



DNA Signature - Toxins

GENETICS REPORT

120

Gene
Variants

Example Client

Prepared for

Order ID: _____

DOB: _____

August 26, 2026

Report Date

Practitioner: Demo

Table of Contents

Result Scores Summary	3
Test Disclaimer	4
Environmental Sensitivity	5
Mold Sensitivity	6
Element and Heavy Metal Management	7
Phase 1 Detoxification Systems	8
Phase 2 Detoxification Overview	9
Methylation Expanded	10

Result Scores Summary

Overview of all 30 engine results across this section.

3

NEEDS ATTENTION

13

MODERATE

14

OPTIMAL

● Needs Attention (3)

● General Chemical Sensitivity	Elevated risk	Environmental Sensitivity
● Lead Exposure Sensitivity	Increased	Element and Heavy Metal Management
● Catalase Activity	Decreased	Phase 2 Detoxification Overview

● Moderate (13)

● Benzene Sensitivity	Increased	Environmental Sensitivity
● Mold Sensitivity	Increased	Mold Sensitivity
● Fluoride Exposure Sensitivity	Increased	Element and Heavy Metal Management
● Oxidative Stress Support	Decreased	Phase 1 Detoxification Systems
● Phase II Detox Efficiency	Reduced	Phase 2 Detoxification Overview
● SOD2 Activity	Typical	Phase 2 Detoxification Overview
● Glucuronidation	Decreased function	Phase 2 Detoxification Overview
● Glutathione Level Propensity	Reduced	Phase 2 Detoxification Overview
● Methylation Propensity	Undermethylation potential	Methylation Expanded
● MTHFR Activity	60-70% enzyme activity	Methylation Expanded
● MTR	Typical	Methylation Expanded
● AHCY	Heterozygous	Methylation Expanded
● Choline Need	Typical	Methylation Expanded

● Optimal (14)

● Pesticide Sensitivity	Typical	Environmental Sensitivity
● Bisphenol Sensitivity	Typical	Environmental Sensitivity
● Mold Metabolism	Rapid metabolism	Mold Sensitivity
● Arsenic Exposure Sensitivity	Typical	Element and Heavy Metal Management
● Mercury Exposure Sensitivity	Typical	Element and Heavy Metal Management
● Phthalate Metabolism	Normal metabolism	Phase 1 Detoxification Systems
● CYP2D6 Metabolism	Typical	Phase 1 Detoxification Systems
● CYP1A1 Metabolism	Rapid metabolism	Phase 1 Detoxification Systems
● CYP2B6 Metabolism	Typical	Phase 1 Detoxification Systems
● CYP3A4 Metabolism	Typical	Phase 1 Detoxification Systems
● NAT2 Acetylation	Typical	Phase 2 Detoxification Overview
● NRF2 Activity	Improved	Phase 2 Detoxification Overview
● MTRR	Increased activity	Methylation Expanded
● COMT	Neutral activity	Methylation Expanded

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

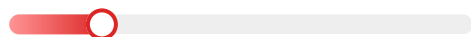
THESE GENE RESULTS WILL NOT TELL YOU

- ✗ Any medical diagnoses
- ✗ Cancer risk assessments
- ✗ False positives
- ✗ Predictions about future health conditions
- ✗ How lifestyle factors outside of genetics impact health outcomes

This commentary is designed solely to support the practitioner's clinical evaluation, as all diagnostic interpretations, treatment plans, and medical management decisions remain entirely under the practitioner's independent authority. The findings in this report outline genetic predispositions for informational purposes only and do not constitute diagnostic or treatment recommendations, guarantee health outcomes, or replace direct clinical consultation. These statements have not been evaluated by the Food and Drug Administration, and our tests are not intended to diagnose, treat, cure, or prevent any disease. Patients must be advised not to initiate or modify any diet, exercise, medication, or lifestyle regimen without consultation with a licensed healthcare provider.

GENERAL CHEMICAL SENSITIVITY

YOUR RESULTS



ELEVATED RISK

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with this genetic result have an elevated risk of chemical sensitivity. Genetic variations associated with this result indicate a significant vulnerability to adverse reactions or sensitivities when exposed to certain environmental toxins. Vigilance is recommended as well as taking comprehensive measures to minimize exposure to potentially triggering substances. This may include using alternative products, maintaining a clean and well-ventilated environment, and seeking guidance to manage and reduce potential risks. Hypoallergenic and fragrance-free cleaning and beauty supplies are advisable to mitigate exposure.

LITERATURE DERIVED RECOMMENDATION

 SUPPLEMENT**Glutathione***300 mg daily*

Converts fat-soluble toxins to water-soluble compounds for excretion; primary detoxification antioxidant.

 SUPPLEMENT**N-Acetylcysteine (NAC)***600 mg daily*

Precursor to glutathione; makes toxins more water-soluble and supports liver detoxification.

 DIET**Cruciferous Vegetables***2-5 cups daily*

Contain sulforaphane, a potent Nrf2 activator that boosts phase II detox enzymes.

 DIET**Sulfur-Rich Foods**

Garlic, onions, and eggs support glutathione synthesis, the body's master detoxification antioxidant.

 LIFESTYLE**Reduce Toxic Exposures**

Use fragrance-free personal care products, avoid synthetic cleaning agents, and prioritize air filtration.

 LIFESTYLE**Adequate Sleep***7-8 hours/night*

The lymphatic system clears neurotoxins during sleep; adequate rest is essential for detoxification.

FURTHER TESTING

Glutathione (whole blood)

Measures detox capacity; low levels predict poor tolerance of environmental chemicals.

FURTHER TESTING

Organic Acids Test (OAT)

MosaicDX

Identifies impaired detox pathways, mitochondrial dysfunction, and oxidative stress markers.

BENZENE SENSITIVITY

YOUR RESULTS



UNDERSTANDING WHAT THIS MAY MEAN

Those identified with an increased risk for benzene possess genetic variations that elevate their susceptibility to the harmful effects of benzene exposure beyond the typical population level. This heightened genetic predisposition underscores the importance of vigilance and proactive measures to reduce benzene exposure. Individuals with an increased risk should be particularly mindful of avoiding environments with high benzene levels, using protective measures when exposure is unavoidable, and seeking regular medical check-ups to monitor for any health issues associated with benzene.

LITERATURE DERIVED RECOMMENDATION

SUPPLEMENT

Glutathione

300 mg daily

Converts fat-soluble toxins to water-soluble compounds for excretion; primary detoxification antioxidant.

SUPPLEMENT

N-Acetylcysteine (NAC)

600 mg daily

Precursor to glutathione; makes toxins more water-soluble and supports liver detoxification.

DIET

Cruciferous Vegetables

2-5 cups daily

Contain sulforaphane, a potent Nrf2 activator that boosts phase II detox enzymes.

DIET

Sulfur-Rich Foods

Garlic, onions, and eggs support glutathione synthesis, the body's master detoxification antioxidant.

LIFESTYLE

Reduce Toxic Exposures

Use fragrance-free personal care products, avoid synthetic cleaning agents, and prioritize air filtration.

LIFESTYLE

Adequate Sleep

7-8 hours/night

The glymphatic system clears neurotoxins during sleep; adequate rest is essential for detoxification.

FURTHER TESTING

Glutathione (whole blood)

Measures detox capacity; low levels predict poor tolerance of environmental chemicals.

FURTHER TESTING

Organic Acids Test (OAT)

MosaicDX

Identifies impaired detox pathways, mitochondrial dysfunction, and oxidative stress markers.

PESTICIDE SENSITIVITY

YOUR RESULTS



TYPICAL

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with this genetic result have a typical risk of adverse effects related to pesticide exposure, including organophosphates. Their genetic profile suggests that their bodies respond to pesticide exposure in a manner similar to the general population. Individuals should continue to be mindful of potential pesticide exposures and take appropriate precautions to minimize exposure.

BISPHENOL SENSITIVITY

YOUR RESULTS



TYPICAL

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with this genetic result have a typical risk of adverse effects associated with exposure to bisphenol A (BPA). BPA is a chemical commonly found in plastics, food containers, and other consumer products. Genetic variations associated with this result suggest that their bodies respond to BPA exposure in a manner similar to the general population. Caution is still suggested around potential sources of BPA exposure and try to minimize exposure.

MOLD METABOLISM

YOUR RESULTS



RAPID METABOLISM

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with this genetic result have a rapid metabolism of mold-related substances. Genetic variations associated with this result suggest that their bodies have an enhanced ability to metabolize and eliminate molds efficiently. This may provide a relatively better ability to handle mold exposure and reduce susceptibility to adverse health effects. However, it is still important for individuals with this result to be cautious of potential mold-related risks and take appropriate preventive measures to minimize exposure. Additionally, it is important to ensure phase 2 detoxification systems are working effectively to eliminate mold metabolites.

MOLD SENSITIVITY

YOUR RESULTS



INCREASED

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with this genetic result have an increased severity risk of mold-related asthma and allergies. Genetic variations associated with this result suggest that their bodies may have an enhanced response to mold exposure, potentially leading to more severe asthma symptoms or allergic reactions. It is important for individuals with this result to be extra cautious, take proactive steps to minimize mold exposure, and work closely with healthcare professionals to develop a comprehensive management plan.

LITERATURE DERIVED RECOMMENDATION

SUPPLEMENT

N-Acetylcysteine (NAC)

600-1,200 mg daily

Increases intracellular glutathione to aid mycotoxin elimination and protect kidney and liver.

SUPPLEMENT

Sulforaphane

20-40 mg daily

Activates Nrf2 pathway, boosting phase II detox enzymes for increased excretion of mold toxins.

 DIET

Low Mold Diet

Avoid aged cheeses, dried fruits, and peanuts which can harbor mold and mycotoxins.

 DIET

Cruciferous Vegetables

2-5 cups daily

Sulforaphane-rich vegetables boost the detox pathways responsible for eliminating mycotoxins.

 LIFESTYLE

Reduce Mold Exposure

Address water damage, use HEPA air filters, and test the home environment; source removal is foundational.

 LIFESTYLE

Adequate Sleep

7-8 hours/night

Supports glutathione regeneration and the body's detoxification capacity during recovery.

 FURTHER TESTING

Urine Mycotoxin Panel

MosaicDX MycoTox

Identifies specific mycotoxins driving symptoms; guides targeted detox and remediation.

 FURTHER TESTING

Glutathione (whole blood)

Mold exposure rapidly depletes glutathione; levels guide NAC and antioxidant supplementation intensity.

ARSENIC EXPOSURE SENSITIVITY

YOUR RESULTS



UNDERSTANDING WHAT THIS MAY MEAN

Individuals with this genetic result have a typical risk of adverse effects associated with arsenic exposure. Their genetic profile suggests a response to arsenic that is similar to the general population. Following guidelines for safe drinking water and maintaining a healthy, balanced diet can help reduce potential exposures.

MERCURY EXPOSURE SENSITIVITY

YOUR RESULTS



UNDERSTANDING WHAT THIS MAY MEAN

Individuals with this genetic result have a typical risk of adverse effects related to mercury exposure. Their genetic profile suggests a response to mercury that is similar to the general population. It is important to be aware of potential sources of mercury exposure, such as certain types of fish or occupational settings, and take appropriate measures to minimize exposure. Following guidelines for safe fish consumption, such as choosing low-mercury fish and limiting consumption of high-mercury fish, can help reduce potential risks.

LEAD EXPOSURE SENSITIVITY

YOUR RESULTS



UNDERSTANDING WHAT THIS MAY MEAN

Individuals with this genetic result have an increased risk of adverse effects associated with lead exposure. Genetic variations associated with this result suggest that their bodies may be more susceptible to the toxic effects of lead. It is crucial for individuals with this result to be extra vigilant and take proactive steps to reduce lead exposure. This may include avoiding or minimizing contact with potential lead sources, such as lead-based paint, certain occupations involving lead exposure, or contaminated soil.

LITERATURE DERIVED RECOMMENDATION

SUPPLEMENT

Glutathione

300 mg daily

Converts fat-soluble toxins to water-soluble compounds for excretion; primary detoxification antioxidant.

SUPPLEMENT

N-Acetylcysteine (NAC)

600 mg daily

Precursor to glutathione; makes toxins more water-soluble and supports liver detoxification.

DIET

Cruciferous Vegetables

2-5 cups daily

Contain sulforaphane, a potent Nrf2 activator that boosts phase II detox enzymes.

DIET

Sulfur-Rich Foods

Garlic, onions, and eggs support glutathione synthesis, the body's master detoxification antioxidant.

LIFESTYLE

Reduce Toxic Exposures

Use fragrance-free personal care products, avoid synthetic cleaning agents, and prioritize air filtration.

LIFESTYLE

Adequate Sleep

7-8 hours/night

The glymphatic system clears neurotoxins during sleep; adequate rest is essential for detoxification.

FURTHER TESTING

Glutathione (whole blood)

Measures detox capacity; low levels predict poor tolerance of environmental chemicals.

FURTHER TESTING

Organic Acids Test (OAT)

MosaicDX

Identifies impaired detox pathways, mitochondrial dysfunction, and oxidative stress markers.

FLUORIDE EXPOSURE SENSITIVITY

YOUR RESULTS



INCREASED

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with this genetic result have an increased risk of adverse effects associated with fluoride exposure. Genetic variations associated with this result suggest that their bodies may be less efficient at processing or eliminating fluoride, potentially increasing the risk of adverse impacts on oral health or other potential concerns.

LITERATURE DERIVED RECOMMENDATION

SUPPLEMENT

Glutathione

300 mg daily

Converts fat-soluble toxins to water-soluble compounds for excretion; primary detoxification antioxidant.

SUPPLEMENT

N-Acetylcysteine (NAC)

600 mg daily

Precursor to glutathione; makes toxins more water-soluble and supports liver detoxification.

DIET

Cruciferous Vegetables

2-5 cups daily

Contain sulforaphane, a potent Nrf2 activator that boosts phase II detox enzymes.

DIET

Sulfur-Rich Foods

Garlic, onions, and eggs support glutathione synthesis, the body's master detoxification antioxidant.

LIFESTYLE

Reduce Toxic Exposures

Use fragrance-free personal care products, avoid synthetic cleaning agents, and prioritize air filtration.

LIFESTYLE

Adequate Sleep

7-8 hours/night

The glymphatic system clears neurotoxins during sleep; adequate rest is essential for detoxification.

FURTHER TESTING

Glutathione (whole blood)

Measures detox capacity; low levels predict poor tolerance of environmental chemicals.

FURTHER TESTING

Organic Acids Test (OAT)

MosaicDX

Identifies impaired detox pathways, mitochondrial dysfunction, and oxidative stress markers.

OXIDATIVE STRESS SUPPORT

YOUR RESULTS



UNDERSTANDING WHAT THIS MAY MEAN

This suggests a slightly higher than average vulnerability to oxidative stress. Increasing the intake of antioxidant-rich foods and considering supplements may be beneficial.

LITERATURE DERIVED RECOMMENDATION

 SUPPLEMENT**Vitamin C***500-1,000 mg daily*

Potent water-soluble antioxidant that regenerates vitamin E and supports glutathione recycling.

 SUPPLEMENT**Natural Vitamin E***200-400 IU daily*

Fat-soluble antioxidant that protects cell membranes from oxidative damage.

 DIET**Antioxidant-Rich Diet**

Berries, dark chocolate, green tea, and colorful vegetables provide the broadest antioxidant defense.

 DIET**Limit Refined Sugars**

Excess sugar is a primary driver of oxidative stress through advanced glycation end products.

 LIFESTYLE**Reduce Sedentary Behavior**

Regular exercise upregulates endogenous antioxidant enzymes including SOD, catalase, and glutathione peroxidase.

 LIFESTYLE**Adequate Sleep***7-8 hours/night*

Oxidative stress accumulates during sleep deprivation; consistent sleep is the most powerful antioxidant reset.

 FURTHER TESTING**8-OHdG (urine)**

Gold standard marker of DNA oxidative damage; tracks the effectiveness of antioxidant interventions.

 FURTHER TESTING**Oxidized LDL**

Measures lipid oxidation burden; elevated levels indicate insufficient antioxidant defense.

PHTHALATE METABOLISM

YOUR RESULTS



NORMAL METABOLISM

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with this genetic result have a normal metabolism of phthalates. Their genetic profile suggests that their bodies can effectively metabolize and eliminate phthalates within the average range. However, it is still important for individuals with this result to be aware of potential phthalate exposure risks and take preventive measures to minimize exposure.

CYP2D6 METABOLISM

YOUR RESULTS



TYPICAL

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with typical CYP2D6 metabolism are able to process medications in the usual way. However, it is important to note that genetic variations can still affect the way medications are processed by the body, so always speak to your healthcare provider about any concerns you may have regarding your medication.

CYP1A1 METABOLISM

YOUR RESULTS



RAPID METABOLISM

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with this genetic result have a rapid metabolism of mold-related substances. Genetic variations associated with this result suggest that their bodies have an enhanced ability to metabolize and eliminate molds efficiently. This may provide a relatively better ability to handle mold exposure and reduce susceptibility to adverse health effects. However, it is still important for individuals with this result to be cautious of potential mold-related risks and take appropriate preventive measures to minimize exposure. Additionally, it is important to ensure phase 2 detoxification systems are working effectively to eliminate mold metabolites.

CYP2B6 METABOLISM

YOUR RESULTS



UNDERSTANDING WHAT THIS MAY MEAN

Individuals with this genetic result have a typical metabolism of phthalates. Their genetic profile suggests that their bodies can effectively metabolize and eliminate phthalates within the average range. However, it is still important for individuals with this result to be aware of potential phthalate exposure risks and take preventive measures to minimize exposure. This may include using phthalate-free products, avoiding prolonged contact with plastics, and choosing natural or organic alternatives when possible.

CYP3A4 METABOLISM

YOUR RESULTS



UNDERSTANDING WHAT THIS MAY MEAN

If you have typical CYP3A4 metabolism, your body is able to process medications at a typical rate. However, it's still important to be aware of any potential drug interactions or side effects and to follow your healthcare provider's instructions for medication use.

PHASE II DETOX EFFICIENCY

YOUR RESULTS



REDUCED

UNDERSTANDING WHAT THIS MAY MEAN

Decreased Phase II detox efficiency may suggest reduced support for packaging and clearing compounds after initial processing. This profile may benefit from extra nutritional support through colorful plants and consistent digestive health habits. Consider increasing leafy greens, onions, garlic, berries, and daily fiber.

LITERATURE DERIVED RECOMMENDATION

 SUPPLEMENT**N-Acetylcysteine (NAC)***600-1,200 mg daily*

The most evidence-backed way to raise intracellular glutathione; precursor to cysteine, the rate-limiting amino acid.

 SUPPLEMENT**Glutathione or liposomal glutathione***100-300 mg daily*

Directly replenishes intracellular stores.

 DIET**Sulfur-Rich Foods**

Garlic, onions, eggs, and cruciferous vegetables provide cysteine and methionine needed for glutathione synthesis.

 DIET**Cruciferous Vegetables***2-5 cups daily*

Sulforaphane activates Nrf2, the master regulator of glutathione synthesis and antioxidant gene expression.

 LIFESTYLE**Adequate Sleep***7-8 hours/night*

Glutathione levels drop significantly with poor sleep; consistent sleep is essential for antioxidant regeneration.

 LIFESTYLE**Reduce Stress**

Chronic stress depletes glutathione through oxidative burden; stress management preserves glutathione pools.

FURTHER TESTING

Glutathione (whole blood or RBC)

Directly measures intracellular glutathione status; guides NAC and glutathione supplementation decisions.

FURTHER TESTING

Organic Acids Test (OAT)

MosaicDX

Identifies upstream drivers of glutathione depletion including oxidative stress and mitochondrial dysfunction.

SOD2 ACTIVITY

YOUR RESULTS



UNDERSTANDING WHAT THIS MAY MEAN

Individuals with this genetic result have typical SOD2 activity. Their genetic profile suggests that their bodies can produce and maintain SOD2 levels within the average range. It is still important for individuals with this result to continue supporting their antioxidant defense system by maintaining a balanced diet, engaging in regular physical activity, and avoiding excessive exposure to environmental toxins.

LITERATURE DERIVED RECOMMENDATION

SUPPLEMENT

Vitamin C

500-1,000 mg daily

Potent water-soluble antioxidant that regenerates vitamin E and supports glutathione recycling.

SUPPLEMENT

Natural Vitamin E

200-400 IU daily

Fat-soluble antioxidant that protects cell membranes from oxidative damage.

DIET

Antioxidant-Rich Diet

Berries, dark chocolate, green tea, and colorful vegetables provide the broadest antioxidant defense.

DIET

Limit Refined Sugars

Excess sugar is a primary driver of oxidative stress through advanced glycation end products.

LIFESTYLE

Reduce Sedentary Behavior

Regular exercise upregulates endogenous antioxidant enzymes including SOD, catalase, and glutathione peroxidase.

LIFESTYLE

Adequate Sleep

7-8 hours/night

Oxidative stress accumulates during sleep deprivation; consistent sleep is the most powerful antioxidant reset.

FURTHER TESTING

8-OHdG (urine)

Gold standard marker of DNA oxidative damage; tracks the effectiveness of antioxidant interventions.

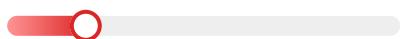
FURTHER TESTING

Oxidized LDL

Measures lipid oxidation burden; elevated levels indicate insufficient antioxidant defense.

CATALASE ACTIVITY

YOUR RESULTS



DECREASED

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with this genetic result may have decreased catalase activity. Genetic variations associated with this result suggest that their bodies may have a reduced capacity to produce or maintain optimal levels of catalase. This could potentially lead to an impaired ability to neutralize harmful reactive oxygen species (ROS) and increased vulnerability to oxidative damage. It is important for individuals with this result to focus on supporting their antioxidant defense through other means, such as consuming a diet rich in antioxidant-rich foods, avoiding excessive exposure to environmental toxins, and considering lifestyle practices that promote overall well-being.

LITERATURE DERIVED RECOMMENDATION

SUPPLEMENT

Vitamin C

500-1,000 mg daily

Potent water-soluble antioxidant that regenerates vitamin E and supports glutathione recycling.

SUPPLEMENT

Natural Vitamin E

200-400 IU daily

Fat-soluble antioxidant that protects cell membranes from oxidative damage.

🍷 DIET

Antioxidant-Rich Diet

Berries, dark chocolate, green tea, and colorful vegetables provide the broadest antioxidant defense.

🍷 DIET

Limit Refined Sugars

Excess sugar is a primary driver of oxidative stress through advanced glycation end products.

🏃 LIFESTYLE

Reduce Sedentary Behavior

Regular exercise upregulates endogenous antioxidant enzymes including SOD, catalase, and glutathione peroxidase.

🏃 LIFESTYLE

Adequate Sleep

7-8 hours/night

Oxidative stress accumulates during sleep deprivation; consistent sleep is the most powerful antioxidant reset.

🧪 FURTHER TESTING

8-OHdG (urine)

Gold standard marker of DNA oxidative damage; tracks the effectiveness of antioxidant interventions.

🧪 FURTHER TESTING

Oxidized LDL

Measures lipid oxidation burden; elevated levels indicate insufficient antioxidant defense.

GLUCURONIDATION

YOUR RESULTS



DECREASED FUNCTION

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with this genetic result may have reduced glucuronidation function. Genetic variations associated with this result suggest that their bodies may have a decreased capacity to perform glucuronidation efficiently. It is important for individuals with this result to be mindful of their toxicant exposure and consider lifestyle practices that support overall detoxification and elimination processes. This may include consuming a nutrient-rich diet, staying hydrated, engaging in regular physical activity, and avoiding excessive exposure to environmental toxins.

LITERATURE DERIVED RECOMMENDATION

 SUPPLEMENT

N-Acetylcysteine (NAC)

600-1,200 mg daily

The most evidence-backed way to raise intracellular glutathione; precursor to cysteine, the rate-limiting amino acid.

 SUPPLEMENT

Glutathione or liposomal glutathione

100-300 mg daily

Directly replenishes intracellular stores.

 DIET

Sulfur-Rich Foods

Garlic, onions, eggs, and cruciferous vegetables provide cysteine and methionine needed for glutathione synthesis.

 DIET

Cruciferous Vegetables

2-5 cups daily

Sulforaphane activates Nrf2, the master regulator of glutathione synthesis and antioxidant gene expression.

 LIFESTYLE

Adequate Sleep

7-8 hours/night

Glutathione levels drop significantly with poor sleep; consistent sleep is essential for antioxidant regeneration.

 LIFESTYLE

Reduce Stress

Chronic stress depletes glutathione through oxidative burden; stress management preserves glutathione pools.

 FURTHER TESTING

Glutathione (whole blood or RBC)

Directly measures intracellular glutathione status; guides NAC and glutathione supplementation decisions.

 FURTHER TESTING

Organic Acids Test (OAT)

MosaicDX

Identifies upstream drivers of glutathione depletion including oxidative stress and mitochondrial dysfunction.

NAT2 ACETYLATION

YOUR RESULTS



TYPICAL

UNDERSTANDING WHAT THIS MAY MEAN

This result is similar to intermediate NAT2 acetylation, and may be associated with an increased risk for adverse drug reactions, it is also the more common combination of genetic variants. This result can also increase potential for sensitivity to certain environmental toxins such as cigarette smoke or pollution.

NRF2 ACTIVITY

YOUR RESULTS



UNDERSTANDING WHAT THIS MAY MEAN

Individuals with this genetic result may have an increased NRF2 activity. Genetic variations associated with this result suggest that their bodies may have an enhanced ability to activate the NRF2 pathway, resulting in a potentially stronger antioxidant and detoxification response. While this may confer certain benefits, individuals with this result should endeavor to maintain a balanced approach and not rely solely on NRF2 activation.

GLUTATHIONE LEVEL PROPENSITY

YOUR RESULTS



UNDERSTANDING WHAT THIS MAY MEAN

Individuals with this genetic result may have reduced levels of glutathione. Genetic variations associated with this result suggest that their bodies may have a decreased capacity to produce or maintain optimal glutathione levels. It is important for individuals with this result to prioritize lifestyle practices that support glutathione production and overall antioxidant defense. This may include consuming sulfur rich foods as well as considering glutathione precursors such as NAC under the guidance of a healthcare practitioner.

LITERATURE DERIVED RECOMMENDATION

SUPPLEMENT

N-Acetylcysteine (NAC)

600-1,200 mg daily

The most evidence-backed way to raise intracellular glutathione; precursor to cysteine, the rate-limiting amino acid.

SUPPLEMENT

Glutathione or liposomal glutathione

100-300 mg daily

Directly replenishes intracellular stores.

 DIET

Sulfur-Rich Foods

Garlic, onions, eggs, and cruciferous vegetables provide cysteine and methionine needed for glutathione synthesis.

 DIET

Cruciferous Vegetables

2-5 cups daily

Sulforaphane activates Nrf2, the master regulator of glutathione synthesis and antioxidant gene expression.

 LIFESTYLE

Adequate Sleep

7-8 hours/night

Glutathione levels drop significantly with poor sleep; consistent sleep is essential for antioxidant regeneration.

 LIFESTYLE

Reduce Stress

Chronic stress depletes glutathione through oxidative burden; stress management preserves glutathione pools.

 FURTHER TESTING

Glutathione (whole blood or RBC)

Directly measures intracellular glutathione status; guides NAC and glutathione supplementation decisions.

 FURTHER TESTING

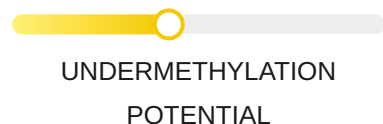
Organic Acids Test (OAT)

MosaicDX

Identifies upstream drivers of glutathione depletion including oxidative stress and mitochondrial dysfunction.

METHYLATION PROPENSITY

YOUR RESULTS



UNDERSTANDING WHAT THIS MAY MEAN

Genetic variations associated with this result suggest that their bodies may have reduced capacity or efficiency in methylation, leading to potential imbalances in various biochemical pathways. Undermethylation can impact overall health and may be linked to conditions such as mood disorders, allergies, and cardiovascular issues. It is important for individuals with this result to work with healthcare professionals to support optimal methylation through appropriate supplementation, diet, and lifestyle modifications. Supporting micronutrient levels such as B vitamins, zinc, choline, and magnesium can be beneficial to support this system.

LITERATURE DERIVED RECOMMENDATION

SUPPLEMENT

Methylcobalamin (B12)

500-1,000 mcg daily

Active B12 directly supports MTR enzyme function; MTR requires B12 to remethylate homocysteine to methionine.

SUPPLEMENT

L-Methylfolate (5-MTHF)

400-800 mcg daily

Provides the methyl group that MTR uses to convert homocysteine back to methionine.

DIET

Folate-Rich Foods

Leafy greens, lentils, asparagus, and avocado provide natural folate for the methylation cycle.

DIET

B12-Rich Foods

Animal proteins, shellfish, eggs, and dairy support B12 levels critical for MTR enzyme function.

LIFESTYLE

Reduce Stress

Chronic stress depletes methyl donors; consistent stress management preserves methylation capacity.

LIFESTYLE

Limit Alcohol

Alcohol directly depletes B12 and folate needed for MTR function and methylation balance.

FURTHER TESTING

Homocysteine

The primary marker of methylation capacity; elevated levels indicate the MTR pathway needs additional support.

FURTHER TESTING

RBC Folate & B12

Functional status of both key MTR cofactors; should be assessed and optimized simultaneously.

MTHFR ACTIVITY

YOUR RESULTS



60-70% ENZYME ACTIVITY

UNDERSTANDING WHAT THIS MAY MEAN

Individuals with 60-70% MTHFR enzyme activity have a moderate reduction in enzyme activity and may be at an increased risk for elevated homocysteine levels and associated health problems. However, the risk is generally not as high as for individuals with further reduced enzyme activity. Individuals with this enzyme activity level may still benefit from folate and other b vitamins to support overall health.

LITERATURE DERIVED RECOMMENDATION

SUPPLEMENT

Methylcobalamin (B12)

500-1,000 mcg daily

Active B12 directly supports MTR enzyme function; MTR requires B12 to remethylate homocysteine to methionine.

SUPPLEMENT

L-Methylfolate (5-MTHF)

400-800 mcg daily

Provides the methyl group that MTR uses to convert homocysteine back to methionine.

DIET

Folate-Rich Foods

Leafy greens, lentils, asparagus, and avocado provide natural folate for the methylation cycle.

DIET

B12-Rich Foods

Animal proteins, shellfish, eggs, and dairy support B12 levels critical for MTR enzyme function.

LIFESTYLE

Reduce Stress

Chronic stress depletes methyl donors; consistent stress management preserves methylation capacity.

LIFESTYLE

Limit Alcohol

Alcohol directly depletes B12 and folate needed for MTR function and methylation balance.

FURTHER TESTING

Homocysteine

The primary marker of methylation capacity; elevated levels indicate the MTR pathway needs additional support.

FURTHER TESTING

RBC Folate & B12

Functional status of both key MTR cofactors; should be assessed and optimized simultaneously.

MTR

YOUR RESULTS



TYPICAL

UNDERSTANDING WHAT THIS MAY MEAN

MTR encodes methionine synthase, an enzyme that converts homocysteine back to methionine using vitamin B12 as a cofactor. This reaction is central to the methylation cycle and plays a key role in maintaining healthy homocysteine levels and supporting DNA synthesis, neurotransmitter production, and overall methylation capacity. This is the most common result, occurring in approximately 56% of individuals. Despite being the typical result, typical MTR activity corresponds with the greatest potential for undermethylation and elevated homocysteine levels among the three possible outcomes. Adequate intake of vitamin B12, folate, and other methyl-donor nutrients is particularly important for supporting this enzyme. Regular monitoring of homocysteine levels may be beneficial, especially in the context of other methylation variants.

LITERATURE DERIVED RECOMMENDATION

SUPPLEMENT

Methylcobalamin (B12)

500-1,000 mcg daily

Active B12 directly supports MTR enzyme function; MTR requires B12 to remethylate homocysteine to methionine.

SUPPLEMENT

L-Methylfolate (5-MTHF)

400-800 mcg daily

Provides the methyl group that MTR uses to convert homocysteine back to methionine.

DIET

Folate-Rich Foods

Leafy greens, lentils, asparagus, and avocado provide natural folate for the methylation cycle.

DIET

B12-Rich Foods

Animal proteins, shellfish, eggs, and dairy support B12 levels critical for MTR enzyme function.

LIFESTYLE

Reduce Stress

Chronic stress depletes methyl donors; consistent stress management preserves methylation capacity.

LIFESTYLE

Limit Alcohol

Alcohol directly depletes B12 and folate needed for MTR function and methylation balance.

FURTHER TESTING

Homocysteine

The primary marker of methylation capacity; elevated levels indicate the MTR pathway needs additional support.

FURTHER TESTING

RBC Folate & B12

Functional status of both key MTR cofactors; should be assessed and optimized simultaneously.

MTRR

YOUR RESULTS



INCREASED ACTIVITY

UNDERSTANDING WHAT THIS MAY MEAN

MTRR encodes methionine synthase reductase, an enzyme responsible for reactivating methionine synthase (MTR) when it becomes inactive. MTR requires vitamin B12 in its active form to function; MTRR recycles this cofactor so the methylation cycle can continue running. Reduced MTRR activity can impair MTR function even when B12 intake is sufficient, making micronutrient status particularly important in individuals with MTRR variants. This result reflects a homozygous variant associated with increased MTRR activity, providing greater-than-average support for MTR reactivation and methylation cycle function. This is generally a favorable finding, suggesting efficient recycling of the B12 cofactor needed to sustain healthy homocysteine metabolism. Maintaining a nutrient-dense diet with adequate B12 and folate continues to support optimal methylation outcomes.

COMT

YOUR RESULTS



NEUTRAL ACTIVITY

UNDERSTANDING WHAT THIS MAY MEAN

Those with neutral COMT activity exhibit average methylation and neurotransmitter breakdown, mirroring the general population. Maintaining a balanced diet rich in nutrients that support methylation, such as folate, vitamin B12, and betaine, is recommended. Regular physical and mental health check-ups can help ensure that methylation processes are functioning optimally.

AHCY

YOUR RESULTS



HETEROZYGOUS

UNDERSTANDING WHAT THIS MAY MEAN

One AHCY variant. Peer-reviewed studies have found no impact from this benign variant, although some other reports claim potential for impact.

CHOLINE NEED

YOUR RESULTS



UNDERSTANDING WHAT THIS MAY MEAN

Individuals with this result have a typical genetic propensity for choline need. Since it is one of the most common deficiencies, it is important to consume sufficient amounts of choline through dietary sources such as eggs or liver as choline plays a critical role in various physiological processes such as brain function, nerve function, and metabolism. Additionally, supplementation with choline may be beneficial for individuals who have difficulty reaching sufficient choline levels.

LITERATURE DERIVED RECOMMENDATION

 SUPPLEMENT Alpha-GPC <i>300-600 mg daily</i> Highly bioavailable choline that crosses the blood-brain barrier; increases acetylcholine for memory and learning.	 SUPPLEMENT Citicoline (CDP-Choline) <i>250-500 mg daily</i> Increases choline availability and enhances phosphatidylcholine production supporting brain health.
 DIET Choline-Rich Foods Eggs (especially yolks), beef liver, salmon, and chicken are excellent sources; aim for 425-550 mg daily.	 DIET Cruciferous Vegetables Broccoli, Brussels sprouts, and quinoa provide plant-based choline for those limiting animal products.
 LIFESTYLE Adequate Sleep <i>7-8 hours/night</i> Choline supports acetylcholine synthesis critical for memory consolidation during sleep.	 LIFESTYLE Brain Exercise <i>30+ min daily</i> 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 in deficient individuals.

This report uses a color-coded system to indicate the clinical significance of each genetic result and the level of recommended action. Each result is assigned one of three status levels based on your genetic variants.



No Action Required

Your genetic result in this area falls within a typical range. No specific intervention is indicated at this time. General wellness practices apply.



Practitioner Review / Action

Your genetic result suggests a moderate predisposition that warrants attention. Review with your practitioner and consider targeted lifestyle or supplementation support.



Practitioner Action

Your genetic result indicates a significant predisposition. Practitioner-guided intervention including targeted supplementation, dietary modification, and follow-up testing is recommended.

HOW TO READ YOUR RESULTS

- Each module page shows one or more gauges representing specific genetic results within that category.
- The gauge position and color indicate where your result falls relative to the general population.
- Personalized recommendations appear only for Moderate and Needs Attention results — Optimal results require no specific action.

DNA Signature - Toxins

Genetic Variants Summary

All 112 genotyped variants across this section, grouped by report panel.

● Homozygous Variant (+/+) — two copies of the variant
● Heterozygous (-/+) — one copy of the variant
● Homozygous Normal (-/-) — no copies of the variant

Environmental Sensitivity

23

PON1 T575C rs662	TT ●	CYP2C9 C430T rs1799853	CC ●
XPC G2815T rs2228001	GG ●	GSTM1 (A>G) rs366631	AA ●
SLCO1B1 T521C rs4149056	TC ●	GSTA1 A-135G rs3957357	AA ●
ANKK1 G2137A rs1800497	GG ●	GSTP1 A313G rs1695	AA ●
CYP1A1 T1384C rs1048943	TT ●	SOD2 C512+816A rs2758331	AC ●
CYP2D6 C506-1T rs3892097	CC ●	SOD2 A47G rs4880	AG ●
NAT2 G857A rs1799931	GG ●	CAT (C>T) rs1001179	TC ●
NAT2 G191A rs1801279	GG ●	CYP2E1 C-1055T rs2031920	CC ●
NAT2 G590A rs1799930	GG ●	NAT2 T341C rs1801280	TC ●
BCHE C1699T rs1803274	CC ●	CAT C1167T rs769217	TC ●
BCHE C-32T rs1126680	CC ●	HSPA1L G1478A rs2227956	AA ●
UGT2B15 A253C rs1902023	AC ●		

Mold Sensitivity

8

CYP1A2 T739G rs2069526	TT ●	GSTA1 A-135G rs3957357	AA ●
CYP1A2 G-3860A rs2069514	GG ●	GSTM1 (A>G) rs366631	AA ●
CYP1A2 C-163A rs762551	AC ●	CYP1A2 C1291T rs28399424	CC ●
SLCO1B1 T521C rs4149056	TC ●	CYP1A2 C-729T rs12720461	CC ●

Element and Heavy Metal Management

19

GCLC g.G4891A rs17883901	GG ●	ANKK1 G2137A rs1800497	GG ●
GSTP1 A313G rs1695	AA ●	SOD2 T*1993G rs10370	TG ●
GSTM1 (A>G) rs366631	AA ●	CREB1 T262-2836C rs6740584	TC ●

MT4 G143A rs11643815	GG 	CREB1 g.A2363G rs2253206	AG 
CPOX4 T814G rs1131857	TG 	AS3MT G529-56C rs3740393	CG 
MTHFR G677A rs1801133	AG 	AS3MT T860C rs11191439	TT 
MTHFR T1298G rs1801131	TT 	ALAD C264G rs1800435	CC 
GSTO2 A424G rs156697	AA 	VDR C1024+283T rs1544410	TC 
GSTO1 g.G4494A rs2164624	AG 	GCLM G-588A rs41303970	AG 
GSTO1 C419A rs4925	CC 		

Phase 1 Detoxification Systems

14

CYP1A2 G-3860A rs2069514	GG 	COMT G472A rs4680	AG 
CYP1A2 C-163A rs762551	AC 	CYP3A4 T-392C rs2740574	TT 
CYP2B6 T983C rs28399499	TT 	CYP2C9 C430T rs1799853	CC 
CYP2B6 T-82C rs34223104	TT 	CYP2C19 G681A rs4244285	AG 
CYP2B6 G516T rs3745274	TG 	CYP1A2 C1291T rs28399424	CC 
CYP1A1 C-27+606A rs2606345	AC 	CYP1A2 C-729T rs12720461	CC 
CYP1A1 T1384C rs1048943	TT 	CYP2E1 C1263T rs2515641	CC 

Phase 2 Detoxification Overview

39

NRF2 G45+2714C rs2364723	GG 	CYP2C9 C430T rs1799853	CC 
NRF2 C45+11108T rs1806649	TC 	CYP2C19 G681A rs4244285	AG 
NRF2 A45+10270G rs13001694	GG 	CYP1A1 C-27+606A rs2606345	AC 
NRF2 A46-4230G rs6726395	AA 	COMT C186T rs4633	TC 
UGT1A9 T-275A rs6714486	TT 	COMT G597A rs769224	GG 
UGT1A6 G627T rs17863783	GG 	GSTO2 A424G rs156697	AA 
UGT1A6 A541G rs2070959	AG 	GSTO1 g.G4494A rs2164624	AG 
UGT2B15 A253C rs1902023	AC 	GSTA1 A-135G rs3957357	AA 
UGT1A1 C-364T rs887829	TC 	GSTO1 C419A rs4925	CC 
NAT2 G191A rs1801279	GG 	GSTM1 (A>G) rs366631	AA 
NAT2 G857A rs1799931	GG 	GSTP1 C341T rs1138272	CC 
NAT2 G590A rs1799930	GG 	GSTP1 A313G rs1695	AA 
NAT2 T341C rs1801280	TC 	GPX1 G599A rs1050450	AG 
BHMT G716A rs3733890	AA 	SOD2 C512+816A rs2758331	AC 
MTHFR G677A rs1801133	AG 	SOD2 T*1993G rs10370	TG 
MTHFR T1298G rs1801131	TT 	SOD2 A47G rs4880	AG 
MTRR A66G rs1801394	AA 	CAT C1167T rs769217	TC 

MTR G2775+157T rs2275565	GG 	CAT (C>T) rs1001179	TC 
MTR A2756G rs1805087	AA 	CAT g.G4246A rs769214	AG 
COMT G472A rs4680	AG 		

Methylation Expanded

9

MTRR A66G rs1801394	AA 	MTHFR G677A rs1801133	AG 
BHMT G716A rs3733890	AA 	COMT G472A rs4680	AG 
CBS T317-917C rs2851391	TC 	MTR A2756G rs1805087	AA 
CBS G*565A rs706209	AG 	MTR G2775+157T rs2275565	GG 
MTHFD1 G1958A rs2236225	GG 		

[← Back to Table of Contents](#)