DEMO DEMO

Name: DEMO DEMO
Date of Birth: 07-08-1992
Biological Sex: Female
Age: 33
Height:
Weight:
Fasting:

Telephone: 000-000-0000
Street Address:
Email:

FINAL REPORT

Accession ID: 2661607702

Provider Information

Practice Name: DEMO CLIENT, MD
Provider Name: DEMO CLIENT, MD
Phlebotomist: 0

Telephone: 000-000-0000
Address: 3521 Leonard Ct, Santa Clara, CA 95054

Report Information

Current Result | Previous Result | In Control | Moderate | Risk

Specimen Information

Sample Type	Collection Time	Received Time	Report	Final Report Date
EDTA	2025-10-23 15:25 (PST)	2025-10-25 11:57 (PST)	Methylation Genetics - P2	2025-11-04 19:23 (PST)

VibrantWellness
3521 Leonard Ct, Santa Clara, CA 95054
1-866-364-0963 | support@vibrant-america.com | www.vibrant-wellness.com

TNP Test not performed

R&L Refer to risks and limitations at the end of report

Notes Refer to Lab notes at the end of the table

Methylation Genetics

INTRODUCTION

Vibrant Wellness is pleased to present to you, 'Methylation Panel', to help you make healthy lifestyle, dietary and treatment choices in consultation with your healthcare provider. It is intended to be used as a tool to encourage a general state of health and well-being.
The Vibrant Methylation Panel is a test to measure levels of various genetic variants present in an individual's body which could affect methylation pathways. The panel is designed to give a complete picture of these predispositions along with the actual measure of the homocysteine, Vitamin B9(Folate) and Vitamin B12.

Methodology:

The Vibrant Methylation Genetics panel uses real-time PCR methodology. DNA is extracted and purified from blood samples and a SNP (single nucleotide polymorphism) genotyping assay is performed using real-time PCR to detect the specific allele targets of each assay performed.

Interpretation of Report:

The genetic variants on the report are organized as multiple tables under different subheadings for associated markers. The summary page lists the set of analytes with risk associated variants. Following this section is the complete list of the genetic markers measured in the panel. Elevated risk associated variants are indicated with red, partially elevated risk associated variants are indicated with yellow and alleles with no risk are indicated with green. All contents provided in the report are purely for informational purposes only and should not be considered medical advice. Any changes based on the information provided should be made in consultation with the clinical provider.

The Vibrant Wellness platform provides tools for you to track and analyze your general wellness profile. Testing for the Methylation Genetics panel is performed by Vibrant Genomics, a CLIA certified lab CLIA#: 05D2098445. Vibrant Wellness provides and makes available this report and any related services pursuant to the Terms of Use Agreement (the "Terms") on its website at www.vibrant-wellness.com. By accessing, browsing, or otherwise using the report or website or any services, you acknowledge that you have read, understood, and agree to be bound by these terms. By accessing or using this report, you acknowledge that you have read and understood the Risks and Limitations – Genetics section and agree to consider its contents when interpreting your results. If you do not agree to these terms, you shall not access, browse, or use the report or website. The statements in this report have not been evaluated by the Food and Drug Administration and are only meant to be lifestyle choices for potential risk mitigation. Please consult your healthcare provider for medication, treatment, diet, exercise, or lifestyle management as appropriate. This product is not intended to diagnose, treat, or cure any disease or condition.

Please note:

It is important that you discuss any modifications to your diet, exercise, and nutritional supplementation with your healthcare provider before making any changes.

Methylation Genetics - Summary

Methylation Genetics

Test Name	Current	Previous	Result	Reference
rs1801131	C/C			A/A

The MTHFR gene encodes the enzyme methylenetetrahydrofolate reductase, which catalyzes the conversion of 5,10-methylenetetrahydrofolate to 5-methyltetrahydrofolate, the active form of folate. Folate serves as a methyl donor essential for DNA synthesis and methylation reactions, including DNA methylation. Folate deficiency can lead to genomic DNA hypomethylation, an early epigenetic alteration observed in various cancers, particularly colorectal cancer (CRC). Mutations in the MTHFR gene reduce the enzyme's activity, decreasing the production of active folate. This impairment in DNA methylation is associated with an increased risk of developing neural tube defects.Individuals with CC genotype who have impaired gene activity are associated with impaired methylation. Susceptible individuals may benefit from consuming methylated folate supplements.

rs1801394	A/G			A/A

The MTRR gene provides instructions for producing the enzyme methionine synthase reductase, which is essential for the proper function of methionine synthase. Methionine synthase catalyzes the remethylation of homocysteine to regenerate methionine and produce S-adenosylmethionine (SAMe), a key cellular methyl donor. SAMe supports the immune system, maintains cell membranes, and is involved in the synthesis and breakdown of brain chemicals such as serotonin, melatonin, and dopamine. Mutations in the MTRR gene can disrupt enzyme activity, preventing methionine synthase from efficiently converting homocysteine to methionine. This leads to impaired methylation and accumulation of homocysteine in the bloodstream, which is associated with an increased risk of dementia, cardiovascular disease, and stroke.Individuals with GG genotype with disrupted gene activity have impaired methylation. Individuals with genetic susceptibility may benefit from consuming methylated folate supplements. Foods like kale, spinach, bok choy, escarole, collard greens, beet greens, mustard greens, turnip greens, arugula, broccoli, cabbage, Brussels sprouts, cauliflower, beetroot, beans, legumes, okra, mushroom, beef liver, the chicken liver can be included in the diet. Dietary supplements like Vitamin B12, and folate can also be beneficial.

rs1979277	T/T			C/C

The SHMT1 gene encodes the enzyme serine hydroxymethyltransferase 1, which catalyzes the conversion of 5,10-methylenetetrahydrofolate to 5-methyltetrahydrofolate, an active form of folate. Folate serves as a critical methyl donor essential for DNA synthesis and biological methylation reactions, including DNA methylation. Mutations in the SHMT1 gene can impair the production of active folate, leading to disrupted DNA methylation and an increased risk of developing neural tube defects.Individuals with TT genotype have impaired gene activity and impaired methylation. Individuals with genetic susceptibility may benefit from consuming methylated folate supplements. Foods like kale, spinach, bok choy, escarole, collard greens, beet greens, mustard greens, turnip greens, arugula, broccoli, cabbage, Brussels sprouts, cauliflower, beetroot, beans, legumes, okra, mushroom, beef liver, the chicken liver can be included in the diet. Dietary supplements like Vitamin B6, SAMe, and folate can also be beneficial.

rs10948059	T/T			C/C

The glycine N-methyltransferase (GNMT) gene regulates the production of the enzyme glycine N-methyltransferase, which catalyzes the methylation of glycine using S-adenosylmethionine (SAMe) to produce N-dimethylglycine and S-adenosylhomocysteine (SAH). This process is essential for cell growth and the regulation of gene expression. Mutations in the GNMT gene can decrease its expression, impairing the breakdown of methionine and SAMe. This leads to their accumulation in the blood, abnormal DNA methylation, cytotoxicity, and disrupted DNA synthesis.Individuals with TT genotype have decreased gene expression and impaired methylation. Individuals with genetic susceptibility may benefit from consuming methylated folate supplements. Foods like kale, spinach, bok choy, escarole, collard greens, beet greens, mustard greens, turnip greens, arugula, broccoli, cabbage, Brussels sprouts, cauliflower, beetroot, beans, legumes, okra, mushroom, beef liver, the chicken liver can be included in the diet. Dietary supplements like magnesium and folate can also be beneficial.

Methylation Genetics - Summary

Methylation Genetics

Test Name	Current	Previous	Result	Reference
rs1799983	T/T			G/G

The NOS3 (eNOS) gene encodes endothelial nitric oxide synthase, an enzyme responsible for producing nitric oxide (NO) in vascular endothelial cells. NO is crucial for maintaining vascular tone, regulating blood pressure, and preventing thrombosis. DNA methylation is a key epigenetic mechanism regulating NOS3 expression, and altered methylation patterns have been linked to vascular dysfunction. Polymorphisms such as G894T may influence methylation status, contributing to endothelial dysfunction and increasing susceptibility to coronary artery disease, hypertension, pre-eclampsia, and diabetic vascular complications. Inflammatory and oxidative stress pathways can further exacerbate vascular impairment associated with NOS3 polymorphisms and dysregulated methylation.Individuals with TT genotype are more likely to have reduced eNOS enzyme activity and impaired NO release, increasing the risk of endothelial dysfunction, particularly under conditions of inflammation, oxidative stress, or altered DNA methylation. Individuals with genetic susceptibility may benefit from consuming methylated folate supplements. Foods like kale, spinach, bok choy, escarole, collard greens, beet greens, mustard greens, turnip greens, arugula, broccoli, cabbage, Brussels sprouts, cauliflower, beetroot, beans, legumes, okra, mushroom, beef liver, the chicken liver can be included in the diet. Dietary supplements like magnesium and folate can also be beneficial.

rs3733890	A/G			G/G

The BHMT gene encodes the enzyme betaine-homocysteine S-methyltransferase, which catalyzes the remethylation of homocysteine (Hcy) to methionine using betaine as the methyl donor. Methionine is then converted to S-adenosylmethionine (SAMe), a key methyl donor required for DNA and histone methylation. SAMe also supports the immune system, maintains cell membranes, and aids in the synthesis and breakdown of brain chemicals, including serotonin, melatonin, and dopamine. Mutations in the BHMT gene disrupt enzyme activity, impairing the conversion of homocysteine to methionine. This leads to elevated homocysteine levels in the bloodstream and impaired methylation, increasing the risk of dementia, heart disease, and stroke.Individuals with AG genotype who have disrupted gene activity have impaired methylation. Individuals with genetic susceptibility may benefit from consuming methylated folate supplements. Foods like kale, spinach, bok choy, escarole, collard greens, beet greens, mustard greens, turnip greens, arugula, broccoli, cabbage, Brussels sprouts, cauliflower, beetroot, beans, legumes, okra, mushroom, beef liver, the chicken liver can be included in the diet. Dietary supplements like magnesium, zinc, betaine, or choline supplementation and folate can also be beneficial.

rs162036	A/G			A/A

The MTRR gene provides instructions for producing the enzyme methionine synthase reductase, which is essential for the proper function of methionine synthase. Methionine synthase catalyzes the remethylation of homocysteine to regenerate methionine and produce S-adenosylmethionine (SAMe), a crucial cellular methyl donor. SAMe supports the immune system, maintains cell membranes, and is involved in the synthesis and breakdown of brain chemicals such as serotonin, melatonin, and dopamine. Mutations in the MTRR gene disrupt enzyme activity, impairing methionine synthase function. This leads to reduced conversion of homocysteine to methionine, impaired methylation, and elevated homocysteine levels in the bloodstream, increasing the risk of dementia, heart disease, and stroke.Individuals with AG genotype who have disrupted gene activity have impaired methylation. Individuals with genetic susceptibility may benefit from consuming methylated folate supplements. Foods like kale, spinach, bok choy, escarole, collard greens, beet greens, mustard greens, turnip greens, arugula, broccoli, cabbage, Brussels sprouts, cauliflower, beetroot, beans, legumes, okra, mushroom, beef liver, the chicken liver can be included in the diet. Dietary supplements like magnesium and folate can also be beneficial.

rs1805087	A/G			A/A

The MTR gene encodes the enzyme methionine synthase, which catalyzes the remethylation of homocysteine to regenerate methionine and produce S-adenosylmethionine (SAMe), a key cellular methyl donor. SAMe is essential for immune function, maintaining cell membranes, and the synthesis and breakdown of brain chemicals such as serotonin, melatonin, and dopamine. Mutations in the MTR gene disrupt enzyme activity, impairing the conversion of homocysteine to methionine and leading to defective methylation. Consequently, homocysteine accumulates in the bloodstream, increasing the risk of dementia, heart disease, and stroke.Individuals with AG genotype who have disrupted gene activity have impaired methylation. Individuals with genetic susceptibility may benefit from consuming methylated folate supplements. Foods like kale, spinach, bok choy, escarole, collard greens, beet greens, mustard greens, turnip greens, arugula, broccoli, cabbage, Brussels sprouts, cauliflower, beetroot, beans, legumes, okra, mushroom, beef liver, the chicken liver can be included in the diet. Dietary supplements like magnesium and folate can also be beneficial.

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Date of Birth: **07-08-1992** Accession ID: **2661607702**
Service Date: **2025-10-23 15:25 (PST)**

Methylation Genetics

Methylation Genetics

Test Name	Current	Previous	Result	Reference
rs1801133	C/C			C/C
rs1801131	C/C			A/A
rs1801394	A/G			A/A
rs3851059	G/G			G/G
rs1979277	T/T			C/C
rs10948059	T/T			C/C
rs3733890	A/G			G/G
rs162036	A/G			A/A
rs1805087	A/G			A/A
rs4680	G/G			G/G
rs4633	C/C			C/C
rs1799983	T/T			G/G

Risks and Limitations – Genetics

Genetic testing is helpful in analyzing risks to various diseases. However, it is essential to note that Genetic risk determinants are neither necessary nor sufficient for the development of diseases. Environmental and lifestyle risk factors could also affect the risk of disease development. Results from genetic analysis should always be interpreted along with clinical findings on the individual. It should be realized that there are possible sources of error like any lab testing which include sample misidentification, trace contamination of PCR reactions, technical errors and rare genetic variants that may interfere with the analysis.

Genetic testing evaluates only for the genotypes indicated; it does not test for other genetic abnormalities found elsewhere in the genome. Different genetic variants can be tested by different genetic labs to evaluate the risk for a particular disease, depending on what is tested, genetic risk may not be comparable between labs.

Some individuals may feel anxious about getting their genetic test health results. If the potential user feels very anxious, such user should speak to his or her doctor or other health care professional prior to collecting a sample for testing. Users should consult with their doctor or other health care professional if they have any questions or concerns about the results of their test or their current state of health.

Variant risk classification may not align with associated disease risk or may change ex: a benign variant may be reported as pathogenic. Misclassification may be due to updated research studies, allele dropouts or interpretation pitfalls. Variant risk classification may also not be relevant to the tested individual of different or mixed ethnicities in comparison to the study group(s) from literature. Vibrant conducts internal audits, post market surveillance and feedback from providers and customers on an ongoing basis to keep our reports updated with the most current findings. Users of the test are also encouraged to discuss their test results with a genetic counselor, board-certified clinical molecular geneticist, or equivalent health care professional prior to any interventions and diet/supplement/lifestyle changes.

Genetic SNP testing is performed using real time PCR systems. It is important to note that allele calling for a particular SNP is performed using the Autocall methodology of the instrument manufacturer. Failure or error in autocalling could occur and is usually associated with outlier wells or software issues relevant to making an allele call. As with all genetic SNP testing, there is a small chance that the laboratory could report these incorrect results.

Genetic testing is not intended to diagnose a disease, tell you anything about your current state of health, or be used to make medical decisions, including whether you should take a medication/supplement or how much of a medication/supplement you should take. It is intended to provide users with their genetic information and suggestions to inform lifestyle decisions and conversations with their doctor or other health care professionals.