

New Tests Help Diagnose Diseases in Pets

Lab's services assist veterinarians

by Susan McGinley

Veterinarians spend a lot of time diagnosing and treating pets. The UA's Arizona Veterinary Diagnostic Laboratory now offers highly accurate tests featuring polymerase chain reaction, or PCR, a gene-based assay that gives a more rapid turnaround—usually a day.

You've just come home from work to find your dog slumped on the floor with fluid oozing from his eyes and nose. He's sluggish and hasn't eaten the food you left him. Is this canine distemper? Newer DNA-based tests now offered through the Arizona Veterinary Diagnostic Laboratory (AzVDL) in Tucson can help your veterinarian figure that out more accurately and rapidly.

"In big cities, there's quite a lot of disease that goes around among pet animals," says Jim Collins, head of the UA Department of Veterinary Science and Microbiology which includes the AzVDL. "Some illnesses are difficult to recognize clinically just by examining an animal. The treatment depends on an accurate diagnosis. At the diagnostic lab we've brought in more sensitive and specific tests, and developed some ourselves, to help evaluate animals that are ill with common infectious diseases."

Since veterinarians spend a lot of time treating pets, the tests offered through the diagnostic laboratory are designed to save time. Some use polymerase chain reaction, or PCR, a gene-based assay that gives a more rapid turnaround—usually a day.

"Previous methods could take a week or more," Collins says. "The advantage is the sooner the veterinarian knows what caused the disease, the faster it can be treated to avoid its spread to neighboring animals."

Veterinarians send specimens to the lab, including tissue biopsies, fluid samples (blood, urine, feces) and sometimes entire animals. The tests are less expensive than commercial labs; many run from \$10 to \$20 each.

The range of PCR tests offered through the lab covers common illnesses in most domestic pet species: cats, dogs, horses, and birds; plus goats and sheep. The AzVDL is one of two laboratories in North America currently offering PCR testing for infectious feline conjunctivitis. A partial list (not including food animal tests) includes the following tests:



- Dogs: Canine Distemper Virus; *Ehrlichia canis*
- Cats: Feline conjunctivitis caused by Feline Herpes Virus; *Chlamydia* conjunctivitis; Feline Immunodeficiency Virus
- Horses: Equine Herpes Viruses 1 and 4
- Goats: Caprine Arthritis Encephalitis Virus (CAEV)
- Birds: Psittacosis (*Chlamydia*)

These tests have been offered at the AzVDL since March 2000. Collins began some of this work at Colorado State University in 1995 before coming to the UA in 1999. Lyn Stadler is the new PCR lab manager in charge of performing and developing PCR tests.

"The speed and accuracy of these tests has made them popular," Collins says. Veterinarians in Tucson and Phoenix are using the service, along with PETsMART in-store clinics in Phoenix. Requests for PCR testing have also come from as far as Maryland, Scandinavia, South America, and Japan. "Veterinarians have told us that some of these PCR tests have really changed their understanding of certain diseases," he says. ❖

The Arizona Veterinary Diagnostic Laboratory (AzVDL)

This Tucson laboratory provides services to veterinarians, animal owners and federal and state agencies for the diagnosis of disease problems of livestock, companion animals, zoo and wild species. Facilities include modern bacteriology, virology, toxicology and pathology laboratories, as well as necropsy rooms for small and large animals. Diagnostic faculty members participate in applied research studies involving disease problems of agricultural significance and field investigations of range livestock problems referred by practicing veterinarians.

The AzVDL has been accredited by the American Association of Veterinary Laboratory Diagnosticians as a full-service veterinary diagnostic laboratory for all species. This lab is now one of 36 such accredited labs in the U.S. and Canada. As part of the UA Department of Veterinary Science and Microbiology, the laboratory is supported by a combination of state funds and user fees. It is located in the West Campus Agricultural Center, and is open to the public Monday through Friday from 8:00 a.m. to 5:00 p.m.

A quarterly publication, the AzVDL newsletter, is available in hard copy or online at

microvet.arizona.com

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Specific instructions for collection of specimens and the interpretation of the tests are available for each individual test. For more information contact:

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