DEMO DEMO

Name: DEMO DEMO
Date of Birth: 03-24-1962
Biological Sex: Male
Age: 63
Height:
Weight:
Fasting: UNKNOWN

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

FINAL REPORT

Accession ID: 2350444156

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
Serum	2024-04-22 00:00 (PDT)	2024-04-23 13:05 (PDT)	Nutrient Zoomer - P2	2024-10-08 23:46 (PDT)
TES	2024-04-22 00:00 (PDT)	2024-04-23 13:05 (PDT)	Nutrient Zoomer - P2	2024-10-08 23:46 (PDT)
EDTA	2024-04-22 00:00 (PDT)	2024-04-23 13:05 (PDT)	Nutrient Zoomer - P2	2024-10-08 23:46 (PDT)

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

TNP Test not performed
R&L Refer to risks and limitations at the end of report
Notes Refer to Lab notes at the end of the table

VibrantWellness

Nutrient Zoomer

Your Nutrient Health Report

Nutrient Zoomer

INTRODUCTION

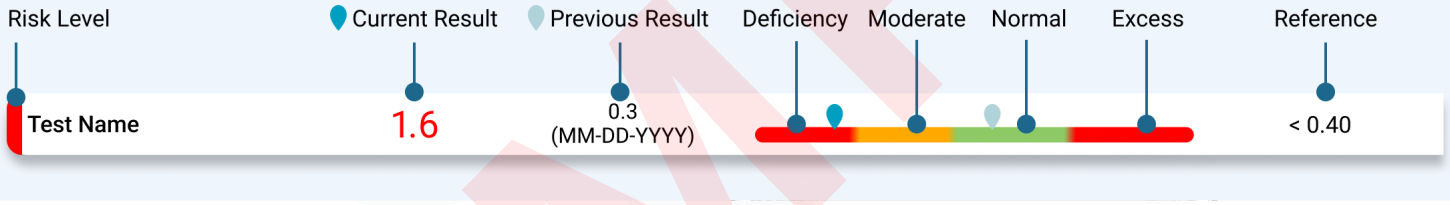
Vibrant Wellness is pleased to present Nutrient Zoomer testing to support healthy lifestyle choices in consultation with your healthcare provider. The Nutrient Zoomer enables direct measurement of both intra- and extracellular nutrients across categories of common Vitamins, Minerals, Amino Acids, and essential Fatty Acids. Results are intended to be interpreted by healthcare providers to support personalized nutrition and wellness recommendations informed by short- and long-term nutrient availability and utilization.

Methodology

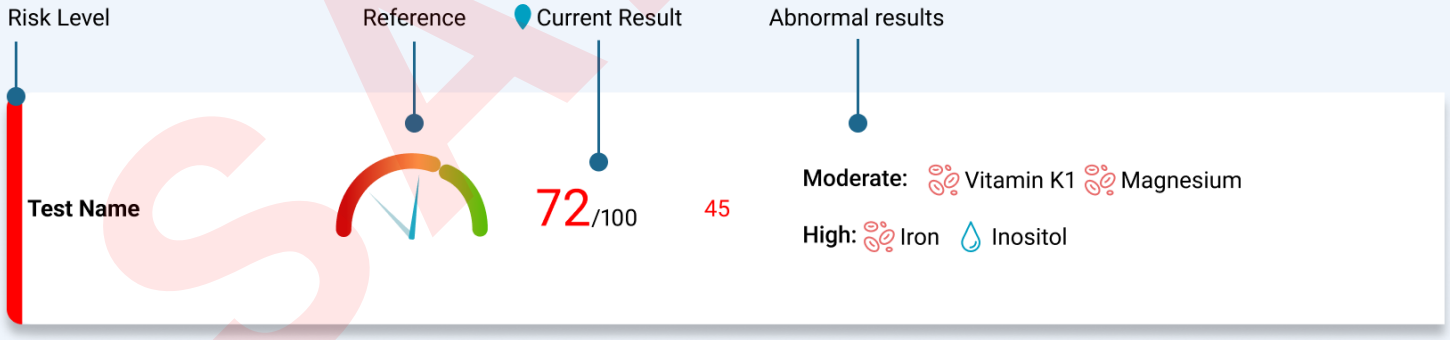
The Nutrient Zoomer uses tandem liquid chromatography mass spectrometry methodology (LC-MS/MS) for quantitative detection of the Intracellular (RBC & WBC) and Extracellular (Serum) Micronutrients markers and uses inductively coupled plasma mass spectrometry (ICP-MS) for quantitative detection metals in serum (extracellular), RBC (intracellular) and WBC (intracellular).

Interpretation of Report

The Vibrant Nutrient Zoomer report begins with the Summary which provides concise information on the abnormal serum and cellular analytes along with corresponding results from previous testing (if applicable). This is followed by a complete list of all analytes tested with quantitative results to enable a full overview along with the corresponding reference ranges. Reference ranges have been established using a cohort of 1000 apparently healthy adults over 18 years of age, and pediatric reference ranges are not available. The classification of Red indicates a result that is outside the reference range, and the classification of Green denotes a result that is within the reference range. Values are adjusted for white blood cell (WBC) counts where applicable. The patient's value is considered deficient if it falls on the far left (red) side of the reference range. The patient's value is considered in excess if it is on the far right (red) side of the reference range. The patient is considered moderately deficient if their result falls within the yellow (moderate) area of the reference range. The patient's value is considered normal if it falls within the green area of the reference range. The current result and previous result are listed to the left of the reference range. The reference metric, used to establish the reference range, is listed to the right of the reference range illustration (see image below).



A weightage is assigned to each nutrient in each category, based on its clinical relevance, structure, and function specific to that category. A score dial is also used to illustrate the patients' nutrient scores. A green score is ≥ 80 and is considered optimal. A yellow score is ≥ 70 and <80 and indicates a moderate risk of deficiency. A red score is any result below 70 and is considered deficient. (see image below).



Please note: Consider all supplements in relation to medical history and symptoms. Not all recommended supplements are appropriate in all individual cases. 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. Vitamin and mineral suggestions are based on age-matched and gender-matched RDAs and ULs.

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).

Nutrient Zoomer - Summary

Nutrient Zoomer - Summary

Serum RBC WBC

Test Name	Reference	Current	Previous	Abnormal
Bone, Joint and Muscle Health	≥80	63/100		High: AA/EPA Ratio, Vitamin B12 (Cobalamin) Low: Vitamin D (25-Hydroxy Vitamin D)
Cardiovascular Health	≥80	71/100		High: Vitamin B12 (Cobalamin), Vitamin B6 (Pyridoxal 5'-Phosphate), AA/EPA Ratio, Vitamin B12 (Cobalamin), Neutrophil Count
Gastrointestinal Barrier	≥80	54/100		High: AA/EPA Ratio, Vitamin B12 (Cobalamin) Low: Vitamin D (25-Hydroxy Vitamin D)
Liver Detoxification	≥80	61/100		High: Vitamin B12 (Cobalamin), Vitamin B6 (Pyridoxal 5'-Phosphate), Vitamin B3 (Niacin), AA/EPA Ratio, Vitamin B12 (Cobalamin), Neutrophil Count
Mitochondrial Function	≥80	84/100		High: Vitamin B3 (Niacin), AA/EPA Ratio
Skin and Anti-Aging	≥80	80/100		High: Vitamin B3 (Niacin), AA/EPA Ratio
Neurological, Cognitive Function and Mood	≥80	67/100		High: Vitamin B12 (Cobalamin), Vitamin B6 (Pyridoxal 5'-Phosphate), AA/EPA Ratio, Vitamin B12 (Cobalamin) Low: Vitamin D (25-Hydroxy Vitamin D)

Nutrient Zoomer - All Markers

VITAMINS

FAT-SOLUBLE		Current	Previous	Result	Reference
Vitamin A (Retinol)	Serum	45.0		0 40.7 154	40.8-154.5 (mcg/dL)
	WBC	2.0		0 0.8 17.3	0.9-17.3 (pg/MM WBC)
Vitamin D3 (Cholecalciferol)	Serum	1.1		0 0.3 1.8	0.4-1.8 (ng/mL)
	WBC	47.9		0 25.8 246	25.9-246.6 (pg/MM WBC)
Vitamin D (25-Hydroxy Vitamin D)	Serum	27.4		0 29.9 108	30.0-108.0 (ng/mL)
Vitamin E (Alpha Tocopherol)	Serum	18.1		0 7.3 30.6	7.4-30.6 (mg/L)
	WBC	31.9		0 18.3 1031	18.4-1031.1 (pg/MM WBC)
Vitamin K1 (Phylloquinone)	Serum	0.33		0 0.09 8.1	0.1-8.1 (ng/mL)
	WBC	0.11		0 0.09 0.71	0.1-0.71 (pg/MM WBC)
Vitamin K2 (Menaquinone)	Serum	1.62		0 0.09 5.19	0.1-5.19 (ng/mL)
	WBC	0.25		0 0.09 0.89	0.1-0.89 (pg/MM WBC)
Coenzyme Q10 (Co Q10)	Serum	1.36		0 0.55 2.78	0.56-2.78 (µg/mL)
	WBC	65.5		0 39.5 225	39.6-225.3 (pg/MM WBC)

WATER-SOLUBLE		Current	Previous	Result	Reference
Vitamin B1 (Thiamine)	Serum	7.4		0 1.3 71.3	1.4-71.3 (nmol/L)
	WBC	0.17		0 0.09 7	0.1-7.0 (pg/MM WBC)
Vitamin B2 (Riboflavin)	Serum	27.9		0 5.5 126	5.6-126.1 (mcg/L)
	WBC	0.4		0 0.1 3.6	0.2-3.6 (pg/MM WBC)
Vitamin B3 (Niacin)	Serum	129.2		0 2.5 36.1	2.6-36.1 (ng/mL)
	WBC	191.4		0 39.5 303	39.6-303.5 (pg/MM WBC)
Vitamin B5 (Pantothenic Acid)	Serum	207.6		0 22.6 429	22.7-429.2 (mcg/L)
	WBC	4.1		0 2.4 32.8	2.5-32.8 (pg/MM WBC)

Nutrient Zoomer - All Markers

VITAMINS

WATER-SOLUBLE		Current	Previous	Result	Reference
Vitamin B6 (Pyridoxal 5'-Phosphate)	Serum	95.9		0 2.7 76.2	2.8-76.2 (ng/mL)
	WBC	1.0		0 0.4 9.7	0.5-9.7 (pg/MM WBC)
Vitamin B9 (Folate)	Serum	>20		0 4.5	≥4.6 (ng/mL)
	RBC	>600		0 95.4	≥95.5 (ng/mL)
Vitamin B12 (Cobalamin)	Serum	1388		0 231 1245	232.0-1245.0 (pg/mL)
	WBC	35.94		0 1.99 11.9	2.0-11.99 (pg/mL)
MMA (Methylmalonic Acid)	Serum	0.15		0 0.09 0.5	0.1-0.5 (nmol/mL)
Vitamin C (Ascorbic Acid)	Serum	0.5		0 0.1 1.1	0.2-1.1 (mg/dL)
	WBC	0.6		0 0.4 9.7	0.5-9.7 (ng/MM WBC)
Myo-Inositol (Inositol)	Serum	31.2		0 20.4 60.7	20.5-60.7 (nmol/mL)
	WBC	0.29		0 0.09 2.5	0.1-2.5 (ng/MM WBC)
Choline	Serum	8.1		0 6.7 31	6.8-31.0 (nmol/mL)
	WBC	0.3		0 0.1 1.5	0.2-1.5 (ng/MM WBC)

MINERALS

Test Name		Current	Previous	Result	Reference
Iron (Fe)	Serum	139		0 58 158	59.0-158.0 (ug/dL)
	RBC	114.6		0 88.8 117	88.9-117.0 (mg/dL)
Magnesium (Mg)	Serum	2.2		1 1.5 2.6	1.6-2.6 (mg/dL)
	RBC	6.2		0 3.5 7.7	3.6-7.7 (mg/dL)
Manganese (Mn)	Serum	0.6		0 0.2 2	0.3-2.0 (ng/mL)
	WBC	20		0 1 75	2.0-75.0 (pg/MM WBC)
Calcium (Ca)	Serum	9.9		6.5 8.8 10.6	8.9-10.6 (mg/dL)
	WBC	43		0 14 120	15.0-120.0 (ng/MM WBC)

Nutrient Zoomer - All Markers

MINERALS

Test Name		Current	Previous	Result	Reference
Potassium (K)	Serum	4.5		3 / 3.4 / 5.1	3.5-5.1 (mmol/L)
	RBC	367.1		0 / 360 / 466	360.9-466.3 (mg/dL)
Sodium (Na)	Serum	140		125 / 135 / 145	136.0-145.0 (mmol/L)
Chromium (Cr)	Serum	0.22		0 / 0.09 / 0.7	0.1-0.7 (ng/mL)
Selenium (Se)	Serum	164.1		0 / 109 / 218	109.8-218.4 (ng/mL)
	WBC	360		0 / 233 / 1050	234.0-1050.0 (pg/MM WBC)
Iodine (I)	Serum	46.0		0 / 42.6 / 91.8	42.7-91.8 (ng/mL)
Zinc (Zn)	Serum	0.9		0 / 0.4 / 1	0.5-1.0 (mcg/mL)
	WBC	4		0 / 3 / 15	4.0-15.0 (ng/MM WBC)
Copper (Cu)	Serum	0.9		0 / 0.5 / 1.8	0.6-1.8 (mcg/mL)
	WBC	2		0 / 1 / 15	2.0-15.0 (ng/MM WBC)
Copper to Zinc Ratio (Cu:Zn)	Serum	1.0		0 / 0.8 / 2.6	0.9-2.6

AMINO ACIDS

Test Name		Current	Previous	Result	Reference
L-Arginine	Serum	105.1		0 / 81.5 / 249	81.6-249.0 (nmol/mL)
L-Citrulline	Serum	24.8		0 / 18.6 / 47.5	18.7-47.5 (nmol/mL)
L-Cysteine	Serum	10.9		0 / 3.3 / 37	3.4-37.0 (nmol/mL)
L-Glutamine	Serum	510.4		0 / 393 / 699	393.5-699.3 (nmol/mL)
	WBC	1.8		0 / 1.3 / 7	1.4-7.0 (ng/MM WBC)
L-Serine	Serum	104.1		0 / 94.1 / 246	94.2-246.8 (nmol/mL)
	WBC	2.0		0 / 1.7 / 19.8	1.8-19.8 (ng/MM WBC)
L-Asparagine	Serum	50.5		0 / 39.1 / 89.8	39.2-89.8 (nmol/mL)
	WBC	0.8		0 / 0.4 / 2.8	0.5-2.8 (ng/MM WBC)

Nutrient Zoomer - All Markers

AMINO ACIDS

Test Name		Current	Previous	Result	Reference
Free Carnitine	Serum	13.0		0 11.5 43.4	11.6-43.4 (nmol/mL)
	WBC	0.3		0 0.2 1.5	0.3-1.5 (ng/MM WBC)
Glutathione	WBC	193.5		0 98.6 1163	98.7-1163.0 (pg/MM WBC)
Cysteine	WBC	73.9		0 59.9 565	60.0-565.0 (pg/MM WBC)

Branched Chain AAs

		Current	Previous	Result	Reference
L-Isoleucine	Serum	52.3		0 25.4 158	25.5-158.9 (nmol/mL)
L-Leucine	Serum	131.1		0 101 249	101.2-249.3 (nmol/mL)
L-Valine	Serum	210.4		0 155 368	155.9-368.0 (nmol/mL)

FATTY ACIDS

AA/EPA

		Current	Previous	Result	Reference
AA/EPA Ratio	RBC	11.8		0 2.4 10.9	2.5-10.9

OMEGA-3

		Current	Previous	Result	Reference
DHA (Docosahexaenoic Acid)	RBC	7.97		0 2.41 10.5	2.42-10.52 (%)
EPA (Eicosapentaenoic Acid)	RBC	0.37		0 0.14 2.26	0.15-2.26 (%)
DPA-n3 (Docosapentaenoic Acid-n3)	RBC	0.94		0 0.44 1.8	0.45-1.8 (%)
Total Omega-3	RBC	9.34		0 3.24 13.9	3.25-13.99 (%)
Omega 3 Index	RBC	8.34		0 2.65 7.99 12.6	8.0-12.65 (%)

OMEGA-6

		Current	Previous	Result	Reference
Arachidonic Acid (AA)	RBC	17.03		0 5.49 19.0	5.5-19.01 (%)
Linoleic Acid (LA)	RBC	8.77		0 3.21 10.4	3.22-10.49 (%)
Total Omega-6	RBC	31.07		0 11.0 34.9	11.03-34.96 (%)

Nutrient Zoomer - All Markers

BLOOD CELL COUNT

Test Name		Current	Previous	Result	Reference
Lymphocyte Count	WBC	1.38		0 1.31 3.57	1.32-3.57 (x 10^3/µL)
Neutrophil Count	WBC	5.53		0 1.77 5.38	1.78-5.38 (x 10^3/µL)
White Blood Cell (WBC)	WBC	7.52		1.01 4.22 9.07	4.23-9.07 (x 10^3/µL)

Nutrient Zoomer - Summary

VITAMINS

FAT-SOLUBLE		Current	Previous	Result	Reference
Vitamin D (25-Hydroxy Vitamin D)	Serum	27.4		0 — 29.9 — 108	30.0-108.0 (ng/mL)

PHYSIOLOGICAL FUNCTION

25-hydroxyvitamin D is a standard lab test which measures the inactive precursor to 1,25-OHD, which is a combination of two forms of vitamin D in the body: vitamin D2 and vitamin D3. 25-OHD has a longer half-life in the blood than 1,25-OHD, and, therefore, levels may differ from levels of active 1,25-OHD3. Because 25-OHD is a precursor to active forms of vitamin D, it is important to note that it is not reflective of overall active D3 levels, but rather what is available for conversion if cofactors are sufficient. The conversion of 25-OHD to 1,25-OHD is performed in the kidneys and regulated by parathyroid hormone (PTH). When blood calcium levels fall, PTH signals the kidneys to convert more 25-OHD to 1,25-OHD, which increases intestinal absorption of calcium, and reduces bone demineralization of calcium. Upon conversion to 1,25-OHD, it also regulates the function of hundreds of genes, supports the immune system, supports production and function of endocrine hormones, is important for normal growth and development of bones and teeth, tightly regulates the levels of calcium and phosphorus being absorbed intestinally as well as released from bone, regulates cell differentiation and growth, and may play an important role in regulating mood.

HOW IT GETS DEPLETED

Vitamin D deficiency is very common in the U.S. The most common reasons for vitamin D deficiency include: lack of sun exposure and regular use of sunscreen. Individuals with darker pigmented skin are at greater risk for vitamin D deficiency. Chronic liver disease and kidney failure are risk factors for vitamin D deficiency. Patients who present with hypercalcemia, hyperphosphatemia, and low PTH may suffer from unregulated conversion of 25-OH-VitD to 1,25-OHD. Some medications can deplete vitamin D: anti-inflammatory medications, antibiotics, anticonvulsant medications, cholesterol lowering medications, laxatives and anti-ulcer medications.

CLINICAL MANIFESTATIONS OF DEPLETION

Conditions that have been associated with low vitamin D status include: Alzheimer's disease, asthma, autism, cancer, cavities, colds and flus, cystic fibrosis, dementia, depression, diabetes 1 and 2, eczema and psoriasis, hearing loss, heart disease, hypertension, infertility, inflammatory bowel disease, insomnia, macular degeneration, migraines, multiple sclerosis, Crohn's disease, muscle pain, obesity, osteomalacia, osteoporosis, periodontal disease, preeclampsia, rheumatoid arthritis, schizophrenia, seizures, septicemia, and tuberculosis. Reasons for suboptimal 25-OHD levels, specifically, include lack of sun exposure (particularly in northern latitudes and during the winter season), malabsorption (due to Celiac disease, or other inflammatory digestive disorders), inadequate hepatic vitamin D 25-hydroxylase enzyme activity, and some prescription medications such as antiepileptic drugs, including phenytoin, phenobarbital, and carbamazepine, that increase 25-OHD metabolism. Levels of PTH may be high-normal or elevated in sub-clinical and frank vitamin D deficiency.

FOOD SOURCES

Food sources of vitamin D include: dairy products, such as fortified milk and yogurt, fortified orange juice, egg yolks, liver, fatty fish, such as salmon, tuna, mackerel, sardines, shrimp, mushrooms grown in adequate sunlight, baker's yeast. Naturally occurring sources will contain vitamin D3, whereas fortified sources (baker's yeast) will contain D2.

SUPPLEMENT CONSIDERATION

The previously established RDA of 400IU/day has been found to be insufficient for therapeutic needs. Common doses are used between 1000 and 10,000 IU/day. Vitamin D comes in two forms: D2 (ergocalciferol) and D3 (cholecalciferol); both forms can be converted to active vitamin D in the body (25-hydroxyvitamin D). Vitamin D is produced when skin is exposed to ultraviolet light from the sun. Supplementation with Vitamin D is almost always necessary, as it is extremely difficult to meet needs though diet and sun exposure alone. Consult with your practitioner for supplement recommendations and target goal for serum levels. Because vitamin D can be stored or trapped in adipose tissue (fat cells) obese individuals and pregnant women have higher vitamin D requirements. Obtaining too much vitamin D from sun exposure is not possible, but it is possible to obtain too much from supplementation. Taking too much vitamin D in supplement form can also cause in increase in blood levels of calcium, or hypercalcemia, due to increased intestinal absorption of calcium when serum vitamin D levels are high. Vitamin D toxicity has been observed in individuals taking greater than 50,000 IU/day, but intake levels less than 10,000 IU/day are unlikely to cause toxicity.

VITAMINS

WATER-SOLUBLE		Current	Previous	Result	Reference
Vitamin B3 (Niacin)	Serum	129.2		0 2.5 36.1	2.6-36.1 (ng/mL)

PHYSIOLOGICAL FUNCTION

Niacin is extensively involved in metabolic reduction reactions through NAD-NADPH pathways. Over 200 enzymes in the human body require niacin. Other important major functions of niacin include: fatty acid synthesis, ATP synthesis, DNA repair, lower cholesterol/LDL, and aids in circulation.

CLINICAL MANIFESTATIONS OF EXCESS / RISK FOR TOXICITY

Excess vitamin B3 may cause skin flushing, liver toxicity, or glucose intolerance, but also significantly lower LDL and triglycerides. When monitored safely, it can raise HDL level.

FOOD SOURCES

The most concentrated sources of niacin are in animal products (pork), peanuts/peanut butter, tofu, and eggs. Also consider food sources high in tryptophan. Enriched grains provide supplemental niacin.

SUPPLEMENT CONSIDERATION

The RDA for niacin is 20 mg/day. The UL for niacin is 35 mg/day, but oral administration up to 6g per day has been used without side effects. Niacin is often recommended therapeutically for lipid management. Niacin has been shown to lower LDL cholesterol, lipoprotein(a), triglyceride, and fibrinogen levels, while raising HDL levels. Flushing can occur at high doses. Aspirin may help reduce flushing. Time release niacin or no-flush niacin is not recommended for therapeutic treatment. Monitor liver function carefully with high dose Niacin supplementation.

Vitamin B6 (Pyridoxal 5'-Phosphate)	Serum	95.9		0 2.7 76.2	2.8-76.2 (ng/mL)

PHYSIOLOGICAL FUNCTION

There are 117 known B6 dependent enzymes important for metabolic function. Most are aminotransferase reactions (transfer of amino groups for protein metabolism). Vitamin B6 also aids in the absorption of Vitamin B12. B6 converts tryptophan to serotonin and can modulate steroid hormone activity. B6 is involved in the methylation cycle and clearance of homocysteine along with folate and B12.

CLINICAL MANIFESTATIONS OF EXCESS / RISK FOR TOXICITY

Excess intake may cause sensory nerve damage or numbness, and loss of coordination. Toxicity is rare and is caused by prolonged use of very high doses.

FOOD SOURCES

Food sources of B6 include: beef, liver, poultry, and fish. There is a high abundance of B6 in plant foods such as: legumes, whole grains, lentils, soybeans, nuts, seeds, and non-citrus fruits. Vitamin B6 is better absorbed from animal sources.

SUPPLEMENT CONSIDERATION

The RDA for B6 is 2 mg/day. The UL for B6 is 100 mg/day. High dose supplements are sometimes used to relieve PMS and carpal tunnel syndrome. High dose B6 supplementation can cause neuropathies (nerve damage). Levels greater than 2 g/day have been shown to induce neuropathy or sensory neuropathy. Doses of greater than 150 mg may suppress lactation. Therapeutic range for vitamin B6 is considered to be 30 to 500 mg/day.

Nutrient Zoomer - Summary

VITAMINS

WATER-SOLUBLE		Current	Previous	Result	Reference
Vitamin B12 (Cobalamin)	Serum	1388		0 231 1245	232.0-1245.0 (pg/mL)
	WBC	35.94		0 1.99 11.9	2.0-11.99 (pg/mL)

PHYSIOLOGICAL FUNCTION

Vitamin B12 is an important coenzyme when in its active form of methylcobalamin. B12 facilitates the metabolism of folic acid through its primary role as a methyl donor. B12 requires intrinsic factor for absorption, which is calcium dependent. The role of vitamin B12 in the production of some neurotransmitters may also be evidenced by mood imbalance in susceptible individuals.

CLINICAL MANIFESTATIONS OF EXCESS / RISK FOR TOXICITY

Excess vitamin B12 can be manifested as mild acne-like rash, headache, or mild anxiety; which is rare and high doses are safe since excess amount is easily excreted through urine. which may occur rarely. There is no established toxicity risk. High serum B12 is usually due to over supplementation or injections but can be due to more serious concerns such as liver disease, kidney disease or hematologic concerns.

FOOD SOURCES

Vitamin B12 is synthesized by bacteria and exists in all animal foods. Vitamin B12 is only available from animal sources. The B12 synthesized by gut bacteria may not be a significant source for humans, as it is not absorbed in the colon.

SUPPLEMENT CONSIDERATION

The RDA for B12 is 6 mcg/day. Consider the upper limit of folate supplementation as a factor for the supplementation of B12, due to potential for folate trap. Vitamin B12 is extremely safe. No toxicity from high doses of vitamin B12 has ever been reported. Intramuscular injections are often used, particularly in the elderly to bypass intrinsic factor. Humans store large amounts of B12 in the liver so larger doses can be given at 6 month intervals. Supplementation is highly encouraged on a vegan diet. Due to high storage capacity in the liver, it may take years to deplete the body of B12 after adopting a vegan diet. Consider MTHFR genetic, and methyl cobalamin supplementation, particularly with hyperhomocysteinemia. Methylcobalamin is the recommended form of supplementation, but may be poorly absorbed in people taking antacids or those with very poor absorption (celiac, intestinal permeability, etc). Cyanocobalamin is not recommended for patients with MTHFR mutations. Hydroxocobalamin is recommended for patients with autoimmune diseases and elevated nitric oxide levels. Glutathione is also required for methylcobalamin to be bound for transport adequately. Vitamin B12 supplementation may help manage anemia, asthma, fatigue, hepatitis, dementia, epilepsy, depression, psychosis, irritability, ataxia, numbness, tingling, neuropathy, AIDS, multiple sclerosis, tinnitus, and infertility. Supplemental B12 is commonly given in 1000 to 5000 mcg doses.

MINERALS

No markers are outside the normal reference range

AMINO ACIDS

No markers are outside the normal reference range

Nutrient Zoomer - Summary

FATTY ACIDS

AA/EPA		Current	Previous	Result	Reference
AA/EPA Ratio	RBC	11.8		0 2.4 10.9	2.5-10.9

BLOOD CELL COUNT

Test Name		Current	Previous	Result	Reference
Neutrophil Count	WBC	5.53		0 1.77 5.38	1.78-5.38 (x 10^3/µL)

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.