



## TECHNICAL BRIEF

### CANINE EHRLICHIOSIS and DIAGNOSTIC IMPORTANCE OF END-POINT TITERS

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**Introduction:** Canine ehrlichiosis, caused by infection with *Ehrlichia canis*, may be presented in three different phases. The acute phase generally develops after 2-4 weeks following the bite of an infected tick. This phase is usually characterized by fever, depression and lymphadenopathy. In many cases, the acute phase of the disease may go unnoticed by the owner. Titers during the initial acute phase of ehrlichiosis generally range from **1:80** to **1:5,120**.

If the dog is untreated, the acute phase is generally followed by a subclinical phase of varying duration. During this phase, the dog may appear clinically normal, however, certain blood values (e.g. hematocrit, WBC and platelets) may remain at subnormal levels when compared with values prior to infection. Antibody titers during this phase continue to rise. During this phase, which may persist for months to years, the dog may experience periodic episodes of fever, anorexia and depression.

The development of the severe, chronic phase of canine ehrlichiosis results from factors leading to the dog's inability to control the infection. This phase is generally characterized by a severe, acute presentation consisting of fever, depression, lymphadenopathy, hemorrhage, anemia, leukopenia and thrombocytopenia. Antibody titers during the severe chronic phase of ehrlichiosis are generally greater than **1:81,920**, with some titers going into the millions.

**Diagnostic Importance:** The magnitude of antibody titers resulting from infection with *Ehrlichia canis* is directly correlated with the chronicity of the disease. This information is extremely important in determining the treatment protocol since dogs which have been chronically infected for some time will require a more rigorous and lengthy treatment with doxycycline and, possibly, imidocarb in order to successfully clear the infection. This is in contrast to treatment during the initial acute phase, which generally requires only 3 weeks of doxycycline therapy.

Protatek Reference Laboratory is committed to providing the veterinary clinician with the best possible diagnostic interpretation so that the most effective treatment plan may be implemented. Thus, all serum specimens which are found positive for antibodies to *Ehrlichia canis* are automatically titered to end-point at no extra charge so that our veterinary clients will have complete information on the case in question.