

CD-57 - Lyme's Disease

This information is provided for informational purposes only and is not intended to diagnosis, treat, cure, or prevent disease. Abnormal test values falling outside the Normal Range will be printed in bold and noted in the "Flag" column. Abnormal values should be reviewed by your primary physician and a copy of all testing should be included in your medical record for future reference and comparison.

Lyme disease (LD) is a bacterial infection caused by the spirochete *Borrelia burgdoferi* (Bb). These spirochetes are maintained in nature in the bodies of wild animals and are transmitted from one animal to another through the bite of an infective tick. Humans and pets are incidental hosts to ticks. The body does not maintain a natural immunity to the disease. Thus, a person can be reinfected with the disease on subsequent tick bites.

The ability to measure the CD-57 subset of a special type of white blood cell represents a breakthrough in Chronic Lyme Disease treatment. It can be used to help determine how active the infection is, how well the treatment is working, and whether, after treatment ends, a relapse is likely to occur.

Chronic Lyme infections are known to suppress the immune system. The Lyme spirochete can affect all major cell types of the immune system, but it most clearly can impact a specific subset of the natural killer cells. This is called the CD-57 subset. Just as in HIV infection, which suppresses T-cell counts, Lyme suppresses Natural killer cell count such as CD-57. As in HIV infection, where abnormally low T-cell counts are routinely used as a marker of how active the infection is, in Lyme we can use the CD-57 count to indicate how active the Lyme infection is. When Lyme is active, the CD-57 count is suppressed. We currently are having our tests run by LabCorp because published research on this test was based on their methods. At this lab, the expected range for the CD-57 count is above 60. However, in the chronic Lyme patient, CD-57 counts are usually well below 60 and may be at risk with levels of 60-100.

This test can be run at the start of therapy, then every several months to document the effectiveness of treatment. One hopes to see a stable number or a rising trend over time. When antibiotic therapy is finally at an end, if the CD-57 count is not above 60, then a Lyme relapse is more likely to occur.

Test interpretation: Low CD-57 occurs in chronic Lyme or when the disease has been active for over 1 year. A review of the affects of other infections, only Lyme spirochetes lowers the CD-57. Following is the criteria established by research.

Test interpretation: Low CD-57 occurs in chronic Lyme or when the disease has been active for over 1 year. The count reflects the degree of infection. It is not a diagnostic test but is used as a marker for Lyme being active.

- >200 is normal
- < 20 severe illness
- 0-60 is seen in chronic Lyme disease
- > 60 Lyme activity indicates improvement