



## CLINICAL DIAGNOSIS

### Performance of MVD Diagnostic Tests

**Bolded tests** are the recommended first non-invasive diagnostic test(s) to be performed.

Pathogen	Test	Species	Sample	Sensitivity	Specificity#	Min. Vol. (ml) <sup>▲</sup>	Test Code	Ref.
<i>Blastomyces</i> *	Antigen EIA	K9	Urine	<b>93</b>	<b>98</b>	<b>0.5</b>	<b>316</b>	1-4
		K9	Serum	91	100	0.8	316	2,3,5
	Antibody EIA	K9	Serum	82	97	0.25	330	2,3
	Antibody ID	K9	Serum	54	100	0.25	322	2,3,6,7
<i>Histoplasma</i>	Antigen EIA	K9	Urine	<b>92</b>	<b>99</b>	<b>0.5</b>	<b>310</b>	8,9
		Feline	Urine	<b>94</b>	<b>98</b>	<b>0.5</b>	<b>310</b>	10,11
		Feline	Serum	73	NA	0.8	310	12
	Antibody EIA	K9	Serum	76	93	0.25	327	MVD
		Feline	Serum	83	95	0.25	328	MVD
	Antibody ID	K9	Serum	28	100	0.25	321	MVD
		Feline	Serum	5	100	0.25	321	MVD
<i>Coccidioides</i> (valley fever)	Antigen EIA	K9	Urine	8	100	0.5	315	13,14
		K9	Serum	27	97	0.8	315	13,14
	Antibody EIA	K9	Serum	89	94	0.25	329	13
	Antibody ID	K9	Serum	87	92	0.25	320	13,15,16
		Feline	Serum	<b>99</b>	NA	<b>0.25</b>	<b>320</b>	17,18
	Antibody ID+EIA	<b>K9</b>	Serum	<b>99</b>	<b>95</b>	<b>0.5</b>	<b>329+320</b>	13
	Antigen LA	K9	Serum	<b>91</b>	<b>100</b>	<b>0.25</b>	<b>319</b>	19-21
<i>Cryptococcus</i>		Feline	Serum	<b>98</b>	NA	<b>0.25</b>	<b>319</b>	19,21,22
<i>Aspergillus</i> (systemic)	Antigen EIA	K9	Urine	88	92	0.8	309	23
		K9	Serum	92	84	0.8	309	23
		<b>K9</b>	Ur+Ser	<b>100</b>	<b>84-92</b>	<b>0.8</b>	<b>309</b>	23
<i>Aspergillus</i> (sinonasal)	Antigen EIA	K9	Serum	24	82	0.8	309	24
		Feline	Serum	23	78	0.8	309	25
	Antibody ID	<b>K9</b>	Serum	<b>76</b>	<b>100</b>	<b>0.25</b>	<b>324</b>	24
		Feline	Serum	43	100	0.25	324	26

For tests with multiple references the combined sensitivity and specificity was provided.

\**Blastomyces* antigen test on urine is also the first-choice test for cats.

<sup>▲</sup>Minimum sample volume required for testing.

#Specificity was often provided for non-fungal disease.

EIA, enzyme immunoassay; ID, immunodiffusion; LA, latex agglutination

#### HEADQUARTERS

4705 Decatur Blvd. | Indianapolis, Indiana 46241, USA

**888-841-8387**

[miravistavets.com](http://miravistavets.com)



## CLINICAL DIAGNOSIS

1. Motschenbacher LO, Furrow E, Rendahl AK, et al. Retrospective analysis of the effects of *Blastomyces* antigen concentration in urine and radiographic findings on survival in dogs with blastomycosis. *J Vet Intern Med* 2021.
2. Mourning AC, Patterson EE, Kirsch EJ, et al. Evaluation of an enzyme immunoassay for antibodies to a recombinant *Blastomyces* adhesin-1 repeat antigen as an aid in the diagnosis of blastomycosis in dogs. *J Am Vet Med Assoc* 2015;247:1133-1138.
3. Spector D, Legendre AM, Wheat J, et al. Antigen and antibody testing for the diagnosis of blastomycosis in dogs. *J Vet Intern Med* 2008;22:839-843.
4. Foy DS, Trepanier LA, Kirsch EJ, et al. Serum and urine *Blastomyces* antigen concentrations as markers of clinical remission in dogs treated for systemic blastomycosis. *J Vet Intern Med* 2014;28:305-310.
5. Arambulo PV, 3rd, Topacio TM, Jr., Famatiga EG, et al. Leptospirosis among abattoir employees, dog pound workers, and fish inspectors in the city of Manila. *The Southeast Asian journal of tropical medicine and public health* 1972;3:212-220.
6. Arceneaux KA, Taboada J, Hosgood G. Blastomycosis in dogs: 115 cases (1980-1995). *J Am Vet Med Assoc* 1998;213:658-664.
7. Crews LJ, Feeney DA, Jessen CR, et al. Utility of diagnostic tests for and medical treatment of pulmonary blastomycosis in dogs: 125 cases (1989-2006). *J Am Vet Med Assoc* 2008;232:222-227.
8. Cunningham L, Cook A, Hanzlicek A, et al. Sensitivity and Specificity of *Histoplasma* Antigen Detection by Enzyme Immunoassay. *J Am Anim Hosp Assoc* 2015;51:306-310.
9. Clark K, Hanzlicek AS. Evaluation of a novel monoclonal antibody-based enzyme immunoassay for detection of *Histoplasma* antigen in urine of dogs. *J Vet Intern Med* 2020.
10. Cook AK, Cunningham LY, Cowell AK, et al. Clinical evaluation of urine *Histoplasma capsulatum* antigen measurement in cats with suspected disseminated histoplasmosis. *J Feline Med Surg* 2012;14:512-515.
11. Rothenburg L, Hanzlicek AS, Payton ME. A monoclonal antibody-based urine *Histoplasma* antigen enzyme immunoassay (IMMY(R)) for the diagnosis of histoplasmosis in cats. *J Vet Intern Med* 2019;33:603-610.
12. Hanzlicek AS, Meinkoth JH, Renschler JS, et al. Antigen Concentrations as an Indicator of Clinical Remission and Disease Relapse in Cats with Histoplasmosis. *J Vet Intern Med* 2016;30:1065-1073.
13. Holbrook ED, Greene RT, Rubin SI, et al. Novel canine anti-*Coccidioides* immunoglobulin G enzyme immunoassay aids in diagnosis of coccidioidomycosis in dogs. *Medical mycology* 2019;57:800-806.
14. Kirsch EJ, Greene RT, Prahl A, et al. Evaluation of *Coccidioides* antigen detection in dogs with coccidioidomycosis. *Clin Vaccine Immunol* 2012;19:343-345.
15. Johnson LR, Herrgesell EJ, Davidson AP, et al. Clinical, clinicopathologic, and radiographic findings in dogs with coccidioidomycosis: 24 cases (1995-2000). *J Am Vet Med Assoc* 2003;222:461-466.
16. Gunstra A, Steurer JA, Seibert RL, et al. Sensitivity of Serologic Testing for Dogs Diagnosed with Coccidioidomycosis on Histology: 52 Cases (2012-2013). *J Am Anim Hosp Assoc* 2019;55:238-242.
17. Arbona N, Butkiewicz CD, Keyes M, et al. Clinical features of cats diagnosed with coccidioidomycosis in Arizona, 2004-2018. *J Feline Med Surg* 2020;22:129-137.
18. Greene RT, Troy GC. Coccidioidomycosis in 48 cats: a retrospective study (1984-1993). *J Vet Intern Med* 1995;9:86-91.
19. Malik R, McPetrie R, Wigney DI, et al. A latex cryptococcal antigen agglutination test for diagnosis and monitoring of therapy for cryptococcosis. *Aust Vet J* 1996;74:358-364.
20. Johnston L, Mackay B, King T, et al. Abdominal cryptococcosis in dogs and cats: 38 cases (2000-2018). *J Small Anim Pract* 2021;62:19-27.
21. Trivedi SR, Sykes JE, Cannon MS, et al. Clinical features and epidemiology of cryptococcosis in cats and dogs in California: 93 cases (1988-2010). *J Am Vet Med Assoc* 2011;239:357-369.
22. Medleau L, Marks MA, Brown J, et al. Clinical evaluation of a cryptococcal antigen latex agglutination test for diagnosis of cryptococcosis in cats. *J Am Vet Med Assoc* 1990;196:1470-1473.
23. Garcia RS, Wheat LJ, Cook AK, et al. Sensitivity and specificity of a blood and urine galactomannan antigen assay for diagnosis of systemic aspergillosis in dogs. *J Vet Intern Med* 2012;26:911-919.
24. Billen F, Peeters D, Peters IR, et al. Comparison of the value of measurement of serum galactomannan and Aspergillus-specific antibodies in the diagnosis of canine sino-nasal aspergillosis. *Vet Microbiol* 2009;133:358-365.
25. Whitney J, Beatty JA, Martin P, et al. Evaluation of serum galactomannan detection for diagnosis of feline upper respiratory tract aspergillosis. *Vet Microbiol* 2013;162:180-185.
26. Barrs VR, Ujvari B, Dhand NK, et al. Detection of Aspergillus-specific antibodies by agar gel double immunodiffusion and IgG ELISA in feline upper respiratory tract aspergillosis. *Vet J* 2015;203:285-289.

### HEADQUARTERS

4705 Decatur Blvd. | Indianapolis, Indiana 46241, USA