



TECHNOLOGY

Tick Protein as Vaccine Candidate for Tick-borne Lyme Disease Pathogen

OVERVIEW

Background:

Lyme disease is a vector-borne disease caused by spirochaete *Borrelia burgdorferi*. By the 2014 Center for Disease Control (CDC) estimates, incidence of Lyme disease has grown in the US from ~11,000 cases reported in 1995 to over 30,000 cases in 2014. Additional literature from NIH places the number of new cases at 300,000 annually. Worldwide the incidence is believed to span over 80 countries according to a 2013 Lyme Disease Association estimate. Lyme disease is the fifth most common National Notifiable Disease in the US. Currently there is no preventive vaccine for humans against Lyme disease in the market. Possible interventions for preventing disease transmission may be targeted at human, reservoir host or vector (ticks) level. Vaccines against Lyme disease were developed in the 1990s, approved by the FDA and marketed commercially through late 1990s and early 2000s. However, lack of public acceptance and poor sales led to withdrawal of the vaccine from the market. A renewed push for Lyme disease vaccine development in the face of growing national and worldwide incidence is underway in the research and public health communities.

Innovative technology:

Researchers at the University of Maryland identified a novel target that will aid in separation of the association between the vector host (tick) and the spirochaete pathogen, thereby reducing the risk of transmission to humans.

Advantages:

- Prior research targeted on tick salivary gland proteins to prevent transmission, but changing protein profile depending of feeding stages presented a significant drawback. The current invention targets a gut protein, which is vital for pathogen colonization.

Application:

- Vector vaccination against transmission of Lyme disease

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

LICENSE STATUS

Available for exclusive or non-exclusive license

EXTERNAL RESOURCES

LS-2016-010