

DEMO DEMO

Name: DEMO DEMO
Date of Birth: 02-22-1971
Biological Sex: Female
Age: 54
Height:
Weight:
Fasting:

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

FINAL REPORT

Accession ID: 2139922649

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	2025-10-29 13:10 (PST)	2025-10-30 11:26 (PST)	Toxin Genetics - P2	2025-11-04 21:13 (PST)



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

INTRODUCTION

Vibrant Wellness is pleased to present Toxin Genetics to support healthy lifestyle choices in consultation with your healthcare provider. The report identifies genetic variants associated with detoxification pathways and is meant to be interpreted alongside complementary Vibrant Wellness Zoomer testing. This test is intended to be used by healthcare providers to guide personalized wellness strategies based on genetic predispositions that may influence current biological status.

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. 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.

Methodology

The Toxin Genetics panel uses real-time PCR methodology. DNA is extracted and purified from saliva 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 results of the genetic testing will be listed in the format in the image below. The "SNP ID" identifies the particular genetic variation detected. The "Variant" refers to the specific nucleotide change for the particular variant. The "Gene Name" refers to the specific gene impacted or associated with the SNP ID. The "Risk Association" refers to the impact of the specified genetic variation on some biochemical pathway, physiological process and/or health state. "Your Genotype" refers to the specific alleles identified to be carried by the patient tested. "Your Risk" indicates, based on the patient's specific genetic findings, if their risk of genetic impacts on a biochemical pathway, physiological process and/or health state, are either increased (elevated) or not. The "Non-risk Genotype" refers to the allele combinations (nucleotides) not associated with increased risk. See the image below for an example illustration of the results.

Risk Level	Variant	Gene Name	Risk Association	Your Genotype	Your Risk	Non-risk Genotype
SNP ID	C638T	MTHFR	Detox Capability	A A	Elevated	A G

Please note: Pediatric risk interpretation for the reported variants has not been established. It is important that you discuss any modifications to your diet, exercise, drug, and/or nutritional supplementation with your healthcare provider before making any changes

Xenobiotics

Test Name	Variant	Gene Name	Risk Association	Your Genotype	Your Risk	Non-risk Genotype
rs4680	472G>A	COMT	Poor xenobiotic detoxification	A/G	Partially elevated	A/A

The COMT gene encodes catechol-O-methyltransferase (COMT), an enzyme essential for phase II metabolism of molecules with a catechol structure, including catecholamines, estrogens, drugs, and xenobiotics. Mutations in the COMT gene can reduce enzymatic activity, impairing the metabolism and clearance of these compounds. This can lead to accumulation of xenobiotics, increasing susceptibility to environmental toxicants and raising the risk of xenobiotic-induced toxicity. Individuals with GA genotype with lower enzyme activity have impaired xenobiotic detoxification leading to the accumulation of toxins in the body. Individuals who are more prone to susceptibility may find it advantageous to incorporate foods include flaxseeds as well as cruciferous vegetables like broccoli, cauliflower, and cabbage into their diet. Additionally, the inclusion of supplements such as tea catechins, olive oil, red wine, and green tea can contribute to an increase in COMT activity, aiding in the detoxification of toxins. It is also advisable to engage in fasting and regular exercise as part of a recommended regimen for enhancing detoxification processes.

Environmental Toxins

Test Name	Variant	Gene Name	Risk Association	Your Genotype	Your Risk	Non-risk Genotype
rs2234922	c.416A>G	EPHX1	Accumulation of benzene	A/A	Elevated	G/G, A/G

The EPHX1 gene encodes microsomal epoxide hydrolase (EH), an enzyme involved in detoxification processes. Epoxides, reactive intermediates in benzene metabolism, can bind to cellular macromolecules such as DNA and proteins, leading to cellular toxicity or genetic alterations. EH catalyzes the hydrolysis of these reactive epoxides into more water-soluble derivatives, reducing their toxicity. Therefore, EH plays a critical role in the detoxification of benzene metabolites. Mutations in the EPHX1 gene can impair EH enzymatic activity, disrupting benzene detoxification, promoting benzene accumulation, and increasing susceptibility to chronic benzene poisoning (CBP). Individuals with AA genotype experience disrupted benzene detoxification, leading to the accumulation of benzene in the body. This leads to an increased susceptibility to chronic benzene poisoning (CBP). Individuals who are more prone to susceptibility may find it advantageous to incorporating diet rich in omega 3 fatty acids. Additionally, the inclusion of milk fat globule membrane (MFGM) and ethanol extract of Panax ginseng C. A. Meyer supplements can contribute to an increase in EPHX1 activity, aiding in the detoxification of toxins. It is also advisable to engage in fasting and regular exercise as part of a recommended regimen for enhancing detoxification processes.

rs1056836	4326C>G	CYP1B1	Poor xenobiotic detoxification	C/G	Partially elevated	G/G
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The CYP1B1 gene encodes a member of the cytochrome P450 superfamily, primarily located in the endoplasmic reticulum of liver tissue. It plays a key role in phase I metabolism, converting xenobiotics such as pesticides (Diazinon and Malathion) and persistent organic pollutants (POPs), including perfluorinated compounds (PFAS) and polychlorinated biphenyls (PCBs), from small, hydrophobic, lipophilic molecules into more water-soluble compounds for elimination. Mutations in the CYP1B1 gene can impair this metabolic process, reducing detoxification efficiency and increasing susceptibility to the toxic effects of pesticides and POPs. Individuals with CG genotype may experience impaired phase 1 metabolism, which can impact the body's detoxification of toxins, including pesticides and POPs. Individuals who are more prone to susceptibility may find it advantageous to incorporate cruciferous vegetables into their diet. These vegetables have been shown to enhance the activity of CYP1B1. Additionally, the inclusion of supplements such as indole-3-carbinol, black tea, soybeans, green tea, curcumin, resveratrol, garlic, fish oil, rosemary, and astaxanthin can contribute to an increase in CYP1B1 activity, aiding in the detoxification of toxins. It is also advisable to engage in fasting and regular exercise as part of a recommended regimen for enhancing detoxification processes.

Heavy Metals

Test Name	Variant	Gene Name	Risk Association	Your Genotype	Your Risk	Non-risk Genotype
rs1050450	g.5958C>T	GPx1	Poor xenobiotic detoxification	C/T	Partially elevated	C/C

The GPX1 gene, also known as Glutathione Peroxidase 1, encodes a critical antioxidant enzyme that participates in xenobiotic metabolism, including the detoxification of heavy metals such as lead (Pb). GPX1 facilitates detoxification by utilizing glutathione to neutralize hydrophobic and electrophilic substances. Mutations in the GPX1 gene can reduce enzyme activity, impairing detoxification and catalytic function, which may lead to the accumulation of toxins in the body. Such genetic variations can significantly affect xenobiotic metabolism and influence the body's burden of lead. Individuals with TC genotype with lower GPx enzyme activity have impaired catalytic activity of xenobiotic like Pb. This leads to the its accumulation in the body. Individuals who are more prone to susceptibility may find it advantageous to incorporate cruciferous vegetables into their diet. Additionally, the inclusion of supplements such as oral magnesium, selenium, curcuminoids, silymarin, folic acid, and alpha lipoic acid can contribute to an increase in GPx1 activity, aiding in the detoxification of toxins. It is also advisable to engage in fasting and regular exercise as part of a recommended regimen for enhancing detoxification processes.

Mycotoxins

Test Name	Variant	Gene Name	Risk Association	Your Genotype	Your Risk	Non-risk Genotype
rs3734091	S247A; A>C	XRCC4	Aflatoxin B1-mediated DNA damage	C/C	Elevated	A/A, A/C

The XRCC4 gene encodes a protein essential for DNA ligation and the repair of DNA double-strand breaks (DSBs). Polymorphisms in XRCC4 can lead to dysfunction of the protein, impairing its DNA repair capabilities. This results in the accumulation of DNA damage and, in severe cases, increases the risk of tumor development. Aflatoxin B1 (AFB1) is a carcinogen that induces various types of DNA damage, including double-strand breaks, base modifications, and oxidative lesions. XRCC4 polymorphisms or dysfunction compromise DNA repair, allowing DNA lesions to accumulate and heightening susceptibility to AFB1-mediated genotoxic effects. Individuals with CC genotype have down-regulated XRCC4 expression leading to the increased risk of AFB1-mediated DNA damage. Individuals who are more prone to susceptibility may find it advantageous to incorporate supplements such as ginger, turmeric, curcumin, thyme oil, clove, quercetin, garlic, lycopene, and cyanidin can contribute to an increase in XRCC4 activity, aiding in the detoxification of toxins. It is also advisable to engage in fasting and regular exercise as part of a recommended regimen for enhancing detoxification processes.

rs13181	T>G	XPD	Aflatoxin B1-mediated DNA damage	G/G	Elevated	T/T, G/T
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The XPD gene encodes a protein involved in gene transcription and the repair of damaged DNA. Polymorphisms in this gene may lead to XPD dysfunction, compromising its DNA repair capabilities. This can result in DNA damage and, in severe cases, an increased risk of tumor development. Aflatoxin B1 (AFB1) is a carcinogen that can induce various types of DNA damage, including double-strand breaks (DSBs), base damage, and oxidative lesions. XPD polymorphisms or dysfunction can impair DNA repair, leading to the accumulation of DNA lesions and elevating the risk of AFB1-mediated DNA damage. Individuals with GG genotype have down-regulated XPD expression leading to the increased risk of AFB1-mediated DNA damage. Individuals who are more prone to susceptibility may find it advantageous to incorporate supplements such as ginger, turmeric, curcumin, thyme oil, clove, quercetin, garlic, lycopene, and cyanidin can contribute to an increase in XPD activity, aiding in the detoxification of toxins. It is also advisable to engage in fasting and regular exercise as part of a recommended regimen for enhancing detoxification processes.

PFAS

Test Name	Variant	Gene Name	Risk Association	Your Genotype	Your Risk	Non-risk Genotype
rs1056836	4326C>G	CYP1B1	Poor xenobiotic detoxification	C/G	Partially elevated	G/G

The CYP1B1 gene encodes a member of the cytochrome P450 superfamily, primarily located in the endoplasmic reticulum of liver tissue. It plays a key role in phase I metabolism, converting xenobiotics such as pesticides (Diazinon and Malathion) and persistent organic pollutants (POPs), including perfluorinated compounds (PFAS) and polychlorinated biphenyls (PCBs), from small, hydrophobic, lipophilic molecules into more water-soluble compounds for elimination. Mutations in the CYP1B1 gene can impair this metabolic process, reducing detoxification efficiency and increasing susceptibility to the toxic effects of pesticides and POPs. Individuals with CG genotype may experience impaired phase 1 metabolism, which can impact the body's detoxification of toxins, including pesticides and POPs. Individuals who are more prone to susceptibility may find it advantageous to incorporate cruciferous vegetables into their diet. These vegetables have been shown to enhance the activity of CYP1B1. Additionally, the inclusion of supplements such as indole-3-carbinol, black tea, soybeans, green tea, curcumin, resveratrol, garlic, fish oil, rosemary, and astaxanthin can contribute to an increase in CYP1B1 activity, aiding in the detoxification of toxins. It is also advisable to engage in fasting and regular exercise as part of a recommended regimen for enhancing detoxification processes.

SAMPLE

Patient Name: DEMO DEMO

Date of Birth: 02-22-1971 Accession ID: 2139922649

Service Date: 2025-10-29 13:10 (PST)

Toxin Genetics - All Markers

Xenobiotics

Test Name	Variant	Gene Name	Risk Association	Your Genotype	Your Risk	Non-risk Genotype
rs1042157	973C > T	SULT1A1	Poor xenobiotic detoxification	C/C	Normal	C/C
rs762551	-163C>A	CYP1A2	Poor xenobiotic detoxification	A/C	Normal	A/C, C/C
rs1871042	C>T	GSTP1	Poor xenobiotic detoxification	C/C	Normal	C/C
rs713041	g.7691T>C	GPx4	Poor xenobiotic detoxification	T/T	Normal	T/T
rs4680	472G>A	COMT	Poor xenobiotic detoxification	A/G	Partially elevated	A/A

Environmental Toxins

Test Name	Variant	Gene Name	Risk Association	Your Genotype	Your Risk	Non-risk Genotype
rs2234922	c.416A>G	EPHX1	Accumulation of benzene	A/A	Elevated	G/G, A/G
rs1051741	C>T	EPHX1	Accumulation of benzene	C/C	Normal	C/C
rs751141	R287Q; G>A	EPHX2	Accumulation of benzene	G/G	Normal	G/G
rs1902023	253A > C	UGT2B15	Higher urinary levels of parabens	A/A	Normal	C/C, A/A
rs1048943	A2455G; A>G	CYP1A1	Poor xenobiotic detoxification	A/A	Normal	A/A
rs1056836	4326C>G	CYP1B1	Poor xenobiotic detoxification	C/G	Partially elevated	G/G
rs1695	313 A>G	GSTP1	Poor xenobiotic detoxification	A/A	Normal	A/A
rs1138272	341C/T	GSTP1	Poor xenobiotic detoxification	C/C	Normal	C/C

Heavy Metals

Test Name	Variant	Gene Name	Risk Association	Your Genotype	Your Risk	Non-risk Genotype
rs11076161	A>G	MT1A	Lower Cd levels in blood	G/G	Normal	G/G, A/G
rs1695	313 A>G	GSTP1	Poor xenobiotic detoxification	A/A	Normal	A/A
rs1138272	341C/T	GSTP1	Poor xenobiotic detoxification	C/C	Normal	C/C
rs713041	g.7691T>C	GPx4	Poor xenobiotic detoxification	T/T	Normal	T/T
rs1050450	g.5958C>T	GPx1	Poor xenobiotic detoxification	C/T	Partially elevated	C/C

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Toxin Genetics - All Markers

Mycotoxins

Test Name	Variant	Gene Name	Risk Association	Your Genotype	Your Risk	Non-risk Genotype
rs2056131	g.7536A>G	ITGB3	Increased mold spore-triggered allergic reactions	A/A	Normal	A/G, A/A
rs28383151	G>A	XRCC4	Aflatoxin B1-mediated DNA damage	G/G	Normal	G/G, A/G
rs3734091	S247A; A>C	XRCC4	Aflatoxin B1-mediated DNA damage	C/C	Elevated	A/A, A/C
rs25487	T>C	XRCC1	Aflatoxin B1-mediated DNA damage	C/C	Normal	C/T, C/C
rs861539	1239G>A	XRCC3	Aflatoxin B1-mediated DNA damage	G/G	Normal	G/G, A/G
rs7003908	392C>A	XRCC7	Aflatoxin B1-mediated DNA damage	A/A	Normal	A/C, A/A
rs13181	T>G	XPD	Aflatoxin B1-mediated DNA damage	G/G	Elevated	T/T, G/T
rs2228001	G>T	XPC	Aflatoxin B1-mediated DNA damage	G/T	Normal	T/T, G/T

PFAS

Test Name	Variant	Gene Name	Risk Association	Your Genotype	Your Risk	Non-risk Genotype
rs1048943	A2455G; A>G	CYP1A1	Poor xenobiotic detoxification	A/A	Normal	A/A
rs1056836	4326C>G	CYP1B1	Poor xenobiotic detoxification	C/G	Partially elevated	G/G

Disclaimer

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All laboratory testing is performed by Vibrant Genomics, a CLIA-certified (No. 05D2098445) and CAP-accredited (No. 9282409-01) clinical laboratory (address: 3521 Leonard Ct, Santa Clara, CA 95054). Testing is performed only upon the order of a licensed healthcare professional. Biological specimens are obtained from patients by, or at the direction of, the ordering healthcare professional.

This test is a laboratory-developed test (LDT) that has been designed, manufactured, validated and performed by Vibrant in accordance with applicable federal and state laboratory regulations. This test has not been reviewed or approved by the U.S. Food and Drug Administration (FDA).

The informational content (including summaries, descriptions, images, and other materials) included in this report is based on publicly available scientific literature and for informational purposes only. This content and test results do not replace medical advice from a qualified healthcare professional. Test results are intended for use by healthcare professionals and must be interpreted based on their knowledge of the patient's clinical history and presentation. Any wellness, nutritional, or dietary recommendations, diagnoses of medical conditions, or treatment decisions based on these results are made at the discretion and responsibility of the healthcare professional.

Vibrant assumes no responsibility or liability arising from the use or interpretation of test results by the healthcare professional.

SAMPLE

Risk and Limitations

This test has been developed and its performance characteristics determined and validated by Vibrant Genomics LLC., a CLIA certified lab. These assays have not been cleared or approved by the U.S. Food and Drug Administration. Vibrant Wellness provides additional contextual information on these tests and provides the report in a more descriptive fashion.

The Vibrant Toxins Genetics panel does not demonstrate absolute positive and negative predictive values for any condition. Its clinical utility has not been fully established. Clinical history and current symptoms of the individual must be considered by the healthcare provider prior to any interventions. Test results should be used as one component of a healthcare provider's clinical assessment.

Toxins Genetics testing is performed at Vibrant Genomics, a CLIA certified laboratory. Vibrant Genomics has effective procedures in place to protect against technical and operational problems. However, such problems may still occur. Examples include failure to obtain the result for a specific test due to circumstances beyond Vibrant's control. Vibrant may re-test a sample to obtain these results but upon re-testing the results may still not be obtained. As with all medical laboratory testing, there is a small chance that the laboratory could report incorrect results. A tested individual may wish to pursue further testing to verify any results.

Genetic testing is helpful in analyzing risk to various diseases. However, it is important 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. Genetic testing evaluates only for the particular 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. It should be realized that there are possible sources of error similar to any lab testing which include sample misidentification, trace contamination of PCR reactions, technical errors and rare genetic variants that may interfere with analysis.

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 collection of 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. 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.

The information in this report is intended for educational purposes only. While every attempt has been made to provide current and accurate information, neither the author nor the publisher can be held accountable for any errors or omissions. Tested individuals may find their experience is not consistent with Vibrant's selected peer reviewed scientific research findings of relative improvement for study groups. The science in this area is still developing and many personal health factors affect diet and health. Since subjects in the scientific studies referenced in this report may have had personal health and other factors different from those of tested individuals, results from these studies may not be representative of the results experienced by tested individuals. Further, some recommendations may or may not be attainable, depending on the tested individual's physical ability or other personal health factors. A limitation of this testing is that many of these scientific studies may have been performed in selected populations only. The interpretations and recommendations are done in the context of these studies, but the results may or may not be relevant to tested individuals of different or mixed ethnicities.

Vibrant Wellness makes no claims as to the diagnostic or therapeutic use of its tests or other informational materials. Vibrant Wellness reports and other information do not constitute medical advice and are not a substitute for professional medical advice. Please consult your healthcare practitioner for questions regarding test results, or before beginning any course of medication, supplementation, or dietary changes.

The supplement recommendations and dosage guidelines provided are intended for general informational purposes only and should not replace professional medical advice; final dosage decisions must be made in consultation with your healthcare provider. Vibrant disclaims any liability for adverse effects, outcomes, or consequences arising from the use of these suggestions.

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.