# DEMO DEMO

Name: DEMO DEMO
Date of Birth: 11-30-2004
Biological Sex: Female
Age: 21
Height: 70 inches
Weight: 150 lbs
Fasting:

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

**FINAL REPORT**

Accession ID: 2590764721

## 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

## Specimen Information

| Sample Type | Collection Time | Received Time | Report | Final Report Date |
|---|---|---|---|---|
| Metal Free Urine | 2026-03-15 10:00 (PDT) | 2026-03-16 14:39 (PDT) | Toxin Zoomer - P2 | 2026-01-16 16:15 (PDT) |
| | | | Mycotoxins - P5 | 2026-01-16 16:15 (PDT) |
| | | | Heavy Metals – Urine - P10 | 2026-01-16 16:15 (PDT) |
| | | | Environmental Toxins - P13 | 2026-01-16 16:15 (PDT) |
| | | | PFAS Chemicals - P23 | 2026-01-16 16:15 (PDT) |



VibrantWellness
3521 Leonard Ct, Santa Clara, CA 95054
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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

VibrantWellness

# Toxin Zoomer

## Your Toxin Report





# Toxin Zoomer

## INTRODUCTION

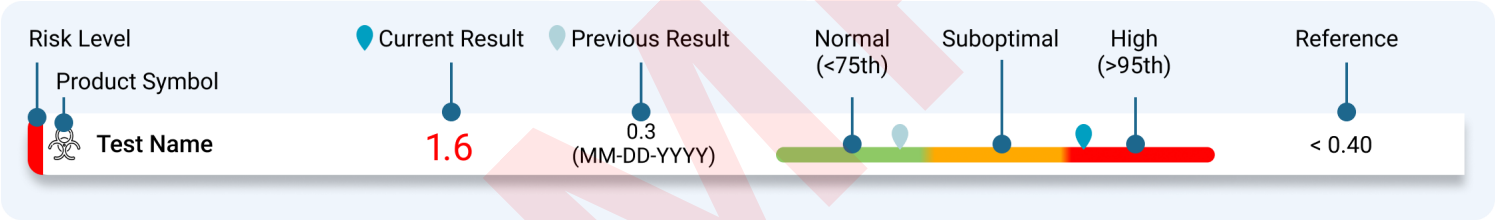
Vibrant Wellness is pleased to present Toxin Zoomer testing to support healthy lifestyle choices in consultation with your healthcare provider. The Toxin Zoomer enables direct measurement of environmental- and food-originating toxins across categories for Heavy Metals, Mycotoxins (mold-related toxins), Environmental Toxins, and per- and polyfluoroalkyl substances (PFAS). Results are intended to be interpreted by healthcare providers to support personalized detoxification strategies informed by toxin burden and detoxification status.

## Methodology

The Mycotoxins, Environmental Toxins, and PFAS Chemicals panels use tandem liquid chromatography mass spectrometry methodology (LC-MS/MS) for quantitative detection of the respective toxins in urine samples. The Heavy metals panel uses Inductively coupled plasma mass spectrometry (ICP-MS) for quantitative detection of heavy metals in urine samples. Urine creatinine is measured using a kinetic colorimetric assay based on the Jaffé method. All toxin markers are reported as the quantitative result normalized to urine creatinine to account for urine dilution variations.

## Interpretation of Report

The report begins with the summary page which lists only the markers whose levels are high or moderate based on the reference range. Additionally, the previous value is also indicated to help check for improvements every time the test is ordered. Reference ranges were established using a cohort of apparently healthy adults over 18 years of age, and pediatric reference ranges are not available. Following this section is the complete list of the markers and their absolute levels are normalized with respect to urine creatinine in a histogram format to enable a full overview along with the reference ranges. The level of the exposure with reference range is shown with three shades of color – Green, Yellow and Red. The result in green corresponds to 0th to 75th percentile indicates mild exposure to the respective exposure The result in yellow corresponds to 75th to 95th percentile, indicates moderate exposure to the respective exposure whereas the result in red corresponding to greater than 95th percentile indicates high exposure. The reference metric is listed to the right of the reference range. The previous and current result are listed to the left of the reference range. (result example illustration below)




Please note: 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.

**Regulatory Disclaimer:** This test was performed by Vibrant America Clinical Laboratory at 3521 Leonard Ct, Santa Clara, CA 95054 (CLIA No. 05D2078809, CAP No. 8970308). This test was developed, and its performance characteristics determined, by Vibrant America Clinical Laboratory. This test has not been cleared or approved by the U.S. Food and Drug Administration (FDA).

Patient Name: DEMO DEMO
Date of Birth: 11-30-2004 Accession ID: 2590764721
Service Date: 2026-03-15 10:00 (PDT)

# Toxin Zoomer - Summary

## High

Mycotoxins | Heavy Metals | Environmental Toxins | PFAS

| Test Name | Current | Previous | Result (75th / 95th) | Reference |
|---|---|---|---|---|
| Bisphenol A (BPA)^ (ug/g) | 8.09 | | 2.12 / 5.09 | ≤5.09 |
| Butylparaben^ (ug/g) | 4.89 | | 0.25 / 4.39 | ≤4.39 |
| Diethylthiophosphate (DETP)^ (ug/g) | 3.94 | | 1.24 / 3.92 | ≤3.92 |
| Mono-(2-ethyl-5-oxohexyl) phthalate (MEOHP)^ (ug/g) | 37.45 | | 8.99 / 23.4 | ≤23.4 |
| Mono-ethyl phthalate (MEtP)^ (ug/g) | 601.48 | | 94.2 / 541 | ≤541 |
| Roridin E (ng/g) | 1.65 | | 0.75 / 1.33 | ≤1.33 |
| Zearalenone (ZEN) (ng/g) | 0.71 | | 0.38 / 0.67 | ≤0.67 |
| Perfluorohexane Sulfonic Acid (PFHxS) (ug/g) | 2.260 | | 0.113 / 1.681 | ≤1.681 |
| Perfluorooctane sulfonic acid (PFOS) (ug/g) | 3.980 | | 0.658 / 3.215 | ≤3.215 |

## Suboptimal

Mycotoxins | Heavy Metals | Environmental Toxins | PFAS

| Test Name | Current | Previous | Result (75th / 95th) | Reference |
|---|---|---|---|---|
| Diethyldithiophosphate (DEDTP)^ (ug/g) | 0.21 | | 0.17 / 0.3 | ≤0.3 |
| Dimethylthiophosphate (DMTP)^ (ug/g) | 10.91 | | 5.91 / 33.7 | ≤33.7 |
| Propylparaben^ (ug/g) | 50.76 | | 36.7 / 222 | ≤222 |
| Ochratoxin A (OTA) (ng/g) | 5.38 | | 3.83 / 6.8 | ≤6.8 |
| Roridin A (ng/g) | 5.27 | | 4.28 / 7.6 | ≤7.6 |
| Perfluoro-n-[1,2-13C2] hexanoic acid (ug/g) | 0.320 | | 0.091 / 0.325 | ≤0.325 |

## Creatinine

| Test Name | Current | Previous | Result (0 / 0.24 / 2.16) | Reference |
|---|---|---|---|---|
| Urine Creatinine (mg/mL) | 1.25 | | | 0.25-2.16 |

# Mycotoxins

## INTRODUCTION

Vibrant Wellness is pleased to present the Mycotoxins panel to support healthy lifestyle choices in consultation with your healthcare provider. The Mycotoxins panel enables direct measurement of environmental- and food-originating Mycotoxins (mold-related toxins). Results are intended to be interpreted by healthcare providers to support personalized detoxification strategies informed by toxin burden and detoxification status.

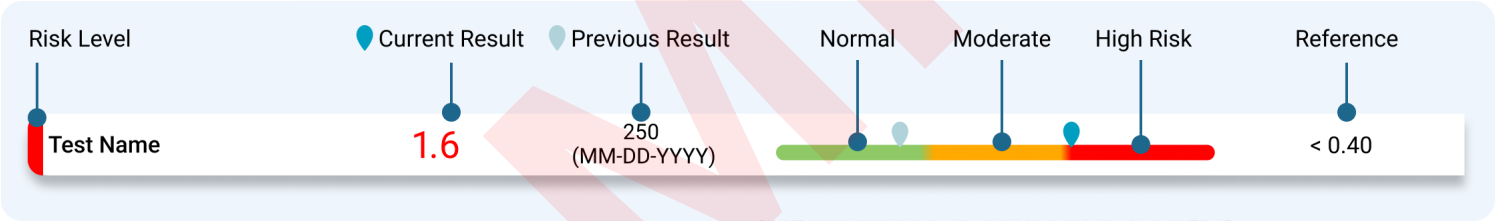
The Vibrant Mycotoxins Panel is a test to identify and quantify the level of a large set of mycotoxins from both food and environmental molds. The panel is designed to give a complete picture of an individual's levels of these mycotoxins in urine. The results are provided in 3 tables subgrouping the mycotoxins into Aflatoxins, Trichothecenes and Other Mycotoxins. Reference ranges were determined using urine samples from 1000 apparently healthy individuals.

## Methodology

The Mycotoxins panel uses tandem liquid chromatography mass spectrometry methodology (LC-MS/MS) for quantitative detection of the respective toxins in urine samples. Urine creatinine is measured using a kinetic colorimetric assay based on the Jaffé method. All toxin markers are reported as the quantitative result normalized to urine creatinine to account for urine dilution variations.

## Interpretation of Report

The report begins with the summary page which lists only the markers whose levels are high or moderate based on the reference range. Additionally, the previous value is also indicated to help check for improvements every time the test is ordered. Reference ranges were established using a cohort of apparently healthy adults over 18 years of age, and pediatric reference ranges are not available. Following this section is the complete list of the markers and their absolute levels are normalized with respect to urine creatinine in a histogram format to enable a full overview along with the reference ranges. The level of the mycotoxins with reference range is shown with three shades of color – Green, Yellow and Red. The result in green corresponds to 0th to 75th percentile indicates mild exposure to the respective mycotoxin. The result in yellow corresponds to 75th to 95th percentile, indicates moderate exposure to the respective mycotoxins whereas the result in red corresponding to greater than 95th percentile indicates high exposure to the mycotoxins. The reference metric is listed to the right of the reference range. The previous and current result are listed to the left of the reference range. (result example illustration below)




The Vibrant Wellness platform provides tools for you to track and analyze your general wellness profile. Testing for the Mycotoxins panel is performed by Vibrant America, a CLIA certified lab CLIA#:05D2078809. 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. If you do not agree to accept 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, or lifestyle management. This product is not intended to diagnose, treat, or cure any disease.

Please note: 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.

**Regulatory Disclaimer:** This test was performed by Vibrant America Clinical Laboratory at 3521 Leonard Ct, Santa Clara, CA 95054 (CLIA No. 05D2078809, CAP No. 8970308). This test was developed, and its performance characteristics determined, by Vibrant America Clinical Laboratory. This test has not been cleared or approved by the U.S. Food and Drug Administration (FDA).The New York State Department of Health has not evaluated any test claims nor reviewed the accuracy of this test.

# Mycotoxins - Summary

## Aflatoxin

*No markers are outside the normal reference range*

## Other Mycotoxins

| Test Name | Current | Previous | Result (75th / 95th) | Reference |
|---|---|---|---|---|
| Zearalenone (ZEN) (ng/g) | 0.71 | | 0.38 / 0.67 | ≤0.67 |

### BACKGROUND

Zearalenone is a mycotoxin produced by several species of Fusarium fungi. The primary producer of zearalenone is Fusarium graminearum while the additional producers include F. culmorum, F. verticillioides (F. moniliforme), F. sporotrichioides, F. semitectum, F. equiseti, and F. oxysporum.

### ASSOCIATED RISK

Zearalenone and its metabolites can actively bind to estrogen receptors, resulting in various changes in the reproductive organs. As zearalenone can competitively combine with estrogen receptors to disrupt estrogenic signaling, it has been reported to have adverse effects on the female reproduction system. It can also affect the male reproductive system by exerting negative effects on sperm cell, Sertoli cells, and Leydig cells.

### POSSIBLE SOURCES

Maize, improperly stored animal feeds and grains.

### DETOX SUGGESTIONS

Activated charcoal (AC) has been shown to bind zearalenone, facilitating its elimination from the body. To optimize detoxification, AC should be taken separately from food, medication, or supplements. Supporting liver function with calcium D-glucarate and providing antioxidant support with selenium and vitamins C and E can aid in the detoxification process, while minimizing the risk of nutrient depletion.

| Test Name | Current | Previous | Result (75th / 95th) | Reference |
|---|---|---|---|---|
| Ochratoxin A (OTA) (ng/g) | 5.38 | | 3.83 / 6.8 | ≤6.8 |

### BACKGROUND

Ochratoxin is a mycotoxin produced by various fungal species such as Aspergillus ochraceus, Aspergillus carbonarius, Aspergillus niger and Penicillium verrucosum.

### ASSOCIATED RISK

Ochratoxin A has been recognised as a renal toxin owing to its ability to induce nephrotoxicity and renal tumors. It displays a long elimination half-life and stimulates the major inflammatory cytokines released. Ochratoxin A is efficiently absorbed from the gastrointestinal tract into the small intestine where it seen to effectively interrupt the intestinal barrier functions.

### POSSIBLE SOURCES

Contaminated Barley, oats, rye, wheat, coffee beans, pork.

### DETOX SUGGESTIONS

Detoxification of ochratoxin involves the use of activated charcoal (AC) to bind and neutralize the toxin in the gastrointestinal tract. To minimize the risk of nutrient depletion, AC should be taken separately from essential nutrients. Concurrent use of an oral multimineral formula or IV nutrient therapy can help replenish any lost nutrients during detoxification.

# Mycotoxins - Summary

## Trichothecenes

| Test Name | Current | Previous | Result (75th: 0.75, 95th: 1.33) | Reference |
|---|---|---|---|---|
| Roridin E (ng/g) | 1.65 | | | ≤1.33 |

### BACKGROUND
Roridin E is a highly toxic macrocyclic trichothecene compound produced by molds including Fusarium, Myrothecium, Trichoderma, and others. Known as "black mold," it is commonly found in water-damaged structures and contaminated grain, posing significant health risks due to its potent toxicity.

### ASSOCIATED RISK
Exposure to roridin E presents severe health risks, including brain damage, immunosuppression, endocrine disruption, cardiovascular issues, and gastrointestinal distress, even at low levels of exposure. Its inhibition of peptidyl transferase activity hampers protein synthesis, contributing to its toxicity and its historical use in biological warfare.

### POSSIBLE SOURCES
Roridin E is typically discovered in water-damaged structures and contaminated grain, where molds like Fusarium, Myrothecium, and others thrive. This mycotoxin can be present in various agricultural products, including grains, cereals, and other crops intended for human and animal consumption.

### DETOX SUGGESTIONS
Detoxification strategies for Roridin E include the use of activated charcoal solutions as adsorbents to bind the toxin in the gastrointestinal tract and facilitate its removal through bowel excretion. Additionally, antioxidants can mitigate trichothecene-induced damage by combating the production of reactive oxygen species. A diet rich in probiotics, vitamins, nutrients, proteins, and lipids aids in reducing symptoms of trichothecene poisoning.

| Test Name | Current | Previous | Result (4.28, 7.6) | Reference |
|---|---|---|---|---|
| Roridin A (ng/g) | 5.27 | | | ≤7.6 |

### BACKGROUND
Roridin A, a cytostatic compound, was isolated from cultures of Myrothecium verrucaria and Myrothecium roridum.

### ASSOCIATED RISK
Experiments have demonstrated that exposure to Roridin A poses associated risks including nasal inflammation, increased secretion of mucus, and potential damage to the olfactory system.

### POSSIBLE SOURCES
Oral, dermal, inhalation, and parenteral (contaminated drugs).

### DETOX SUGGESTIONS
Detoxification strategies for Roridin A include the use of activated charcoal solutions as adsorbents to bind the toxin in the gastrointestinal tract and facilitate its removal through bowel excretion. Additionally, antioxidants can mitigate trichothecene-induced damage by combating the production of reactive oxygen species. A diet rich in probiotics, vitamins, nutrients, proteins, and lipids aids in reducing symptoms of trichothecene poisoning.

## Creatinine

| Test Name | Current | Previous | Result (0, 0.24, 2.16) | Reference |
|---|---|---|---|---|
| Urine Creatinine (mg/mL) | 1.25 | | | 0.25-2.16 |

# Mycotoxins - All Markers

## Aflatoxin

| Test Name | Current | Previous | Result (75th / 95th) | Reference |
|---|---|---|---|---|
| Aflatoxin B1 (AFB1) (ng/g) | 3.56 | | 3.9 / 6.93 | ≤6.93 |
| Aflatoxin B2 (AFB2) (ng/g) | 1.35 | | 4.58 / 8.13 | ≤8.13 |
| Aflatoxin G1 (ng/g) | 1.56 | | 3.68 / 6.53 | ≤6.53 |
| Aflatoxin G2 (ng/g) | 4.85 | | 6.08 / 10.8 | ≤10.8 |
| Aflatoxin M1 (ng/g) | 2.44 | | 3.6 / 6.4 | ≤6.4 |

## Other Mycotoxins

| Test Name | Current | Previous | Result (75th / 95th) | Reference |
|---|---|---|---|---|
| Chaetoglobosin A (CHA) (ng/g) | 13.46 | | 17.93 / 31.87 | ≤31.87 |
| Citrinin (CTN) (ng/g) | 3.73 | | 7.05 / 12.53 | ≤12.53 |
| Dihydrocitrinone (ng/g) | 8.35 | | 9.3 / 16.53 | ≤16.53 |
| Enniatin B1(ENN B1) (ng/g) | 0.06 | | 0.13 / 0.22 | ≤0.22 |
| Fumonisins B1 (ng/g) | 2.94 | | 3.45 / 6.13 | ≤6.13 |
| Fumonisins B2 (ng/g) | 1.35 | | 4.05 / 7.2 | ≤7.2 |
| Fumonisins B3 (ng/g) | 0.62 | | 6.08 / 10.8 | ≤10.8 |
| Gliotoxin (ng/g) | 75.43 | | 116.93 / 207.87 | ≤207.87 |
| Mycophenolic Acid (ng/g) | 3.14 | | 3.6 / 6.4 | ≤6.4 |
| Ochratoxin A (OTA) (ng/g) | 5.38 | | 3.83 / 6.8 | ≤6.8 |
| Patulin (ng/g) | 4.83 | | 6.53 / 11.6 | ≤11.6 |
| Sterigmatocystin (STC) (ng/g) | 0.22 | | 0.3 / 0.53 | ≤0.53 |
| Zearalenone (ZEN) (ng/g) | 0.71 | | 0.38 / 0.67 | ≤0.67 |

## Trichothecenes

| Test Name | Current | Previous | Result (75th / 95th) | Reference |
|---|---|---|---|---|
| Deoxynivalenol(DON) (ng/g) | 16.84 | | 37.95 / 67.47 | ≤67.47 |

# Mycotoxins - All Markers

## Trichothecenes

| Test Name | Current | Previous | Result (75th / 95th) | Reference |
|---|---|---|---|---|
| Diacetoxyscirpenol (DAS) (ng/g) | 0.99 | | 2.4 / 4.27 | ≤4.27 |
| Nivalenol (NIV) (ng/g) | 1.13 | | 1.8 / 3.2 | ≤3.2 |
| Roridin A (ng/g) | 5.27 | | 4.28 / 7.6 | ≤7.6 |
| Roridin E (ng/g) | 1.65 | | 0.75 / 1.33 | ≤1.33 |
| Roridin L2 (ng/g) | 3.56 | | 3.83 / 6.8 | ≤6.8 |
| Satratoxin G (ng/g) | 0.05 | | 0.1 / 0.18 | ≤0.18 |
| Satratoxin H (ng/g) | 0.05 | | 0.1 / 0.18 | ≤0.18 |
| T-2 Toxin (ng/g) | 0.05 | | 0.1 / 0.18 | ≤0.18 |
| Verrucarin A (ng/g) | 0.44 | | 0.75 / 1.33 | ≤1.33 |
| Verrucarin J (ng/g) | 4.66 | | 5.18 / 9.2 | ≤9.2 |

# Heavy Metals – Urine

## INTRODUCTION

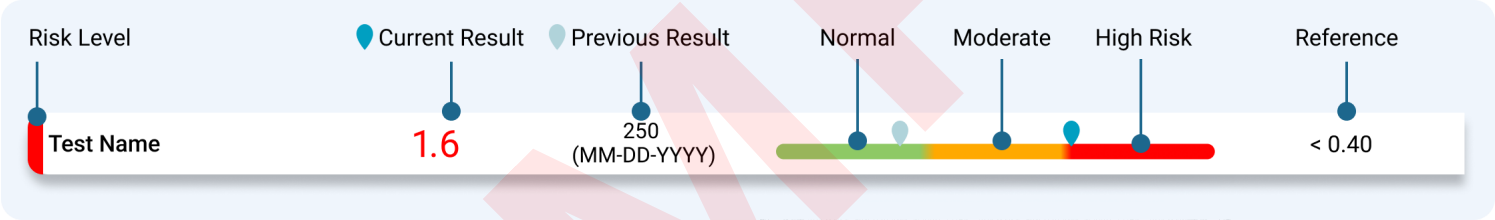
Vibrant Wellness is pleased to present to you, 'Heavy Metals panel', to help you make healthy lifestyle, dietary and treatment choices in consultation with your healthcare provider. It is intended to be used as a tool to encourage a general state of health and well-being.
The Heavy Metals is a test to measure levels of Heavy Metals that someone might be exposed to. The panel is designed to give a complete picture of an individual's levels of these metals in urine. Reference ranges for tests flagged with ^ were determined based on NHANES data (cdc.gov/nhanes) if available and other reference ranges were established based on urine samples from 1000 apparently healthy, unprovoked, unmedicated, and unsupplemented individuals.

## Methodology

The Vibrant Heavy metals uses inductively coupled plasma mass spectrometry (ICP-MS) for quantitative detection of heavy metals in urine. Urine creatinine is measured using a kinetic colorimetric assay based on the Jaffé method. All heavy metals are reported as the quantitative result normalized to urine creatinine to account for urine dilution variations.

## Interpretation of Report

The report begins with the summary page which lists only the heavy metals whose levels are high or moderate based on the reference range. Additionally, the previous value is also indicated to help check for improvements every time the test is ordered. Following this section is the complete list of the heavy metals and their absolute levels are normalized with respect to creatinine in a histogram format to enable a full overview along with the reference ranges. The level of the heavy metals with reference range is shown with three shades of color – Green, Yellow and Red. The result in green corresponds to 0th to 75th percentile indicates mild exposure to the respective heavy metal. The result in yellow corresponds to 75th to 95th percentile indicates moderate exposure to the respective heavy metal whereas the result in red corresponding to greater than 95th percentile indicates high exposure to the heavy metal. 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 should made in consultation with the clinical provider.

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Please note: Pediatric ranges have not been established for this test. It is important that you discuss any modifications to your diet, exercise, and nutritional supplementation with your healthcare provider before making any changes.

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# Heavy Metals – Urine - Summary

## Heavy Metals

*No markers are outside the normal reference range*

## Creatinine

| Test Name | Current | Previous | Result | Reference |
|---|---|---|---|---|
| Urine Creatinine (mg/mL) | 1.25 | |   | 0.25-2.16 |



| Specimen Information | Provoking Status | Agent | Dosage |
|---|---|---|---|
| | unavailable | unavailable | unavailable |

Patient Name: DEMO DEMO
Date of Birth: 11-30-2004 Accession ID: 2590764721
Service Date: 2026-03-15 10:00 (PDT)

# Heavy Metals – Urine - All Markers

## Heavy Metals

| Test Name | Current | Previous | Result (75th / 95th) | Reference |
|---|---|---|---|---|
| Aluminum (ug/g) | 14.76 | | 17.83 / 45.15 | ≤45.15 |
| Antimony^ (ug/g) | 0.03 | | 0.07 / 0.16 | ≤0.16 |
| Arsenic^ (ug/g) | 7.86 | | 11.9 / 52 | ≤52 |
| Barium^ (ug/g) | <1 | | 2.33 / 5.59 | ≤5.59 |
| Beryllium^ (ug/g) | 0.10 | | 0.2 / 0.76 | ≤0.76 |
| Bismuth (ug/g) | 0.11 | | 0.58 / 2.53 | ≤2.53 |
| Cadmium^ (ug/g) | 0.22 | | 0.29 / 0.8 | ≤0.8 |
| Cesium^ (ug/g) | 2.72 | | 6.37 / 10.3 | ≤10.3 |
| Gadolinium (ug/g) | 0.06 | | 0.17 / 0.45 | ≤0.45 |
| Lead^ (ug/g) | 0.15 | | 0.52 / 1.16 | ≤1.16 |
| Mercury^ (ug/g) | 0.35 | | 0.57 / 1.61 | ≤1.61 |
| Nickel (ug/g) | 5.36 | | 6.37 / 12.13 | ≤12.13 |
| Palladium (ug/g) | 0.10 | | 0.15 / 0.2 | ≤0.2 |
| Platinum^ (ug/g) | 0.05 | | 0.1 / 0.9 | ≤0.9 |
| Tellurium (ug/g) | 0.22 | | 0.42 / 0.89 | ≤0.89 |
| Thallium^ (ug/g) | 0.23 | | 0.24 / 0.43 | ≤0.43 |
| Thorium (ug/g) | 0.01 | | 0.02 / 0.07 | ≤0.07 |
| Tin^ (ug/g) | 0.50 | | 1 / 3.72 | ≤3.72 |
| Tungsten^ (ug/g) | 0.05 | | 0.12 / 0.33 | ≤0.33 |
| Uranium^ (ug/g) | 0.01 | | 0.02 / 0.04 | ≤0.04 |

# Environmental Toxins

## INTRODUCTION

Vibrant Wellness is pleased to present the Environmental Toxins panel to support healthy lifestyle choices in consultation with your healthcare provider. The Environmental Toxins panel enables direct measurement of select toxins known to occur in the environment. Results are intended to be interpreted by healthcare providers to support personalized detoxification strategies informed by toxin burden and detoxification status.

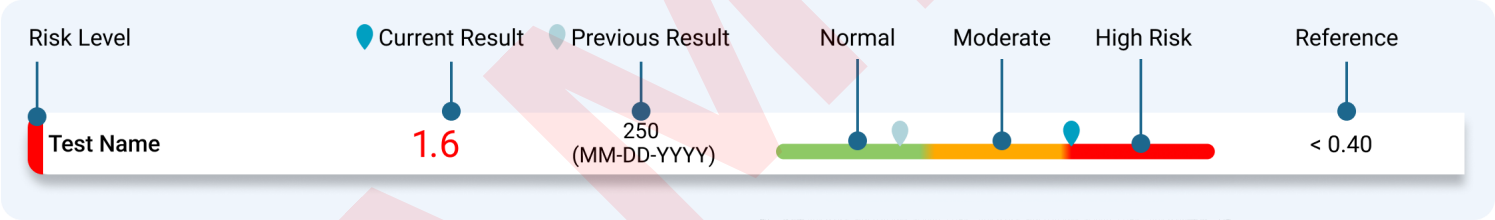
The Vibrant Environmental Toxins Panel is a test to measure levels of Environmental Toxins that someone might be exposed to. The panel is designed to give a complete picture of an individual's levels of these toxins in urine. The panel is sub-grouped into Pesticides, Phthalates, Parabens, Acrylic, Alkyl phenols and Volatile Organic Compounds. Reference ranges for tests flagged with ^ were determined based on NHANES data (cdc.gov/nhanes) if available and other reference ranges were established based on urine samples from 1000 apparently healthy individuals.

## Methodology

The Environmental Toxins panel uses tandem liquid chromatography mass spectrometry methodology (LC-MS/MS) for quantitative detection of the respective toxins in urine samples. Urine creatinine is measured using a kinetic colorimetric assay based on the Jaffé method. All toxin markers are reported as the quantitative result normalized to urine creatinine to account for urine dilution variations.

## Interpretation of Report

The report begins with the summary page which lists only the markers whose levels are high or moderate based on the reference range. Additionally, the previous value is also indicated to help check for improvements every time the test is ordered. Reference ranges were established using a cohort of apparently healthy adults over 18 years of age, and pediatric reference ranges are not available. Following this section is the complete list of the markers and their absolute levels are normalized with respect to urine creatinine in a histogram format to enable a full overview along with the reference ranges. The level of the environmental toxins with reference range is shown with three shades of color – Green, Yellow and Red. The result in green corresponds to 0th to 75th percentile indicates mild exposure to the respective environmental toxins The result in yellow corresponds to 75th to 95th percentile, indicates moderate exposure to the respective environmental toxin whereas the result in red corresponding to greater than 95th percentile indicates high exposure to the environmental toxins. The reference metric is listed to the right of the reference range. The previous and current result are listed to the left of the reference range. (result example illustration below)




Please note: Pediatric ranges have not been established for this test. It is important that you discuss any modifications to your diet, exercise, and nutritional supplementation with your healthcare provider before making any changes.

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# Environmental Toxins - Summary

## Environmental phenols

| Test Name | Current | Previous | Result (75th / 95th) | Reference |
|---|---|---|---|---|
| Bisphenol A (BPA)^ (ug/g) | 8.09 | | 2.12 / 5.09 | ≤5.09 |

### BACKGROUND

BPA is one of the highest volume of chemicals produced worldwide. It is a starting material for the synthesis of plastics. BPA-based plastic is clear and tough, and is made into plastic bottles including water bottles, sports equipment, CDs, and DVDs. Epoxy resins containing BPA are used to line water pipes, as coatings on the inside of many food and beverage cans and in making thermal paper such as that used in sales receipts.

### ASSOCIATED RISK

Exposure to Bisphenol A cause fertility problems, male impotence, heart disease and other conditions. BPA is a xenoestrogen, exhibiting estrogen-mimicking, hormone-like properties that raise concern about its suitability in some consumer products and food containers.

### POSSIBLE SOURCES

The main source of BPA contamination in humans is through food, primarily driven by the exposure of animals and raw materials to BPA, the accumulation of BPA in the environment, and the contact of food with polymers containing this substance. Inhalation is the second main source of exposure. BPA can accumulate in household dust and be inhaled.

### DETOX SUGGESTIONS

The detoxification mechanism for BPA involves sweating, as facilitated by infrared and steam sauna sessions. Sweating allows BPA to be released from the body through the skin.

## Herbicides

*No markers are outside the normal reference range*

## Mitochondrial Marker

*No markers are outside the normal reference range*

## Other Markers

*No markers are outside the normal reference range*

# Environmental Toxins - Summary

## Parabens

| Test Name | Current | Previous | Result (75th / 95th) | Reference |
|---|---|---|---|---|
| Butylparaben^ (ug/g) | 4.89 | | 0.25 / 4.39 | ≤4.39 |

### BACKGROUND
Butylparaben belongs to the paraben family and is one of the most common antimicrobial preservatives in cosmetics such as makeup, moisturizers, hair-care products, and shaving creams. It is also used in medication suspensions, and as a flavouring additive in food.

### ASSOCIATED RISK
Ingestion of large doses of butylparaben may cause irritation to the gastrointestinal (GI) tract. Butylparaben is an endocrine disruptor. Environmental exposure to butylparaben might elevate blood pressure levels and increase the risk of high blood pressure.

### POSSIBLE SOURCES
Sources of exposure to butylparaben include cosmetics, personal care products, and medications containing it as a preservative, as well as dietary intake from certain processed foods and beverages utilizing it as a flavoring additive.

### DETOX SUGGESTIONS
Hydration, exercise, and a diet abundant in whole foods are pivotal in supporting the body's innate detoxification mechanisms, potentially aiding in the reduction of paraben exposure. However, it is important to note that while these strategies are beneficial for overall health, there's limited scientific evidence directly addressing the elimination of parabens from the body.

| Test Name | Current | Previous | Result (75th / 95th) | Reference |
|---|---|---|---|---|
| Propylparaben^ (ug/g) | 50.76 | | 36.7 / 222 | ≤222 |

### BACKGROUND
Propylparaben belongs to the paraben family and is often used in water-based cosmetics, such as creams, lotions, shampoos, and bath products. It is also used as a food additive and has also been shown to have anti-fungal and anti-microbial properties. Propylparaben is generally recognized as safe for food and cosmetic antibacterial preservation.

### ASSOCIATED RISK
Although parabens are generally considered safe when used in low percentages, a study claimed to have found a link between parabens and breast cancer. Parabens are potential endocrine disruptors due to their ability to mimic estrogen. Environmental exposure to propylparaben might elevate blood pressure levels and increase the risk of high blood pressure.

### POSSIBLE SOURCES
Exposure typically occurs through ingestion of foods and medications and dermal application of personal care products.

### DETOX SUGGESTIONS
Hydration, exercise, and a diet abundant in whole foods are pivotal in supporting the body's innate detoxification mechanisms, potentially aiding in the reduction of paraben exposure. However, it is important to note that while these strategies are beneficial for overall health, there's limited scientific evidence directly addressing the elimination of parabens from the body.

# Environmental Toxins - Summary

## Pesticides

| Test Name | Current | Previous | Result (75th / 95th) | Reference |
|---|---|---|---|---|
| Diethylthiophosphate (DETP)^ (ug/g) | 3.94 | | 1.24 / 3.92 | ≤3.92 |

### BACKGROUND
Diethylthiophosphate (DETP) is a metabolite of organophosphates, which are one of the most common causes of poisoning worldwide and are frequently intentionally used as pesticides.

### ASSOCIATED RISK
Even at low levels, organophosphates may be hazardous to the nervous system, especially for foetuses and young children. Repeated or prolonged exposure may induce impaired memory and concentration, disorientation, severe depression, irritability, confusion, headache, speech difficulties, delayed reaction times, nightmares, sleepwalking, drowsiness, or insomnia. Organophosphates function by inhibiting the action of cholinesterase enzymes in nerve cells. An influenza-like condition with headache, nausea, weakness, loss of appetite, and malaise.

### POSSIBLE SOURCES
They can enter the body through the lungs or skin, or by eating contaminated food.

### DETOX SUGGESTIONS
To detoxify DEDTP from the body, focus on increasing water intake to promote urinary excretion, consume foods rich in sulfur-containing compounds like garlic and onions to support liver detoxification pathways, and consider consulting a healthcare professional for guidance on specific detox protocols.

| Test Name | Current | Previous | Result (75th / 95th) | Reference |
|---|---|---|---|---|
| Diethyldithiophosphate (DEDTP)^ (ug/g) | 0.21 | | 0.17 / 0.3 | ≤0.3 |

### BACKGROUND
Diethyldithiophosphate (DEDTP) is a metabolite of organophosphates, which are one of the most common causes of poisoning worldwide and are frequently intentionally used as pesticides.

### ASSOCIATED RISK
Even at low levels, organophosphates may be hazardous to the nervous system, especially for foetuses and young children. Repeated or prolonged exposure may induce impaired memory and concentration, disorientation, severe depression, irritability, confusion, headache, speech difficulties, delayed reaction times, nightmares, sleepwalking, drowsiness, or insomnia. Organophosphates function by inhibiting the action of cholinesterase enzymes in nerve cells. An influenza-like condition with headache, nausea, weakness, loss of appetite, and malaise.

### POSSIBLE SOURCES
They can enter the body through the lungs or skin, or by eating contaminated food.

### DETOX SUGGESTIONS
To detoxify Diethyldithiophosphate (DEDTP) from the body, focus on increasing water intake to promote urinary excretion, consume foods rich in sulfur-containing compounds like garlic and onions to support liver detoxification pathways, and consider consulting a healthcare professional for guidance on specific detox protocols.

# Environmental Toxins - Summary

## Pesticides

| Test Name | Current | Previous | Result (75th: 5.91, 95th: 33.7) | Reference |
|---|---|---|---|---|
| Dimethylthiophosphate (DMTP)^ (ug/g) | 10.91 | | | ≤33.7 |

### BACKGROUND

Dimethylthiophosphate (DMTP) is a metabolite of organophosphates, which are one of the most common causes of poisoning worldwide and are frequently intentionally used as pesticides.

### ASSOCIATED RISK

Even at low levels, organophosphates may be hazardous to the nervous system, especially for foetuses and young children. Repeated or prolonged exposure may induce impaired memory and concentration, disorientation, severe depression, irritability, confusion, headache, speech difficulties, delayed reaction times, nightmares, sleepwalking, drowsiness, or insomnia. Organophosphates function by inhibiting the action of cholinesterase enzymes in nerve cells. An influenza-like condition with headache, nausea, weakness, loss of appetite, and malaise. Organophosphates and their metabolite, DMTP, generate oxidative stress, which in turn induces genomic instability through DNA damage. Alterations in genomic stability have been implicated in aging. Thus, DMTP may accelerate ageing owing to its contribution to genomic instability, which is a hallmark of aging.

### POSSIBLE SOURCES

They can enter the body through the lungs or skin, or by eating contaminated food.

### DETOX SUGGESTIONS

To detoxify DMTP from the body, focus on increasing water intake to promote urinary excretion, consume foods rich in sulfur-containing compounds like garlic and onions to support liver detoxification pathways, and consider consulting a healthcare professional for guidance on specific detox protocols.

# Environmental Toxins - Summary

## Phthalates

| Test Name | Current | Previous | Result (75th: 8.99, 95th: 23.4) | Reference |
|---|---|---|---|---|
| Mono-(2-ethyl-5-oxohexyl) phthalate (MEOHP)^ (ug/g) | 37.45 | | | ≤23.4 |

### BACKGROUND

Mono-(2-ethyl-5-oxohexyl) phthalate (MEOHP) is a metabolite of mono(2-ethylhexyl) phthalate (MEHP), which belongs to the most common environmental toxin phthalates. Phthalates, often known as plasticizers, are a group of chemicals used to make plastics more flexible and harder to break. They are widely used in cosmetics, adhesives, detergents, lubricating oils, automotive plastics, and plastic clothes.

### ASSOCIATED RISK

Inhaling phthalates can lead to irritation of the nose and throat, resulting in symptoms like coughing and wheezing, as well as headaches, dizziness, and nausea. These chemicals have been classified as endocrine disruptors, with potential consequences that encompass reproductive damage, depressed leukocyte function, and an elevated risk of cancer. Phthalate metabolites can disrupt the balance of lipids and glucose in the body, contributing to insulin resistance and subsequently increasing the risk of conditions like diabetes and cardiovascular disease (CVD) (6). Moreover, phthalate exposure has been associated with various health concerns, including breast cancer, obesity, and immune disorders. Notably, it has also been linked to adverse child neurodevelopment, including autistic behaviors and lower cognitive and motor development.

### POSSIBLE SOURCES

People are exposed to phthalates by eating or drinking contaminated foods but also by breathing in air that contains phthalate vapours or dust.

### DETOX SUGGESTIONS

Supplementing with compounds like IndolPlex and Calcium D-Glucarate, known to support glucuronidation, can enhance the body's ability to metabolize and eliminate phthalates. Additionally, incorporating two or more servings of Brassica or cruciferous vegetables into your daily diet can boost detoxification pathways, aiding in the removal of phthalates. Finally, regular sessions in a Far Infrared Sauna, guided by a knowledgeable health professional, can provide another avenue for eliminating phthalates from the body.

| Test Name | Current | Previous | Result (75th: 94.2, 95th: 541) | Reference |
|---|---|---|---|---|
| Mono-ethyl phthalate (MEtP)^ (ug/g) | 601.48 | | | ≤541 |

### BACKGROUND

Mono ethyl Phthalate (MEtP) is a metabolite of diethyl phthalate, which belongs to the most common environmental toxin group, phthalates. Phthalates, often known as plasticizers, are a group of chemicals used to make plastics more flexible and harder to break. They are widely used in cosmetics, adhesives, detergents, lubricating oils, automotive plastics, and plastic clothes.

### ASSOCIATED RISK

Inhaling phthalates can irritate the nose and throat, causing coughing and wheezing, headaches, dizziness, and nausea. Phthalates have been classified as endocrine disruptors which may cause reproductive damage, depressed leukocyte function, and even cancer. Phthalate exposure has also been associated with diabetes and insulin resistance, breast cancer, obesity, metabolic disorders, and immune disorders. Phthalate exposure and adverse child neurodevelopment, including autistic behaviours and lower cognitive and motor development, have also been reported.

### POSSIBLE SOURCES

People are exposed to phthalates by eating or drinking contaminated foods but also by breathing in air that contains phthalate vapours or dust.

### DETOX SUGGESTIONS

Supplementing with compounds like IndolPlex and Calcium D-Glucarate, known to support glucuronidation, can enhance the body's ability to metabolize and eliminate phthalates. Additionally, incorporating two or more servings of Brassica or cruciferous vegetables into your daily diet can boost detoxification pathways, aiding in the removal of phthalates. Finally, regular sessions in a Far Infrared Sauna, guided by a knowledgeable health professional, can provide another avenue for eliminating phthalates from the body.

# Environmental Toxins - Summary

## Volatile organic compounds

*No markers are outside the normal reference range*

## Creatinine

| Test Name | Current | Previous | Result | Reference |
|---|---|---|---|---|
| Urine Creatinine (mg/mL) | 1.25 | |   | 0.25-2.16 |

# Environmental Toxins - All Markers

## Environmental phenols

| Test Name | Current | Previous | Result (75th / 95th) | Reference |
|---|---|---|---|---|
| 4-Nonylphenol (ug/g) | 0.23 | | 0.42 / 2.06 | ≤2.06 |
| Bisphenol A (BPA)^ (ug/g) | 8.09 | | 2.12 / 5.09 | ≤5.09 |
| Triclosan (TCS)^ (ug/g) | 13.45 | | 29.9 / 358 | ≤358 |

## Herbicides

| Test Name | Current | Previous | Result (75th / 95th) | Reference |
|---|---|---|---|---|
| 2,4-Dichlorophenoxyacetic Acid (2,4-D)^ (ug/g) | 0.35 | | 0.5 / 1.55 | ≤1.55 |
| Atrazine ^ (ug/g) | 0.01 | | 0.02 / 0.05 | ≤0.05 |
| Atrazine mercapturate^ (ug/g) | 0.02 | | 0.02 / 0.05 | ≤0.05 |
| Glyphosate (ug/g) | 1.12 | | 1.65 / 7.6 | ≤7.6 |

## Mitochondrial Marker

| Test Name | Current | Previous | Result (75th / 95th) | Reference |
|---|---|---|---|---|
| Tiglylglycine (TG) (ug/g) | 0.07 | | 0.09 / 3.24 | ≤3.24 |

## Other Markers

| Test Name | Current | Previous | Result (75th / 95th) | Reference |
|---|---|---|---|---|
| Diphenyl Phosphate (DPP) (ug/g) | 0.89 | | 1.1 / 3.7 | ≤3.7 |
| N-acetyl-S-(2-carbamoylethyl)-cysteine^ (ug/g) | 54.67 | | 82 / 199 | ≤199 |
| Perchlorate (PERC)^ (ug/g) | 1.89 | | 4.89 / 10.7 | ≤10.7 |

## Parabens

| Test Name | Current | Previous | Result (75th / 95th) | Reference |
|---|---|---|---|---|
| Butylparaben^ (ug/g) | 4.89 | | 0.25 / 4.39 | ≤4.39 |
| Ethylparaben ^ (ug/g) | 3.92 | | 5.41 / 99.3 | ≤99.3 |
| Methylparaben^ (ug/g) | 178.99 | | 180 / 653 | ≤653 |
| Propylparaben^ (ug/g) | 50.76 | | 36.7 / 222 | ≤222 |

# Environmental Toxins - All Markers

## Pesticides

| Test Name | Current | Previous | Result (75th / 95th) | Reference |
|---|---|---|---|---|
| 2,2-bis(4-Chlorophenyl) acetic acid (DDA) (ug/g) | 5.10 | | 7.9 / 19 | ≤19 |
| 3-Phenoxybenzoic Acid (3PBA)^ (ug/g) | 0.35 | | 1.01 / 5.44 | ≤5.44 |
| Diethyl phosphate (DEP)^ (ug/g) | 0.89 | | 3.2 / 15.7 | ≤15.7 |
| Diethyldithiophosphate (DEDTP)^ (ug/g) | 0.21 | | 0.17 / 0.3 | ≤0.3 |
| Diethylthiophosphate (DETP)^ (ug/g) | 3.94 | | 1.24 / 3.92 | ≤3.92 |
| Dimethyl phosphate (DMP)^ (ug/g) | 2.56 | | 9.1 / 33.6 | ≤33.6 |
| Dimethyldithiophosphate (DMDTP)^ (ug/g) | 0.64 | | 0.67 / 6.12 | ≤6.12 |
| Dimethylthiophosphate (DMTP)^ (ug/g) | 10.91 | | 5.91 / 33.7 | ≤33.7 |

## Phthalates

| Test Name | Current | Previous | Result (75th / 95th) | Reference |
|---|---|---|---|---|
| Mono-(2-ethyl-5-hydroxyhexyl) phthalate (MEHHP)^ (ug/g) | 9.73 | | 14.1 / 37.7 | ≤37.7 |
| Mono-(2-ethyl-5-oxohexyl) phthalate (MEOHP)^ (ug/g) | 37.45 | | 8.99 / 23.4 | ≤23.4 |
| Mono-2-ethylhexyl phthalate (MEHP)^ (ug/g) | 2.22 | | 2.73 / 8.47 | ≤8.47 |
| Mono-ethyl phthalate (MEtP)^ (ug/g) | 601.48 | | 94.2 / 541 | ≤541 |

## Volatile organic compounds

| Test Name | Current | Previous | Result (75th / 95th) | Reference |
|---|---|---|---|---|
| 2-Hydroxyethyl Mercapturic Acid (HEMA)^ (ug/g) | 0.97 | | 1.7 / 4.75 | ≤4.75 |
| 2-Hydroxyisobutyric Acid (2HIB) (ug/g) | 22.36 | | 795.93 / 1215.72 | ≤1215.72 |
| 2-Methylhippuric Acid (2MHA)^ (ug/g) | 35.53 | | 77.9 / 248 | ≤248 |
| 3-Methylhippuric Acid (3MHA) (ug/g) | 21.22 | | 64.8 / 612.83 | ≤612.83 |
| 4-Methylhippuric Acid (4MHA) (ug/g) | 13.41 | | 65.51 / 752.72 | ≤752.72 |
| N-Acetyl (2-Cyanoethyl) Cysteine (NACE)^ (ug/g) | 2.22 | | 5.28 / 256 | ≤256 |
| N-Acetyl (2,Hydroxypropyl) Cysteine (NAHP)^ (ug/g) | 10.12 | | 101 / 403 | ≤403 |

# Environmental Toxins - All Markers

## Volatile organic compounds

| Test Name | Current | Previous | Result (75th / 95th) | Reference |
|---|---|---|---|---|
| N-Acetyl (3,4-Dihydroxybutyl) Cysteine^ (ug/g) | 257.56 | | 374 / 583 | ≤583 |
| N-Acetyl (Propyl) Cysteine (NAPR)^ (ug/g) | 5.23 | | 11.3 / 46.1 | ≤46.1 |
| N-acetyl phenyl cysteine (NAP)^ (ug/g) | 1.11 | | 1.29 / 3.03 | ≤3.03 |
| Phenyl glyoxylic Acid (PGO)^ (ug/g) | 213.50 | | 285 / 518 | ≤518 |

# PFAS Chemicals

## INTRODUCTION

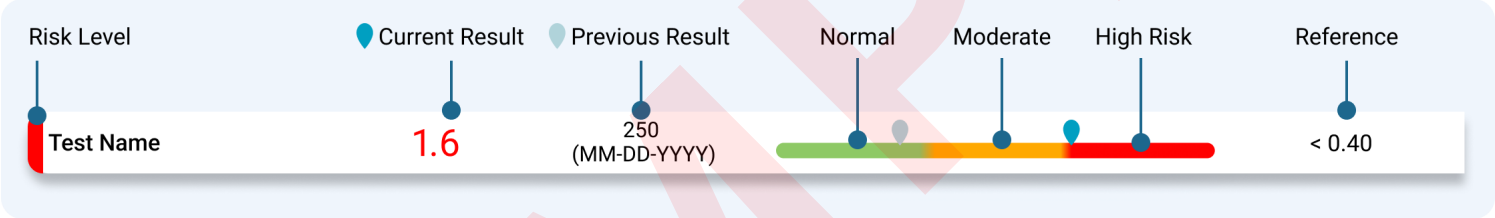
Vibrant Wellness is pleased to present the PFAS panel to support healthy lifestyle choices in consultation with your healthcare provider. The PFAS panel enables direct measurement of environmental and food-originating per- and polyfluoroalkyl substances (PFAS). Results are intended to be interpreted by healthcare providers to support personalized detoxification strategies informed by toxin burden and detoxification status.

## Methodology

The PFAS panel uses tandem liquid chromatography mass spectrometry methodology (LC-MS/MS) for quantitative detection of the respective toxins in urine samples. Urine creatinine is measured using a kinetic colorimetric assay based on the Jaffé method. All toxin markers are reported as the quantitative result normalized to urine creatinine to account for urine dilution variations.

## Interpretation of Report

The report begins with the summary page which lists only the markers whose levels are high or moderate based on the reference range. Additionally, the previous value is also indicated to help check for improvements every time the test is ordered. Reference ranges were established using a cohort of apparently healthy adults over 18 years of age, and pediatric reference ranges are not available. Following this section is the complete list of the markers and their absolute levels are normalized with respect to urine creatinine in a histogram format to enable a full overview along with the reference ranges. The level of PFAS with reference range is shown with three shades of color – Green, Yellow and Red. The result in green corresponds to 0th to 75th percentile indicates mild exposure to the respective PFAS The result in yellow corresponds to 75th to 95th percentile, indicates moderate exposure to the respective PFAS whereas the result in red corresponding to greater than 95th percentile indicates high exposure to PFAS. The reference metric is listed to the right of the reference range. The previous and current result are listed to the left of the reference range. (result example illustration below)




Please note: 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.

**Regulatory Disclaimer:** This test was performed by Vibrant America Clinical Laboratory at 3521 Leonard Ct, Santa Clara, CA 95054 (CLIA No. 05D2078809, CAP No. 8970308). This test was developed, and its performance characteristics determined, by Vibrant America Clinical Laboratory. This test has not been cleared or approved by the U.S. Food and Drug Administration (FDA).

# PFAS Chemicals - Summary

## PFAS

| Test Name | Current | Previous | Result (75th: 0.113, 95th: 1.681) | Reference |
|---|---|---|---|---|
| Perfluorohexane Sulfonic Acid (PFHxS) (ug/g) | 2.260 | | | ≤1.681 |

### POSSIBLE SOURCES

Source of Perfluorohexane sulfonate (PFHxS) include contaminated drinking water, polluted air, and contact with products containing per- and polyfluoroalkyl substances (PFAS). PFHxS has been detected in various foods, particularly fish, and higher human serum levels are associated with exposure to consumer products like carpeting and carpet applications, as well as contexts like fire-fighting foams.

### ASSOCIATED RISK

There is a noteworthy connection between PFHxS exposure and several concerning health outcomes, particularly in relation to cholesterol levels. Studies have revealed a significant association between PFHxS and key cholesterol indicators such as total cholesterol (TC), low-density lipoprotein cholesterol (LDL), the total cholesterol-to-high-density lipoprotein cholesterol ratio (TC/HDL), and non-HDL cholesterol. These findings suggest that exposure to PFHxS may contribute to an elevated risk of high cholesterol levels, which can have adverse implications for cardiovascular health. Furthermore, there is emerging evidence suggesting that PFHxS may act as a developmental neurotoxicant, potentially impacting neurological development and function

### DETOX SUGGESTIONS

Strategies for removing perfluorinated compounds (PFCs) include sauna use to induce sweating and oral administration of bile acid sequestrants like cholestyramine (CSM) or cation-exchange zeolite compounds to facilitate excretion through stool.

| Test Name | Current | Previous | Result (75th: 0.658, 95th: 3.215) | Reference |
|---|---|---|---|---|
| Perfluorooctane sulfonic acid (PFOS) (ug/g) | 3.980 | | | ≤3.215 |

### POSSIBLE SOURCES

Possible routes of exposure to perfluorooctane sulfonate (PFOS) include contaminated water and food, exposure to PFOS-containing particulate matter such as soils and dust, or vapor phase precursors, and contact with alkaline cleaners, floor polish, and agricultural chemicals. Ingestion of contaminated food and water, use of consumer products, or inhalation of PFOS-containing particulate matter are potential pathways for exposure. PFOS has been detected in drinking water supplies, often linked to manufacturing locations, industrial use, or disposal sites.

### ASSOCIATED RISK

PFOS, an emerging persistent contaminant that is commonly encountered during daily life, has been shown to exert toxic effects on the central nervous system (CNS). PFOS exposure led to concentration-dependent nitric oxide (NO) and reactive oxidative species (ROS) production. Pre-natal exposure may be associated with immunosuppression in early childhood. Testosterone production may be compromised in individuals with high PFOS exposure.

### DETOX SUGGESTIONS

Regular administration of cholestyramine (CSM) resulted in the gastrointestinal elimination of different PFAS, including PFOS leading to a subsequent decrease in serum levels of all PFAS. However, additional investigation is necessary to grasp thoroughly the efficacy and safety of utilizing CSM therapy for detoxifying PFAS.

# PFAS Chemicals - Summary

## PFAS

| Test Name | Current | Previous | Result | Reference |
|---|---|---|---|---|
| Perfluoro-n-[1,2-13C2] hexanoic acid (ug/g) | 0.320 | | 75th 95th; 0.091 0.325 | ≤0.325 |

### POSSIBLE SOURCES

Contaminated food, Contaminated water, Polluted air, breastmilk, food packaging, carpet, stain-resistant fabrics.

### ASSOCIATED RISK

Elevated levels of PFHpA exposure can result in the development of significant liver and heart abnormalities. Particularly, PFHpA has been linked to respiratory issues, particularly among girls, with a potential to trigger asthma. Prolonged exposure to PFHpA is associated with an increased risk of lower respiratory tract infections. Additionally, PFHpA compounds possess genotoxic properties, capable of inducing DNA damage that can disrupt genomic stability. This disruption in genomic stability is a recognized hallmark of the aging process. Consequently, intoxication with PFHpA may potentially accelerate aging due to its contribution to genomic instability.

### DETOX SUGGESTIONS

Detoxification of 13C2-PFHxA involves reducing exposure by avoiding contaminated water, food, and consumer products, as well as implementing air filtration in polluted areas. Additionally, supporting the body's natural detoxification processes through hydration, a nutrient-rich diet, and regular exercise may aid in eliminating 13C2-PFHxA. However, specific detox methods tailored to 13C2-PFHxA are still under investigation, necessitating further research for effective strategies.

## Creatinine

| Test Name | Current | Previous | Result | Reference |
|---|---|---|---|---|
| Urine Creatinine (mg/mL) | 1.25 | | 0 0.24 2.16 | 0.25-2.16 |

Patient Name: DEMO DEMO
Date of Birth: 11-30-2004 Accession ID: 2590764721
Service Date: 2026-03-15 10:00 (PDT)

# PFAS Chemicals - All Markers

## PFAS

| Test Name | Current | Previous | Result (75th / 95th) | Reference |
|---|---|---|---|---|
| GenX/HPFO-DA (ug/g) | 0.530 | | 1.045 / 6.689 | ≤6.689 |
| 9-chlorohexadecafluoro-3-oxanonane-1-sulfonate (ug/g) | 0.350 | | 0.472 / 2.75 | ≤2.75 |
| Dodecafluoro-3H-4,8-dioxanoate (NaDONA) (ug/g) | 0.170 | | 0.372 / 1.916 | ≤1.916 |
| Perfluoro-[1,2-13C2] octanoic acid (M2PFOA) (ug/g) | 0.120 | | 0.45 / 2.054 | ≤2.054 |
| Perfluoro-1-[1,2,3,4-13C4] octanesulfonic acid (ug/g) | 0.520 | | 0.645 / 2.68 | ≤2.68 |
| Perfluoro-1-heptane sulfonic acid (PFHpS) (ug/g) | 0.240 | | 0.628 / 3.783 | ≤3.783 |
| Perfluoro-n-[1,2-13C2] decanoic acid (MPFDA) (ug/g) | 0.720 | | 0.94 / 2.907 | ≤2.907 |
| Perfluoro-n-[1,2-13C2] hexanoic acid (ug/g) | 0.320 | | 0.091 / 0.325 | ≤0.325 |
| Perfluorobutanoic acid (PFBA) (ug/g) | 0.054 | | 0.066 / 0.113 | ≤0.113 |
| Perfluorodecanoic acid (PFDeA) (ug/g) | 0.530 | | 0.696 / 2.399 | ≤2.399 |
| Perfluorododecanoic acid (PFDoA) (ug/g) | 0.130 | | 0.54 / 1.769 | ≤1.769 |
| Perfluoroheptanoic acid (PFHpA) (ug/g) | 0.050 | | 0.106 / 0.142 | ≤0.142 |
| Perfluorohexane Sulfonic Acid (PFHxS) (ug/g) | 2.260 | | 0.113 / 1.681 | ≤1.681 |
| Perfluorohexanoic acid (PFHxA) (ug/g) | 0.006 | | 0.01 / 0.156 | ≤0.156 |
| Perfluorononanoic acid (PFNA) (ug/g) | 0.340 | | 0.652 / 1.31 | ≤1.31 |
| Perfluorooctane sulfonic acid (PFOS) (ug/g) | 3.980 | | 0.658 / 3.215 | ≤3.215 |
| Perfluorooctanoic acid (PFOA) (ug/g) | 0.450 | | 0.568 / 2.205 | ≤2.205 |
| Perfluoropentanoic acid (PFPeA) (ug/g) | 0.130 | | 0.193 / 0.731 | ≤0.731 |
| Perfluorotetradecanoic acid (PFTeDA) (ug/g) | 0.260 | | 1.478 / 4.912 | ≤4.912 |
| Perfluorotridecanoic acid (PFTrDA) (ug/g) | 0.500 | | 1.263 / 3.96 | ≤3.96 |
| Perfluoroundecanoic acid (PFUnA) (ug/g) | 0.350 | | 0.695 / 1.267 | ≤1.267 |

## Risk and Limitations

Test results reflect biological and analytical findings at the time of specimen collection and may vary between individuals. Reference ranges for most of laboratory-developed tests (LDT) were established using a healthy adult population and may not be representative of other specific populations (e.g. pediatric, pregnant, individuals with chronic conditions or from all ethnic backgrounds). They do not provide absolute levels at which the symptoms may occur and hence clinical correlation by the provider is recommended.

Results may be affected by pre-analytical variables related to specimen collection, handling, transport, storage, and inherent biological variability. Specimens including urine, saliva, stool, and blood-based samples (serum, plasma, EDTA whole blood, TES, and dried blood spots) may be impacted by improper collection technique, contamination, insufficient sample volume, delayed shipment or processing, temperature excursions, or improper storage conditions. Additional factors such as hemolysis; anticoagulant effects; clotting, centrifugation, or mixing parameters; incomplete mixing with transport media; and variability in dried blood spot application or saturation may further affect analyte stability or result accuracy. Specimen-specific factors, including urine dilution or concentration, variability in saliva composition or flow rate, and intermittent microbial shedding in stool, may also contribute to result variability. These factors may impact result accuracy and, in some cases, lead to a Test Not Performed (TNP). When clinically appropriate, repeat testing may be recommended; however, repeat testing may still fail to produce a reportable result if the underlying limitations persist.

All laboratory testing methodologies are subject to inherent analytical limitations related to instrument performance, assay design, methodological variability, and the specifications of FDA-approved and laboratory-developed analytes included in a test panel. As with all clinical laboratory testing, there is a small possibility of incorrect results due to technical errors, sample misidentification, contamination, rare genetic variants, or software-related issues.

Genetic testing is helpful in analyzing risks to various diseases. However, it is important to note that genetic risk determinants are neither necessary nor sufficient for the development of disease. Environmental and lifestyle risk factors could also affect the risk of disease development. Genetic risk does not indicate how common a health condition or variant is within the population; a risk-associated variant may be common or uncommon. Interpretation of genetic results should consider individual health context, as population-based reference frameworks may not fully represent all age groups, ethnic backgrounds, or health profiles. Genetic testing evaluates only the genotypes indicated and does not assess other genetic abnormalities found elsewhere in the genome. Different laboratories may test different variants when evaluating genetic risk for a given condition; therefore, genetic risk results may not be directly comparable between laboratories.

Some individuals may experience anxiety related to their genetic test results. Vibrant encourages any concerned individual to consult with a qualified healthcare professional prior to sample collection for a genetic test. Users of the test are encouraged to discuss their test results with a genetic counselor, board-certified clinical molecular geneticist, or equivalent health care professional. In some cases, the identification of risk-associated genetic variants may prompt discussion with a healthcare provider about additional testing or follow-up.

The reported analytes, SNPs, and associated informational content are informed by scientific knowledge at the time of reporting, including peer-reviewed scientific publications, publicly available research, and guidance from recognized scientific and public health organizations. Interpretive content may be updated as scientific knowledge continues to evolve. The informational content included in this report is derived from publicly available scientific literature and is provided for educational and informational purposes only. This content does not replace medical advice from a qualified healthcare professional. 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 ordering healthcare professional.

Vibrant does not diagnose, treat, or cure medical conditions and does not replace the care of a licensed medical practitioner or counselor, nor does Vibrant recommend self-diagnosis or self-medication. Depending on the nature of testing, individuals who receive moderate- or high-risk results may be advised to pursue confirmatory testing and appropriate medical follow-up. Vibrant assumes no liability for any loss, injury, or damages arising from the procurement, compilation, interpretation, delivery, or reporting of information contained in this report, nor from any decisions made or actions taken based on these results.

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.