



# Lyme Autoimmune Panel

## Key Clinical Messages

Tests for antibodies to human antigens known to trigger the autoimmune conditions due to molecular mimicry with Lyme disease antigens.

### What is the Lyme Autoimmune Panel?

The Lyme Autoimmune panel tests for antibodies to human antigens known to trigger the autoimmune conditions Lyme arthritis, Lyme carditis, and Lyme neuroborreliosis due to molecular mimicry with Lyme disease antigens. The test's unique approach combines the assessment of specific antigens and their interaction with the immune system, providing valuable insights into the pathogenesis and management of these complex conditions.

### What Does the Test Measure?

The Lyme Autoimmune panel measures 11 different markers, encompassing a range of human antigens that share similarities to Borrelia peptide sequences to identify immune responses associated with Lyme disease. Specifically, it includes three categories: Lyme arthritis, Lyme carditis, and Lyme neuroborreliosis. These markers measure various antigens and peptides to provide insights into the autoimmune responses triggered by Lyme disease, aiding in more precise and personalized treatment strategies.

### Which Patients Will Benefit from this Test?

Patients diagnosed with Lyme disease who continue to have symptoms after treatment should be tested for Lyme-linked autoimmune responses to determine if symptoms are due to autoimmunity rather than infection. Individuals with tick bites, particularly those living in Lyme-prevalent areas, and those with Lyme-like symptoms, should also be considered for this test.

### Why Order the Lyme Autoimmune Panel?

The Lyme Autoimmune panel assesses antibodies against specific antigens related to Lyme disease, which can trigger or mimic autoimmune conditions like arthritis, carditis, and neuroborreliosis. This test is vital for patients with persistent symptoms after Lyme treatment, helping to determine if symptoms are due to autoimmunity. Individuals with tick bites or Lyme-like symptoms, especially those living in prevalent areas, should also be tested. The Lyme Autoimmune panel can be ordered in conjunction with existing infections testing like the Tickborne 2.0, providing a comprehensive approach to diagnosis and management. Early identification of Lyme-linked autoimmune responses allows for timely, targeted interventions, preventing symptom progression and improving long-term health outcomes.



## Which Markers Are Included in the Lyme Autoimmune Panel?

Category	Marker
Lyme Arthritis	T-span7 ECGF MMP-10 Annexin A2 Peptidoglycan (PG) Collagen V Alpha 1 Laminin Beta 2 Fibronectin
Lyme Carditis	apoB-100
Lyme Neuroborreliosis	GM1 D1R (Dopamine 1 receptor)

## Clinical Pearls

### Diagnostic Clarity for Chronic Lyme Symptoms

Many patients with chronic symptoms like joint pain, fatigue, and neurological issues struggle with diagnosis, often undergoing multiple antibiotic rounds without relief. This panel confirms post-infectious Lyme Autoimmune through molecular mimicry with *Borrelia* proteins like OspA, identifying the root cause.

Understanding that autoimmunity perpetuates symptoms motivates patients to adopt anti-inflammatory diets and lifestyle changes. This approach guides treatment away from unnecessary antimicrobials towards strategies that nourish the body, calm the immune system, and promote healing, offering clear diagnosis and relief for chronic conditions.

### Cost-Effective and Comprehensive Management

This panel identifies specific forms of autoimmunity, providing clarity on the inflammatory processes in patients. Instead of general anti-inflammatory treatments, it informs targeted protocols addressing specific markers, reducing the need for multiple supplements or medications and limiting out-of-pocket costs.

Understanding Lyme-related autoimmunity supports a comprehensive approach, extending treatment beyond antimicrobials to include immune modulation, inflammation reduction, and symptom management. This integrative strategy ensures both the infection, and its autoimmune effects are managed, enhancing patient outcomes and quality of life.



## Vibrant Advantage

The Lyme Autoimmune panel offers a first-of-its-kind comprehensive analysis of Lyme-related autoimmunity, focusing on autoimmune aspects that have been well-recognized in research.

- Measures 11 markers covering Lyme arthritis, Lyme carditis, and Lyme neuroborreliosis.
- Early identification allows for targeted interventions, preventing symptom progression.
- High sensitivity and specificity with silicon microarray technology and chemiluminescence detection.
- Provides detailed antigen assessment for precise diagnosis and personalized treatment.

## Lab Methodology

The Lyme Autoimmune panel runs on our unique silicon microarray technology and with chemiluminescence detection to deliver high sensitivity and specificity.

**Vibrant is a CLIA certified and CAP accredited lab.**

## Improved Patient Compliance

Patients with chronic Lyme symptoms often experience frustration from ongoing health issues and ineffective treatments. This test helps clarify the connection between Lyme disease and autoimmune responses, helping them understand the root causes of their symptoms.

By providing a clear diagnosis, patients are more likely to adhere to recommended treatment plans, such as anti-inflammatory diets and lifestyle changes, because they understand the underlying mechanisms of their condition. Enhanced compliance not only improves health outcomes but also boosts patient satisfaction and trust in their healthcare provider, fostering a collaborative and proactive approach to managing their health.

## Early Detection for At-Risk Populations

Early detection of Lyme-linked autoimmune responses is pivotal for those diagnosed with Lyme disease. This early intervention can prevent the progression of post-infectious Lyme Autoimmune into severe manifestations.

By screening at-risk populations, healthcare providers can start treatments sooner, minimizing the risk of long-term complications, and promoting a quicker return to health. Early detection empowers patients and providers to act proactively, significantly impacting the disease's outcome.

## Which Tests Pair Well With the Lyme Autoimmune Panel?

- **Tickborne Diseases:** To comprehensively assess both the presence of tickborne infections and any autoimmune responses triggered by these infections, facilitating a more accurate diagnosis and tailored treatment approach.
- **Gut Zoomer:** For aid in diagnosing and treating microbiome dysregulation following antibiotic usage.
- **Wheat Zoomer:** Offers an intestinal permeability panel which can aid in diagnosing leaky gut syndrome that may result from extended antibiotic usage.
- **Mycotoxins Test:** Is it Lyme, mycotoxins, or both? Numerous symptoms overlap between Lyme and mycotoxin-related illnesses. Resolving tickborne diseases may be more challenging when mold and mycotoxin illnesses are present.
- **Neural Zoomer Plus:** Specific neurological antibodies have been associated with Lyme diseases, such as anti-tubulin, anti-NMDA, anti-neuron specific enolase, anti-GM1, anti-dopamine receptor 1, and anti-dopamine receptor 2.
- **Total Immunoglobulins:** Serology testing is based on normal, functional immunoglobulin production. This test assesses the number of immunoglobulins, which is helpful in those with suspected immune function compromise or those undergoing IV IgG therapy.

## Reference Ranges

Vibrant assigns a numerical value to quantify the antibodies measured by a chemiluminescent signal on a proprietary microchip. Antibody levels are calculated by comparing the patient's average intensity to that of a healthy reference population. Reference ranges were established using 192 healthy individuals.

- **In Control (no reactivity):** Antibody levels <92.5 percentile. Reference range  $\leq 10.0$
- **Moderate Reactivity:** Antibody levels between the 92.5 and 97.5 percentile. Reference range 10.1-19.9
- **High Reactivity:** Antibody levels >97.5 percentile. Reference range  $\geq 20$

## Test Preparation

There are no fasting, dietary, hydration, medication change, or other test preparations required for the Lyme Autoimmune panel.

