



## Abstract #96

### Comparative evaluation of two rapid in-clinic serologic assays for detection of antibodies to canine monocytic and granulocytic ehrlichiosis

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*Amblyomma americanum* is prevalent in the southern United States, and continues to expand its geographic distribution. It is the primary vector for *E. chaffeensis* and *E. ewingii*. *E. chaffeensis* causes human monocytic ehrlichiosis (HME), the most frequently diagnosed tick-borne disease of humans in the South. Detection of seropositive dogs has been suggested to be sentinel indicators of regional HME risk for humans. Large scale surveys of dogs using species-specific peptide assays revealed a higher seroprevalence rate for *E. ewingii* (3.8–5.1%) and *E. chaffeensis* (2.8–3.1%) than for *E. canis* (0.8–1.8%) in the eastern half of the United States, especially in the southeastern and south-central regions (O'Connor et al. Am J Vet Res, 2010; Beall et al. Parasites & Vectors, 2012; Qurollo et al., Inf Ecol & Epidemiol, 2014). These studies highlight the importance of using dogs in tick-borne disease surveillance for humans. Rapid serologic tests can expedite these efforts. Two commercially available rapid tests, SNAP<sup>®</sup> 4Dx<sup>®</sup> Plus Test (IDEXX Laboratories, Inc., with product claims to detect antibodies to *E. canis* and *E. ewingii*) and VetScan<sup>®</sup> Canine Ehrlichia Rapid Test (Abaxis Inc., with product claims to detect *E. canis*, *E. chaffeensis* and *E. ewingii*) were evaluated in this study. Samples (n: 81) used in this study were characterized by IFA and species-specific recombinant antigen-based ELISAs to detect antibodies to *E. ewingii* and *E. chaffeensis* (O'Connor et al. 2010). The SNAP<sup>®</sup> 4Dx<sup>®</sup> Plus Test was found to have sensitivity of 92% and 69%, respectively, for detection of antibodies to *E. ewingii* and *E. chaffeensis* compared to 60% and 41%, respectively for VetScan<sup>®</sup> Ehrlichia test. These results suggest the SNAP<sup>®</sup> 4Dx<sup>®</sup> Plus Test had a higher sensitivity for both species of *Ehrlichia* and serves as a better method for evaluating risk of *A. americanum* tick exposure and potential transmission of *E. ewingii* and *E. chaffeensis* in both humans and dogs.