ULTAGENOMICS

DECODE YOUR DNA. GUIDE YOUR HEALTH.

Muscle, Endurance & Recovery

GENETICS REPORT

1	6	127
Report	Report Panels	Gene Variants

Example Client
Prepared for

September 19, 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 6 panels and 14 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.

1

NEEDS ATTENTION

- Cartilage Risk

3

MODERATE

- Achilles Risk
- Elite Power Propensity
- Vigorous Exercise Tolerance

10

OPTIMAL

- Strength
- Muscle Mass
- Muscle Recovery Speed
- Muscle Endurance
- General Soft Tissue Risk
- Elite Endurance Propensity
- Aerobic Training Benefit
- Creatine Benefit
- Caffeine Effects on Reaction Time
- Weight Loss from Exercise

1 Strength and Muscle

18 variants analyzed

In plain terms: Strength and muscle mass are critical components of overall physical health and functionality. Genetic variations can play a role in how the body responds to strength training and the development of muscle mass. This section explores genetic predispositions for strength and muscle mass, offering insights into where an individual might naturally excel or face challenges.

A low genetic predisposition for strength and muscle mass suggests that extra effort and specific strategies may be needed to achieve substantial gains in strength and muscle size. Engaging in targeted strength training exercises, following appropriate nutrition plans, and focusing on progressive overload may be particularly important for individuals with lower genetic predisposition scores.

A typical genetic predisposition for strength and muscle mass indicates that the body is likely to respond in a manner similar to the general population when engaging in strength training. With consistent effort and a structured training regimen, improvements in both strength and muscle mass can be expected over time.

An increased genetic predisposition for strength and muscle mass suggests a possible natural advantage when it comes to building muscle and increasing strength. The body may respond more favorably to strength training, resulting in relatively faster gains in muscle size and overall strength.

While genetics play a role, lifestyle factors such as training frequency, intensity, recovery, and nutrition are equally crucial for reaching strength and muscle mass potential. Tailoring a training routine to genetic predisposition can be beneficial, but individualized approaches based on personal goals and preferences are essential.

YOUR RESULTS

Strength



TYPICAL

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with typical strength genetic results respond to strength training in a manner consistent with the general population, achieving predictable gains with regular effort. A structured resistance program with progressive overload and adequate protein intake supports ongoing strength development. Consistent training helps build on baseline strength.

YOUR RESULTS

Muscle Mass



TYPICAL

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with typical muscle mass genetic results build and maintain muscle in a manner consistent with the general population, responding predictably to standard strength training protocols. Regular progressive resistance training combined with adequate protein intake supports healthy muscle mass. A consistent training schedule and tracking progression can support continued improvement.

GENETIC SUMMARY

GENE	RS ID	YOUR GENOTYPE	GENE	RS ID	YOUR GENOTYPE
ACE G2328A	rs4343	**AA**	**PPARG C34G**	rs1801282	**CC**
ACTN3 C1729T	rs1815739	**TT**	**PPARD G-101-842A**	rs2267668	**AA**
IGF2 T*583C	rs680	**TC**	**SPP1 T-66G**	rs28357094	**TT**
LEPR A668G	rs1137101	**AA**	**TNF T-1031C**	rs1799964	**TT**
MSTN T458C	rs1805086	**TT**	**TNF C-863A**	rs1800630	**CC**
MYLK G-72A	rs2700352	**GG**	**TNF G-308A**	rs1800629	**GG**

GENETIC SUMMARY

GENE	RS ID	YOUR GENOTYPE	GENE	RS ID	YOUR GENOTYPE
PPARA G1160-396C	rs4253778	**GG**	**TNF C-857T**	rs1799724	**CC**
PPARD C*1762T	rs1053049	**TT**	**TNF G-238A**	rs361525	**GG**
PPARD C-87T	rs2016520	**TT**	**TRHR A789+9321C**	rs16892496	**AA**

2 Fatigue and Recovery

12 variants analyzed

In plain terms: Muscle fatigue and recovery are integral aspects of physical performance and overall fitness. Genetic variations can influence how quickly muscles fatigue during exercise and how efficiently the body recovers afterward. This section explores genetic predispositions for muscle fatigue and recovery, providing insights into how the body might respond to intense physical activity and which strategies may help optimize recovery.

A low genetic predisposition for muscle fatigue suggests a possible natural advantage in sustaining muscular effort during exercise. The muscles may be able to endure longer periods of activity before significant fatigue sets in. Even so, paying attention to the body's signals and staying within safe limits helps prevent overexertion and potential injury.

A typical genetic predisposition for muscle fatigue indicates that the muscles are likely to respond similarly to the general population when it comes to fatigue during exercise. Regular training and gradual progression can help improve endurance and delay the onset of muscle fatigue.

An increased genetic predisposition for muscle fatigue means that muscles may tire more quickly during exercise compared to others. While this might pose challenges in sustaining high-intensity activities, there are strategies that can enhance endurance and extend the time before fatigue sets in.

Recovery after exercise is equally crucial, and genetic variations can influence how efficiently the body repairs and regenerates muscles after a workout. Understanding genetic predispositions for muscle recovery can help tailor recovery strategies effectively.

Proper nutrition, hydration, sleep, and active recovery techniques matched to the genetic profile can aid in optimizing muscle recovery and reducing the risk of overtraining or injury.

YOUR RESULTS

Muscle Recovery Speed



TYPICAL

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with typical muscle recovery speed genetic results recover from exercise at a pace consistent with the general population. Standard recovery practices, adequate sleep, protein intake, and spacing high-intensity sessions appropriately are likely sufficient to support adaptation, with training loads adjusted based on how the body responds.

YOUR RESULTS

Muscle Endurance



TYPICAL

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with typical muscle endurance genetic results sustain muscular effort in line with the general population, performing well under standard endurance training protocols. Consistent aerobic and muscular endurance training produces predictable fitness improvements. Gradually progressing training volume and intensity can continue to build the endurance baseline.

GENETIC SUMMARY

GENE	RS ID	YOUR GENOTYPE	GENE	RS ID	YOUR GENOTYPE
AMPD1 G34A	rs17602729	**GG**	**IL-1B G315A**	rs1143634	**GG**
CCR2 T780C	rs1799865	**TT**	**MYLK G62T**	rs28497577	**GG**
CCR2 (C>A)	rs3918358	**AA**	**MYLK G-72A**	rs2700352	**GG**
IGF2 C-6-285G	rs3213221	**CG**	**SLC30A8 C973T**	rs13266634	**TC**
IGF2 T*583C	rs680	**TC**	**SOD2 A47G**	rs4880	**AG**
IGF2 T-468-2872G	rs7924316	**TT**	**SPP1 T-66G**	rs28357094	**TT**

3 Injury Risk

10 variants analyzed

In plain terms: Soft tissue injuries can significantly affect physical activity and overall well-being. Genetic variations can influence predisposition to specific soft tissue injuries, such as those involving the Achilles tendon and cartilage. This section provides insights into genetic risk for soft tissue injuries, supporting preventive measures and informed choices to minimize that risk.

Achilles tendon injuries can be particularly challenging, often leading to discomfort and limitations in mobility. Genetic predispositions can affect the strength and resilience of the Achilles tendon. Understanding this genetic risk can guide exercise routines, emphasizing appropriate warm-up, cool-down, and gradual progression to reduce the likelihood of injury.

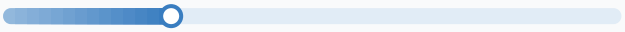
Cartilage injuries are another concern, especially in activities that involve joint movements. Genetic factors play a role in cartilage health and regenerative capacity. Awareness of this genetic predisposition can inform exercise choices and help in selecting activities that are less likely to strain the joints.

Additionally, a general genetic predisposition for soft tissue injuries suggests that the body might be more susceptible to various types of soft tissue injuries. This may call for cautious training practices, a focus on proper technique, and avoiding sudden spikes in activity intensity.

Dynamic warm-up routines, flexibility exercises, and proper biomechanics during training can help lower soft tissue injury risk. Allowing the body adequate time to recover between workouts is also crucial for preventing overuse injuries.

YOUR RESULTS

General Soft Tissue Risk



DECREASED

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with decreased general soft tissue risk genetic results have a below-average likelihood of soft tissue injuries, reflecting favorable connective tissue integrity. Adequate warm-ups, gradual training progression and sufficient protein support joint health. Even with lower risk, sudden load increases or poor technique can still cause injury.

YOUR RESULTS

Achilles Risk



INCREASED

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with increased achilles risk genetic results have a higher than average susceptibility to achilles tendon injury. Calf and Achilles strengthening, including eccentric loading, and avoiding rapid increases in running mileage or jump training can help reduce this risk. A sports medicine professional can assess any persistent Achilles tightness or pain.

RECOMMENDATIONS

SUPPLEMENT

Collagen with Vitamin C

10 to 15 g collagen + 50 to 200 mg Vitamin C before exercise

Vitamin C is required for collagen crosslinking; collagen increases tendon remodeling and repair.

SUPPLEMENT

Omega-3 Fatty Acids (EPA/DHA)

1,000 to 3,000 mg daily

Promotes collagen organization, reduces inflammation, and speeds the healing process in tendons.

DIET

Anti-Inflammatory Diet

Tendinopathy has an inflammatory component; reducing dietary inflammation supports Achilles healing.

DIET

Adequate Protein

Tendon repair requires consistent amino acid supply; quality protein at every meal supports tissue maintenance.

LIFESTYLE

Eccentric Loading Exercises

Eccentric calf exercises are the most evidence-based intervention for Achilles tendinopathy rehabilitation.

LIFESTYLE

Progressive Training Load

Sudden increases in running volume are the primary Achilles injury trigger; build load gradually.

FURTHER TESTING

Ultrasound (Achilles)

Identifies tendon thickening, neovascularization, and structural changes guiding rehabilitation intensity.

FURTHER TESTING

Physical Therapy Assessment

If tightness or pain develops

A therapist can check calf strength and running mechanics.

YOUR RESULTS

Cartilage Risk



INCREASED

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with increased cartilage risk genetic results have a higher than average likelihood of cartilage-related joint issues, including increased susceptibility to wear and early degeneration. Low-impact training, strengthening the muscles around the joints and maintaining a healthy body weight can reduce stress on cartilage.

RECOMMENDATIONS

SUPPLEMENT

Glucosamine Sulfate

1,500 mg daily

Provides building blocks for cartilage matrix; may slow joint degeneration and reduce inflammation.

SUPPLEMENT

Chondroitin Sulfate

800 to 1,200 mg daily

Inhibits cartilage-degrading enzymes, maintains structural integrity, and supports cartilage repair pathways.

DIET

Vitamin D-Rich Foods

Low vitamin D is associated with faster cartilage and joint degeneration; adequate levels are protective.

DIET

Omega-3 Rich Foods

Fatty fish 2 to 3 times weekly

Omega-3s have anti-inflammatory effects that may support joints.

LIFESTYLE

Maintain Healthy Weight

Each pound of excess weight adds 4 pounds of force to knee joints; weight management is the most impactful cartilage intervention.

LIFESTYLE

Low-Impact Exercise

Swimming, cycling, and walking maintain joint health and cartilage nutrition without destructive impact loading.

FURTHER TESTING

MRI (Joint)

Most sensitive imaging for cartilage integrity; quantifies damage before symptoms become severe.

FURTHER TESTING

Collagen Biomarkers (COMP, CTX-II)

Cartilage breakdown markers that predict progression of joint degeneration.

GENETIC SUMMARY

GENE	RS ID	YOUR GENOTYPE	GENE	RS ID	YOUR GENOTYPE
AMPD1 G34A	rs17602729	**GG**	**DIO2 T274C**	rs225014	**TT**

GENETIC SUMMARY

GENE	RS ID	YOUR GENOTYPE	GENE	RS ID	YOUR GENOTYPE
BMP4 G-132-945T	rs2761884	**TG**	**FCRL3 (A>G)**	rs7528684	**AG**
COL1A1 C104-441A	rs1800012	**AC**	**FOXP3 G2383A**	rs3761549	**GG**
COL5A1 C*267T	rs12722	**CC**	**GDF5 G-275A**	rs143383	**AA**
DIO2 C-143T	rs12885300	**TT**	**TNF G-308A**	rs1800629	**GG**

4 High Intensity vs Endurance

18 variants analyzed

In plain terms: The composition of muscle fibers in the body can have a significant impact on performance in different types of physical activities. Genetic variations influence whether an individual is more predisposed towards a higher percentage of fast-twitch muscle fibers, associated with explosive power and strength, or slow-twitch muscle fibers, geared towards endurance and sustained activities. This section explores genetic propensity for muscle fiber composition, shedding light on potential strengths and areas for improvement in high-intensity and endurance activities.

Individuals with a higher genetic predisposition for fast-twitch muscle fibers may excel in activities requiring short bursts of power and strength, such as weightlifting, sprinting, and jumping. These muscle fibers allow for rapid force generation, making them crucial for explosive movements. Training focused on power and strength exercises can help maximize potential in these activities.

Individuals with a greater genetic propensity for slow-twitch muscle fibers may thrive in endurance-based activities like long-distance running, cycling, or swimming. Slow-twitch fibers are designed for prolonged, repetitive contractions, providing the stamina needed for extended efforts. Regular aerobic exercise and endurance training can help make the most of this genetic predisposition.

Most individuals have a combination of both muscle fiber types, in varying proportions. This genetic makeup means a well-rounded training routine that mixes high-intensity and endurance exercises can be beneficial. Cross-training can help develop weaker areas and build on strengths.

Ultimately, while genetics provide a foundational framework, dedication, training consistency, and proper nutrition all play vital roles in achieving fitness goals. Guidance from fitness professionals, trainers, or coaches can aid in designing a training regimen tailored to muscle fiber composition, supporting performance across a range of physical activities.

YOUR RESULTS

Elite Power Propensity

DECREASED

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with decreased elite power propensity genetic results have a somewhat lower than average natural lean toward explosive power and high-intensity performance. Targeted power training, including plyometrics, Olympic lifts, and sprint work, can still produce real improvements. Supplement power development with a solid aerobic and strength base to support overall athletic capacity.

RECOMMENDATIONS

SUPPLEMENT

Caffeine Before Training

1 to 3 mg per kg, 30 to 60 minutes before

Can improve power output in short efforts.

SUPPLEMENT

Beta-Alanine

3 to 6 g daily in divided doses

Beta-alanine raises muscle carnosine and may improve repeated high-intensity efforts lasting 1 to 4 minutes.

DIET

Protein Around Training

20 to 40 g within a few hours of each session

Adequate protein supports the muscle gains that power training depends on.

DIET

Carbohydrates Before Power Sessions

A carbohydrate-containing meal 2 to 3 hours before

Muscle glycogen fuels sprints and explosive lifts, so training fueled is training done at full intensity.

LIFESTYLE

Plyometric Training

1 to 2 sessions weekly

Jump training builds explosive power.

LIFESTYLE

Full Rest Between Power Sets

2 to 3 minutes between sets

Longer rest lets the muscles recover so each set is done at full speed, which is what builds power.

FURTHER TESTING

Ferritin and Complete Blood Count

Low iron reduces training capacity.

YOUR RESULTS

Elite Endurance Propensity



INCREASED

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with increased elite endurance propensity genetic results have a higher than average natural lean toward sustained endurance performance, suggesting a favorable slow-twitch fiber profile. Structured aerobic training, including long-distance runs, tempo work, and high-volume sessions, can help capitalize on this advantage. Endurance-focused sports or events may make the most of this genetic profile.

GENETIC SUMMARY

GENE	RS ID	YOUR GENOTYPE	GENE	RS ID	YOUR GENOTYPE
PPARGC1A C1444T	rs8192678	**TC**	**PPARGC1B G607C**	rs7732671	**GG**
ACTN3 C1729T	rs1815739	**TT**	**TFAM G35C**	rs1937	**GG**
ACE G2328A	rs4343	**AA**	**UCP2 G164A**	rs660339	**AG**
IL6/IL6-AS1 (G>C)	rs1800795	**CG**	**UCP3 G-238A**	rs1800849	**GG**
AGT A803G	rs699	**AG**	**HFE C187G (H63D)**	rs1799945	**CC**
GABPB1 A1-8797G	rs7181866	**AA**	**COL5A1 C*267T**	rs12722	**CC**
NOS3 T894G	rs1799983	**GG**	**ADRB2 G46A**	rs1042713	**AG**
NOS3 T-786C	rs2070744	**TT**	**PPARA G1160-396C**	rs4253778	**GG**
PPARD C-87T	rs2016520	**TT**	**VEGFA C-94G**	rs2010963	**CG**

5 Aerobic Training Benefit

5 variants analyzed

In plain terms: Aerobic training, also known as cardiovascular exercise, plays a crucial role in improving cardiovascular fitness, endurance, and overall health. However, not everyone responds to aerobic training in the same way due to genetic factors that influence the magnitude of training benefits. This section explores the genetic propensities for aerobic training benefit, shedding light on how the body may respond to cardiovascular exercise.

Some individuals may have a genetic predisposition that allows them to experience a higher benefit from aerobic training. This means that their cardiovascular fitness and endurance may improve more significantly compared to others with different genetic profiles. These individuals are more likely to experience noticeable enhancements in their aerobic capacity, allowing them to perform endurance-based activities with greater ease.

On the other hand, some individuals may have a genetic propensity for a lower benefit from aerobic training. Their cardiovascular fitness and endurance may improve to a lesser extent compared to those with a more favorable genetic makeup. However, it's essential to note that even with a genetically lower benefit, engaging in regular aerobic exercise can still contribute to overall health and fitness.

Understanding genetic tendencies related to aerobic training benefit can provide insights into the body's natural responses to cardiovascular exercise. This knowledge can guide exercise choices, helping optimize the type, intensity, and duration of aerobic training to align with the genetic profile. It's important to remember that while genetics play a role, other factors like consistency, proper training techniques, and individual health considerations also contribute to training outcomes. Consulting with fitness professionals or coaches can help develop an effective and personalized aerobic training plan that leverages genetic insights for improved fitness and overall well-being

YOUR RESULTS

Aerobic Training Benefit



TYPICAL

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with typical aerobic training benefit genetic results respond to aerobic exercise in line with the general population, experiencing predictable improvements in cardiovascular fitness with consistent training. Standard aerobic training programs, three to five sessions per week at moderate to vigorous intensity, are effective for building and maintaining fitness. Track progress with periodic fitness assessments to guide program adjustments.

GENETIC SUMMARY

GENE	RS ID	YOUR GENOTYPE	GENE	RS ID	YOUR GENOTYPE
PPARGC1A C1444T	rs8192678	**TC**	**PPARD G-101-842A**	rs2267668	**AA**
CKMM (T>C)	rs8111989	**TT**	**NOS3 T-786C**	rs2070744	**TT**
ACE G2328A	rs4343	**AA**			

6 Additional Exercise Genetics

64 variants analyzed

In plain terms: Exercise genetics encompass a wide range of factors that influence how the body responds to physical activity and training. This section delves into some miscellaneous exercise-related genetic propensities, shedding light on the benefits of creatine supplementation, tolerance for vigorous exercise, and how the body may respond to exercise for weight loss.

Creatine Benefit: Creatine is a naturally occurring compound in the body that plays a vital role in providing energy for short bursts of high-intensity activities. Some individuals may have a genetic predisposition that allows them to experience greater benefits from creatine supplementation, such as improved muscle strength and power during high-intensity workouts.

Vigorous Exercise Tolerance: Participating in vigorous exercise requires a certain level of cardiovascular fitness and endurance. Some individuals may have genetic factors that contribute to better adaptation to vigorous or high-intensity exercise.

Weight Loss from Exercise: Exercise is a valuable tool for weight management, but genetic factors can influence how the body responds to exercise in terms of weight loss. Some individuals may have a genetic predisposition that makes them more responsive to exercise for weight loss, yet others may have more difficulty, and benefit more from leveraging nutrition and other factors.

YOUR RESULTS

Creatine Benefit



TYPICAL

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with typical creatine benefit genetic results respond to creatine supplementation in a manner consistent with the general population, experiencing standard improvements in strength, power, and high-intensity exercise performance. Creatine monohydrate at 3-5 g/day is a well-studied, safe supplement for most people. Creatine works best as part of a structured resistance training program.

YOUR RESULTS

Caffeine Effects on Reaction Time



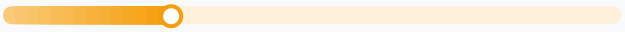
TYPICAL

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with typical caffeine effects on reaction time genetic results experience standard, population-average effects of caffeine on speed and accuracy. Caffeine neither enhances nor impairs reaction time response compared to the norm. Caffeine can be used for alertness if desired, with attention to personal tolerance and timing.

YOUR RESULTS

Vigorous Exercise Tolerance



DECREASED

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with decreased vigorous exercise tolerance genetic results may experience greater physiological stress from high-intensity exercise than most, including a decreased ability to sustain or recover from vigorous effort. Moderate-intensity aerobic training with a gradual build in intensity tends to suit this result better than starting with high-volume, high-intensity programs. Tracking heart rate, perceived exertion and recovery is helpful when adding vigorous sessions.

RECOMMENDATIONS

DIET

Fuel Before Hard Sessions

A light meal or snack 1 to 3 hours before

Starting hard efforts well fueled may reduce excessive fatigue and improve recovery.

DIET

Hydrate With Electrolytes

Water plus sodium during sessions over an hour or in heat

Dehydration and low sodium make vigorous effort feel harder and slow recovery.

LIFESTYLE

Build Intensity Gradually

Moderate-intensity base for 4 to 6 weeks, then add short intervals

A gradual progression lets the body adapt and may reduce excessive fatigue or discomfort with hard efforts.

LIFESTYLE

Plan Recovery Between Hard Sessions

At least 48 hours between vigorous sessions; prioritize sleep

Adequate recovery helps individuals with lower tolerance keep training consistently without overreaching.

FURTHER TESTING

Medical Check Before High-Intensity Programs

If chest pain, unusual breathlessness or heart risk factors are present

A provider can confirm that vigorous training is safe and may suggest an exercise stress test.

YOUR RESULTS

Weight Loss from Exercise



TYPICAL

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with typical weight loss from exercise genetic results experience weight loss benefits from exercise consistent with general population norms. Regular aerobic and resistance training, combined with a calorie-appropriate diet, is effective for body composition improvement. Consistent training and nutrition habits support weight management goals.

GENETIC SUMMARY

GENE	RS ID	YOUR GENOTYPE	GENE	RS ID	YOUR GENOTYPE
CKMM (T>C)	rs8111989	**TT**	**IGF2 T*583C**	rs680	**TC**
FOXP3 G2383A	rs3761549	**GG**	**GABPB1 A1-8797G**	rs7181866	**AA**
DIO2 C-143T	rs12885300	**TT**	**ADRB1 G1165C**	rs1801253	**CC**
FTO T46-23525A	rs9939609	**TT**	**PPARGC1A C1444T**	rs8192678	**TC**
FTO A46-13587G	rs9930506	**AA**	**MMP3 T133C**	rs679620	**CC**
FTO T46-39685G	rs17817449	**TT**	**MMP3 G1229+495A**	rs650108	**GG**
FTO G46-34805A	rs1121980	**GG**	**MMP13 g.C-77T**	rs2252070	**TC**
FTO T46-43098C	rs1421085	**TT**	**TNF G-238A**	rs361525	**GG**
PPARG C34G	rs1801282	**CC**	**TNF C-857T**	rs1799724	**CC**
NFATC4 G668C	rs2229309	**CC**	**TNF C-863A**	rs1800630	**CC**
PPARGC1B G607C	rs7732671	**GG**	**TNF T-1031C**	rs1799964	**TT**
PPARD C-87T	rs2016520	**TT**	**TNF G-308A**	rs1800629	**GG**
TFAM G35C	rs1937	**GG**	**FCRL3 (A>G)**	rs7528684	**AG**

GENETIC SUMMARY

GENE	RS ID	YOUR GENOTYPE	GENE	RS ID	YOUR GENOTYPE
UCP2 G164A	rs660339	**AG**	**BMP4 G-132-945T**	rs2761884	**TG**
UCP3 G-238A	rs1800849	**GG**	**ADRB3 A190G**	rs4994	**AA**
LEPR G849+841T	rs12405556	**GG**	**COL5A1 C*267T**	rs12722	**CC**
GABRB3 A271-108082G	rs8036270	**AA**	**ADRB2 G46A**	rs1042713	**AG**
CNR1 T-63-6513C	rs6454672	**TT**	**IGF2 C-6-285G**	rs3213221	**CG**
ANKK1 G2137A	rs1800497	**GG**	**IGF2 T-468-2872G**	rs7924316	**TT**
PPARD C*1762T	rs1053049	**TT**	**LEPR A668G**	rs1137101	**AA**
PPARD G-101-842A	rs2267668	**AA**	**LEP G-39A**	rs2167270	**AG**
ADRB2 C79G	rs1042714	**GC**	**TRHR A789+9321C**	rs16892496	**AA**
ACE G2306-19C	rs4341	**CC**	**PPARA G1160-396C**	rs4253778	**GG**
FADS1 G1054-143A	rs174549	**AG**	**AGT A803G**	rs699	**AG**
FADS1 C1054-109G	rs174548	**GC**	**VEGFA T658+497C**	rs833070	**TC**
FSHR C2039T	rs6166	**TC**	**VEGFA C-94G**	rs2010963	**CG**
DIO2 T274C	rs225014	**TT**	**ACE G2328A**	rs4343	**AA**
HFE C187G (H63D)	rs1799945	**CC**	**NOS3 T894G**	rs1799983	**GG**
MSTN T458C	rs1805086	**TT**	**NOS3 T-786C**	rs2070744	**TT**
FTO T46-40478A	rs1558902	**TT**	**ACTN3 C1729T**	rs1815739	**TT**
COL1A1 C104-441A	rs1800012	**AC**	**IL6/IL6-AS1 (G>C)**	rs1800795	**CG**
GDF5 G-275A	rs143383	**AA**	**AMPD1 G34A**	rs17602729	**GG**

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
Collagen with Vitamin C 10 to 15 g collagen + 50 to 200 mg Vitamin C before exercise	Vitamin C is required for collagen crosslinking; collagen increases tendon remodeling and repair.	Injury Risk
Omega-3 Fatty Acids (EPA/DHA) 1,000 to 3,000 mg daily	Promotes collagen organization, reduces inflammation, and speeds the healing process in tendons.	Injury Risk
Glucosamine Sulfate 1,500 mg daily	Provides building blocks for cartilage matrix; may slow joint degeneration and reduce inflammation.	Injury Risk
Chondroitin Sulfate 800 to 1,200 mg daily	Inhibits cartilage-degrading enzymes, maintains structural integrity, and supports cartilage repair pathways.	Injury Risk
Caffeine Before Training 1 to 3 mg per kg, 30 to 60 minutes before	Can improve power output in short efforts.	High Intensity vs Endurance
Beta-Alanine 3 to 6 g daily in divided doses	Beta-alanine raises muscle carnosine and may improve repeated high-intensity efforts lasting 1 to 4 minutes.	High Intensity vs Endurance

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
Ultrasound (Achilles)	Identifies tendon thickening, neovascularization, and structural changes guiding rehabilitation intensity.	Injury Risk
Physical Therapy Assessment If tightness or pain develops	A therapist can check calf strength and running mechanics.	Injury Risk
MRI (Joint)	Most sensitive imaging for cartilage integrity; quantifies damage before symptoms become severe.	Injury Risk
Collagen Biomarkers (COMP, CTX-II)	Cartilage breakdown markers that predict progression of joint degeneration.	Injury Risk
Ferritin and Complete Blood Count	Low iron reduces training capacity.	High Intensity vs Endurance
Medical Check Before High-Intensity Programs If chest pain, unusual breathlessness or heart risk factors are present	A provider can confirm that vigorous training is safe and may suggest an exercise stress test.	Additional Exercise Genetics