YOUR GENOTYPE	GENE	RS ID	YOUR GENOTYPE
PCSK9 G137T	rs11591147	**GG**	**ADCY5 A1406+851G**	rs11708067	**AA**
TCF7L2 T450+29705C	rs7901695	**TT**	**GCK (G>A)**	rs4607517	**AG**
PPARG C1341T	rs3856806	**CC**	**GCK C-30T**	rs1799884	**TC**
MC4R (T>C)	rs17782313	**TC**	**GCKR T1423-418C**	rs780094	**TC**
CDKAL1 (T>C)	rs10811661	**TT**	**MTNR1B C223+5596G**	rs10830963	**CC**
CDKAL1 T487C	rs564398	**TT**	**SLC30A8 C973T**	rs13266634	**TC**
CDKAL1 A371+30101G	rs7756992	**AG**	**TCF7L2 G552+9017T**	rs12255372	**GG**
CDKAL1 G371+11642C	rs7754840	**CG**	**TCF7L2 C450+33966T**	rs7903146	**CC**
CDKAL1 A371+11426C	rs10946398	**AC**	**ADIPOQ G-9+3481A**	rs822396	**AA**
KCNQ1 C1795-29246T	rs2237892	**CC**	**ADIPOQ T45G**	rs2241766	**TT**
IGF2BP2 A239+11861C	rs1470579	**AC**	**ADIPOQ G-60+244A**	rs182052	**GG**
ABCC8 C4105A	rs757110	**AA**	**ADIPOQ T331C**	rs17366743	**TT**
KCNJ11 T67C	rs5219	**CC**	**ADIPOQ G276T**	rs1501299	**GG**
HHEX (G>A)	rs7923837	**GG**	**ADIPOQ g.G4012C**	rs266729	**CC**
IRS1 (T>C)	rs2943641	**TC**	**ADIPOQ G3998A**	rs17300539	**GG**
PPM1K (C>T)	rs1440581	**TT**			

2 Insulin Resistance

15 variants analyzed

> **In plain terms:** Insulin resistance is a condition characterized by the body's reduced response to the hormone insulin, leading to impaired glucose metabolism and an increased risk of developing type 2 diabetes. This section explores genetic predispositions for insulin resistance and provides insights into risk factors.

Insulin resistance can be influenced by a combination of genetic and lifestyle factors. Understanding the genetic risk for insulin resistance can help make informed decisions about diet, exercise, and overall lifestyle to reduce risk.

Genetic variations can affect how the body processes and responds to insulin. Some individuals may have a genetic predisposition for increased insulin resistance, meaning they may be more prone to developing insulin resistance even with normal or moderate levels of body fat. Others may have a lower genetic risk for insulin resistance, but lifestyle factors such as poor diet and lack of physical activity can still contribute to the development of this condition.

By knowing genetic predispositions for insulin resistance, proactive steps can be taken to reduce risk. Adopting a healthy lifestyle that includes a balanced diet, regular exercise, stress management, and adequate sleep can help improve insulin sensitivity and reduce the likelihood of developing insulin resistance.

It's important to note that genetics is just one aspect of insulin resistance, and lifestyle factors play a significant role in its development. By combining genetic insights with other clinical assessments and professional guidance, a comprehensive plan can be created to manage insulin resistance risk and promote overall health and well-being.

YOUR RESULTS

Insulin Resistance Propensity



TYPICAL

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with typical insulin resistance genetic results have a standard genetic risk profile for developing insulin resistance. A balanced diet, regular physical activity, and healthy weight management support sustained insulin sensitivity.

YOUR RESULTS

Glucose Metabolism



TYPICAL

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with typical glucose metabolism genetic results exhibit genetic markers that reflect the average population's ability to metabolize glucose. This indicates a standard efficiency in processing blood sugar, with lifestyle and dietary habits playing a significant role in maintaining healthy glucose levels. Individuals with this predisposition are advised to follow a healthy lifestyle, including regular exercise, a balanced diet, and regular medical check-ups, to support optimal glucose metabolism and prevent metabolic disorders.

GENETIC SUMMARY

GENE	RS ID	YOUR GENOTYPE	GENE	RS ID	YOUR GENOTYPE
ADIPOQ G3998A	rs17300539	**GG**	**NAT2 A803G**	rs1208	**AA**
IL6/IL6-AS1 (G>C)	rs1800795	**GC**	**IGF1 A26G**	rs35767	**AG**
ABCC8 C4105A	rs757110	**AA**	**DIO2 T274C**	rs225014	**TT**
GLP1R G502A	rs6923761	**GG**	**GCK C-30T**	rs1799884	**TC**
IRS1 (T>C)	rs2943641	**TC**	**GCKR T1423-418C**	rs780094	**TC**
IRS1 C2911T	rs1801278	**CC**	**PPARG C34G**	rs1801282	**CC**
GPRC6A A271G	rs2274911	**AA**	**PPM1K (C>T)**	rs1440581	**TT**

GENETIC SUMMARY

GENE	RS ID	YOUR GENOTYPE	GENE	RS ID	YOUR GENOTYPE
MTNR1B C223+5596G	rs10830963	**CC**			

3 Leptin

10 variants analyzed

In plain terms: Leptin is a hormone made by fat tissue that signals the brain when the body has enough energy stored, helping regulate appetite and energy use. Genetic variation can influence leptin levels and how well the brain responds to its signal. Individuals with a reduced leptin response may feel less satisfied after eating and find weight harder to manage. Understanding this tendency can help guide eating patterns, sleep and activity habits that support healthy appetite and metabolism.

YOUR RESULTS

Leptin Propensity



INCREASED

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with increased genetic predisposition for hunger sensitivity genetic results may experience more intense hunger signals and a stronger drive to eat, making it more challenging to recognize fullness and regulate food intake. Maintaining consistent meal patterns, choosing nutrient-dense foods, and practicing mindful eating can help support appetite regulation. Additional genetic markers influencing emotional eating and satiety signaling are captured in separate modules.

RECOMMENDATIONS

SUPPLEMENT

Omega-3 Fatty Acids (EPA/DHA)

1,000 to 3,000 mg daily

Suppresses hypothalamic inflammation and restores leptin receptor signaling.

SUPPLEMENT

Zinc

10 to 25 mg daily

Required for leptin secretion, synthesis, and stabilization of leptin receptors.

DIET

Anti-Inflammatory Diet

Leptin resistance is driven by hypothalamic inflammation; anti-inflammatory foods help restore sensitivity.

DIET

Protein-Rich Diet

~25% of calories

Adequate protein increases leptin sensitivity and reduces hunger-driven overeating from leptin resistance.

LIFESTYLE

Regular Meal Timing

Eat at consistent times and avoid late-night eating

Regular meal patterns help keep hunger and fullness hormones, including leptin, in a steadier rhythm.

LIFESTYLE

Reduce Stress

Chronic cortisol elevation worsens hypothalamic inflammation disrupting leptin signaling.

FURTHER TESTING

Waist Circumference and Body Composition

Leptin rises with body fat, so these measures help interpret leptin results and track progress.

FURTHER TESTING

Fasting Leptin Level

Measures circulating leptin; high levels with persistent hunger indicate leptin resistance.

GENETIC SUMMARY

GENE	RS ID	YOUR GENOTYPE	GENE	RS ID	YOUR GENOTYPE
LEP g.G2453A	rs7799039	**AG**	**PER2 T-159+3520C**	rs4663302	**TC**
CLOCK A*213G	rs1801260	**AA**	**MC4R (T>C)**	rs17782313	**TC**

GENETIC SUMMARY

GENE	RS ID	YOUR GENOTYPE	GENE	RS ID	YOUR GENOTYPE
ARNTL T671-305G	rs11022778	**TT**	**FTO T46-23525A**	rs9939609	**TT**
APOA2 A-265G	rs5082	**AA**	**ANKK1 G2137A**	rs1800497	**GG**
PER2 G-12C	rs2304672	**GG**	**COMT G472A**	rs4680	**AG**

4 Metabolic Syndrome

15 variants analyzed

In plain terms: Metabolic Syndrome is a cluster of conditions that occur together, increasing the risk of heart disease, stroke, and type 2 diabetes. These conditions include high blood pressure, high blood sugar, excess body fat around the waist, and abnormal cholesterol or triglyceride levels. While lifestyle factors such as diet, exercise, and stress management play a significant role in the development of Metabolic Syndrome, genetic factors also contribute to an individual's susceptibility. Understanding these genetic influences can help in creating personalized strategies for prevention and management.

Genetic variations can affect key aspects of metabolism, influencing how the body processes sugars, fats, and other nutrients. For example, variations in genes related to insulin signaling, such as TCF7L2, can impact blood sugar regulation, increasing the risk of insulin resistance and type 2 diabetes. Other genetic factors can influence lipid metabolism, leading to abnormal cholesterol and triglyceride levels. Additionally, genes involved in regulating blood pressure and body fat distribution, such as FTO and MC4R, can contribute to the risk of developing Metabolic Syndrome. By analyzing these genetic markers, it is possible to identify individuals who are at higher risk and tailor preventive measures accordingly.

Understanding genetic predispositions to Metabolic Syndrome can inform personalized health strategies. For individuals with a higher genetic risk, early intervention is crucial. Recommendations may include adopting a heart-healthy diet rich in fruits, vegetables, whole grains, and healthy fats, alongside regular physical activity to maintain a healthy weight and improve insulin sensitivity. Stress management and adequate sleep are also important, as these factors can influence blood pressure and metabolic health. Regular monitoring of blood sugar, blood pressure, and lipid levels can help detect early signs of Metabolic Syndrome and guide adjustments to lifestyle and treatment plans. By leveraging genetic information, healthcare providers can develop comprehensive and personalized strategies to prevent and manage Metabolic Syndrome, promoting long-term health and reducing the risk of associated complications.

YOUR RESULTS

Metabolic Syndrome Propensity



NEUTRAL

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with typical metabolic syndrome propensity genetic results have an average genetic likelihood of developing metabolic syndrome, a cluster of conditions that includes high blood pressure, high blood sugar, excess waist fat and abnormal cholesterol levels. Lifestyle remains the main driver of this risk. Regular physical activity, a diet built around whole foods and fiber, healthy sleep and periodic checks of blood pressure, glucose and lipids can help keep these markers in a healthy range.

GENETIC SUMMARY

GENE	RS ID	YOUR GENOTYPE	GENE	RS ID	YOUR GENOTYPE
MC4R (T>C)	rs17782313	**TC**	**DIO2 T274C**	rs225014	**TT**
FTO T46-23525A	rs9939609	**TT**	**APOA5 C553A**	rs2075291	**CC**
APOA5 G*158A	rs662799	**AA**	**TCF7L2 G552+9017T**	rs12255372	**GG**
APOA1 C-113T	rs670	**CC**	**LEP g.G2453A**	rs7799039	**AG**
LEPR C-21+3281T	rs3790433	**CC**	**TNF G-308A**	rs1800629	**GG**
TCF7L2 C450+33966T	rs7903146	**CC**	**IL6/IL6-AS1 (G>C)**	rs1800795	**GC**
ADIPOQ G-9+3481A	rs822396	**AA**	**ApoC3 C*40G**	rs5128	**GC**
PPARG C34G	rs1801282	**CC**			

APPENDIX A

Supplement Recommendations

Based on your results

Supplements listed below are recommended for panels where at least one result was outside the typical range.

SUPPLEMENT	RATIONALE	PANEL
Magnesium 300 to 400 mg daily (glycinate or citrate)	Improves insulin sensitivity, particularly in those who are deficient.	Diabetes
Alpha-Lipoic Acid (ALA) 300 to 600 mg daily	Antioxidant that improves insulin sensitivity and reduces oxidative stress, with benefit for diabetic neuropathy.	Diabetes
Omega-3 Fatty Acids (EPA/DHA) 1,000 to 3,000 mg daily	Suppresses hypothalamic inflammation and restores leptin receptor signaling.	Leptin
Zinc 10 to 25 mg daily	Required for leptin secretion, synthesis, and stabilization of leptin receptors.	Leptin

APPENDIX B

Further Testing Recommendations

Based on your results

Lab tests and assessments recommended for panels where at least one result was outside the typical range.

TEST / ASSESSMENT	CLINICAL RATIONALE	PANEL
Fasting Glucose & HbA1c	Baseline and ongoing monitoring of blood sugar control and long-term glycemic status.	Diabetes
Fasting Insulin & HOMA-IR	Measures insulin resistance directly, guiding supplement and dietary interventions.	Diabetes
Waist Circumference and Body Composition	Leptin rises with body fat, so these measures help interpret leptin results and track progress.	Leptin
Fasting Leptin Level	Measures circulating leptin; high levels with persistent hunger indicate leptin resistance.	Leptin