

Feline Leukemia Virus:

FeLV Tests:

The study of the occurrence and control of FeLV in pet cats was accomplished by detection of FeLV antigens in the cytoplasm of peripheral blood leukocytes by the indirect immunofluorescent antibody (IFA) test.^{8,9} All of the FeLV biology and control methods were elucidated using the IFA test for FeLV during the 1970s. A positive IFA test correlates 98% of the time with the ability to isolate FeLV from the blood and indicates persistent infection, usually life long viremia (in 91% of IFA positive cats), and shedding of the virus in the saliva.^{9,10}

Recent DISCORDANT FeLV ELISA Positive In-hospital Tests:

We have observed a disconcerting trend in the lack of confirmation of FeLV positive in-hospital ELISA test results during the past year and 3 months (Table 1). In 2010, 48% (242 of 505) of in-hospital FeLV+ ELISA tests were negative by the Gold Standard confirmatory FeLeuk[®] IFA FeLV test. As of the end of the first 3 months of 2011, 50.5% (49 of 97) of in-hospital FeLV+ ELISA tests were negative by the confirmatory FeLeuk[®] IFA FeLV test. We have been told that some shelters recommend euthanasia of cats that are FeLV+ by only the ELISA test, without confirmation of their FeLV status. We urge all practitioners to confirm ALL in-hospital FeLV+ ELISA tests with our confirmatory FeLeuk[®] IFA FeLV test.

FeLeuk[®] IFA FeLV Test:

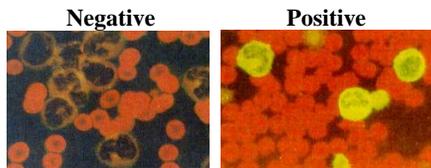


Table 1. Comparison of FeLV ELISA Positive Tests With the FeLeuk[®] IFA FeLV Test

Years	Number ELISA Positive	FeLeuk [®] IFA Negative	% Disagreement
1979-89	18,908	10,147	54%
1996-00	3,792	1,068	28%
2001-09	4,733	1,608	34%
2010	505	242	48%
2011*	97	49	50.5%

* To 4-7-2011

In-Hospital ELISA Positive Tests: Confirmatory Recommendations:

AVMA FeLV Test Expert Panel's Recommendations:

In 1991 the AVMA Expert FeLV Panel recommended that all FeLV positive ELISA tests be immediately confirmed by an IFA test.¹¹ The members of this panel were international virologists who were experts in the FeLV test development and the biology of FeLV. They recommended that all FeLV positive ELISA tests be immediately confirmed by an IFA test. There is no recommendation to repeat the ELISA

test again. ELISA positive but IFA negative results indicate the cat is not infected with FeLV. We now know that most of these cats may be antigenemic but have no infectious FeLV in their blood or saliva and should not be managed as infected cats.¹²

AAFP's FeLV+ Test Recommendations:

The American Association of Feline Practitioners (AAFP) revised their recommendations on Feline Retrovirus Testing and Management several times.¹³ They too now recommend that all FeLV positive ELISA tests ("antigen tests") be immediately confirmed by an IFA test.¹⁴

National Veterinary Laboratory's FeLV Recommendations:

Many cat owners elect to remove FeLV infected cats from their households and most presently do so without being aware that the veterinary profession recommends that all in-hospital FeLV positive ELISA tests should be immediately confirmed by an IFA test. We recommend that all FeLV ELISA + in hospital tests be confirmed by the FeLeuk[®] IFA FeLV test.

Feline Immunodeficiency Virus: Confirmation of In Hospital FIV ELISA Positive Tests:

The WB is the "gold standard" test for FIV serology and various retrovirus experts recommend that all FIV ELISA positive tests be confirmed by the WB. The WB is the confirmatory test for positive HIV-1 ELISA tests in humans and for most serological tests that detect antibodies. Unlike the ELISA or IFA tests that result in a color change, the WB results in a profile of the antibody bands against the infecting agent. Many studies have shown that the WB test is more sensitive and specific than ELISA tests. However, the American Association of Feline Practitioners (AAFP) 2008 FIV recommendations state: "All positives should be confirmed by another test method." They do not specify what test method to use.¹³ In fact, they refer to a publication by the co-chair of the AAFP panel, which concludes that the IDEXX FIV WB is not as sensitive or specific as the IDEXX FIV ELISA tests.¹⁵ This is NOT our observation, as we have found our FIV WB is more sensitive and more than 100 times more sensitive than the IDEXX FIV PetChek[®] ELISA test (unpublished). In contrast to the AAFP recommendations, excellent FIV guidelines have been published by the European Advisory Board on Cat Diseases, a panel of 17 veterinary virus researchers. They recommend that all ELISA FIV positive tests should be confirmed by a WB.¹⁶ Our confirmatory tests show that 24% of FIV positive in-hospital ELISA tests are negative by our WB (Table 2).

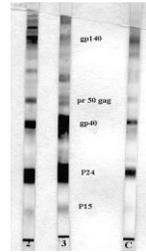


Table 2. FIV WB Confirmation of FIV In-Hospital ELISA Positive Tests- to 5-1-2011

IH ELISA +	NVL WB --	% Disagreement
523	125	24%

Prevalence of FeLV, FIV and Bartonella in HEALTHY Pet Cats:

As of May 1, 2011 we have tested 7,250 healthy pet cats from around the United States for FeLV, FIV and *Bartonella* and found that only 1.8% were infected with FIV, 1.1% with FeLV whereas 35% were infected with *Bartonella* (Table 3). Since *Bartonella* is a feline and zoonotic pathogen, we feel that all healthy cats should routinely be tested.

Table 3. Prevalence of Bartonella, FeLV, and FIV: 7,250 Healthy Pet Cats- 5-1-2011

Pathogen	# Tested	# Infected	% Infected
FIV (WB/E)	7,250	136	1.8%
FeLV (IFA)	7,250	83	1.1%
<i>Bartonella</i> WB	7,250	2,534	35%

Our recommendations: Test all healthy cats for *Bartonella* and confirm all FeLV and FIV in-hospital ELISA positive tests.

References:

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***Bartonella* references can be obtained at:**
www.nlm.nih.gov/or natvetlab.com
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