

PATIENT

NAME: PFAS CHEMICALS DEMO
DATE OF BIRTH: 01-01-1111 GENDER: Male
TELEPHONE: 000-000-0000 AGE: 01

ACCESSION ID: 2211110454
SPECIMEN COLLECTED: 2022-10-11
SPECIMEN RECEIVED: 2022-10-11
FINAL REPORT DATE: 2022-10-31

FASTING: FASTING

PROVIDER:

PRACTICE NAME: DEMO CLIENT, MD
PROVIDER NAME: DEMO CLIENT, MD
PHLEBOTOMIST: 0

TELEPHONE: 000-000-0000
FAX #:
ADDRESS: 1360 Bayport Ave, San Carlos, CA 94070

Vibrant Wellness is pleased to present to you, 'PFAS chemicals 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 PFAS chemicals Panel is a test to measure the levels of PFAS chemicals present in your urine. Reference ranges were determined using urine samples from 1000 apparently healthy individuals.

The report begins with the summary page which lists only the PFAS chemicals whose levels are >95th percentile (Red) and 75th-95th percentile (Yellow) of reference range, normalized to Urine creatinine levels. Additionally, the previous value is also indicated for your referral (if available). Following this section is the complete list of the PFAS chemicals and their absolute levels normalized to Creatinine in a quartile format along with the reference ranges. These levels are shown with three shades of color – Green, Yellow and Red. The result in green corresponds to 0 to 75th percentile, the result in yellow corresponds to 75th to 95th percentile and the result in red corresponds to greater than 95th percentile of reference range. All content provided in the report are purely for informational purposes only and should not be considered medical advice. Any changes based on the information should be made in consultation with your healthcare provider.

The Vibrant Wellness platform provides tools for you to track and analyze your general wellness profile. Testing for the PFAS chemicals 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 physician/dietitian for medication, treatment, or lifestyle management. This product is not intended to diagnose, treat, or cure any disease.

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 physician before making any changes.

LAST NAME	FIRST NAME	GENDER	DATE OF BIRTH	ACCESSION ID	DATE OF SERVICE
DEMO	DEMO	Male	01-01-1111	2211110454	2022-10-11

High (>95th percentile)

TEST NAME	CURRENT RESULT	PREVIOUS RESULT	CURRENT RESULT	PREVIOUS RESULT	REFERENCE
Perfluorobutanoic acid (PFBA)	0.44				≤0.113 ug/g
Perfluorooctane sulfonic acid (PFOS)	8.523				≤3.215 ug/g

Moderate (75th-95th percentile)

TEST NAME	CURRENT RESULT	PREVIOUS RESULT	CURRENT RESULT	PREVIOUS RESULT	REFERENCE
GenX/HPFO-DA	2.93				≤6.689 ug/g
Perfluoro-1-[1,2,3,4-13C4] octanesulfonic acid	1.39				≤2.68 ug/g
Perfluorononanoic acid (PFNA)	0.947				≤1.31 ug/g

Urine Creatinine

TEST NAME	CURRENT RESULT	PREVIOUS RESULT	CURRENT RESULT	PREVIOUS RESULT	REFERENCE
Creatinine	0.96				0.25-2.16 mg/mL

Results are creatinine corrected to account for urine dilution variations. Reference intervals are based upon healthy population data and are representative of a large population cohort under non-provoked conditions.

LAST NAME	FIRST NAME	GENDER	DATE OF BIRTH	ACCESSION ID	DATE OF SERVICE
DEMO	DEMO	Male	01-01-1111	2211110454	2022-10-11

PFAS

TEST NAME	PERCENTILE		REFERENCE	TEST NAME	PERCENTILE		REFERENCE
	75th	95th			75th	95th	
GenX/HPFO-DA	2.93		≤6.689 ug/g	9-chlorohexadecafluoro-3-oxanonane-1-sulfonate	0.037		≤2.75 ug/g
Dodecafluoro-3H-4,8-dioxanoate (NaDONA)	0.287		≤1.916 ug/g	Perfluoro-[1,2-13C2] octanoic acid (M2PFOA)	0.296		≤2.054 ug/g
Perfluoro-1-[1,2,3,4-13C4] octanesulfonic acid	1.39		≤2.68 ug/g	Perfluoro-1-heptane sulfonic acid (PFHpS)	0.28		≤3.783 ug/g
Perfluoro-n-[1,2-13C2] decanoic acid (MPFDA)	0.058		≤2.907 ug/g	Perfluoro-n-[1,2-13C2] hexanoic acid	0.065		≤0.325 ug/g
Perfluorobutanoic acid (PFBA)		0.44	≤0.113 ug/g	Perfluorodecanoic acid (PFDeA)	0.569		≤2.399 ug/g
Perfluorododecanoic acid (PFDoA)	0.512		≤1.769 ug/g	Perfluoroheptanoic acid (PFHpA)	0.1		≤0.142 ug/g
Perfluorohexane Sulfonic Acid (PFHxS)	0.047		≤1.681 ug/g	Perfluorohexanoic acid (PFHxA)	0.01		≤0.156 ug/g
Perfluorononanoic acid (PFNA)	0.947		≤1.31 ug/g	Perfluorooctane sulfonic acid (PFOS)		8.523	≤3.215 ug/g
Perfluorooctanoic acid (PFOA)	0.473		≤2.205 ug/g	Perfluoropentanoic acid (PFPeA)	0.154		≤0.731 ug/g
Perfluorotetradecanoic acid (PFTeDA)	1.203		≤4.912 ug/g	Perfluorotridecanoic acid (PFTrDA)	0.864		≤3.96 ug/g
Perfluoroundecanoic acid (PFUnA)	0.296		≤1.267 ug/g				

COMMENTS

2,3,3,3-tetrafluoro-2-(heptafluoropropoxy) propanoate (GenX/HPFO-DA)

2,3,3,3-tetrafluoro-2-(heptafluoropropoxy) propanoate (GenX) was developed as a short-chain replacement compound for PFOA's in 2009. Genx has been used in similar ways to PFOA chemicals such as in fire-fighting foams, packaging, clothing, and as a processing aid in the production of Teflon. People can be exposed to GenX through drinking water and inhalation of contaminated air. GenX contamination of drinking water has notably occurred in the Cape Fear River water supply in North Carolina as well as other waterways in the US and Europe. Due to the short-chain structure, persistence in humans is believed to be less than environmental persistence. Studies on health effects of GenX in humans are limited, however animal studies following oral exposure have shown health effects particularly on the liver, but also the kidneys, immune system and reproductive system, including an association with cancer.

Perfluoro-1-[1,2,3,4-13C4] octanesulfonic acid (MPFOS)

Perfluorooctane sulfonic acid (PFOS) is a liquid, long chain, perfluorinated alkyl compound with multiple uses. It is used as a chemical intermediate, an acid catalyst for photoresists, a surfactant in firefighting foam, a surfactant for alkaline cleaners, an emulsifier in floor polish, a mist suppressant for metal plating baths, a surfactant for etching acids for circuit boards, a pesticide active ingredient for ant bait traps, and an agricultural chemical. PFOS is an emerging persistent contaminant that is commonly encountered during daily life. It has been shown to exert toxic effects in multiple areas, including the central nervous system, immune system, and endocrine system, with far reaching effects. Research findings include that PFOS exposure led to concentration-dependent nitric oxide (NO) and reactive oxidative species (ROS) production. Also, pre-natal exposure to PFOS may be associated with immunosuppression in early childhood. Further, testosterone production may be compromised in individuals with high PFOS exposure.

LAST NAME	FIRST NAME	GENDER	DATE OF BIRTH	ACCESSION ID	DATE OF SERVICE
DEMO	DEMO	Male	01-01-1111	2211110454	2022-10-11

PFAS

COMMENTS

Perfluorobutanoic acid (PFBA)

Perfluorobutanoate (PFBA) is a short chain perfluoroalkyl carboxylate that was developed as an alternative to legacy PFAS chemicals with higher bioaccumulation characteristics. PFBA is used in a wide variety of industrial and consumer products such as adhesives, cosmetics, and cleaning products. It is also used in specialized chemical applications, such as fire-fighting foams, and stain and water repellent coatings for fabrics and paper. PFBA is commonly found in precipitation, surface waters, water treatment effluent, as well as public and private wells. This toxin is known to have a short half-life, however, there is some research to indicate PFBA accumulates in the lungs and kidney. Research has shown an increased disease severity in Covid-19 in participants with greater plasma concentration of PBFA. Pre-clinical studies indicate exposure to PFBA can cause peroxisome proliferation, peroxisomal fatty acid oxidation induction, and hepatomegaly.

Perfluorononanoic acid (PFNA)

Perfluorononanoic acid (PFNA) is a fluorinated organic chemical found at low levels in the environment. PFNA have been widely used in many industrial and consumer products, including protective coatings for fabrics and carpet, paper coatings, coatings and products that resist heat, oil, stains, grease and water, insecticide formulations, and surfactants. PFNA's production and use may result in its release to the environment through various waste streams. High dose exposure to PFNA has long-lasting effects on the immune system. PFNA were found to induce sperm cell apoptosis, increase serum lipids, primarily total cholesterol, LDL cholesterol, cause liver damage, reduce immune response, and increase risk of thyroid disease, kidney and testicular cancer, neurodevelopmental effects, decreased weight of offspring are few symptoms of increased exposure to PFNA.

Perfluorooctane sulfonic acid (PFOS)

Perfluorooctane sulfonic acid (PFOS) is a liquid. It is used as a chemical intermediate, an acid catalyst for photoresists, a surfactant in firefighting foam, a surfactant for alkaline cleaners, an emulsifier in floor polish, a mist suppressant for metal plating baths, a surfactant for etching acids for circuit boards, a pesticide active ingredient for ant bait traps, and an agricultural chemical. It is also used to make products resistant to stains, grease, soils, and water. 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 can lead to concentration-dependent nitric oxide (NO) and reactive oxidative species (ROS) production. PFOS is known to cause hepatotoxicity, neurotoxicity, reproductive toxicity, immunotoxicity, thyroid disruption, and cardiovascular toxicity. Pre-natal exposure may be associated with immunosuppression in early childhood. Testosterone production may be compromised in individuals with high PFOS exposure.

Risk and Limitations

This test has been developed and its performance characteristics determined by Vibrant America LLC., a CLIA certified lab. These assays have not been cleared or approved by the U.S. Food and Drug Administration.

PFAS chemicals 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 physician's clinical assessment.

PFAS chemicals panel testing is performed at Vibrant America a CLIA certified laboratory. Vibrant America 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 chemical 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.

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.

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. Users should not disregard, or delay in obtaining, medical advice for any medical condition they may have, and should seek the assistance of their health care professionals for any such conditions.

SAMPLE