

Abstract

Lyme disease, which is prevalence in the temperate zoon in the Northern Hemisphere, is a newly risen tick-borne zoonotic disease. Ticks, which carry the pathogen, *Borrelia burgdorferi sensu lato*, could infect people and animals by means of biting. The main hosts of ticks are mammals (eg. rats, deers) and birds. Canine, equine and people that expose to the environment where the ticks' hosts live might be bitten by the ticks and get sick. The CDC has started examining and monitoring this disease since 2000. Until the end of 2003, there are 699 reported cases, including 96 confirmed ones. In this project, we use *Borrelia burgdorferi sensu lato* strain B31 as antigens to develop one-step rapid diagnostic kit for detection of anti-Lyme disease antibodies. Hopefully, the kit would be a first line and correct examination method. And then, according to the results, we could provide doctors with suggestions for treatments as fast as possible. Because the limited amounts of standard positive sera are available, it is hard to make the preliminary results to be more representatively. The sensitivity and specificity of the kit could not fulfill what we expected. Neither could the benefits. In order to complete the kit development, we will send the kits to the qualified Lyme disease reference laboratory for validation.

Keywords : Lyme disease ; *Borrelia burgdorferi* ; rapid antibody screening