

January 2020

Vector Borne Disease Diagnostic Laboratory  
North Carolina State University

The Vector Borne Disease Diagnostic Laboratory adheres to the standards and recommendations of North Carolina State University's Environmental Health and Safety Department, as well as the essential requirements for an Accredited Veterinary Medical Diagnostic Laboratory. We are not accredited through American Association of Laboratory Diagnosticians (AAVLD), as we do not offer a full range of diagnostic services; it is mandatory that a full service and accreditable laboratory offer necropsy, histopathology, bacteriology, and virology testing on site, which we do not.

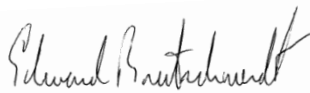
Serological and PCR testing performed at the Vector Borne Disease Diagnostic Laboratory at NC State University, College of Veterinary Medicine conforms to defined testing protocols. Initial parameters were established using an exchange of known titer serum from the University of Illinois (for *Ehrlichia* and *Babesia*), from Virginia Tech (for *Neorickettsia risticii*), from the University of North Carolina at Chapel Hill (for *Rickettsia rickettsii*), and from the CDC (for *Leishmania*). Serum and EDTA blood banks from experimentally infected animals have also been collected for *R. rickettsii*, *E. canis*, and *B. vinsonii* providing further serology controls as well as PCR controls. Cultured organisms were used for PCR positive standards when possible. When not available, DNA from naturally infected animals may be used for PCR controls after verification by sequencing. Quality assurance for PCR and serology are verified with each testing run by consistent use of positive and negative control samples.

Our test methods are classified as "validated for use" by meeting the following AAVLD criteria.

1. Ongoing documentation of internal or inter-laboratory performance using known reference standards for the species and/or diagnostic specimens of interest.
2. Published in a peer-reviewed journal with sufficient documentation to establish diagnostic performance and interpretation of results.
3. Documentation of internal or inter-laboratory comparison to an accepted methodology or protocol.

Laboratory Directors:

Edward Breitschwerdt, DVM (Diplomate, ACVIM)  
Adam Birkenheuer DVM, PhD (Diplomate, ACVIM)



Laboratory Technicians:  
Julie Bradley, BS, RVMT



Vector Borne Disease Diagnostic Laboratory  
NCSU-CVM 1060 William Moore Drive,  
Research Bldg Rm: 462A  
Raleigh, North Carolina 27607  
919-513-8279