ULTAGENOMICS

DECODE YOUR DNA. GUIDE YOUR HEALTH.

Micronutrient Precision

GENETICS REPORT

1	12	115
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 12 panels and 33 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.

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NEEDS ATTENTION

- Choline Need
- Copper Imbalance Risk

11

MODERATE

- Vitamin A Conversion
- MTHFR Activity
- Folic Acid Supplementation Tolerance
- Vitamin D Deficiency Risk
- Magnesium Deficiency Risk
- Choline Deficiency Severity
- Risk of Organ Dysfunction from Choline Deficiency
- Nitric Oxide Production
- Selenium Deficiency Severity
- Serum Iron Level Propensity
- Zinc Supplementation Benefit

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OPTIMAL

- Vitamin B12 Level Propensity
- Vitamin B9 Need
- Vitamin B6 Level Propensity
- Biotin Deficiency Propensity
- Vitamin C Level
- Vitamin D Dietary Absorption
- Inactive vs Active Vitamin D Correlation
- Vitamin E Inflammation Risk
- Vitamin E Absorption
- Alpha Tocopherol Level Propensity
- Gamma Tocopherol Level Propensity
- Sodium Sensitivity
- Potassium Sensitivity and Benefit
- Iodine Level Propensity
- Iron Deficiency Risk
- Transferrin Level Propensity
- Iron Overload Risk
- Risk for Zinc Excess
- Omega-6 Risk
- Omega-3 Need

1 Vitamin A

11 variants analyzed

In plain terms: Vitamin A is an essential nutrient for vision, immune function and skin health. The body gets it either as preformed vitamin A (retinol) from animal foods or by converting provitamin A carotenoids, such as beta carotene from plant foods, into retinol. Genetic variation can influence how efficiently this conversion takes place. This section looks at genetic tendencies for vitamin A conversion, which may help guide the balance of plant and animal sources of vitamin A in the diet.

YOUR RESULTS

Vitamin A Conversion



TYPICAL

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with typical beta carotene conversion genetic results have a standard rate of beta carotene to retinol conversion. A balanced diet with both preformed vitamin A sources and beta carotene-rich foods supports adequate vitamin A status.

RECOMMENDATIONS

DIET

Include Preformed Vitamin A Foods

Eggs, dairy, oily fish; liver occasionally

Preformed vitamin A does not depend on beta-carotene conversion, so it helps cover needs regardless of conversion efficiency.

DIET

Pair Beta-Carotene Foods With Fat

Carrots, sweet potato and leafy greens with olive oil or avocado

Fat at the same meal improves beta-carotene absorption and conversion.

GENETIC SUMMARY

GENE	RS ID	YOUR GENOTYPE	GENE	RS ID	YOUR GENOTYPE
PKD1L2-BCMO1 G754A	rs6420424	**GG**	**APOA4 T1099A**	rs675	**TT**
PKD1L2-BCMO1 (G>A)	rs11645428	**GG**	**FABP2 C163T**	rs1799883	**TT**
BCO1 C1136T	rs7501331	**TC**	**SCARB-1 C4T**	rs4238001	**CC**
BCO1 A801T	rs12934922	**TA**	**SCARB-1 A1050G**	rs5888	**AG**
PKD1L2-BCMO1 (T>G)	rs6564851	**TT**	**LIPC C-40-517T**	rs1800588	**TC**
LPL C1421G	rs328	**CC**			

2 B Vitamins

13 variants analyzed

In plain terms: B vitamins play a crucial role in various bodily processes, including energy production, DNA synthesis, and nervous system function. This module provides insights into genetic predispositions for B vitamin metabolism, including levels of B6, B9 (folate), and B12, as well as MTHFR activity.

Low levels of B vitamins can lead to a range of health issues, including anemia, neuropathy, and birth defects. MTHFR is an enzyme involved in folate metabolism, and genetic variations that affect its activity can lead to reduced folate levels and an increased risk of certain health issues.

Understanding genetic predispositions for B vitamin metabolism and MTHFR activity can guide targeted actions to support healthy levels of these important nutrients. This module explains how genetics may affect levels of B6, B9, and B12 and offers personalized recommendations for maintaining optimal levels.

YOUR RESULTS

Vitamin B12 Level Propensity

TYPICAL

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with typical B12 genetic results are likely to maintain healthy vitamin B12 levels with a balanced diet. Supplementation may still be beneficial, particularly for those with limited animal product intake.

YOUR RESULTS

Vitamin B9 Need

TYPICAL

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with typical folate (B9) genetic results have average requirements for this nutrient. Consume folate-rich foods, leafy green vegetables, legumes, and fortified cereals, to meet daily needs.

YOUR RESULTS

Vitamin B6 Level Propensity

TYPICAL

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with typical B6 genetic results are likely to maintain sufficient vitamin B6 levels with a balanced diet. B6 supports mood regulation and sleep quality.

YOUR RESULTS

Biotin Deficiency Propensity

TYPICAL

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with typical biotin (B7) deficiency propensity genetic results have a standard risk, so diet plays the main role in supporting biotin status. A balanced diet with biotin-rich foods such as eggs, nuts, seeds and vegetables is usually enough without supplementation.

YOUR RESULTS

MTHFR Activity

60-70% ENZYME ACTIVITY

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with 60-70% MTHFR enzyme activity genetic results have a moderate reduction in enzyme function and a modestly elevated risk for increased homocysteine levels. A healthcare provider can help ensure adequate methylated folate and B vitamin intake. Suggested dosing for folate: 400-800 mcg depending on needs.

RECOMMENDATIONS

SUPPLEMENT

Riboflavin (B2)

25 to 100 mg/day

The most overlooked MTHFR cofactor. Clinical trials show that in C677T homozygotes, riboflavin supplementation alone reduces homocysteine by 22% and can restore meaningful MTHFR function.

SUPPLEMENT

5-MTHF (Methylfolate)

400 to 1,000 mcg/day; up to 5 mg/day under practitioner supervision

Provides the active end-product of the MTHFR enzyme reaction, bypassing the conversion bottleneck entirely.

DIET

Natural Food Folates (leafy greens, lentils, asparagus)

400+ mcg daily from food

Natural folates from food are better tolerated than folic acid for MTHFR variants.

DIET

Avoid Folic Acid in Fortified Foods and Supplements

Synthetic folic acid requires MTHFR to be converted to usable methylfolate. With reduced MTHFR activity, unmetabolized folic acid accumulates in plasma.

LIFESTYLE

Avoid Nitrous Oxide (dental sedation)

Inform dentist of MTHFR status

Nitrous oxide irreversibly inactivates methylcobalamin and can trigger acute functional folate/B12 deficiency in MTHFR variants. Highly recommend sharing MTHFR status to dental providers and requesting alternative sedation.

LIFESTYLE

Limit Alcohol

Alcohol specifically depletes folate and B12, the two nutrients most impaired by MTHFR variants. Even social drinking measurably worsens functional methylation status in MTHFR carriers.

FURTHER TESTING

Homocysteine

Primary clinical outcome of MTHFR activity. Elevated homocysteine confirms functional MTHFR impairment regardless of genotype; target <7 umol/L. Retesting 8 to 12 weeks after starting methylfolate confirms treatment response.

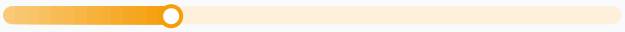
FURTHER TESTING

Plasma Riboflavin (B2)

B2 deficiency worsens thermolabile MTHFR variants; testing reveals whether riboflavin supplementation will meaningfully improve MTHFR function. Low B2 is the most modifiable cofactor for MTHFR impairment.

YOUR RESULTS

Folic Acid Supplementation Tolerance



DECREASED

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with decreased folic acid conversion genetic results have a decreased ability to convert supplemental folic acid into active folate. This can result in folic acid buildup and elevated homocysteine levels. Methylated folate (5-MTHF) or folinic acid may be better choices than folic acid supplements.

RECOMMENDATIONS

SUPPLEMENT

Methylfolate (5-MTHF)

400 to 800 mcg daily if a supplement is needed

An active form of folate that does not rely on converting folic acid.

SUPPLEMENT

Folinic Acid

400 to 800 mcg daily if a supplement is needed

Another form of folate that bypasses folic acid conversion.

DIET

Dark Leafy Greens, Lentils, Asparagus, Avocado (natural folates)

400+ mcg/day from food sources

Natural food folates are metabolically distinct from synthetic folic acid and do not accumulate as unmetabolized folic acid. Lentils (358 mcg/cup) and spinach (263 mcg/cup cooked) are the richest sources.

DIET

Natural Folate Foods

Leafy greens, lentils, beans, asparagus, avocado

Food folate is the preferred way to meet folate needs.

LIFESTYLE

Alcohol Restriction (alcohol is the primary dietary folate depleter)

Less than 1 drink/week ideally

Alcohol impairs folate absorption from the intestine, inhibits hepatic folate storage, and accelerates renal folate excretion, simultaneously reducing folate input and output.

LIFESTYLE

Review Supplement Labels

Choose multivitamins with methylfolate

Avoids unneeded folic acid from multivitamins and prenatals.

FURTHER TESTING

RBC Folate (not serum folate)

Target >400 ng/mL (>906 nmol/L)

RBC folate reflects intracellular folate stores over the prior 3 months, the metabolically relevant compartment for methylation.

FURTHER TESTING

Urinary Formiminoglutamic Acid (FIGLU)

FIGLU is the most direct functional marker of folate sufficiency on organic acids testing.

GENETIC SUMMARY

GENE	RS ID	YOUR GENOTYPE	GENE	RS ID	YOUR GENOTYPE
MTHFR G677A	rs1801133	**GA**	**SLC19A1 C80T**	rs1051266	**TC**
MTHFR T1298G	rs1801131	**TT**	**TCN1 G79+372A**	rs526934	**AA**
FUT2 A204G	rs492602	**AG**	**NBPF3 C134-911T**	rs4654748	**TC**
FUT2 G461A	rs601338	**AG**	**DHFR A-473G**	rs1650697	**AG**
MTR A2756G	rs1805087	**AA**	**DHFR 86+59ins**	rs70991108	**ID**
ALPL G473-148A	rs1256335	**AA**	**DHFR G243-2490T**	rs1677693	**GG**
CUBN A758G	rs1801222	**AG**			

3 Vitamin C

4 variants analyzed

In plain terms: Vitamin C, an essential nutrient known for its antioxidant properties and role in collagen synthesis, immune function, and wound healing, varies in its absorption and utilization among individuals, partly due to genetic differences. This section explores the genetic factors that influence how the body processes and benefits from Vitamin C, shedding light on the importance of personalized nutrition.

Genetic Variations Affecting Vitamin C Levels: Certain genetic variants can impact the efficiency of Vitamin C transporters and enzymes involved in its metabolism, affecting the nutrient's bioavailability and cellular uptake. This can influence an individual's dietary requirement for Vitamin C to maintain optimal health and prevent deficiency-related conditions.

Implications for Health: Understanding genetic predispositions related to Vitamin C metabolism can help tailor dietary recommendations, potentially requiring higher intake for those with variants that decrease absorption or increase turnover. This personalized approach aims to leverage the protective effects of Vitamin C against oxidative stress, support immune function, and enhance collagen synthesis for skin health and wound healing.

The exploration of genetics in relation to Vitamin C underscores the broader concept of nutrigenomics, highlighting how individual genetic makeup can guide nutritional strategies to support overall well-being.

YOUR RESULTS

Vitamin C Level



TYPICAL

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with typical vitamin C level genetic results exhibit average abilities to utilize and maintain vitamin C levels, aligning with the general population's capacity. This means their dietary needs for vitamin C, which supports immune health, collagen synthesis, and antioxidant activity, can typically be met through a balanced diet that includes a variety of fruits and vegetables rich in vitamin C. Regular consumption of these foods is recommended to support general well-being and health maintenance.

GENETIC SUMMARY

GENE	RS ID	YOUR GENOTYPE	GENE	RS ID	YOUR GENOTYPE
SLC23A1 C790T	rs33972313	**CC**	**SLC23A1 T281-6135C**	rs6053005	**TC**
SLC23A1 T379+521C	rs10063949	**TC**	**SLC23A1 A207+1767G**	rs6133175	**AA**

4 Vitamin D

16 variants analyzed

In plain terms: Vitamin D is an essential nutrient that plays a vital role in bone health, immune function, and overall well-being. This module provides insights into genetic predispositions for Vitamin D levels, supporting steps to optimize Vitamin D status and overall health.

Vitamin D is often referred to as the "sunshine vitamin" because it is produced by the body in response to sunlight exposure. However, many people do not get enough Vitamin D through sunlight exposure alone and may require supplementation or dietary sources.

Vitamin D deficiency has been linked to a range of health issues, including bone weakness, weakened immune function, and an increased risk of chronic diseases. Understanding genetic predispositions for Vitamin D levels can guide targeted actions to support Vitamin D status and reduce the risk of associated health issues.

This module explains how genetics may affect Vitamin D levels and offers personalized recommendations for maintaining optimal Vitamin D levels, such as adequate sunlight exposure, Vitamin D-rich foods, and supplementation when necessary.

YOUR RESULTS

Vitamin D Deficiency Risk



TYPICAL

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with typical vitamin D deficiency risk genetic results have a standard likelihood of deficiency, consistent with the general population. Checking vitamin D levels and supplementing when sun exposure or dietary intake is low can help.

RECOMMENDATIONS

SUPPLEMENT

Vitamin D3 + K2 (MK-7)

D3 2,000 to 5,000 IU + K2 100 to 200 mcg/day

D3 is the form made by skin from sunlight and is significantly more effective at raising 25-OH vitamin D than D2. K2 (MK-7 form) ensures calcium mobilized by D3 is directed to bone, not arteries.

SUPPLEMENT

Magnesium (glycinate or malate)

300 to 400 mg/day

Vitamin D conversion requires magnesium at both the 25-hydroxylation (liver) and 1-alpha-hydroxylation (kidney) steps. Supplementing D3 without magnesium can paradoxically worsen magnesium deficiency and impair D3 activation.

DIET

Fatty Fish 3x/Week, Egg Yolks, UV-Exposed Mushrooms

Dietary vitamin D3 from fatty fish (600 to 1,000 IU per serving wild salmon) supplements sun exposure meaningfully. Egg yolks provide D3 plus vitamin A (needed for vitamin D receptor expression).

DIET

Vitamin D-Rich Foods

Fatty fish, egg yolks, fortified milk, UV-exposed mushrooms

Food sources help maintain vitamin D.

LIFESTYLE

Midday Sun Exposure

10 to 30 min, arms/legs uncovered, 10am-2pm

The most efficient D3 production occurs when solar angle is optimal. 20 min of midday sun on arms and legs produces approximately 10,000 IU equivalent.

LIFESTYLE

Retest After Changes

8 to 12 weeks after starting a supplement

Vitamin D takes several weeks to settle at a new level.

FURTHER TESTING

Parathyroid Hormone (PTH)

PTH inversely tracks vitamin D status; PTH above 40 pg/mL indicates functional vitamin D deficiency even when 25-OH D appears borderline adequate. PTH normalization (<35 pg/mL) is the functional endpoint of vitamin D repletion.

YOUR RESULTS

Vitamin D Dietary Absorption



TYPICAL

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with typical dietary vitamin D absorption genetic results absorb vitamin D from food in a manner consistent with the general population. Maintaining adequate intake through food and/or supplementation is still important for optimal levels.

YOUR RESULTS

Inactive vs Active Vitamin D Correlation



INCREASED

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with increased correlation between inactive and active vitamin D genetic results may have a more predictable relationship between measured and active vitamin D levels, potentially making standard lab markers more accurate. Confirm with a healthcare provider for the most appropriate testing approach.

GENETIC SUMMARY

GENE	RS ID	YOUR GENOTYPE	GENE	RS ID	YOUR GENOTYPE
NADSYN1 G146+1233T	rs12785878	**TG**	**GC T58+6190C**	rs1155563	**TT**
CYP2R1 G177A	rs12794714	**AG**	**CYP2R1 g.C536T**	rs1562902	**TC**
CYP2R1 (G>A)	rs10766197	**AG**	**DHCR7 g.T22128C**	rs1790349	**TC**
CYP2R1 g.G3442A	rs2060793	**AG**	**NADSYN1 G1319+496A**	rs3829251	**AG**
GC A56+827G	rs2298849	**AA**	**CYP27B1 G-1260T**	rs10877012	**GG**
GC T*26-796G	rs2282679	**TT**	**VDR C1025-49A**	rs7975232	**AC**
GC A1296C	rs7041	**AC**	**VDR C1024+283T**	rs1544410	**CC**
CYP2R1 T226-2810G	rs10500804	**AC**	**KL T1054G**	rs9536314	**TT**

5 Vitamin E

10 variants analyzed

In plain terms: Vitamin E is a group of eight fat-soluble compounds that function as antioxidants in the body, protecting cells from oxidative stress. This module provides insights into genetic predispositions for processing two forms of vitamin E: alpha-tocopherol and gamma-tocopherol.

Alpha-tocopherol is the most common form of vitamin E found in the body and is known for its antioxidant properties. Gamma-tocopherol is another form of vitamin E found in many plant-based foods and also has antioxidant activity.

Genes can influence how the body processes and uses vitamin E, which may affect the risk of certain health conditions, including cardiovascular disease, cancer, and neurological disorders. Understanding genetic predispositions for processing alpha-tocopherol and gamma-tocopherol can support informed decisions about diet and supplement use.

This module provides personalized insights into genetic risk factors for processing alpha-tocopherol and gamma-tocopherol, supporting informed decisions about vitamin E intake and overall health.

YOUR RESULTS

Vitamin E Inflammation Risk



TYPICAL

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with typical alpha-tocopherol inflammation risk genetic results are likely to experience standard effects from vitamin E supplementation, consistent with general population response.

YOUR RESULTS

Vitamin E Absorption



IDEAL

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with ideal vitamin E absorption genetic results efficiently process and use vitamin E from their diet. Vitamin E helps protect cells from oxidative damage and supports immune function and skin health, and a balanced diet with vitamin E sources supports this advantage.

YOUR RESULTS

Alpha Tocopherol Level Propensity



TYPICAL

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with typical alpha-tocopherol levels genetic results have standard circulating alpha-tocopherol levels. Consuming vitamin E-rich foods and/or supplementing as appropriate can provide additional antioxidant support.

YOUR RESULTS

Gamma Tocopherol Level Propensity



TYPICAL

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with typical gamma-tocopherol levels genetic results have standard circulating gamma-tocopherol levels. A balanced diet with vitamin E-rich foods provides adequate gamma-tocopherol support.

GENETIC SUMMARY

GENE	RS ID	YOUR GENOTYPE	GENE	RS ID	YOUR GENOTYPE
APOE C388T	rs429358	**TT**	**IL-10 T-149+2474C**	rs1800896	**TC**
APOE C526T	rs7412	**CC**	**ApoC3 C*40G**	rs5128	**GC**
LIPC C-40-517T	rs1800588	**TC**	**CETP G118+279A**	rs708272	**AG**
COMT G472A	rs4680	**GA**	**GSTP1 A313G**	rs1695	**AA**
IL-10 T-149+1984G	rs1800872	**GG**	**TNF G-238A**	rs361525	**GG**

6 Electrolytes

12 variants analyzed

In plain terms: Electrolytes are essential minerals that help maintain proper fluid balance and nerve and muscle function in the body. This module provides insights into genetic predispositions for sodium and potassium sensitivity, as well as magnesium levels, supporting informed decisions about diet and lifestyle.

Sodium is a critical electrolyte that helps regulate blood pressure and maintain proper fluid balance in the body. However, excessive sodium intake can increase the risk of high blood pressure and other cardiovascular problems. This module describes genetic predispositions for sodium sensitivity, supporting informed decisions about sodium intake.

Potassium is another important electrolyte that helps regulate blood pressure and supports proper muscle and nerve function. Low potassium levels can lead to muscle weakness, fatigue, and other health problems. This module describes genetic predispositions for potassium sensitivity, which can guide adjustments to diet and lifestyle.

Magnesium is also an important electrolyte that plays a crucial role in nerve and muscle function, as well as bone health. Low magnesium levels can lead to muscle cramps, fatigue, and other health problems. This module describes genetic predispositions for magnesium levels, supporting informed decisions about diet and supplement choices.

Understanding genetic predispositions for sodium and potassium sensitivity, as well as magnesium levels, can support more informed decisions about diet and lifestyle that help maintain proper fluid balance, nerve and muscle function, and overall health.

YOUR RESULTS

Sodium Sensitivity



TYPICAL

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with typical sodium sensitivity genetic results have a typical sensitivity to sodium, which means they may need to be mindful of their sodium intake and consume it in moderation according to individual needs.

YOUR RESULTS

Potassium Sensitivity and Benefit



TYPICAL

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with typical potassium sensitivity and benefit genetic results have a typical sensitivity to the blood pressure-lowering effects of potassium. Adequate potassium intake can help support healthy blood pressure levels in these individuals.

YOUR RESULTS

Magnesium Deficiency Risk



TYPICAL

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with typical magnesium deficiency risk genetic results have a typical risk of experiencing magnesium deficiency. It is important to consume a balanced diet that includes magnesium-rich foods or consider supplementation to prevent deficiency.

RECOMMENDATIONS

DIET

Pumpkin Seeds, Dark Chocolate, Almonds, Spinach, Avocado

Daily rotation

Pumpkin seeds (156 mg per oz) and dark chocolate (64 mg per oz) are the most magnesium-dense convenient foods. A daily handful of pumpkin seeds plus 1 oz dark chocolate provides ~220 mg.

DIET

Whole Grains Over Refined

Oats, brown rice, quinoa

Refining removes most of the magnesium in grains.

LIFESTYLE

Reduce Factors That Deplete Magnesium (alcohol, caffeine, stress, diuretics)

Alcohol and caffeine both increase renal magnesium excretion significantly. Chronic stress activates the HPA axis which increases magnesium demand.

LIFESTYLE

Manage Stress

10 to 20 minutes daily of breathing, meditation or yoga

Chronic stress increases magnesium loss.

FURTHER TESTING

RBC Magnesium (not serum)

Serum magnesium is maintained in a narrow range at the expense of intracellular stores. Serum can be normal when cells are profoundly depleted.

FURTHER TESTING

24-Hour Urine Magnesium (if deficiency mechanism unclear)

Distinguishes between inadequate intake (low urine Mg) and excessive renal wasting (elevated urine Mg despite deficiency). High urine magnesium with low RBC magnesium confirms renal wasting as the primary driver.

GENETIC SUMMARY

GENE	RS ID	YOUR GENOTYPE	GENE	RS ID	YOUR GENOTYPE
MUC1 C66T	rs4072037	**TC**	**AGTR1 G-48+13974A**	rs4524238	**AG**
ATP2B1 (A>G)	rs7965584	**AA**	**NAA10 T386+394C**	rs1557501	**TC**
DCDC1 (T>C)	rs3925584	**TC**	**RENBP G688-61A**	rs2269372	**AG**
ADD1 G1378T	rs4961	**TG**	**SHROOM3 G168-54767A**	rs13146355	**GG**
ACE G2328A	rs4343	**AA**	**CYP11B2 G-344A**	rs1799998	**AG**
AGTR1 A1166C	rs5186	**AA**	**NR3C2 G2015-8060T**	rs6810951	**TG**

7 Choline

12 variants analyzed

In plain terms: Choline is an essential nutrient that plays a vital role in several processes in the body, including cell structure and signaling, nerve function, and metabolism. Adequate choline intake is essential for optimal health, and some people may have a higher need for support than others.

The severity of choline deficiency symptoms can vary depending on many factors, including genetics. Symptoms of deficiency can include muscle damage, liver damage, and neurological disorders. Women who are pregnant or breastfeeding may also require higher choline intake to support the developing fetus or infant. Additionally, some individuals may be at an increased risk of organ dysfunction if they are deficient in choline. For example, a deficiency in choline can lead to liver damage, as choline is required for proper liver function and the metabolism of fats.

Genetic variations can impact the individual's need for choline and their ability to synthesize it. Some individuals may have a variation in the PEMT gene, which reduces their ability to produce choline from other compounds in the body.

Overall, ensuring adequate choline intake is essential for maintaining optimal health and preventing deficiencies and related complications. By understanding genetic risks for choline need and deficiency, it is possible to take targeted actions to maintain and improve overall health. This page will provide understand how genetics may affect choline need, the severity of deficiency symptoms, and the risk of organ dysfunction from a deficiency, and provide personalized recommendations for optimizing health.

YOUR RESULTS

Choline Need



INCREASED

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with increased choline need genetic results have a higher than average need for choline. Choline supports brain function, methylation, nerve function and metabolism, and good food sources include eggs and liver. Supplementation may also be helpful; 500 to 1,000 mg of alpha-GPC or at least 1,000 mg of phosphatidylcholine are likely to be most effective.

RECOMMENDATIONS

SUPPLEMENT

Alpha-GPC

300 to 600 mg daily

Highly bioavailable form of choline that crosses the blood-brain barrier; increases acetylcholine for memory and learning.

SUPPLEMENT

Citicoline (CDP-Choline)

250 to 500 mg daily

Increases choline availability and enhances phosphatidylcholine production supporting brain health and memory.

DIET

Choline-Rich Foods

Eggs (especially yolks), beef liver, salmon, and chicken are excellent sources; aim for 425 to 550 mg daily from all sources.

DIET

Cruciferous Vegetables

Broccoli, Brussels sprouts, and quinoa provide plant-based choline for those limiting animal products.

LIFESTYLE

Adequate Sleep

7 to 8 hours/night

Choline supports acetylcholine synthesis critical for memory consolidation during sleep.

LIFESTYLE

Brain Exercise

30+ min daily

Cognitive activity increases acetylcholine demand; adequate choline intake supports sustained mental performance.

FURTHER TESTING

Liver Function Tests

Choline deficiency presents as NAFLD; testing tracks liver health.

FURTHER TESTING

Plasma Choline Level

Identifies choline insufficiency before symptoms become apparent; guides supplement form and dose selection.

YOUR RESULTS

Choline Deficiency Severity

INCREASED

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with increased choline deficiency severity genetic results may have an increased risk of experiencing severe health consequences associated with choline deficiency such as DNA damage, muscle damage, and organ dysfunction. It is particularly important to consume adequate amounts of choline through their diet or supplementation to prevent deficiency.

RECOMMENDATIONS

SUPPLEMENT

Phosphatidylcholine (PC)

1,200 to 2,400 mg daily

Major cell membrane component essential for liver health, fat metabolism, and brain function.

SUPPLEMENT

Betaine (TMG)

500 to 1,500 mg daily

Supports choline metabolism and methylation cycle; protects liver from fatty infiltration.

DIET

Eggs Daily

1 to 2 eggs

One egg provides about 150 mg of choline, a large share of daily needs.

DIET

Soy and Legumes

Soybeans, tofu, kidney beans

Plant sources of choline for people who eat few eggs or meat.

FURTHER TESTING

Comprehensive Metabolic Panel

Includes liver enzymes that can reflect choline status.

YOUR RESULTS

Risk of Organ Dysfunction from Choline Deficiency

INCREASED

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with increased risk of organ dysfunction from choline deficiency genetic results may have an increased risk of experiencing organ dysfunction associated with choline deficiency. It is particularly to consume adequate amounts of choline through their diet or supplementation to prevent any risk.

RECOMMENDATIONS

SUPPLEMENT

Lecithin

1,200 to 3,600 mg daily

Natural source of phosphatidylcholine supporting liver health, fat metabolism, and cell membrane integrity.

DIET

Liver or Organ Meats Occasionally

Once weekly

Among the richest choline sources.

DIET

Fish and Seafood

2 to 3 times weekly

Good sources of choline and omega-3s.

LIFESTYLE

Maintain a Healthy Weight

Excess weight adds to liver fat, which choline helps clear.

LIFESTYLE

Limit Sugary Drinks

Sugar, especially fructose, adds to liver fat.

FURTHER TESTING

Liver Ultrasound

If liver enzymes are raised

Checks for fatty liver, the main organ risk of low choline.

FURTHER TESTING

Creatine Kinase (CK)

Low choline can also affect muscle.

GENETIC SUMMARY

GENE	RS ID	YOUR GENOTYPE	GENE	RS ID	YOUR GENOTYPE
PEMT C-97-6178G	rs12325817	**CC**	**BHMT G716A**	rs3733890	**AG**
MTHFD1 G1958A	rs2236225	**AG**	**CHDH A233C**	rs12676	**CC**
PEMT C634T	rs7946	**TC**	**MTHFR T1298G**	rs1801131	**TT**
CHKA C1017-182A	rs7928739	**AA**	**MTHFR G677A**	rs1801133	**GA**
CHKA C351-2951A	rs10791957	**AA**	**MTR A2756G**	rs1805087	**AA**
CHDH T119G	rs9001	**TT**	**MTRR A66G**	rs1801394	**AG**

8 Nitric Oxide

5 variants analyzed

In plain terms: Nitric oxide (NO) is a critical signaling molecule produced by the body that plays a key role in various physiological processes including vasodilation, neurotransmission, immune system activity and cellular communication. This section explores genetic propensities related to nitric oxide production and utilization, providing insights into potential nitric oxide levels and how the body may respond to different factors that affect NO.

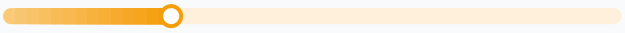
Nitric oxide is essential for blood vessel dilation, which helps promote healthy blood flow, cardiovascular function, and overall circulation. Genetics can provide insights into factors that may support or hinder nitric oxide production, such as dietary factors, physical activity, and exposure to environmental pollutants.

Optimal nitric oxide levels are crucial for maintaining cardiovascular health and overall well-being. There are many ways to affect levels, such as lifestyle factors, diet, and targeted supplementation This may include consuming nitrate-rich foods like leafy greens and beets, engaging in regular physical activity, and adopting a nutrition plan to support nitric oxide production. It's important to remember that lifestyle choices, including exercise and dietary habits, can significantly impact nitric oxide levels and overall cardiovascular health.

By leveraging the insights from genetic predispositions for nitric oxide, and collaborating with healthcare professionals or nutrition experts, a personalized approach can be developed to support nitric oxide production and enhance cardiovascular well-being. Genetic propensities for for nitric oxide production can serve as a valuable tool to optimize cardiovascular health and make informed choices to promote long-term well-being.

YOUR RESULTS

Nitric Oxide Production



BELOW AVERAGE

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with below average nitric oxide production genetic results may have slightly lower nitric oxide levels, which can affect blood vessel function. Nitrate-rich vegetables such as beets and leafy greens and regular exercise can help support nitric oxide production.

RECOMMENDATIONS

SUPPLEMENT

L-Citrulline

3 to 6 g daily

Citrulline is converted to arginine and then to nitric oxide, and may support healthy blood flow.

SUPPLEMENT

Beetroot Powder or Juice

Equivalent to about 400 mg nitrate daily

Concentrated dietary nitrate is converted to nitric oxide.

DIET

Nitrate-Rich Vegetables

Daily: beets, arugula, spinach, celery

Dietary nitrate is converted to nitric oxide and can support healthy blood flow and blood pressure.

DIET

Cocoa Flavanols and Berries

A small serving of dark chocolate or berries most days

Flavanols support blood vessel function and the body's own nitric oxide production.

LIFESTYLE

Regular Aerobic Exercise

150 minutes weekly

Aerobic exercise improves blood vessel function and the body's own nitric oxide production.

LIFESTYLE

Skip Antiseptic Mouthwash

Use regular brushing and flossing instead

Mouth bacteria help turn dietary nitrate into nitric oxide, and antiseptic mouthwash can reduce this.

FURTHER TESTING

Blood Pressure Check

Home or clinic readings

Blood pressure reflects blood vessel function and shows whether nitric oxide support is helping.

FURTHER TESTING

Lipid Panel

Blood vessel health depends on cholesterol as well as nitric oxide.

GENETIC SUMMARY

GENE	RS ID	YOUR GENOTYPE	GENE	RS ID	YOUR GENOTYPE
NOS3 T-786C	rs2070744	**TT**	**NOS3 G2984+15A**	rs891512	**AG**
NOS3 T894G	rs1799983	**GG**	**NOS3 G3106+11T**	rs7830	**GG**
NOS3 A-51-898G	rs1800779	**AA**			

9 Selenium and Iodine

3 variants analyzed

In plain terms: Selenium is a trace mineral that plays an important role in the body's antioxidant defense system, thyroid hormone metabolism, and immune function. It is obtained through the diet and is found in varying amounts in different foods, with Brazil nuts being one of the richest sources.

Genetic variations can impact the body's ability to absorb and use selenium, and some people may have higher requirements than others. Low selenium levels have been linked to a range of health problems, including thyroid disorders, weakened immune function, and increased risk of certain cancers.

Iodine is another trace mineral that is essential for the proper functioning of the thyroid gland. It is necessary for the production of thyroid hormones, which regulate metabolism and are important for normal growth and development. Iodine is mainly obtained through the diet, with seaweed, seafood, and iodized salt being the primary sources.

Genetic variations can affect iodine metabolism, and some individuals may be more sensitive to iodine deficiency than others. Severe iodine deficiency can lead to goiter, hypothyroidism, and other health problems, particularly during pregnancy and early childhood.

Adequate selenium and iodine intake through a balanced diet or supplementation is essential, especially for individuals with genetic variations that affect the body's ability to absorb and use these nutrients.

YOUR RESULTS

Selenium Deficiency Severity



INCREASED

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with increased selenium deficiency severity genetic results may have an increased risk of experiencing severe health consequences associated with selenium deficiency. It is particularly important to consume adequate amounts of selenium through their diet or supplementation to prevent deficiency and associated health risks. Individuals with increased selenium deficiency severity genetics may benefit from discussing selenium supplementation with a provider or coach.

RECOMMENDATIONS

SUPPLEMENT

Selenium (selenomethionine)

55 to 100 mcg daily

Supports selenium status for individuals who do not eat selenium-rich foods regularly.

DIET

Brazil Nuts

1 to 2 nuts daily

One Brazil nut provides roughly 50 to 90 mcg of selenium, enough to cover daily needs for most people.

DIET

Selenium-Rich Foods

Fish, eggs, poultry, sunflower seeds

Regular selenium-rich foods help maintain status without the risk of supplement excess.

FURTHER TESTING

Serum or Plasma Selenium

Shows current selenium status before adding or adjusting supplements.

FURTHER TESTING

Thyroid Panel (TSH, Free T4)

Selenium supports thyroid hormone activity, so thyroid tests help interpret low selenium.

YOUR RESULTS

Iodine Level Propensity



INCREASED

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with increased iodine level propensity genetic results may have higher iodine levels. Iodine is essential for thyroid function, but too much can also be harmful, so keeping intake moderate and checking with a healthcare provider before using iodine supplements is helpful.

GENETIC SUMMARY

GENE	RS ID	YOUR GENOTYPE	GENE	RS ID	YOUR GENOTYPE
GPX1 G599A	rs1050450	**AA**	**SELENOP C*14T**	rs7579	**CC**
SELENOF C85-2631T	rs561104	**TT**			

10 Iron

12 variants analyzed

In plain terms: Iron is an essential mineral that plays a vital role in the transport of oxygen throughout the body. Iron deficiency can lead to anemia, which is characterized by fatigue, weakness, and shortness of breath. On the other hand, excessive iron accumulation in the body can lead to a condition called hemochromatosis, which can cause liver damage and other complications.

Individuals with a genetic predisposition for low iron levels may be at increased risk for iron deficiency anemia. Blood tests that measure serum iron and transferrin levels can help assess iron status. Low serum iron levels and high transferrin levels may indicate iron deficiency, while high serum iron and low transferrin levels may suggest iron overload.

Iron overload is a genetic condition characterized by excessive absorption of dietary iron, which can lead to iron overload in various organs. Individuals with certain genetic variants, such as the HFE C282Y variant, are at higher risk for developing iron overload. Symptoms may include fatigue, abdominal pain, joint pain, and liver damage.

Iron is found in both animal and plant foods, with animal sources being more easily absorbed by the body. Foods rich in iron include red meat, poultry, fish, beans, lentils, fortified cereals, and spinach. Vitamin C can enhance iron absorption, while calcium and tannins found in tea and coffee can inhibit iron absorption.

Individuals with a genetic predisposition for low iron levels or iron overload may benefit from working with a healthcare provider to optimize their iron status through dietary modifications, iron supplementation, or phlebotomy to reduce iron levels in cases of iron overload.

YOUR RESULTS

Iron Deficiency Risk



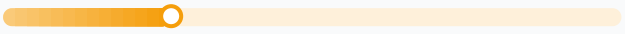
TYPICAL

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with typical iron deficiency risk genetic results have a typical risk of iron deficiency; this is still a risk for pre-menopausal females. It is important to consume adequate amounts of iron through their diet to maintain healthy iron levels and prevent deficiency.

YOUR RESULTS

Serum Iron Level Propensity



DECREASED

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with decreased serum iron level propensity genetic results may have lower than typical levels of serum iron in their blood. It may be beneficial to discuss bloodwork and potential iron supplementation with a healthcare provider.

RECOMMENDATIONS

SUPPLEMENT

Ferrous Bisglycinate

25 to 30 mg elemental iron daily

Chelated iron with high bioavailability and minimal GI side effects; preferred for long-term repletion.

SUPPLEMENT

Ferrous Sulfate

150 to 200 mg elemental iron daily

Most common and effective iron form for rapid repletion; take on empty stomach for best absorption.

DIET

Vitamin C with Meals

Consuming vitamin C with iron-rich plant foods dramatically increases non-heme iron absorption.

DIET

Iron-Rich Foods

Liver, oysters, beef, spinach, lentils, and pumpkin seeds provide heme and non-heme iron; pair plant sources with vitamin C.

LIFESTYLE

Address Underlying Blood Loss

Heavy menstruation, GI bleeding, and frequent blood donation are primary causes; address alongside supplementation.

LIFESTYLE

Check Menstrual Blood Loss

Discuss heavy periods with a provider

Heavy periods are a common cause of low iron in women.

FURTHER TESTING

Ferritin, Serum Iron, TIBC

Comprehensive iron status panel; ferritin below 30 ng/mL indicates deficiency even with normal hemoglobin.

FURTHER TESTING

CBC

Identifies iron deficiency anemia; microcytic anemia confirms advanced iron depletion.

YOUR RESULTS

Transferrin Level Propensity



TYPICAL

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with typical transferrin level propensity genetic results are likely to have typical levels of transferrin in their blood.

YOUR RESULTS

Iron Overload Risk



TYPICAL

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with typical iron overload risk genetic results have a typical risk of developing iron overload, a condition characterized by excessive iron absorption and accumulation in the body. It is important for individuals to monitor their iron levels and discuss any concerns with a healthcare provider.

GENETIC SUMMARY

GENE	RS ID	YOUR GENOTYPE	GENE	RS ID	YOUR GENOTYPE
HFE C187G (H63D)	rs1799945	**CC**	**CACNA2D3 T381+454C**	rs1868505	**CC**
HFE G845A (C282Y)	rs1800562	**GG**	**HBS1L-MYB (A>G)**	rs4895441	**AA**
HFE A193T (S65C)	rs1800730	**AA**	**HIST1H2B (C>T)**	rs13194491	**CC**
TMPRSS6 G1563A	rs4820268	**AG**	**TF G1330+278A**	rs3811647	**AG**
BTBD9 G1154+104406A	rs3923809	**AA**	**TFR2 C473+2339A**	rs7385804	**AC**
BMP2 (A>G)	rs235756	**AA**	**TMPRSS6 A*1241G**	rs855791	**TT**

11 Copper and Zinc

10 variants analyzed

In plain terms: Copper and zinc are essential trace minerals critical for numerous physiological processes, including immune function, antioxidant defense, and enzyme activity. However, maintaining the proper balance between these minerals is crucial, as imbalances can lead to various health issues. This section explores the genetic factors that influence individual responses to zinc and copper.

Genetic variations can significantly impact how individuals absorb, utilize, and retain zinc. While zinc is beneficial in appropriate amounts, excessive zinc intake can interfere with the absorption of other essential minerals, notably copper, leading to imbalances and adverse health effects. Genetic predispositions affecting zinc homeostasis can make certain individuals more susceptible to zinc toxicity, manifesting as gastrointestinal distress, immune dysfunction, and neurological issues.

Copper and zinc compete for absorption in the gastrointestinal tract, and an excess of one can lead to a deficiency in the other. Genetic variations that impact copper transport and metabolism, such as ATP7B, can exacerbate the risk of copper imbalance. Assessing genetic risk factors for copper imbalance is essential when considering zinc supplementation, especially in individuals predisposed to copper deficiency or toxicity.

Incorporating genetic insights into nutritional planning enables the development of personalized strategies to optimize zinc and copper levels, enhancing health outcomes while minimizing the risk of imbalances. Healthcare providers can recommend specific dietary adjustments, supplementation, and regular monitoring of mineral status based on individual genetic profiles, ensuring that both zinc and copper are maintained within their optimal ranges for health.

YOUR RESULTS

Copper Imbalance Risk



SIGNIFICANTLY INCREASED

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with significantly increased copper imbalance risk genetic results carry variants that may substantially raise the likelihood of problems with copper regulation, including copper buildup. Avoiding copper supplements unless advised, not overdoing very copper-rich foods and checking copper levels with a healthcare provider can help keep copper balanced.

RECOMMENDATIONS

DIET

Balance Zinc and Copper

Food first; avoid long-term high-dose zinc without testing

Zinc and copper compete for absorption, so large doses of one can push the other out of balance.

DIET

Moderate Very High-Copper Foods

Organ meats and shellfish in moderation

These are the most concentrated copper sources and can add up quickly for individuals sensitive to excess.

LIFESTYLE

Avoid Unneeded Copper Supplements

Check multivitamins and hair or skin supplements for added copper

Individuals with copper regulation variants may be more sensitive to excess, so copper should be supplemented only when testing shows a need.

LIFESTYLE

Check Home Water for Copper

Run the tap before drinking if pipes are copper; test if water tastes metallic

Older copper plumbing can add copper to drinking water, especially water that has sat in the pipes.

FURTHER TESTING

Serum Copper and Ceruloplasmin

Shows how much copper is in the blood and how well it is being carried.

FURTHER TESTING

Plasma Zinc

Helps interpret copper results, since zinc and copper levels affect each other.

YOUR RESULTS

Zinc Supplementation Benefit

DECREASED

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with decreased zinc supplementation benefit genetic results may not see significant improvements from zinc beyond normal dietary intake. A balanced diet with zinc-containing foods such as meat, shellfish, legumes, seeds, nuts and whole grains is likely the best approach, and supplements are most useful when a deficiency is diagnosed.

RECOMMENDATIONS

DIET

Seafood and Meat Sources

Oysters, crab, beef, poultry

Animal sources are the best-absorbed forms of zinc.

DIET

Soak or Sprout Legumes and Grains

Soak beans, lentils and grains before cooking

Soaking and sprouting lower phytates, which helps the body absorb more zinc from plant foods.

LIFESTYLE

Skip Routine High-Dose Zinc

Supplement only if a deficiency is confirmed

Long-term high-dose zinc can lower copper levels, so routine use offers little upside for this result.

LIFESTYLE

Check Supplements for Hidden Zinc

Multivitamins, immune and hair blends

Avoids unneeded extra zinc.

FURTHER TESTING

Alkaline Phosphatase

On a routine panel

Low levels can hint at low zinc.

YOUR RESULTS

Risk for Zinc Excess

TYPICAL

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with typical zinc excess risk genetic results have an average susceptibility to zinc toxicity, consistent with the general population. Keeping zinc intake within recommended amounts, especially when supplementing, helps avoid excess.

GENETIC SUMMARY

GENE	RS ID	YOUR GENOTYPE	GENE	RS ID	YOUR GENOTYPE
ATP7B T2495C	rs1061472	**CC**	**CA1 A-99-6199G**	rs1532423	**AG**
ATP7B C2855T	rs732774	**TT**	**IL6/IL6-AS1 (G>C)**	rs1800795	**CG**
SELENBP1 T4+373G	rs2769264	**TG**	**SMIM1 A-75-335G**	rs1175550	**AA**
PPCDC T136-1598C	rs2120019	**TC**	**SLC30A8 A*813G**	rs11558471	**AG**
NBDY C*167-3205T	rs4826508	**TT**	**SLC30A8 C973T**	rs13266634	**TC**

12 Omega Fatty Acids

7 variants analyzed

> **In plain terms:** Omega fatty acids, including omega-6 and omega-3, are essential polyunsaturated fats that play vital roles in the body's overall health. This section explores genetic propensities for omega-6 risk and omega-3 need, providing insights into how the body may respond to these fatty acids.

Omega-6 fatty acids are important for many biological processes, but an imbalance between omega-6 and omega-3 intake may have implications for health. Some individuals may have a genetic predisposition for a higher risk of imbalanced omega-6 levels, which may lead to inflammation and other health concerns. These individuals may benefit from a dietary approach that focuses on achieving a balanced ratio of omega-6 to omega-3 fatty acids. Incorporating more sources of omega-3 such as fatty fish can help restore the balance.

Omega-3 fatty acids are known for their anti-inflammatory properties and various health benefits. Some individuals may have a genetic propensity for increased omega-3 needs, indicating a higher requirement to maintain optimal health. These individuals may benefit from consuming higher amounts of omega-3-rich foods or considering omega-3 supplementation, especially if dietary intake is limited.

Understanding genetic tendencies related to omega-6 risk and omega-3 need can provide valuable insights for tailoring dietary choices to support overall health. Genetics is just one aspect, and a well-rounded approach to nutrition, including a diverse and balanced diet, regular physical activity, and other healthy lifestyle habits, is crucial for overall well-being.

Examples of Omega-6 food sources include: various vegetable oils, nuts, and seeds.

Examples of DHA and EPA (Omega-3) food sources include: mackerel, salmon, cod liver, herring, oysters, and sardines.

YOUR RESULTS

Omega-6 Risk



TYPICAL

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with typical omega-6 risk genetic results process omega-6 fatty acids in a manner consistent with the general population. Consuming omega-6s in moderation while ensuring adequate omega-3 intake supports the best balance for cardiovascular and inflammatory health. Blood testing can assist in measuring omega levels.

YOUR RESULTS

Omega-3 Need



TYPICAL

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with typical omega-3 need genetic results have standard omega-3 requirements, which can be met through regular consumption of fatty fish (salmon, mackerel) or standard omega-3 supplementation.

GENETIC SUMMARY

GENE	RS ID	YOUR GENOTYPE	GENE	RS ID	YOUR GENOTYPE
FADS1 C1054-109G	rs174548	**GC**	**NOS3 T894G**	rs1799983	**GG**
ELOVL2 G505+225C	rs2236212	**GG**	**BDNF C196T**	rs6265	**CC**
ELOVL2 T*1041C	rs3734398	**TT**	**TNF G-308A**	rs1800629	**GG**
ELOVL2 G-649A	rs953413	**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
Riboflavin (B2) 25 to 100 mg/day	The most overlooked MTHFR cofactor. Clinical trials show that in C677T homozygotes, riboflavin supplementation alone reduces homocysteine by 22% and can restore meaningful MTHFR function.	B Vitamins
5-MTHF (Methylfolate) 400 to 1,000 mcg/day; up to 5 mg/day under practitioner supervision	Provides the active end-product of the MTHFR enzyme reaction, bypassing the conversion bottleneck entirely.	B Vitamins
Methylfolate (5-MTHF) 400 to 800 mcg daily if a supplement is needed	An active form of folate that does not rely on converting folic acid.	B Vitamins
Folinic Acid 400 to 800 mcg daily if a supplement is needed	Another form of folate that bypasses folic acid conversion.	B Vitamins
Vitamin D3 + K2 (MK-7) D3 2,000 to 5,000 IU + K2 100 to 200 mcg/day	D3 is the form made by skin from sunlight and is significantly more effective at raising 25-OH vitamin D than D2. K2 (MK-7 form) ensures calcium mobilized by D3 is directed to bone, not arteries.	Vitamin D
Magnesium (glycinate or malate) 300 to 400 mg/day	Vitamin D conversion requires magnesium at both the 25-hydroxylation (liver) and 1-alpha-hydroxylation (kidney) steps. Supplementing D3 without magnesium can paradoxically worsen magnesium deficiency and impair D3 activation.	Vitamin D
Alpha-GPC 300 to 600 mg daily	Highly bioavailable form of choline that crosses the blood-brain barrier; increases acetylcholine for memory and learning.	Choline
Citicoline (CDP-Choline) 250 to 500 mg daily	Increases choline availability and enhances phosphatidylcholine production supporting brain health and memory.	Choline
Phosphatidylcholine (PC) 1,200 to 2,400 mg daily	Major cell membrane component essential for liver health, fat metabolism, and brain function.	Choline
Betaine (TMG) 500 to 1,500 mg daily	Supports choline metabolism and methylation cycle; protects liver from fatty infiltration.	Choline
Lecithin 1,200 to 3,600 mg daily	Natural source of phosphatidylcholine supporting liver health, fat metabolism, and cell membrane integrity.	Choline
L-Citrulline 3 to 6 g daily	Citrulline is converted to arginine and then to nitric oxide, and may support healthy blood flow.	Nitric Oxide
Beetroot Powder or Juice Equivalent to about 400 mg nitrate daily	Concentrated dietary nitrate is converted to nitric oxide.	Nitric Oxide
Selenium (selenomethionine) 55 to 100 mcg daily	Supports selenium status for individuals who do not eat selenium-rich foods regularly.	Selenium and Iodine

SUPPLEMENT	RATIONALE	PANEL
Ferrous Bisglycinate 25 to 30 mg elemental iron daily	Chelated iron with high bioavailability and minimal GI side effects; preferred for long-term repletion.	Iron
Ferrous Sulfate 150 to 200 mg elemental iron daily	Most common and effective iron form for rapid repletion; take on empty stomach for best absorption.	Iron

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
Homocysteine	Primary clinical outcome of MTHFR activity. Elevated homocysteine confirms functional MTHFR impairment regardless of genotype; target <7 umol/L. Retesting 8 to 12 weeks after starting methylfolate confirms treatment response.	B Vitamins
Plasma Riboflavin (B2)	B2 deficiency worsens thermolabile MTHFR variants; testing reveals whether riboflavin supplementation will meaningfully improve MTHFR function. Low B2 is the most modifiable cofactor for MTHFR impairment.	B Vitamins
RBC Folate (not serum folate) Target >400 ng/mL (>906 nmol/L)	RBC folate reflects intracellular folate stores over the prior 3 months, the metabolically relevant compartment for methylation.	B Vitamins
Urinary Formiminoglutamic Acid (FIGLU)	FIGLU is the most direct functional marker of folate sufficiency on organic acids testing.	B Vitamins
Parathyroid Hormone (PTH)	PTH inversely tracks vitamin D status; PTH above 40 pg/mL indicates functional vitamin D deficiency even when 25-OH D appears borderline adequate. PTH normalization (<35 pg/mL) is the functional endpoint of vitamin D repletion.	Vitamin D
RBC Magnesium (not serum)	Serum magnesium is maintained in a narrow range at the expense of intracellular stores. Serum can be normal when cells are profoundly depleted.	Electrolytes
24-Hour Urine Magnesium (if deficiency mechanism unclear)	Distinguishes between inadequate intake (low urine Mg) and excessive renal wasting (elevated urine Mg despite deficiency). High urine magnesium with low RBC magnesium confirms renal wasting as the primary driver.	Electrolytes
Liver Function Tests	Choline deficiency presents as NAFLD; testing tracks liver health.	Choline
Plasma Choline Level	Identifies choline insufficiency before symptoms become apparent; guides supplement form and dose selection.	Choline
Comprehensive Metabolic Panel	Includes liver enzymes that can reflect choline status.	Choline
Liver Ultrasound If liver enzymes are raised	Checks for fatty liver, the main organ risk of low choline.	Choline
Creatine Kinase (CK)	Low choline can also affect muscle.	Choline
Blood Pressure Check Home or clinic readings	Blood pressure reflects blood vessel function and shows whether nitric oxide support is helping.	Nitric Oxide
Lipid Panel	Blood vessel health depends on cholesterol as well as nitric oxide.	Nitric Oxide
Serum or Plasma Selenium	Shows current selenium status before adding or adjusting supplements.	Selenium and Iodine
Thyroid Panel (TSH, Free T4)	Selenium supports thyroid hormone activity, so thyroid tests help interpret low selenium.	Selenium and Iodine

TEST / ASSESSMENT	CLINICAL RATIONALE	PANEL
Ferritin, Serum Iron, TIBC	Comprehensive iron status panel; ferritin below 30 ng/mL indicates deficiency even with normal hemoglobin.	Iron
CBC	Identifies iron deficiency anemia; microcytic anemia confirms advanced iron depletion.	Iron
Serum Copper and Ceruloplasmin	Shows how much copper is in the blood and how well it is being carried.	Copper and Zinc
Plasma Zinc	Helps interpret copper results, since zinc and copper levels affect each other.	Copper and Zinc
Alkaline Phosphatase On a routine panel	Low levels can hint at low zinc.	Copper and Zinc