Lymphocyte Transformation Test (LTT-MELISA®) for Lyme Borreliosis
Detection of cellular immunreactivity to Borrelia-specific antigens

Background
Lyme Borreliosis (LB) is caused by tick-borne infection with the spirochete Borrelia burgdorferi identified in 1982 and is characterized by dermatological (erythema chronicum migrans), arthritic, and neurological manifestations. Conventional laboratory diagnosis involves demonstration of Borrelia antibodies in ELISA followed by confirmation of positive or unclear results in Western Blot. However, due to cross-reactivity with antigenically-related microorganisms (e.g. treponema, EBV), delayed or failed antibody production, or extended IgM persistence, serological diagnosis alone is often ambiguous. Laboratory diagnosis can be improved with a modified lymphocyte transformation test (LTT) in which the T-cell immune response (lymphoblast transformation and proliferation) to primarily recombinant, Borrelia-specific antigens can be detected (³H-thymidine incorporation) and evaluated.

A positive reaction in the LTT-MELISA® for Lyme Borreliosis demonstrates current active infection with Borrelia burgdorferi. The test improves laboratory diagnosis of LB by confirming an active infection in sero-negative, -ambiguous or -positive patients with clinical suspicion of LB and by providing an early marker for successful antibiotic therapy (Valentine-Thon et al., Diagn Microbiol Infect Dis 57:27-34, 2007).

Medical indication
- diagnosis of LB in sero-negative, -ambiguous or -positive patients with clinical suspicion of LB
- identification of patients with chronic (therapy-resistant) LB
- early confirmation of therapeutic success

Material required
- 25 ml blood in 3 x special Citrate Tubes (please request from us in advance!), non-refrigerated, sent to our lab within 24 hours (overnight service with, for example, FEDEX)
- Request Form with relevant anamnestic data

Method: Lymphocyte Transformation Test (LTT) in the validated MELISA® modification
Cost: please contact lab

Further information: Tel. +732-721-1234 Dr. Elizabeth Valentine-Thon