FLASH VetID™ E. canis

Morulae are rarely seen. Don't rely on the blood smear alone



Fast test for the qualitative detection of DNA of *Ehrlichia canis* in whole blood of the dog.

40 minutes	50 µL EDTA whole blood	Room temperature	12 months
TOTAL ASSAY TIME	SAMPLE	STORAGE	SHELF LIFE (FROM MFG)

Sensitivity 100.00% & specificity 100.00% (n=153)

Detects DNA directly – the sensitivity of morulae microscopy can drop to single-digit percentages

Clinical suspicion:

- Fever, lethargy, anorexia, lymphadenomegaly or splenomegaly, especially with tick exposure
- Bleeding tendencies: petechiae, ecchymoses or epistaxis
- Ocular signs: uveitis, chorioretinitis, or retinal detachment
- Chronic, unexplained weight loss, pancytopenia, or persistent weakness (chronic-phase presentation)
- Dogs from or residing in warm, high tick-exposure environments

Screening / prevention programs:

- Blood donor screening
- Dogs recently imported from or residing in endemic regions
- Kennel or shelter screening where tick exposure is uncontrolled
- Monitoring dogs with prior confirmed infection or incomplete treatment response



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The Pathogen and Transmission

Ehrlichia canis is an intracellular bacterium infecting monocytes and the principal cause of canine monocytic ehrlichiosis. Transmission is mainly via the brown dog tick complex, and the disease is more common in tropical and subtropical regions and in kennel or household exposure settings. Infection can progress through acute, subclinical and chronic phases, though the boundaries between them are often indistinct in naturally infected dogs.

Species-Specific Manifestations

Acute-phase signs include fever, depression, reduced appetite, lymphadenomegaly and splenomegaly, with petechiae or epistaxis suggestive of thrombocytopenia. Ocular and renal involvement can occur even in subclinically infected dogs. The severe chronic phase is fundamentally a bone marrow suppression syndrome – pancytopenia, haemorrhage, and secondary infection are the principal drivers of death, and case-fatality figures vary enormously between referral-hospital case series and general practice populations.

The Diagnostic Value Proposition

Blood smear detection of morulae is poor – present in lower than 10% of clinical-case smears. PCR is most reliable early in the acute phase, before antimicrobial treatment starts, since even limited prior doxycycline exposure can suppress detectable bacteraemia. Serology has its own gaps: antibodies typically take 12–14 days to become detectable, and a single positive titre cannot distinguish current from past infection. Direct DNA detection avoids both limitations, giving a same-visit, species-specific answer rather than waiting on a paired serology titre.

+ Positive Result

Confirms *E. canis* DNA. With compatible clinical and laboratory findings, supports a diagnosis of canine monocytic ehrlichiosis.

– Negative Result

Likelihood of active infection is low, especially if collected before antimicrobial therapy. Low-level or intermittent bacteraemia, early incubation, or prior antibiotic exposure can all produce a false negative; retest or pair with serology if suspicion remains.

Gold-standard confirmation

For strong clinical suspicion with a negative blood nucleic acid test, or chronic-disease work-up, correlate with paired serology (rising titre) and consider reference-lab testing of additional tissue sources.

Differential diagnostics

Consider other tick-borne pathogens geographically relevant (FLASH VetID™ B. gibsoni, FLASH VetID™ B. vogeli, FLASH VetID™ B. canis and FLASH VetID™ A. platys) given frequent coinfection; and immune-mediated causes of thrombocytopenia or bleeding when *Ehrlichia* testing is negative.