

# DEMO DEMO

Name: DEMO DEMO  
Date of Birth: 11-12-1990  
Biological Sex: Male  
Age: 35  
Height: 64 inches  
Weight: 160 lbs  
Fasting:

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

FINAL REPORT

Accession ID: 2712922022

## Provider Information

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

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

## Report Information

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

## Specimen Information

Sample Type	Collection Time	Received Time	Report	Final Report Date
Serum	2026-01-15 10:00 (PST)	2026-01-15 16:41 (PST)	<a href="#">Tickborne Diseases 2.0 - P2</a>	2026-01-16 11:06 (PST)
EDTA	2026-01-15 10:00 (PST)	2026-01-15 16:41 (PST)	<a href="#">Tickborne Diseases 2.0 - P2</a>	2026-01-16 11:06 (PST)



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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

## INTRODUCTION

Vibrant Wellness is pleased to present Tickborne Diseases 2.0 testing to support healthy lifestyle choices in consultation with your healthcare provider. The Tickborne Diseases panel evaluates IgG and IgM antibodies and detects genetic material across multiple categories related to tickborne exposure, including Lyme disease, tick-borne relapsing fever, co-infections, opportunistic infections, and other tickborne microorganisms. Results are intended to be interpreted by healthcare providers in the context of clinical history and additional diagnostic information to support personalized wellness and monitoring strategies.

The Vibrant Tickborne Diseases panel tests for IgG and IgM antibodies for Borreliosis/Lyme disease as well as co-infection(s) and opportunistic infections with other tick-borne illnesses along with detection of DNA of the species causing these infections.

## Methodology

The Vibrant Tickborne Immunochip test is a semiquantitative assay that detects IgG and IgM antibodies in human serum/DBS for the tickborne microorganisms with multiplexed chemiluminescence immunoassay (CLIA) methodology. The Tickborne PCR Test is a real-time PCR Assay based on probe-based qPCR and RT-qPCR designed for qualitative detection of infectious group-specific DNA in clinical samples.

## Interpretation of Report

The Tickborne Summary provides concise information on all organisms with representing the list of antigens with positive serology antibody titers that are outside the normal reference range and/or any detected results of the PCR testing for all analytes tested. Reference ranges have been established using a cohort of 2000 apparently healthy adults over 18 years of age, and pediatric reference ranges are not available. While the summary table provides a quick snapshot of the analytes tested, providers are encouraged to review the comments provided following the summary for a detailed description of the analytes and the tickborne interpretation guideline available in the portal.

This is followed by a complete list of all analytes tested, including PCR results IgG and IgM titers for all organisms. For antibody results, the classification of Green denotes a result that is within the normal reference range, the classification of Yellow denotes a result that is moderately elevated titer with respect to the reference range and the classification of Red denotes a result that is elevated with respect to the normal reference range. Additionally, the previous value (if available) is also indicated to help check for improvements every time the test is ordered. The PCR panel reports results as Detected or Not Detected. As with all testing, results should be interpreted considering a patient's history, physical examination, and/or results of other diagnostic testing.

**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. Antibody titers do not indicate the presence or absence of infection, the diagnosis of which should be made based upon a thorough evaluation of clinical history.**

Patient Name: DEMO DEMO

Date of Birth: 11-12-1990 Accession ID: 2712922022

Service Date: 2026-01-15 10:00 (PST)

# Tickborne Diseases 2.0 - Summary

## Tickborne Diseases 2.0

Panel Name	Organism	Positive Serology		PCR
		IgG	IgM	
Lyme disease	Borrelia burgdorferi	VlsE1, C6 peptide, p34 (OspB), p39 (BmpA), p66		
	Borrelia bavariensis	VlsE1		
Babesiosis	Babesia duncani	Babesia duncani		
Rickettsial disease	Rickettsial disease	Rickettsia typhi Surface antigen		
Cytomegalovirus	Cytomegalovirus	p150		
Epstein Barr Virus	Epstein Barr Virus	EBNA1, VCA gp125, p18, p23		
Parvovirus B19	Parvovirus B19	VLP VP1/Vp2 Co Capsid		
Streptococcal A	Streptococcal A	Streptococcal A		
Other Borrelia species	Other Borrelia species	Borrelia turcica		

## Tickborne Diseases 2.0

### Lyme disease

#### **Borrelia burgdorferi**

*Borrelia burgdorferi* is one of the pathogens of the *Borrelia burgdorferi* sensu lato complex causing Lyme disease. Lyme disease is a zoonotic, vector-borne disease transmitted by the Ixodes tick. Clinical presentation of Lyme disease is known for the characteristic bull's-eye rash (also known as erythema migrans) but can also include myocarditis, cardiomyopathy, arrhythmia, arthritis, arthralgia, meningitis, neuropathies, and facial nerve palsy depending on the stage of infection.

#### Comment

**VlsE1** - Variable major protein like sequence E1 protein (VlsE1) is a borrelial surface protein which is the most sensitive protein for IgG antibody detection in all stages of Lyme disease. It is particularly valuable for diagnosis of Lyme disease during early manifestations (EM and acute neuroborreliosis).

**C6 peptide** - C6 peptide refers to the sixth invariant region (C6) of the variable major protein-like sequence-expressed (VlsE) lipoprotein of *B. burgdorferi* may be more sensitive in patients with erythema migrans.

**p34 (OspB)** - Outer surface protein B (OspB) is one of the major proteins in the outer membrane of this *B. burgdorferi*. OspB was found to be critical for *B. burgdorferi* adherence and survival within Ixodes ticks.

**p39 (BmpA)** - *B. burgdorferi* basic membrane protein A (BmpA) localizes to the bacterium's outer membrane. BmpA and its three paralogous proteins, BmpB, BmpC, and BmpD, all bind to laminin in the host's extracellular matrix.

**p66** - *B. burgdorferi* p66 is an outer membrane spanning protein Oms66. It is proven to be an integral membrane porin because liposome-reconstituted P66 displayed channel-forming activity in planar lipid bilayer assays. P66 has also been shown to function as an adhesin that binds the mammalian cell receptors,  $\beta 3$  chain and  $\beta 1$  chain integrins.

#### **Borrelia bavariensis**

*Borrelia bavariensis*, found in Europe and Asia, is a spirochete belonging to the *Borrelia* group and utilizes rodents as reservoir hosts. Europe *B. bavariensis* strains were frequently associated with Neuroborreliosis. *B. bavariensis* strains were frequently included into the species *B. garinii* in epidemiological and clinical studies in Asia; therefore, their overall medical significance is at present difficult to judge. It is also possible that *B. bavariensis* is divided into an Asian and European subpopulation.

### Babesiosis

#### **Babesia duncani**

*Babesia duncani* is an etiological agent of Babesiosis in the United States and Canada, primarily identified on the West Coast. Babesiosis is a malaria-like illness wherein erythrocytes are infected and damaged by the protozoan parasite. Most infections are probably asymptomatic, as indicated by serologic surveys. Manifestations of disease include fever, chills, sweating, myalgias, fatigue, hepatosplenomegaly, and hemolytic anemia. Symptoms typically occur after an incubation period of 1 to 4 weeks and can last several weeks. The disease is more severe in patients who are immunosuppressed, splenectomized, and/or elderly.

### Rickettsial disease

#### **Rickettsial disease**

*Rickettsia typhi* is the etiological agent of murine typhus. *R. typhi* is transmitted primarily by the rat flea, *Xenopsylla cheopis*. Lice and mites can be potential vectors and rodents, shrews, opossums, cats can be reservoir. The clinical manifestations of murine typhus are usually less severe than those of epidemic typhus and includes persistent headache, a high-grade fever, and a cutaneous rash predominating on the trunk. Murine typhus usually takes a prolonged incubation period and the characteristic rash is occasionally absent. An antibody response is usually detected only after 10 days from the onset of systemic symptoms, and antibody titers reach a peak after 3 to 4 weeks or later if an antibiotic therapy has been administered.

## Tickborne Diseases 2.0

### Cytomegalovirus

#### Cytomegalovirus

Cytomegalovirus is a common virus that infects people of all ages. Around 80% of adults in the United States are infected with virus. This virus has the ability to remain alive yet dormant for the life of the human host, but it can become active when the immune system is weakened , .

### Epstein Barr Virus

#### Epstein Barr Virus

The Epstein–Barr virus, also called human herpesvirus 4 (HHV-4), is one of the causes of infectious mononucleosis (glandular fever). It is a double-stranded, enveloped, linear DNA virus. Lyme disease and infectious mononucleosis are common illnesses that share similar clinical presentations and hence its useful to test together.

### Parvovirus B19

#### Parvovirus B19

Lyme disease and Parvovirus B19 infections produce arthritis, rashes, and a systemic illness that may be thought to represent a chronic rheumatic disease . Cases of co infections have also been reported in literature. Additionally, it has been shown to be a good candidate for differential diagnosis in cases of arthropathy where Lyme disease has been suspected .

### Streptococcal A

#### Streptococcal A

Antibodies to Streptococcal A are indicative of current or recent strep infection. In PANDAS (Pediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcal Infections) researchers suggest that antibodies produced to the infection may lead to the PANDAS symptoms. Strep bacteria are very ancient organisms that survive in the human host by hiding from the immune system as long as possible. They hide themselves by putting molecules on their cell wall so that they look nearly identical to molecules found on the child's heart, joints, skin, and brain tissues. This hiding is called "molecular mimicry" and allows the strep bacteria to evade detection for a long time. However, the molecules on the strep bacteria are eventually recognized as foreign to the body and the child's immune system reacts to the molecules by producing antibodies. Because of the molecular mimicry by the bacteria, the immune system reacts not only to the strep molecules but also to the human host molecules that were mimicked; antibodies "attack" the mimicked molecules in the child's own tissues. These antibodies that react to both the molecules on the strep bacteria and to similar molecules found on other parts of the body are an example of "cross-reactive" antibodies. Studies at the National Institute of Mental Health (NIMH) and elsewhere have shown that some cross-reactive antibodies target the brain—causing OCD, tics, and the other neuropsychiatric symptoms of PANDAS.

### Other Borrelia species

#### Other Borrelia species

The 'Other Borrelia species' encompass a group of spiral-shaped bacteria related to those causing Lyme disease and relapsing fever. These species, including *Borrelia andersonii*, *Borrelia maritima*, *Borrelia californiensis*, *Borrelia bissettiae*, *Borrelia lusitaniae*, *Borrelia valaisiana*, *Borrelia yangtzensis*, and *Borrelia turcica*, are lesser-known compared to *Borrelia burgdorferi*, the primary Lyme disease pathogen, but still pose significant health concerns globally. Typically transmitted by ticks, infections by these *Borrelia* species can result in a range of symptoms, including fever, headache, joint pain, and fatigue. Due to the diversity and non-specific nature of these symptoms, diagnosing infections from these pathogens can be challenging. Recent studies indicate that some of these other *Borrelia* species may be linked to health issues that are not yet fully recognized. Therefore, further research into these species is crucial for public health and disease prevention.

Patient Name: DEMO DEMO

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Service Date: 2026-01-15 10:00 (PST)

# Tickborne Diseases 2.0 - All Markers

PCR					
Lyme disease PCR	Current	Previous	Lyme disease PCR	Current	Previous
Borrelia burgdorferi	NOT DETECTED	DETECTED (04-10-2025)	Borrelia afzelii	NOT DETECTED	DETECTED (04-10-2025)
Borrelia garinii	NOT DETECTED	DETECTED (04-10-2025)	Borrelia bavariensis	NOT DETECTED	DETECTED (04-10-2025)
Borrelia spielmanii	NOT DETECTED	DETECTED (04-10-2025)	Borrelia mayonii	NOT DETECTED	DETECTED (04-10-2025)
TBRF PCR	Current	Previous	TBRF PCR	Current	Previous
Borrelia hermsii	NOT DETECTED	DETECTED (04-10-2025)	Borrelia turicatae	NOT DETECTED	DETECTED (04-10-2025)
Borrelia lonestari	NOT DETECTED	DETECTED (04-10-2025)			
Borrelia miyamotoi PCR	Current	Previous			
Borrelia miyamotoi	NOT DETECTED	DETECTED (04-10-2025)			
Babesiosis PCR	Current	Previous	Babesiosis PCR	Current	Previous
Babesia microti	NOT DETECTED	DETECTED (04-10-2025)	Babesia duncani	NOT DETECTED	DETECTED (04-10-2025)
Bartonella PCR	Current	Previous	Bartonella PCR	Current	Previous
Bartonella henselae	NOT DETECTED	DETECTED (04-10-2025)	Bartonella elizabethae	NOT DETECTED	DETECTED (04-10-2025)
Bartonella vinsonii	NOT DETECTED	DETECTED (04-10-2025)	Bartonella quintana	NOT DETECTED	DETECTED (04-10-2025)
HGA PCR	Current	Previous	HME PCR	Current	Previous
Anaplasma phagocytophilum	NOT DETECTED	DETECTED (04-10-2025)	Ehrlichia chaffeensis	NOT DETECTED	DETECTED (04-10-2025)
Rickettsial disease PCR	Current	Previous	Rickettsial disease PCR	Current	Previous
Rickettsia typhi	NOT DETECTED	DETECTED (04-10-2025)	Rickettsia rickettsii	NOT DETECTED	DETECTED (04-10-2025)
Powassan Virus PCR	Current	Previous	Tickborne Encephalitis Virus PCR	Current	Previous
Powassan virus	NOT DETECTED	DETECTED (04-10-2025)	Tickborne encephalitis virus	NOT DETECTED	DETECTED (04-10-2025)
West Nile Virus PCR	Current	Previous	Chlamydophila pneumoniae PCR	Current	Previous
West Nile Virus	NOT DETECTED	DETECTED (04-10-2025)	Chlamydophila pneumoniae	NOT DETECTED	DETECTED (04-10-2025)
Coxsackie Virus PCR	Current	Previous	Parvovirus B19 PCR	Current	Previous
Coxsackie Virus	NOT DETECTED	DETECTED (04-10-2025)	Parvovirus B19	NOT DETECTED	DETECTED (04-10-2025)

# Tickborne Diseases 2.0 - All Markers

PCR					
Mycoplasma pneumoniae PCR	Current	Previous	Toxoplasma gondii PCR	Current	Previous
Mycoplasma pneumoniae	NOT DETECTED	DETECTED (04-10-2025)	Toxoplasma gondii	NOT DETECTED	DETECTED (04-10-2025)
Other Borrelia species PCR	Current	Previous	Other Borrelia species PCR	Current	Previous
Borrelia andersonii	NOT DETECTED	DETECTED (04-10-2025)	Borrelia maritima	NOT DETECTED	DETECTED (04-10-2025)
Borrelia californiensis	NOT DETECTED	DETECTED (04-10-2025)	Borrelia bissetiae	NOT DETECTED	DETECTED (04-10-2025)
Borrelia lusitaniae	NOT DETECTED	DETECTED (04-10-2025)	Borrelia valaisiana	NOT DETECTED	DETECTED (04-10-2025)
Borrelia yangtzensis	NOT DETECTED	DETECTED (04-10-2025)	Borrelia turcica	NOT DETECTED	DETECTED (04-10-2025)

## Lyme disease

Reference Range: In Control: ≤10 Moderate: 10.1-20 Risk: >20

Borrelia burgdorferi	IgG	Current	IgM	IgG	Previous	IgM
Borrelia burgdorferi VlsE1	10.1		4.7	15.8 (04-10-2025)		22.7 (04-10-2025)
Borrelia burgdorferi C6 peptide	12.0		3.7	18.1 (04-10-2025)		26.5 (04-10-2025)
Borrelia burgdorferi p18 (DbpB)	8.0		5.1	22.8 (04-10-2025)		18.2 (04-10-2025)
Borrelia burgdorferi p23-25 (OspC)	9.1		3.5	18.4 (04-10-2025)		23.7 (04-10-2025)
Borrelia burgdorferi p28	5.2		3.9	13.6 (04-10-2025)		23.8 (04-10-2025)
Borrelia burgdorferi p30	4.9		4.4	15.9 (04-10-2025)		27.6 (04-10-2025)
Borrelia burgdorferi p31 (OspA)	6.5		4.0	15.8 (04-10-2025)		18.2 (04-10-2025)
Borrelia burgdorferi p34 (OspB)	13.3		4.4	29.0 (04-10-2025)		13.4 (04-10-2025)
Borrelia burgdorferi p39 (BmpA)	11.1		5.8	13.1 (04-10-2025)		19.5 (04-10-2025)
Borrelia burgdorferi p41	8.0		5.0	24.6 (04-10-2025)		18.1 (04-10-2025)
Borrelia burgdorferi p45	6.6		4.2	23.1 (04-10-2025)		28.4 (04-10-2025)
Borrelia burgdorferi p58	7.0		3.9	27.6 (04-10-2025)		22.3 (04-10-2025)
Borrelia burgdorferi p66	15.2		4.5	29.3 (04-10-2025)		29.1 (04-10-2025)
Borrelia burgdorferi p83-93	3.0		5.9	21.7 (04-10-2025)		25.7 (04-10-2025)
Borrelia burgdorferi crude extract B31	3.9		4.9	29.3 (04-10-2025)		24.0 (04-10-2025)

# Tickborne Diseases 2.0 - All Markers

## Lyme disease

Reference Range: In Control: ≤10 Moderate: 10.1-20 Risk: >20

Borrelia burgdorferi	IgG	Current	IgM	IgG	Previous	IgM
Borrelia burgdorferi 297 strain WCS	8.4		2.6	>30 (04-10-2025)		18.6 (04-10-2025)
Borrelia mayonii	IgG	Current	IgM	IgG	Previous	IgM
Borrelia mayonii	7.2		5.4	27.5 (04-10-2025)		22.7 (04-10-2025)
Borrelia afzelii	IgG	Current	IgM	IgG	Previous	IgM
Borrelia afzelii BmpA	8.0		2.9	13.8 (04-10-2025)		27.0 (04-10-2025)
Borrelia afzelii DbpA	7.0		3.4	27.9 (04-10-2025)		21.0 (04-10-2025)
Borrelia afzelii OspA	6.5		4.1	25.4 (04-10-2025)		14.4 (04-10-2025)
Borrelia afzelii OspC	7.6		3.2	23.3 (04-10-2025)		16.2 (04-10-2025)
Borrelia afzelii p100	8.6		4.8	19.1 (04-10-2025)		22.8 (04-10-2025)
Borrelia garinii	IgG	Current	IgM	IgG	Previous	IgM
Borrelia garinii DbpA	4.7		5.0	24.4 (04-10-2025)		17.1 (04-10-2025)
Borrelia garinii OspC	7.5		3.5	13.7 (04-10-2025)		26.5 (04-10-2025)
Borrelia bavariensis	IgG	Current	IgM	IgG	Previous	IgM
Borrelia bavariensis DbpA	5.7		3.5	20.2 (04-10-2025)		16.7 (04-10-2025)
Borrelia bavariensis p58	5.3		3.0	20.3 (04-10-2025)		21.6 (04-10-2025)
Borrelia bavariensis VlsE1	13.5		5.2	15.2 (04-10-2025)		20.0 (04-10-2025)
Borrelia spielmanii	IgG	Current	IgM	IgG	Previous	IgM
Borrelia spielmanii DbpA	7.7		4.1	17.4 (04-10-2025)		16.6 (04-10-2025)
Borrelia spielmanii OspC	8.8		4.0	26.3 (04-10-2025)		12.7 (04-10-2025)

## Tick Borne Relapsing Fever (TBRF)

Reference Range: In Control: ≤10 Moderate: 10.1-20 Risk: >20

Borrelia hermsii	IgG	Current	IgM	IgG	Previous	IgM
Borrelia hermsii	6.4		5.2	13.0 (04-10-2025)		13.9 (04-10-2025)

# Tickborne Diseases 2.0 - All Markers

## Tick Borne Relapsing Fever (TBRF) Reference Range: In Control: ≤10 Moderate: 10.1-20 Risk: >20

Borrelia turicatae	IgG	Current	IgM	IgG	Previous	IgM
Borrelia turicatae	5.2		2.6	24.9 (04-10-2025)		16.9 (04-10-2025)

## Borrelia miyamotoi disease Reference Range: In Control: ≤10 Moderate: 10.1-20 Risk: >20

Test Name	IgG	Current	IgM	IgG	Previous	IgM
Borrelia miyamotoi	4.0		5.5	23.5 (04-10-2025)		17.8 (04-10-2025)

## Babesiosis Reference Range: In Control: ≤10 Moderate: 10.1-20 Risk: >20

Babesia microti	IgG	Current	IgM	IgG	Previous	IgM
Babesia microti IRA	3.7		3.2	24.8 (04-10-2025)		22.5 (04-10-2025)
Babesia microti p32	6.5		2.7	23.9 (04-10-2025)		21.9 (04-10-2025)
Babesia microti p41	3.7		3.7	20.3 (04-10-2025)		25.4 (04-10-2025)
Babesia microti WCS	9.7		4.4	17.5 (04-10-2025)		27.8 (04-10-2025)

Babesia duncani	IgG	Current	IgM	IgG	Previous	IgM
Babesia duncani	29.3		3.8	>30 (04-10-2025)		17.2 (04-10-2025)

## Bartonella infection Reference Range: In Control: ≤10 Moderate: 10.1-20 Risk: >20

Bartonella henselae	IgG	Current	IgM	IgG	Previous	IgM
Bartonella henselae 17 kDa	4.4		4.3	23.7 (04-10-2025)		25.9 (04-10-2025)
Bartonella henselae 26 kDa	4.3		3.3	28.5 (04-10-2025)		25.1 (04-10-2025)
Bartonella henselae SucB	5.0		4.1	20.2 (04-10-2025)		20.4 (04-10-2025)

Bartonella elizabethae	IgG	Current	IgM	IgG	Previous	IgM
Bartonella elizabethae	6.9		4.3	17.1 (04-10-2025)		13.4 (04-10-2025)

Bartonella vinsonii	IgG	Current	IgM	IgG	Previous	IgM
Bartonella vinsonii	6.3		4.7	29.7 (04-10-2025)		29.6 (04-10-2025)

Bartonella quintana	IgG	Current	IgM	IgG	Previous	IgM
Bartonella quintana	6.9		4.3	20.1 (04-10-2025)		17.9 (04-10-2025)

# Tickborne Diseases 2.0 - All Markers

## Human granulocytic anaplasmosis (HGA) Reference Range: In Control: ≤10 Moderate: 10.1-20 Risk: >20

Anaplasma phagocytophilum	IgG	Current	IgM	IgG	Previous	IgM
Anaplasma phagocytophilum Msp5	6.4		5.3	14.1 (04-10-2025)		24.5 (04-10-2025)
Anaplasma phagocytophilum Msp2 (p44)	5.2		4.4	25.9 (04-10-2025)		26.9 (04-10-2025)
Anaplasma phagocytophilum OmpA	4.4		4.1	28.6 (04-10-2025)		13.6 (04-10-2025)

## Human Monocytic Ehrlichiosis (HME) Reference Range: In Control: ≤10 Moderate: 10.1-20 Risk: >20

Ehrlichia chaffeensis	IgG	Current	IgM	IgG	Previous	IgM
Ehrlichia chaffeensis	7.1		4.5	19.4 (04-10-2025)		22.9 (04-10-2025)

## Rickettsial disease Reference Range: In Control: ≤10 Moderate: 10.1-20 Risk: >20

Test Name	IgG	Current	IgM	IgG	Previous	IgM
Rickettsia typhi OmpB	5.9		3.5	24.4 (04-10-2025)		28.6 (04-10-2025)
Rickettsia typhi Surface antigen	10.8		5.6	25.1 (04-10-2025)		27.1 (04-10-2025)

## Powassan Virus Reference Range: In Control: ≤10 Moderate: 10.1-20 Risk: >20

Test Name	IgG	Current	IgM	IgG	Previous	IgM
Powassan Virus	7.6		5.8	20.3 (04-10-2025)		27.6 (04-10-2025)

## Tickborne Encephalitis Virus Reference Range: In Control: ≤10 Moderate: 10.1-20 Risk: >20

Test Name	IgG	Current	IgM	IgG	Previous	IgM
Tickborne Encephalitis Virus	4.9		3.4	28.7 (04-10-2025)		16.9 (04-10-2025)

## West Nile Virus Reference Range: In Control: ≤10 Moderate: 10.1-20 Risk: >20

Test Name	IgG	Current	IgM	IgG	Previous	IgM
West Nile Virus	7.4		4.9	21.6 (04-10-2025)		23.5 (04-10-2025)

## Chlamydophila pneumoniae Reference Range: In Control: ≤10 Moderate: 10.1-20 Risk: >20

Test Name	IgG	Current	IgM	IgG	Previous	IgM
Chlamydophila pneumoniae	6.5		6.3	23.2 (04-10-2025)		14.0 (04-10-2025)

# Tickborne Diseases 2.0 - All Markers

## Coxsackie Virus

Reference Range: In Control: ≤10 Moderate: 10.1-20 Risk: >20

Test Name	IgG	Current	IgM	IgG	Previous	IgM
Coxsackie Virus	10.0		4.4	17.2 (04-10-2025)		28.1 (04-10-2025)

## Cytomegalovirus

Reference Range: In Control: ≤10 Moderate: 10.1-20 Risk: >20

Test Name	IgG	Current	IgM	IgG	Previous	IgM
Cytomegalovirus EIA Antigen	2.0		2.1	21.6 (04-10-2025)		25.4 (04-10-2025)
Cytomegalovirus GlyB	7.3		7.3	18.3 (04-10-2025)		20.4 (04-10-2025)
Cytomegalovirus p150	11.2		3.9	26.1 (04-10-2025)		26.7 (04-10-2025)
Cytomegalovirus p28	8.1		4.2	28.5 (04-10-2025)		13.1 (04-10-2025)
Cytomegalovirus p52	3.1		7.3	23.1 (04-10-2025)		28.8 (04-10-2025)
Cytomegalovirus p65	3.8		4.9	16.1 (04-10-2025)		23.2 (04-10-2025)
Cytomegalovirus p38	5.0		3.6	13.7 (04-10-2025)		21.9 (04-10-2025)

## Epstein Barr Virus

Reference Range: In Control: ≤10 Moderate: 10.1-20 Risk: >20

Test Name	IgG	Current	IgM	IgG	Previous	IgM
Epstein Barr Virus EA Antigen	5.2		2.1	28.1 (04-10-2025)		17.3 (04-10-2025)
Epstein Barr Virus EBNA1	11.5		7.1	20.0 (04-10-2025)		12.7 (04-10-2025)
Epstein Barr Virus VCA gp125	>30		6.1	25.4 (04-10-2025)		20.3 (04-10-2025)
Epstein Barr Virus p18	16.0		1.4	27.4 (04-10-2025)		27.8 (04-10-2025)
Epstein Barr Virus p23	10.9		5.0	17.7 (04-10-2025)		19.0 (04-10-2025)

## Parvovirus B19

Reference Range: In Control: ≤10 Moderate: 10.1-20 Risk: >20

Test Name	IgG	Current	IgM	IgG	Previous	IgM
Parvovirus B19 VLP VP2	2.2		5.0	13.3 (04-10-2025)		16.6 (04-10-2025)
Parvovirus B19 VLP VP1/Vp2 Co Capsid	11.2		7.9	19.3 (04-10-2025)		15.3 (04-10-2025)

# Tickborne Diseases 2.0 - All Markers

## Mycoplasma pneumoniae

Reference Range: In Control: ≤10 Moderate: 10.1-20 Risk: >20

Test Name	IgG	Current	IgM	IgG	Previous	IgM
Mycoplasma pneumoniae	3.8		6.2	14.6 (04-10-2025)	21.1 (04-10-2025)	

## Toxoplasma gondii

Reference Range: In Control: ≤10 Moderate: 10.1-20 Risk: >20

Test Name	IgG	Current	IgM	IgG	Previous	IgM
Toxoplasma gondii Crude Extract	9.4		4.3	26.9 (04-10-2025)	21.7 (04-10-2025)	
Toxoplasma gondii MIC3	5.1		4.3	25.4 (04-10-2025)	27.7 (04-10-2025)	
Toxoplasma gondii p24	6.6		5.2	26.1 (04-10-2025)	22.2 (04-10-2025)	
Toxoplasma gondii p29	3.9		4.2	28.8 (04-10-2025)	26.7 (04-10-2025)	
Toxoplasma gondii p30	6.3		4.4	24.6 (04-10-2025)	21.6 (04-10-2025)	

## Herpes simplex virus 1

Reference Range: In Control: ≤10 Moderate: 10.1-20 Risk: >20

Test Name	IgG	Current	IgM	IgG	Previous	IgM
HSV-1	1.3		7.1	14.3 (04-10-2025)	16.4 (04-10-2025)	

## Herpes simplex virus 2

Reference Range: In Control: ≤10 Moderate: 10.1-20 Risk: >20

Test Name	IgG	Current	IgM	IgG	Previous	IgM
HSV-2	4.2		5.8	19.1 (04-10-2025)	13.9 (04-10-2025)	

## Human herpesvirus 6

Reference Range: In Control: ≤10 Moderate: 10.1-20 Risk: >20

Test Name	IgG	Current	IgM	IgG	Previous	IgM
HHV-6	0.9		5.8	23.2 (04-10-2025)	23.6 (04-10-2025)	

## Human herpesvirus 7

Reference Range: In Control: ≤10 Moderate: 10.1-20 Risk: >20

Test Name	IgG	Current	IgM	IgG	Previous	IgM
HHV-7	1.5		2.4	13.2 (04-10-2025)	26.3 (04-10-2025)	

## Streptococcal A

Reference Range: In Control: ≤10 Moderate: 10.1-20 Risk: >20

Test Name	IgG	Current	IgM	IgG	Previous	IgM
Streptococcal A	>30		4.1	17.3 (04-10-2025)	29.1 (04-10-2025)	

## Other Borrelia species

Reference Range: In Control: ≤10 Moderate: 10.1-20 Risk: >20

Test Name	IgG	Current	IgM	IgG	Previous	IgM
Borrelia andersonii	5.6		3.7	25.8 (04-10-2025)	22.4 (04-10-2025)	
Borrelia maritima	5.4		3.7	15.2 (04-10-2025)	19.6 (04-10-2025)	
Borrelia californiensis	5.4		5.3	22.7 (04-10-2025)	26.9 (04-10-2025)	
Borrelia bissettiae	6.2		6.8	27.0 (04-10-2025)	15.2 (04-10-2025)	
Borrelia lusitaniae	4.5		6.0	17.9 (04-10-2025)	19.4 (04-10-2025)	
Borrelia valaisiana	6.2		5.5	25.3 (04-10-2025)	15.7 (04-10-2025)	
Borrelia yangtzensis	5.6		5.5	29.5 (04-10-2025)	16.7 (04-10-2025)	
<b>Borrelia turcica</b>	<b>10.4</b>		5.4	20.6 (04-10-2025)	18.7 (04-10-2025)	

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## Risk and Limitations

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

Clinical history and current symptoms of the individual must be considered by the healthcare provider prior to any interventions. Test results should be used as one component of a healthcare provider's clinical assessment.

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It should be realized that there are possible sources of error like any lab testing which include sample misidentification, trace contamination of PCR reactions, technical errors and rare genetic variants that may interfere with analysis.

Some individuals may feel anxious about getting their test health results. If the potential user feels very anxious, such user should speak to his or her doctor or other health care professional prior to collection of a sample for testing. Users should consult with their doctor or other health care professional if they have any questions or concerns about the results of their test or their current state of health. Users of the test are also encouraged to discuss their test results with a genetic counselor, board-certified clinical molecular geneticist, or equivalent health care professional.

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