



TECHNOLOGY

Borrelia Burgdorferi Genetic Markers for Lyme Disease Diagnostics

OVERVIEW

Background

Diagnosing Lyme disease is notoriously difficult for physicians and veterinarians. Available tests have improved significantly over the last few decades but still leave much room for increased accuracy of results. As the genetic design of Lyme disease pathogen *Borrelia burgdorferi* is more fully understood, diagnostic kits may be enhanced by incorporating information about gene expression at particular stages of infection.

Innovative Technology

Researchers at the University of Maryland have identified gene BBK07 as a new diagnostic marker for the detection of Lyme disease in humans and other mammals. The gene is highly expressed in infected mammalian hosts and would serve as a convenient target antigen for diagnosis of *B. burgdorferi*-related infection. The behavior of this gene and its invocation of antibody response in infected individuals also make it a potential candidate for vaccine development.

Advantages

- Increases accuracy and specificity in Lyme disease detection
- Differentiates between infected and vaccinated animals
- Differentiates between *B. burgdorferi* and other Lyme disease-causing bacteria

Applications

- Diagnosis of Lyme disease using multiple serodiagnostic markers
- Differentiation between infected and vaccinated animals (DIVA)
- Development of a Lyme disease vaccine using newly identified immunogenic proteins expressed during infection

CONTACT INFO

UM Ventures
0134 Lee Building
7809 Regents Drive
College Park, MD 20742
Email: umdtechtransfer@umd.edu
Phone: (301) 405-3947 | Fax: (301) 314-9502

Additional Information

INSTITUTION

University of Maryland, College Park

PATENT STATUS

Patent(s) pending

LICENSE STATUS

Available for exclusive or non-exclusive license

CATEGORIES

- Diagnostics
- Biomarker

EXTERNAL RESOURCES

- [US Patent 8,338,566](#)

LS-2009-015