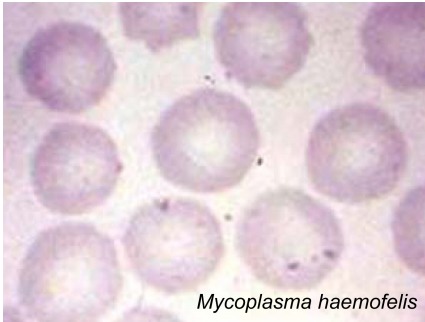


Hemotropic Mycoplasmosis (canine/feline)



Mycoplasma haemofelis in a blood film from an infected cat. (Wright Stain, $\times 1,200$)

Samples

Blood	EDTA-blood as is, purple-top tubes, or EDTA-blood preserved in sample buffer (preferred)
Body fluids	preserved in sample buffer
Swab	preserved in sample buffer
Notes: Send all samples at room temperature, preferably preserved in sample buffer MD Submission form .	

Interpretation of PCR Results

High positive (> 500 copies/ml blood)	Hemotropic Mycoplasmosis [interpretation must be correlated to clinical symptoms]
Low positive (< 500 copies/ml blood)	

Negative	<i>Mycoplasma haemofelis</i> / <i>haemocanis</i> not detectable
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Mycoplasma haemofelis / haemocanis

Mycoplasmas are the smallest free-living microorganisms. They are currently divided into hemotrophic and nonhemotrophic types. Hemotrophic mycoplasmas are gram-negative, nonacid-fast, epicellular parasitic bacteria of erythrocytes. *Mycoplasma haemofelis* (formerly known as *Haemobartonella felis*) and *Mycoplasma haemocanis* (formerly known as *Haemobartonella canis*) can attach to the surface of erythrocytes of cats and dogs, respectively, and cause hemolytic anemia through extravascular destruction of erythrocytes by the mononuclear phagocyte system and intravascular lysis ([Kewish et al., 2004](#)).

Clinical Signs

The severity of disease produced by *M. haemofelis* varies, with some cats having mild anemia and no clinical signs and some having marked depression and severe anemia leading to death. Most common clinical signs are tachypnea, depression, weakness, anorexia, weight loss, pale mucous membranes, dehydration, icterus, and splenomegaly. In dogs, however, most non-splenectomized dogs infected with *M. haemocanis* do not develop clinical evidence of disease. Splenectomized dogs infected become listless and develop pale mucous membranes as the anemia progresses but generally have normal rectal temperatures and appetites.

Standard Diagnostic Methods

The only possible diagnostic procedure before the arrival of molecular diagnosis was microscopic examination of blood smears. This procedure has many drawbacks, however, since bacterial pathogens may be confused with artifacts or lost after EDTA treatment of collected blood ([Criado-Fomelio et al., 2003](#)). Many PCR-based methods have been developed to detect presence of *M. haemofelis* or *M. haemocanis*, that provided remarkable sensitivity and specificity.

Our Method

The Molecular Diagnostics Laboratory at Auburn University has developed a quantitative PCR approach targeting the 16S rRNA gene of *Mycoplasma* spp. that detects both *M. haemofelis* and *M. haemocanis* with high sensitivity (as low as 7 genome copies per ml of blood) and specificity.