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Use of Serology and PCR for the Detection of *Ehrlichia canis*

Background

Serology is performed to determine if a patient has mounted an immune response to a particular infectious agent. Plasma, serum and whole blood are used in serology testing.

PCR determines the presence or absence of an organism in a given sample. PCR detects small pieces of specific DNA and therefore the cellular component of blood, urine or tissue is required for testing.

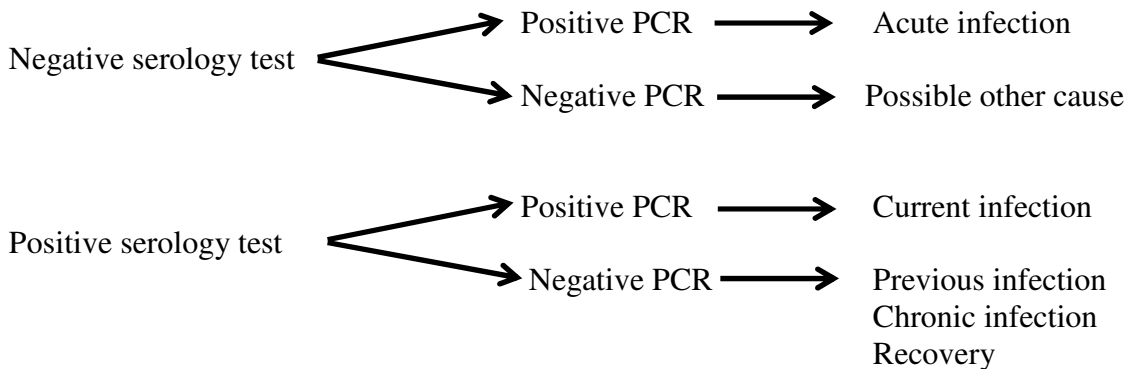
Combining Serology and PCR Testing

Serology and PCR have different windows of detection; therefore PCR is a complementary test to serology.

PCR is a sensitive method for detecting acute Ehrlichiosis in dogs on the average of 4-10 days post infection and before the appearance of antibodies.

Serology results remain positive for a long time period after the infective agent has been eliminated.

The following guide describes tests results as they may relate to the disease state of a canine suspected to be infected with *E. canis*.



A positive serology result for Ehrlichia in a healthy patient can occur due to previous exposure to the pathogen.

Very sick animals are often immunocompromised and may not display immune titers.

PCR is indicated if a current infection is suspected based on clinical presentation.

PCR can be negative in the following cases:

- Treatment with antibiotics
- Chronic or late stage infection when the pathogens are not circulating in the blood stream or are present in very low numbers.
- Improper samples have been used for DNA extraction.

Results of PCR and serology testing should be interpreted in consideration with all clinical and laboratory findings.