

# Arizona Veterinary Diagnostic Laboratory

## User Guide

Tests and Fees  
Shipping information  
&  
Sample submission  
information

2831 N. Freeway  
Tucson, AZ 85705-5021  
Phone: 520-621-2356 Fax: 520-626-8696



email: [azvdl@ag.arizona.edu](mailto:azvdl@ag.arizona.edu)  
<http://azvdl.arizona.edu>



# WELCOME!

Welcome to the Arizona Veterinary Diagnostic Laboratory service guide. We are proud that you have selected our team of dedicated professionals to serve your diagnostic needs.

## MISSION STATEMENT

The **AzVDL** provides accurate and timely diagnostic assistance in animal health to veterinarians, animal owners, university researchers, and state and federal agencies. The submission of specimens through practicing veterinarians is encouraged, but specimens are also accepted from owners. **AzVDL** works closely with the office of the State Veterinarian, USDA A.V.I.C., Arizona Game and Fish Department, and other state and federal agencies. This laboratory serves a diverse client base with submissions of wild animals, exotic zoo animals, companion animals, horses, and food producing animals.

**The Arizona Veterinary Diagnostic Laboratory** is a part of the Division of Agriculture, Life and Veterinary Sciences, and Cooperative Extension at The University of Arizona. The **AzVDL** is accredited for all species by the American Association of Veterinary Laboratory Diagnosticians.

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# DIRECTORY OF PERSONNEL

## **FACULTY:**

Gregory Bradley, D.V.M., DACVP  
Elizabeth Kieran D.V.M.  
Lisa Viesselmann, D.V.M., DACVP

Veterinary Pathologist  
Veterinary Pathologist  
Interim Director, Veterinary Pathologist

## **Emeritus Faculty:**

Robert Glock, D.V.M., PhD, DACVP  
Carlos Reggiardo, D.V.M., PhD, DACVM

Veterinary Pathologist  
Veterinary Microbiologist

## **MICROBIOLOGY SECTION LEADER AND QUALITY OFFICE:**

Sara Plevel

Quality Manager/Safety Officer

## **BACTERIOLOGY / MOLECULAR DIAGNOSTICS / SEROLOGY / PARASITOLOGY:**

Tarah Gutierrez  
William Robertson

Veterinary Lab Technician II  
Veterinary Lab Technician III

## **DIRECTORY OF PERSONNEL (Continued)**

### **CYTOLOGY:**

Angela Hoss

Veterinary Lab Technician II

### **HISTOPATHOLOGY:**

Gabriella Briseño  
Stephanie Martin  
Sandra Fieg

Histotechnologist III  
Histotechnologist II  
Histotechnologist II

### **NECROPSY:**

Cathey Coen

Veterinary Lab Technician II

### **SLAP:**

Christian Briseño

Veterinary Lab Technician I

### **STAFF:**

#### **Administration:**

Rhiannon L. Anderson  
Aurora Astorga  
Darcy Kennedy

Student Assistant  
System Admin II  
Business Manager

## **BUSINESS HOURS: Monday through Friday – 8 A.M. to 5 P.M.**

**After Hours Service:** A specimen refrigerator is located on the north side of the laboratory. The AZVDL no longer offers after-hours assistance with specimen drop-off. This has become necessary due to the retirement of key staff members and issues with on-site housing of university employees for the purpose of after-hour services. Until such time as we can find a solution for this, assistance for specimen drop-off during nights, weekends and holidays is unavailable. We recommend you explore local options for storage and preservation of carcasses until they can be delivered to AZVDL during regular business hours.

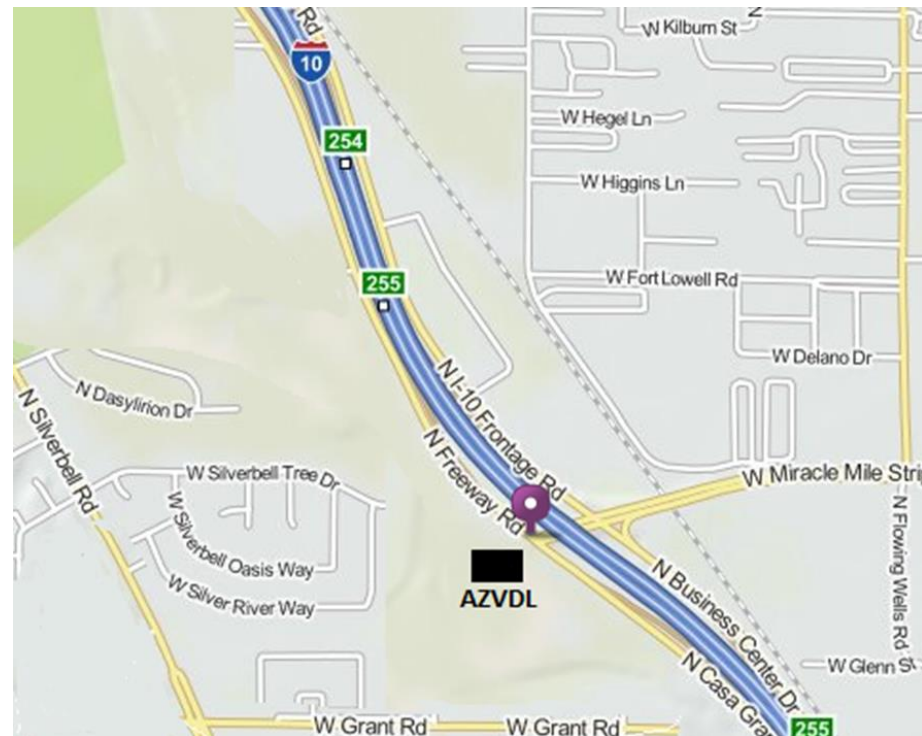
A PATHOLOGIST is available by phone 7 days a week between 8 A.M. and 9 P.M. at (520) 909-2324 if you have an emergency and need to consult.

### **Driving directions:**

Take Tucson Interstate 10 to the Miracle Mile Exit #255.

Travel approximately 1/4 mile on the southbound Frontage road between Miracle Mile and Grant Rd, where the hill ends and the road begins to flatten out.

Turn west onto the farm at the signed entrance.



# **AzVDL POLICIES AND PROCEDURES**

## **General Policies:**

1. Fees are subject to change without notice.
2. \$10.00 minimum submission fee.
3. \$30.00 shipping and handling fee will be assessed for shipping specimens to referral laboratories.
4. Results can be reported by mail, fax, or e-mail.
5. Toxicology and nutritional testing are referred to outside laboratories. Please call the AzVDL laboratory for pricing and test availability.

## **Billing (Policy and Procedure):**

Upon completion and reporting of final reports invoices are generated. Samples referred to outside laboratories are billed for any additional direct costs incurred plus a \$30.00 flat shipping and handling fee (courier service charge may also apply).

NOTE: Owners submitting specimens must prepay for services. Case results cannot be released until payment is received.

At the end of each month, AzVDL billing personnel prepare statements listing all invoices not paid by the last day of the previous month for all clients with a balance due. The invoice/statement report is a combined report that includes case#, owner, all tests performed for each case and invoice number. The AZVDL no longer mail individual invoices. Please contact the laboratory via email at [azvdl@ag.arizona.edu](mailto:azvdl@ag.arizona.edu) or call (520) 621-2356 and make special arrangement if individual invoices still needed.

Payment is due upon presentation of statement. Payment in the form of cash, check, or credit card is accepted. Please make checks payable to the University of Arizona Veterinary Diagnostic Laboratory.



**Policy on client confidentiality:**

1. Information pertaining to client submissions, whether in the form of written, printed, electronic, or faxed documents, or verbal communication, will not be given to any non-laboratory personnel other than the submitting veterinarian, or the owner.
2. Exceptions to this are as follows:
  - To fulfill governmental mandates
  - In the case of warrant, subpoena, or other court order
  - In the case of lawful public records request under Arizona's Public Records Law
  - With written authorization from the owner or submitting veterinarian

**Referral Laboratories:**

Tests not performed at AzVDL are forwarded to an AAVLD accredited laboratory whenever possible. A \$30.00 shipping and handling fee is assessed. The specimen is shipped overnight to the referral laboratory and the results are reported in our laboratory system. Turnaround time is determined by the referral laboratory and fees are subject to change.

**Subcontracted work:**

In the event of extenuating circumstances, tests normally performed by the AzVDL may be shipped to another accredited laboratory. A list of accredited laboratories used by AzVDL is available upon request.

**Reporting Test Results:**

If multiple tests are requested and the results entered at different times, the diagnostician will produce an intermediate report containing all results received to date. Intermediate reports are faxed and/or e-mailed to the submitter if a fax number and/or e-mail address is provided.



When test results are completed, a report titled “Final Report” will be produced and the report is faxed and/or e-mailed to the client if a fax number or e-mail address is provided. Phone report is available to clients with no fax and/or e-mail service. The original report will be mailed to the client with an invoice for services rendered.

Suggested turnaround times for all tests are listed in the test schedule. These times are estimates only and may be affected by the number of samples, laboratory workload, staffing, and availability of reagents and supplies. Reports are sent directly to the veterinarian submitting the specimen if the veterinarian is responsible for the charges. However, it is laboratory policy that test results will be reported to the owner if we are requested to bill the owner directly (a copy of the report is sent to the veterinarian if requested by the owner).

### **Requests for second opinion:**

When calling to request slides to be sent out to another laboratory for a second opinion please have ready the AzVDL accession number of the case in question and the address where the slides are to be sent. We will produce duplicate slides for this process. You will be charged \$17.00 per duplicate H&E slide plus shipping charges. The reviewing laboratory will charge you separately for their services.

The AzVDL provides second opinions on histopathology and cytology performed at other laboratories. Please have the laboratory send a complete set of duplicate H&E stained slides or cytology slides for the case.

In many instances it proves helpful to perform special stains to aid in the diagnosis. Ask the laboratory to forward the paraffin blocks to us for this purpose. We will return the unused portions of the blocks after our testing is completed. Some laboratories are reluctant to send off the blocks and instead may suggest sending unstained slides. This is less than ideal, but acceptable. Ask that a minimum of three unstained slides from each block be sent along with the H&E specimens. Fax or e-mail us a completed submission form for the second opinion and indicate where the slides are being sent from and approximately when to expect them. We will bill you for this service. You will likely be charged by the sending laboratory for the cost of producing the slides and shipping.

## Payment Terms:

Payment is due at time of submission for owners and new clients. Payment is due upon presentation of statement for established clients.

Accounts past due over 30 days will be assessed a finance charge of 1.5%, or a minimum of \$3.00, of the past due balance. Collection notice is mailed to submitters with a delinquent balance. Any deviation in payment terms must be agreed to in writing. AZVDL has the right to ask for payment in advance if the established payment terms are not adhered to. AZVDL reserves the right to cease all work if you do not pay your invoices(s) over 30 days past due.

Accounts greater than 90 days past due will be referred to a collection agency. You will be responsible for collection costs; your balance will increase by 33 1/3% and your account will be reported to the Credit Bureau.

Dishonored checks will be assessed a \$25.00 service charge. A dishonored check is a check payment returned by the bank to The University of Arizona, unpaid, for any reason. The University will notify you in writing of a Dishonored Check. You have fourteen (14) days from the date of this notice to pay the total amount due. Until paid in full, you will be assessed a monthly Past Due Balance Charge. Unpaid dishonored checks may be referred to a Collection Agency. If it is deemed necessary to refer the account to an Agency, the debtor (account holder) will be responsible for all collection costs and legal fees. Per Arizona Revised Statute (ARS 12-671), you may be assessed twice the amount of the check or \$50.00, whichever is greater, in addition to the \$25.00 Service Charge. All payments for dishonored checks must be made to the University of Arizona Veterinary Diagnostic Laboratory. Only payments made by Money Order, Cashier's Check, or Cash will be accepted. Cash payments must be made in person at the Arizona Veterinary Diagnostic Laboratory. Questions regarding your account can be directed to the Accounts Receivable department.

# PACKAGING AND SHIPPING INSTRUCTIONS

All diagnostic specimens **MUST** be packed in compliance with IATA Packing Instructions 650. The **SHIPPER** is responsible for compliance with these packaging instructions. This information is provided as a service to AzVDL clients and couriers. It is limited to the shipping of veterinary medical specimens for diagnostic testing. Although we work to ensure that the information provided here is current and accurate, it is ultimately the client's responsibility to perform and verify the training of their employees. To assist:

## 1. Liquids:

**Primary receptacle – must** be leak-proof and must not contain more than 500 ml. Absorbent material – between the primary receptacle and the secondary packaging, must be capable of absorbing all liquid in primary receptacle.

**Secondary packaging – must** be leak-proof, must be capable of withstanding an internal pressure producing a pressure differential of not less than 95 kPa in the range of –40 deg F to 130 deg F without leaking. Itemized list of contents – between primary and secondary packaging.

**Outer packaging – must not** contain more than 4 L.

## 2. Solids:

**Primary receptacle – must** be sift-proof and must not contain more than 500 g.

**Secondary packaging – must** be leak-proof. Itemized list of contents – between primary and secondary packaging.

**Outer Packaging – must not** contain more than 4 kg.

## 3. Each completed package:

**Must** be capable of successfully passing a drop test from a height of approximately 4 ft.

**Must** be labeled with the following “**BIOLOGICAL SUBSTANCE – CATEGORY B – UN 3373**” and “**Diagnostic Specimen packed in compliance with IATA Packing Instructions 650**”.

**Must** be at least 4 inches in the smallest overall external dimension.

Compliant packaging is available from a variety of vendors. We have had good results with Saf-T-Pak ([www.saftpak.com](http://www.saftpak.com)) products.

Multiple specimens (such as fresh tissues) from a field necropsy must be individually packed (PRIMARY RECEPTACLE) to prevent cross contamination, and then enclosed in a secondary leak proof container with absorbent material before being placed in a leak-proof outer container. Containers with screw-top lids are preferred packages for tissue and feces. Plastic vials with screw-top lids for blood, serum, and fluid transport are preferred as the primary containers for these specimens. If protected from breakage, single-use vacuum blood-collection tubes may also be satisfactory. Guarded culture swabs may be shipped in original packaging that is placed in an appropriate primary receptacle.

Formalin-fixed tissues from an individual animal may be pooled in a single container unless it is clinically relevant to have findings for each reported separately. If possible, the specimens should be no more than 0.5 cm thick (about the thickness of five dimes) for adequate fixation.

If the specimen needs to be kept cool (i.e., blood, serum, etc.) please use the shipping containers designed specifically for refrigerated specimens. Please enclose the submission form in a plastic bag and place the submission form in the package between the PRIMARY RECEPTACLE and the SECONDARY PACKAGING.

### **Labeling:**

Each specimen must be labeled with pertinent information that should include animal number, herd number, lot number, animal name, source, body site, and identify the specimen. This is especially true when samples from multiple animals are submitted.

## How do I ship specimens to AzVDL?

**Tucson and Southeastern Arizona (Nogales, Green Valley):** To arrange for a courier pick-up call the laboratory before 12:00 P.M. for same-day service.

Some exceptions\* apply. Sierra Vista, Benson, Bisbee, Douglas, Safford and Wilcox please call the laboratory for pre-printed UPS label to be sent to you; your account will be charged our discounted UPS price; courier available for a \$20.00 fee.

**\*EXCEPTION:**

- To arrange delivery of cadavers, call the laboratory. We contract this service with a private courier and additional charges may apply.
- Due to the rising cost of Courier Service, submissions requesting only tests referred to outside laboratories will be billed a \$20 surcharge.

**The greater Phoenix area:**

To arrange delivery of cadavers, call the laboratory. We contract this service with a private courier and the charges will be added to your bill. Charges typically range from \$75-\$125. Small specimens such as cultures, cytology, biopsy, etc. are best shipped via UPS or FedEx. Please call the laboratory for pre-printed UPS label to be sent to you; your account will be charged our discounted UPS price.

**Using AzVDL shipping services for your shipments:**

You can realize significant savings using United Parcel Service (UPS) by charging your shipments to our account. If you would like a UPS pre-printed waybill to be sent to you, please call the laboratory at (520) 621-2356. We will add the shipping charges to our service fees.

**Statewide:**

Small cadavers and specimens should be shipped UPS/FedEx Priority Overnight. If using AzVDL UPS shipping account, we will add the cost to your bill. For larger cadavers please contact local ground-based couriers.

***NOTE: Do not ship on Fridays, as we are not open on the weekend and will not receive the package until Monday afternoon.***

## INSTRUCTIONS TO COMPLETE SUBMISSION FORM

1. The client submitting the specimen to the laboratory should date and sign in the “Specimen Relinquished by” field.
2. Complete this area by providing the requested client information, Veterinarian and Owner fields are **REQUIRED**. The final report will be faxed, emailed, or mailed to the address specified (unless otherwise noted). Please check appropriate box for billing and specify contact information if reporting to second party, please include the contact’s email.
3. Enter animal information, animal ID, Species and Breed are **REQUIRED**. Be as detailed as possible. Please note if the animal is a West Nile Virus suspect.
4. Please label each container with clinic name, owner, and patient name. Specify the type of specimens submitted such as slides, fresh or formalin fixed tissues, swab, fluid, etc. Specify the source of the specimen such as liver, spleen, mass, etc.
5. Please specify test(s) requested:  
**NECROPSY:**
  - Please specify if the body needs to be saved for a cremation company, a “Save Body” fee will be added to the Necropsy fee. \*\*\*Bodies are released to cremation companies ONLY\*\*\*.  
Clinic or Owner **MUST** make **PRIOR** arrangements directly with a cremation company. AZVDL has no long-term storage and will hold a body for 5 days, after which our normal disposal procedures will be followed.
  - Possible litigation cases must complete a chain of custody form.
  - Specify if Rabies Suspect (rabies cases require a Rabies Suspect Form, please contact the laboratory).
  - Specify if sample submitted only for rabies testing**OTHER:**
  - Specify test(s) for bacteriology, Molecular Procedures, Serology, referral sendouts, etc.
6. Complete this section for Histopathology and/or Cytology submissions including lesion description. Indicate the lesion location on the diagrams provided.
7. Enter clinical history, comments, or descriptions related to the sample. **Be as specific as possible.**

## Where to obtain Submission Forms:

A fillable submission form is available on the website: <http://azvdl.arizona.edu>, if you prefer a copy via email, fax or mail please call the laboratory at (520) 621-2356.

### Example of Submission Form:

 <b>Arizona Veterinary Diagnostic Laboratory</b>		<b>AZVDL USE ONLY Client ID</b>
Phone: (520) 621-2356 Fax: (520) 626-8696 Email: <a href="mailto:azvdl@ag.arizona.edu">azvdl@ag.arizona.edu</a> Website: <a href="http://azvdl.arizona.edu">http://azvdl.arizona.edu</a>		
<b>(1) DATE:</b> _____ <b>Specimen Relinquished by:</b> _____		
<small>Financial Responsibility terms: Payment is due at time of submission for owners and new clients. Payment is due upon presentation of statement for established clients. Accounts past due over 30 days will be assessed a finance charge of 1.5% or a minimum of \$3.00, of the past due balance. Accounts greater than 90 days past due will be referred to a collection agency unless payment arrangements have been established with AZVDL business unit. You will be fully responsible for all collection costs. Agreement to submission of this sample constitutes a contract with AZVDL.</small>		
<b>(2) BILL TO: (check appropriate box)</b>		
<input type="checkbox"/> <b>Veterinarian:</b>	<input type="checkbox"/> <b>Owner:</b>	
Clinic: _____	Address: _____	
Address: _____	City/State/Zip code: _____	
City/State/Zip code: _____	Phone: _____	
Phone: _____	Fax: _____	
Fax: _____	E-Mail: _____	
E-Mail: _____	Add a Contact to Report? <input type="checkbox"/>	
REPORT BY: Phone <input type="checkbox"/> Fax <input type="checkbox"/> Email <input type="checkbox"/>	Contact Email: _____	
<b>(3) Animal Name/ID:</b> _____	<b>WNV</b> Y <input type="checkbox"/> N <input type="checkbox"/>	<b>Number in herd/flock:</b> _____
Age: _____ Y M W D	<b>Euthanized</b> Y <input type="checkbox"/> N <input type="checkbox"/>	<b>Date of death(s):</b> _____
***please indicate the age***		
Sex: Male Female I S N Breed: _____		
<b>(4) ***LABEL EACH CONTAINER - patient / owner / specimen***</b>		
<b>SPECIMEN(S) Submitted:</b> _____ <b>SOURCE of specimen:</b> _____		
<b>(5) TEST(S) REQUESTED:</b>		
<b>NECROPSY</b> <input type="checkbox"/> <b>**SAVE BODY</b> Y <input type="checkbox"/> N <input type="checkbox"/> ***contact lab with cremation service choice <b>RABIES ONLY</b> <input type="checkbox"/>		
POSSIBLE LITIGATION? Y <input type="checkbox"/> N <input type="checkbox"/> ***RABIES Suspect? Y <input type="checkbox"/> N <input type="checkbox"/> ***Contact lab for Rabies Suspect Form		
<b>OTHER</b> <input type="checkbox"/> <b>SPECIFY TEST(S):</b> _____		
<b>(6) HISTOPATHOLOGY</b> <input type="checkbox"/> <b>STAT CYTOLOGY (ADDITIONAL \$30.00 CHARGE APPLY)</b> <input type="checkbox"/>		
<input type="checkbox"/> Incisional <input type="checkbox"/> Endoscopic <input type="checkbox"/> Aspirate Cytology (masses, cystic lesions, internal organs)		
<input type="checkbox"/> Excisional <input type="checkbox"/> Needle <input type="checkbox"/> Fluid Analysis (pleural/thoracic, peritoneal/abdominal, joint)—EDTA purple top tube		
<input type="checkbox"/> CSF Analysis—Serum tube only		
<input type="checkbox"/> Urinalysis		
<b>Please indicate lesion location:</b>		
Dorsal Ventral		
L R L R L R		
Lesion description (size, margins, etc.): _____		
_____		
_____		
<b>(7) Clinical History:</b> _____		
_____		
_____		
<b>AZVDL USE ONLY:</b> Condition of Specimen: _____ Acceptable _____ Not Acceptable		
____FFT____Ft____SS____FO____SW____FEC____UR____CSF____LTT____RTT____SR____WB____MLK____CL____AN____FE____PL____WA____XX____SC		
<b>REPORT SENT:</b> Phone Fax Email: _____ <b>Billed:</b> _____ <b>Prepaid:</b> _____		
A003-F1 AZVDL Submission Form Revised: September 2019		



# MICROBIOLOGY:

Proper selection and preservation of samples for bacteriologic analysis is essential for accurate and efficient diagnosis. Postmortem autolysis of tissues is the most common cause of interference with bacteriologic diagnosis. Tissues should be very fresh, collected aseptically and immediately refrigerated; and sent by overnight transport. When prompt submission is not possible, freezing is acceptable for most types of bacteriologic tests, although they are often unsuitable for other microbiologic or pathologic testing. A second cause of interference is collection of samples too late in the course of the disease or after the initiation of antibiotic therapy. Submit generous samples of tissue, exudates, or feces. Avoid the use of swabs when fresh tissues or exudates are available. The prompt collection of specimens with minimal exposure to air is particularly important for anaerobic culture. Tissue samples should be submitted in separate containers and properly identified. Adequate refrigeration in insulated containers with sufficient numbers of ice packs is essential for shipping specimens. Call the laboratory (520) 621-2356 for any questions on specimen collection, the availability of a test, or to inform us of the impending shipping of large numbers of samples.

## **Acceptable samples for Bacteriological Culture are:**

- **All** bacteriological cultures: Specimens should be shipped overnight. Specimens for most bacterial cultures can be frozen, but freezing will interfere with histopathologic examination, and sometimes with other microbiologic tests.
- **Aerobic** cultures: Tissues, fluids, or exudates are preferred. If using swabs, submit swabs with aerobic bacterial transport medium: Stuart or Amies (with or without charcoal).
- **Anaerobic** cultures: Submit tissues, fluids, or exudates whenever possible. Avoid excessive exposure to oxygen. Swabs should be used with anaerobic bacterial transport medium (Port-A-Cul or similar). Swabs with Stuart or Amies medium are not suitable for the isolation of strict anaerobes.
- **Campylobacter** culture: Submit swabs with Cary-Blair transport medium, tissue, feces.
- **Campylobacter fetus subsp. venerealis** (bovine preputial and vaginal swabs)): Cary-Blair swabs must be received within 24 hours of collection.

- **Moraxella bovis (Pink eye)** culture: Ocular swabs or inoculated blood agar plates (recommended) must be received within 12 hours of collection.
- **Bordetella bronchiseptica** cultures from live animals: Nasal or tracheobronchial swabs must be received within 12 hours of collection.
- **Clostridial culture/FA:** Muscle, liver, or other parenchymatous organs collected as soon as possible soon after death and immediately refrigerated.

**Acceptable samples for Tritrichomonas foetus culture:** Bull preputial or cow vaginal secretions collected in In-Pouch transport pouches, maintained at room temperature, and received within 48 hours of collection. (Pouches for PCR can be refrigerated).

## Bacteriology/Microbiology:

Test Description	Test #	Price	Specimen Preferred	Turnaround Time
ACID FAST STAIN	B109	\$21.00	Tissue; feces	1-2 working days
AEROBIC CULTURE (Antibiotic sensitivity additional charge per isolate)	B103	\$41.50	Culture swab; exudate; tissue	3 working days 5 days (+ sensitivity)
ANAEROBIC CULTURE	B104	\$37.00	Culture swab; exudates; tissue	4 working days
ANTIBIOTIC SENSITIVITY (KIRBY-BAUER DISC) **cost per isolate**	B101	\$18.50	Live Organism	5 working days
CAMPYLOBACTER CULTURE	B122	\$41.50	Swab in Carry-Blair medium; tissue; feces	4 working days
CLOSTRIDIUM SPP (FA) (CL. CHAUVOEI, SEPTICUM, NOVI FA)	*	*	TVMDL (\$25 + S&H)	*
FUNGAL CULTURE	B106	\$37.00	Tissue; skin scrapings; hair	2-3 weeks
DERMATOPHYTE FUNGAL CULTURE	B106b	\$37.00	Tissue; skin scrapings; hair	2-3 weeks
GIMENEZ STAIN	B123	\$16.00	Tissue or impression smears	1-2 working days
GRAM STAIN	B111	\$16.00	Feces, tissue, or impression smears	1-2 working days
MYCOPLASMA CULTURE	B108	\$41.50	Culture swab, tissue, milk	10 working days
SALMONELLA CULTURE	B126	\$41.50	Feces, tissue, swab, eggs, 200 g feed	4 working days
TRICHOMONAS CULTURE	B112	\$37.00	Preputial or vaginal secretion in Trich pouch	3 working days

\*\* Requests for specific antibiotic panels can be made. Call and speak to the Microbiology Section Head or leave clear, legible direction on the submission sheet.

## CYTOLOGY:

1. Protect cytology slides from formalin fumes as exposure results in artifactual distortion of the cells and renders the slides nondiagnostic in most instances.
2. Cerebrospinal fluid must be submitted in red-top tubes. The anticoagulant in lavender-tops dilutes the sample and will adversely affect the cell count and protein values.
3. Fluids for fluid analysis must be submitted in lavender-top tubes to prevent clotting. Cerebrospinal fluid is the exception (see #2 above).
4. Stat cytology samples must be received at the laboratory before 3 P.M. for same-day results. We recommend that you do not use the courier system for STATS, as they often do not arrive at the lab until after the cutoff. Consider having one of your staff deliver the samples directly to AzVDL.

Test Description	Test #	Price	Specimen Preferred	Turnaround Time
CYTOLOGY	H106	\$72.00	Slides	2 working days
CYTOLOGY (ADDITIONAL SITE)	H106B	\$33.00	Slides	2 working days
CYTOLOGY (2ND OPINION)	H108	\$54.00	Slides	2 working days
<b>FLUID ANALYSIS:</b>				
CYTOLOGY FLUID ANALYSIS	H110	\$82.50	LTT, all fluids except CSF	2 working days
CYTOLOGY FA (ADDITIONAL SITE)	H110A	\$33.00	LTT, all fluids except CSF	
CSF FLUID ANALYSIS	H111	\$90.00	RTT	2-3 working days

**STAT SERVICE** \$30 Additional charge (for same day results, samples must be received before 3 pm)

# HISTOPATHOLOGY:

**Biopsy charges:** We perform complete margins evaluation on every biopsy specimen. The number of slides required to do this is directly related to the size of the specimen. Therefore, the costs increase with increasing specimen size. The following guidelines are provided to assist you in correctly estimating biopsy charges for clients.

1. Measure the biopsy specimen at the greatest dimension. Specimens less than 2 cm are \$78.00; if between 2 cm and 5 cm the charge is \$85.50. For every additional 2 cm in size add an additional \$29.00. When multiple biopsies of different sites are submitted use the largest specimen to calculate the cost of the first site.

**EXCEPTION:** Mandibulectomies, maxillectomies, intestinal resections, ear resections, and amputations are all charged \$124.00 regardless of size.

2. Additional sites: Each additional site is charged at a lesser rate. Measure the size of the specimen. The charge is \$33.00 for additional site <2 cm and additional 2 cm in size \$29.00.
3. Skin biopsies from the same animal are considered one site and are \$78.00. This does not apply to multiple skin masses (see #1).
4. Biopsies of the gastrointestinal tract are charged separately for each site. For example: Endoscopic biopsies of stomach, small intestine, and colon would be charged as \$78.00 for the first site plus \$33.00 + \$33.00 (two additional sites) = \$144.00 total charge.
5. Nasal biopsies often include specimens from the right and left nasal cavities. They are considered one site and charged \$78.00.
6. There are no additional charges for pathologist-assisted grossing of specimens.

**Histopathology on field necropsy specimen charges:** Histopathology on field or clinic necropsy specimens is charged \$78.00 for the first tissue and \$33.00 for each additional tissue. There is a maximum charge of \$130.00 per animal for commercial livestock.

## HISTOPATHOLOGY (CONTINUED)

**Submission of large specimens in formalin:** Specimens in containers with large volumes of formalin can leak and create hazards for package handlers. When submitting these specimens, consider allowing the specimen to fix completely before shipping.

Drain off the formalin and package the specimens in a sealed container with gauze squares soaked in formalin. There will be sufficient formalin in the gauze to keep the specimen moist during shipping. This will limit the potential for leakage.

Test Description	Test #	Price	Specimen Preferred	Turnaround Time
SURGICAL BIOPSY (FIRST SITE <2 CM)	H101A	\$78.00	Formalin-fixed tissues	3 working days, decals 3-7 days
SURGICAL BIOPSY (EACH ADDITIONAL SITE <2 CM)	H101B	\$33.00	Formalin-fixed tissues	3 working days, decals 3-7 days
SURGICAL BIOPSY (FIRST SITE 2-5 CM)	H102A	\$85.50	Formalin-fixed tissues	3 working days, decals 3-7 days
SURGICAL BIOPSY (EACH ADDITIONAL SITE 2-5 CM)	H102B	\$51.50	Formalin-fixed tissues	3 working days, decals 3-7 days
SURGICAL BIOPSY (6-8 CM)	H102C	\$106.00	Formalin-fixed tissues	3 working days, decals 3-7 days
SURGICAL BIOPSY (9-11 CM)	H102D	\$128.00	Formalin-fixed tissues	3 working days, decals 3-7 days
SURGICAL BIOPSY (ADDITIONAL 2 CM IN SIZE)	H102E	\$29.00	Formalin-fixed tissues	3 working days, decals 3-7 days
SURGICAL BIOPSY (limb amputations, maxillectomies, and mandibulectomies)	H102F	\$124.00	Formalin-fixed tissues	3 working days, decals 3-7 days
HISTOPATHOLOGY 2ND OPINION	H114	\$59.00	Slides, paraffin blocks	3 working days
<b>HISTOPATHOLOGY (NECROPSY TISSUES):</b>				
HISTOPATHOLOGY, NECROPSY TISSUES (FIRST TISSUE)	H103A	\$78.00	Formalin-fixed tissues	4-5 working days, decals 3-7 days
HISTOPATHOLOGY, NECROPSY TISSUES (EACH ADDITIONAL TISSUE)	H103B	\$33.00	Formalin-fixed tissues	4-5 working days, decals 3-7 days

HISTOPATHOLOGY, NECROPSY TISSUES MAXIMUM CHARGE – COMMERCIAL LIVESTOCK ONLY	H103C	130.00	Formalin-fixed tissues, stained slides, paraffin blocks	4-5 working days, decals 3-7 days
<b>ADDITIONAL FEES:</b>				
EXTRA SLIDES ONLY	H105	\$17.00		
SPECIAL STAINS PER STAIN	H104	\$19.00		2-3 working days, decals 3-7 days

## IMMUNOHISTOCHEMISTRY:

All immunohistochemistry testing is referred to outside laboratories. Please call AzVDL for test availability, specimen requirements and pricing.

Turnaround time is determined by the referral laboratory; \$30.00 shipping and handling fee will be added to the test price.



## MOLECULAR DIAGNOSTICS:

Acceptable specimens for **Molecular Diagnostics** are:

Fresh, refrigerated, or frozen tissues or feces.

Whole, unclotted blood (LTT or other).

Swabs with polyester, nylon, or nylon-flocked tips. Submitted dry or with a few drops of sterile saline in a glass or plastic vial.

Test Description	Test #	Price	Specimen Preferred	Turnaround Time
AI REALTIME PCR (For USDA program or State Veterinarian testing for foreign animal disease surveillance only)	-	\$50.00	Cloacal or tracheal swab, tissue	-
AVIAN PARAMYXOVIRUS-1 REALTIME PCR (For USDA program or State Veterinarian testing for foreign animal disease surveillance only)	-	\$50.00	Tracheal swab, tissue.	-
BLUETONGUE VIRUS PCR	*	*	3 ml LTT or other unclotted blood, fresh tissue (Ruminants)	*
BOVINE HERPESVIRUS TYPE 1 (BHV-1) PCR	*	*	Tissues, or swabs of respiratory secretions	*
BOVINE VIRAL DIARRHEA PCR	*	*	3 ml LTT or other unclotted blood, fresh tissue, fresh ear notch	*
CANINE DISTEMPER VIRUS PCR	*	*	3 ml LTT or other unclotted blood, fresh tissue	*
CANINE HERPESVIRUS PCR	*	*	Fresh tissue	*
CANINE PARVOVIRUS PCR	*	*	Fresh feces, intestinal tissue.	*

CHLAMYDIACEAE FAMILY PCR	*	*	Conjunctival/cloacal swabs, fresh/fixed tissue, feces	*
CHLAMYDOPHILA PSITTACI (AVIAN)	*	*	Conjunctival/cloacal swabs, fresh/fixed tissue, feces	*
EHRlichia CANIS PCR	*	*	3 ml LTT or other unclotted blood, fresh tissue	*
EPIZOOTIC HEMORRHAGIC DISEASE PCR	*	*	3 ml LTT or other unclotted blood, fresh tissue (Ruminants)	*
EQUINE HERPESVIRUS TYPE 1, 4 PCR	*	*	3 ml LTT or other unclotted blood, nasal swabs, fetal tissue	*
FELINE CALICIVIRUS PCR	*	*	Oral or nasal swabs, tissue	*
FELINE HERPESVIRUS PCR	*	*	Conjunctival scraping on swab in transport media; snip or corneal biopsy	*
FELINE PANLEUKOPENIA VIRUS PCR	*	*	Fresh feces, intestinal tissue	*
MALIGNANT CATARRHAL FEVER PCR/OHV2 PCR	*	*	3 ml LTT or other unclotted blood, tissue (Bovine, Bison, Ovine)	*
MYCOPLASMA PCR	*	*	Fresh tissues (lung), conjunctival or respiratory swab	*
TRITRICHOMONAS FOETUS PCR <b>Per sample price discount:</b> (1-5 \$40, 6-10 \$35, 11 or more \$25 each)  Tritrichomonas PCR (Pooled Samples)	M143	\$40.00 \$35.00 \$25.00  \$65.00	In-Pouch TF system (refrigerated or room temperature)	5 working days
WESTERN EQUINE ENCEPHALITIS PCR	*	*	Brain tissue (fresh)	*

**\*This test will be forwarded to a referral laboratory for testing. Turnaround time is determined by the referral laboratory and prices are subject to change. \$30.00 shipping and handling fee will be added to the test price.**

## NECROPSY:

Test Description	Test #	Price	Specimen Preferred	Turnaround Time
SMALL ANIMAL NECROPSY (AVIAN, RODENTS, SMALL EXOTICS, PUPPIES/KITTENS (< 6 WEEKS))	N103	\$309.00	Cadaver – whole, partial	10 working days
CANINE, FELINE	N104	\$435.00	Cadaver – whole, partial	10 working days
DOMESTIC LIVESTOCK, UNDER 100 LBS	N109	\$361.00	Cadaver – whole, partial	10 working days
DOMESTIC LIVESTOCK, 100 TO 500 LBS	N110	\$489.00	Cadaver – whole, partial	10 working days
DOMESTIC LIVESTOCK, OVER 500 LBS	N111	\$644.00	Cadaver – whole, partial	10 working days
EXOTIC & WILDLIFE, OVER 100 LBS	N113	\$463.50	Cadaver – whole, partial	10 working days
HORSE, LESS THAN 200 LBS	N106	\$443.00	Cadaver – whole, partial	10 working days
HORSE, 200 LBS – 500 LBS	N107	\$721.00	Cadaver – whole, partial	10 working days
HORSE, OVER 500 LBS	N108	\$1030.00	Cadaver – whole, partial	10 working days
ABORTION LARGE ANIMAL	N101	\$335.00	Fetus and placenta	10 working days
ABORTION SMALL ANIMAL	N102	\$309.00	Fetus and placenta	10 working days
<b>ADDITIONAL FEES:</b>				
BRAIN REMOVAL – SMALL ANIMAL	N119	\$ 29.00		
BRAIN REMOVAL – LARGE ANIMAL	N120	\$ 50.00		
SPINAL CORD REMOVAL, EQUINE	N117	\$185.00		
SPINAL CORD REMOVAL, SMALL ANIMAL	N118	\$145.00		
EQUINE CREMATION (>500 POUNDS ONLY)	N121	\$1236.00	(Owner provides receptacle for ashes)	
INSURANCE SURCHARGE	N115	\$285.00		
SAVE BODY REQUEST	N105	\$ 29.00		
LITIGATION DOCUMENTATION PROCESSING FEE	A035	\$150.00		

## **NECROPSY Continued:**

The results obtained from a necropsy are directly related to the condition of the cadaver when received. Badly decomposed bodies yield little diagnostic data. Taking steps to ensure refrigeration of the body as soon as possible after death will go a long way in preserving its diagnostic value. Insulated shipping containers are a must for small animals. Animals too large to fit in an insulated container (some very large ice chests are available) should be surrounded and covered with bags of ice and covered with a plastic tarp before hauling. This is critical for large animals such as horses and cattle and animals with thick insulating fleeces or body fat (swine). A four-hour trip to the diagnostic lab in the heat of the summer months is too long without some attempt at cooling the carcass.

We do not recommend freezing cadavers as this induces significant tissue artifact and hinders histologic examination. However, a frozen cadaver is better than a decomposed one if there are no other options available for cooling.

There are several options for shipping bodies to the laboratory. See the Shipping Section for details.

Our interpretation of necropsy findings is highly dependent on receiving a complete history of the case. The history should be a concise distillation of the relevant history, clinical laboratory, management, and signalment by someone directly knowledgeable about the case.

Results are usually available within 7-10 working days. Some testing may take longer, in which case you will receive preliminary reports with diagnostic findings to date followed by a final report when all work has been completed.

Necropsy fees include gross evaluation, routine histopathology, basic microbiology, and disposal. Additional fees may be charged for more complex microbiological and toxicological testing including any testing referred to outside laboratories.

### **NOTES:**

Special necropsy procedures such as spinal cord removal, insurance cases and possible litigation cases will require additional fees as indicated. Cosmetic necropsy is not performed.

Save body request is only available for necropsy submissions and released only to the cremation company specified by the submitter. Due to public health concerns, tissues and remains of cases submitted for "Rabies Only" cannot be released for private cremation.

## PARASITOLOGY:

Test Description	Test #	Price	Specimen Preferred	Turnaround Time
EXTERNAL PARASITE IDENTIFICATION	P108	\$23.00	Refrigerated unfixed or 70% alcohol-fixed parasite sent to UA Dept of Entomology	
INTERNAL PARASITE IDENTIFICATION ( <i>CALL THE LABORATORY</i> )				
FECAL FLOTATION QUALITATIVE	P104	\$21.00	3-6 grams fresh, refrigerated feces	2 working days
SEMI-QUANTITATIVE FECAL EGG COUNT	P104B	\$25.00		
GIARDIA CYSTS, CRYPTOSPORIDIA	*	*	1-2 grams fresh, refrigerated feces	*see comment
SKIN SCRAPING, MACERATION	P105	\$19.00	Skin scrapings from the edge of a lesion	1-2 working days
WET MOUNT	P107	\$22.00	Feces, fluid	1 working day

\*The Texas Veterinary Medical Diagnostic Laboratory offers 'Cryptosporidium and Giardia Panel (real time PCR) test

**This test will be forwarded to a referral laboratory for testing. Turnaround time is determined by the referral laboratory and prices are subject to change. \$30.00 shipping and handling fee will be added to the test price.**

## SEROLOGY:

1. Send  $\geq 1$  ml of serum per test or  $\geq 3$  ml blood.
2. Send serum only whenever possible. The submission of whole blood, even in separator tubes, often results in hemolysis and interference with some of the tests.
3. Identify the tubes properly, making sure there are matching animal IDs on the submission form and the tubes. Ship sera in racks or cardboard boxes with dividers.
4. Submit acute and convalescent sera together in cases where paired sample serology is needed.

Test Description	Test #	Price	Specimen Preferred	Turnaround Time
BLUETONGUE (AGID)	*	*	Serum ( $\geq 1$ ml)	*
BOVINE ABORTION SEROLOGY PANEL (Leptospira, IBR, BVD, Brucella, Neospora)	*	*	Serum ( $\geq 1$ ml)	*
BOVINE RESPIRATORY SEROLOGY PANEL (IBR, BVD, PI3, BRSV)	*	*	Serum (paired sera suggested)	*
BOVINE RESPIRATORY SYNCTIAL VIRUS (VN)	*	*	Serum ( $\geq 1$ ml)	*
BOVINE VIRAL DIARRHEA (VN)	*	*	Serum ( $\geq 1$ ml)	*
BRUCELLOSIS CARD TEST <b>(Federal form required)</b>	S136	\$10.00	Serum ( $\geq 1$ ml)	1-2 working days
CANINE DISTEMPER VIRUS VN	*	*	Serum ( $\geq 1$ ml)	*
COCCIDIOIDES SP (IgG) TITER	S127	\$34.00	Serum ( $\geq 1$ ml)	4 working days
COCCIDIOIDES SP (IgM/IgG) SCREEN (NO TITER)	S127A	\$40.00	Serum ( $\geq 1$ ml)	4 working days
COCCIDIOIDES SP (IgM/IgG) SCREEN (WITH TITER)	S127B	\$62.00	Serum ( $\geq 1$ ml)	4 working days
EPIZOOTIC HEMORRHAGIC DISEASE (AGID)	*	*	Serum ( $\geq 1$ ml)	*

## SEROLOGY (CONTINUED):

1. For EIA tests submitted through Global Vet Link, there will be an additional fee of \$0.85 per sample.
2. Only the current Federal Form (Feb 2018) will be accepted after May 1, 2020.
3. EIA Elisa will routinely be run on Tuesdays and Thursdays. Samples received by noon on Tuesdays and Thursdays will be run those days.

STAT EIA testing (same day result) will still be available Monday to Friday for an additional \$30 per animal tested. Practitioners who wish to test specific animals as STAT must submit those animals for STAT service on separate AzVDL Submission forms for the STAT animals. Animals tested at the same time, not requiring STAT service should be submitted on separate paperwork.

Test Description	Test #	Price	Specimen Preferred	Turnaround Time
EQUINE INFECTIOUS ANEMIA (ELISA) <b>Federal Form Required</b>	S126	\$15.00 <b>STAT: \$30 Addl</b>	Serum (≥1 ml)	1-3 Working Days (Run Tues and Thurs) STAT Monday-Friday
For EIA samples submitted through Global Vet Link, a \$0.75 fee will be added per sample				
EQUINE INFECTIOUS ANEMIA (AGID) (confirmatory test only - NVSL)	*	*	Serum (≥1 ml)	*
EQUINE RHINOPNEUMONITIS (SN)	*	*	Serum	*
JOHNE'S ELISA	*	*	Serum (≥1 ml)	*
LEPTOSPIRA SPP (5)	*	*	1-3 ml Serum	*
SMALL RUMINANT LENTIVIRUS (CAE/OPP) ELISA	*	*	Serum (≥1 ml)	*
PARAINFLUENZA (3) SN	*	*	Serum	*

**\*This test and tests not listed will be forwarded to a referral laboratory for testing. Turnaround time is determined by the referral laboratory and prices are subject to change. \$30.00 shipping and handling fee will be added to the test price.**



## TOXICOLOGY:

Toxicology and nutritional testing is referred to outside laboratories. Please call AzVDL for test availability, specimen requirements, and pricing. \$29.00 shipping and handling fee will be added to the outside laboratory cost.

## VIROLOGY:

All virology testing is referred to outside laboratories. Please call AzVDL for test availability, specimen requirements, and pricing.

Test Description	Test #	Price	Specimen Preferred	Turnaround Time
BVD PI SNAP TEST	*		CALL LABORATORY FOR THIS TEST	*
BVD ANTIGEN CAPTURE ELISA	*	\$10.00	1 ml serum (Bovine) or ear notch (fresh)	*
BOVINE RESPIRATORY SYNCYTIAL VIRUS	*	*	Lung tissue, nasal swab	*
ROTAVIRUS LATEX	*	*	Feces 1 gram refrigerated	*

**\*This test will be forwarded to a referral laboratory for testing. Turnaround time is determined by the referral laboratory and prices are subject to change. \$30.00 shipping and handling fee will be added to the test price.**