

Validating a New Diagnostic Test for *Leptospira* spp Infection in Dogs

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In the Literature

Penna B, Marassi CD, Libonati H, Narduche L, Lilenbaum W, Bourhy P. Diagnostic accuracy of an in-house ELISA using the intermediate species *Leptospira fainei* as antigen for diagnosis of acute leptospirosis in dogs. *Comp Immunol Microbiol Infect Dis.* 2017;50:13-15.

FROM THE PAGE ...

The microscopic agglutination test (MAT) has traditionally been used to diagnose *Leptospira* spp infection in dogs. However, the MAT—which requires highly trained team members, expensive equipment, and live cultures of reference strains—is a specialized procedure run only by select laboratories. Use of an ELISA would require a lower investment in equipment and labor and could reduce risk to personnel.

L fainei shares the antigenic features of many *Leptospira* spp strains and serves as the basis of a newly developed ELISA for diagnosing *Leptospira* spp infections in humans, where it has shown a high sensitivity and specificity.

This study examined the diagnostic sensitivity and specificity of an *L fainei*-based ELISA in dogs for diagnosis of acute leptospirosis. Researchers divided serum samples from 271 dogs into 5 groups and tested all dogs for serologic evidence of *Leptospira* spp infection using the MAT as well as the *L fainei*-based ELISA.

MAT was performed using live cultures of 8 different *Leptospira* spp. All 92 dogs allocated to one test group manifested clinical signs of acute *Leptospira* spp infection and had a positive MAT of at least 400. In this group, the *L fainei*-based ELISA demonstrated a 95.6% sensitivity (88/92). In another group of dogs that were not showing signs but still had a

positive MAT of at least 400, the *L fainei*-based ELISA demonstrated a poor (39%) sensitivity (13/33). All other groups were MAT negative and ELISA negative.

As developed in this study, the *L fainei*-based ELISA would only be clinically useful to practitioners when a dog is presented with acute clinical signs of *Leptospira* spp infection.

... TO YOUR PATIENTS

Key pearls to put into practice:

- 1** The MAT test remains the gold standard for serologic testing for *Leptospira* spp infections in dogs.
- 2** Clinicians should talk with team members at the laboratories they use to learn what *Leptospira* spp serovars the MAT can identify.
- 3** An *L fainei*-based ELISA holds potential, but further study is necessary to validate its usefulness, especially in dogs that are not showing acute signs of infection.