

Arizona Veterinary Diagnostic Laboratory



USER GUIDE

Tests and Fees
Shipping information
Sample Submission
Information



Uncontrolled Copy -Client Use

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Fax: 520-621-8696



THE UNIVERSITY OF ARIZONA
**Research, Innovation
& Impact**

email: 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 unit within the Office for Research, Innovation, and Impact at The University of Arizona. The **AzVDL** is accredited for all species by the American Association of Veterinary Laboratory Diagnosticians and is a member of the United States Department of Agriculture's National Animal Health Laboratory Network.

TABLE OF CONTENTS

Directory of Personnel	3-4
Laboratory Location and Service Hours	5
Business Hours and After-Hours Service	
Map to AzVDL	
AzVDL Policies and Procedures.....	6-12
General Policies	
Billing (Policy and Procedures)	
Client Confidentiality Policy	
Reporting Test Results	
Second Opinion Requests	
Overdue Accounts Policy	
Packaging and Shipping Instructions	
Submission Information	13-14
Submission form and instructions	
Diagnostic Service Areas	15-28
Bacteriology	15-16
Cytology	17
Histopathology	18-20
Molecular Diagnostics.....	21-23
Necropsy.....	24-25
Parasitology	26
Serology	27
Virology	28

DIRECTORY OF PERSONNEL

FACULTY:

Dr. Yan Zhang, D.V.M., PhD, DACVM

Director

Gregory Bradley, D.V.M., DACVP

Pathology Section Head

Elizabeth Kieran, D.V.M., DACVP

Veterinary Pathologist

Nathan Wienandt, D.V.M., DACVP

Veterinary Pathologist

Suzette LeClerc, D.V.M., DACVP

Veterinary Clinical Pathologist

MICROBIOLOGY SECTION LEADER AND QUALITY OFFICE:

Sara Plevel

Manager, Administrative Operations

BACTERIOLOGY / SEROLOGY / PARASITOLOGY/VIROLOGY:

Tarah Gutierrez

Veterinary Lab Technician III

Belinda Lockett

Veterinary Lab Technician III

MOLECULAR DIAGNOSTICS:

Patrick Maes, PhD

Interim Head, Molecular Section

Meredith Andersen

Molecular Technician

Dawn M. Bueschel

Molecular Technician

Williams Reid Robertson

Molecular Technician

DIRECTORY OF PERSONNEL (Continued)

CYTOLOGY:

Angela Hoss

Veterinary Lab Technician III

HISTOPATHOLOGY:

Gabriella Briseño
Sandra Fieg

Histotechnologist III
Histotechnologist II

NECROPSY:

Breanna G. Salt
Nathan Wienandt, D.V.M., DACVP

Veterinary Lab Technician II
Veterinary Pathologist

SPECIMEN ACCESSIONING AND PROCESSING:

Christian Briseño

Veterinary Lab Technician II

ADMINISTRATION:

Rhiannon L. Anderson
Aurora Astorga
Darcy Kennedy
Stephanie Martin

Administrative Support
Database Administrator
Business Manager
Administrative Support Assistant III

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

After Hours Service: A specimen refrigerator, located on the north side of the laboratory, is available between 6 AM and 8 PM seven days a week including holidays

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. We recommend you explore local options for storage and preservation of carcasses until they can be delivered to AZVDL during regular business hours. Only samples and small bodies can be dropped off in the specimen refrigerator located on the north side of the laboratory.

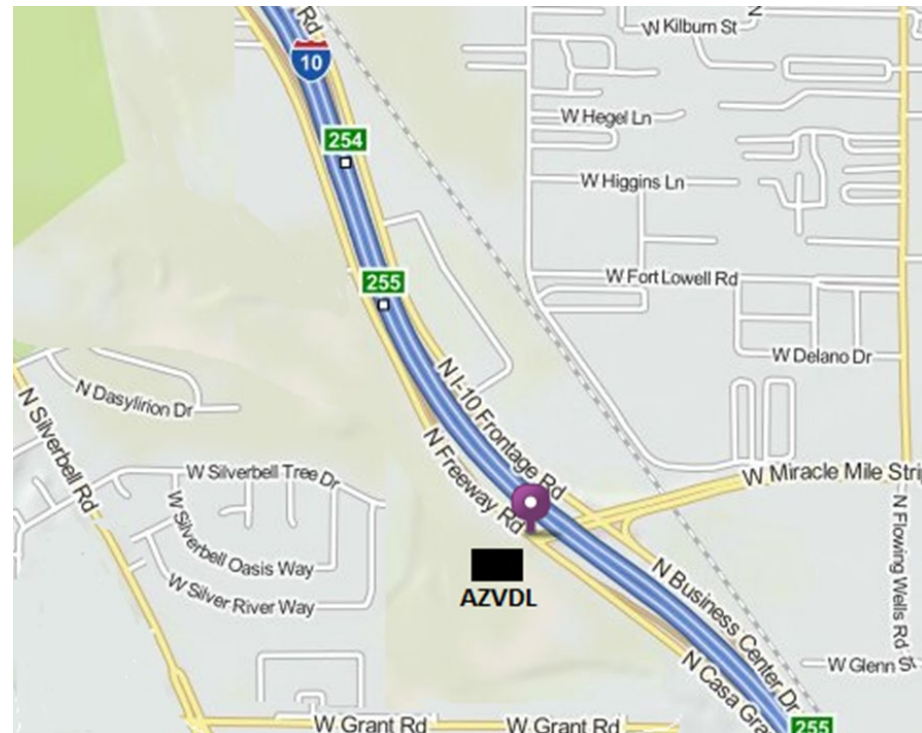
If you are a veterinarian or a livestock producer with an emergency, A PATHOLOGIST is available by phone between 8 A.M. and 8 P.M. at (520) 909-2324 to assist you.

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. \$35.00 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 \$35.00 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 or call (520) 621-2356 to 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 \$35.00 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 \$15.00 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:

3. 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.

4. 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.

5. 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) 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 surrounding area: To arrange for a courier pick-up call the laboratory before 12:00 P.M. for same-day sample pick-up service.

NOTE: STAT Cytology and STAT Equine Infectious Anemia submissions must be received before 2:00 PM for same day results. Courier arrives to our facility around 4pm; STAT samples received via courier will be reported the next business day.

Some exceptions apply: Green Valley, Nogales, 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.

***EXCEPTIONS:**

- 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:

Small specimens such as cultures, cytology, biopsy, etc. are best shipped via UPS or FedEx. Please call the laboratory (520) 621-2356 for pre-printed UPS label to be sent to you; your account will be charged our discounted UPS price.

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.

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 or Owner 'BILL TO' check box is **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. Be as detailed as possible.

4. TEST REQUEST(S):

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.

NECROPSY:

- Specify if sample submitted is for a **complete necropsy** or **Rabies only**
- **SAVE BODY:** 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 14 days, after which our normal disposal procedures will be followed.
- Specify if POSSIBLE LITIGATION and/or Rabies Suspect (rabies cases require a Rabies Suspect Form, please contact the laboratory).

HISTOPATHOLOGY AND CYTOLOGY:

- Please specify lesion description such as source of specimen, size, margins, etc.
- STAT is available for cytology cases; same day reporting \$30 additional fee applies and sample must be received no later than 2:00PM.

OTHER:

- Specify test(s) for bacteriology, Molecular Procedures, Serology, referral sendouts, etc. in section OTHER REQUESTS.
- STAT service available for EIA. Same day results, sample must be received at AZVDL no later than 2:00pm. A \$30 additional fee per sample will apply.

5. Enter clinical history, comments, or descriptions related to the sample. **Be as specific as possible.**
6. Multiple animal submission form available on page 2. Please specify Animal ID, breed, specimen type and test(s) requests.

Where to obtain Submission Forms:

A fillable submission form is available on the website: <https://azvdl.arizona.edu> "How to Submit -> Submission process" section. If you prefer a copy via email, fax or mail, please call the laboratory at (520) 621-2356.

Example of Submission Form:

  **Arizona Veterinary Diagnostic Laboratory**

Location: 2831 N. Freeway Tucson AZ 85705 Phone: (520) 621-2356 Fax: (520) 626-8696 Email: azvdl@ag.arizona.edu Website: <http://azvdl.arizona.edu>

**AZVDL
USE ONLY**

(1) DATE: _____ Specimen Relinquished by: _____

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.

(2) BILL TO: (check appropriate box)

☐ Veterinarian: ☐ Owner:

Clinic: _____ Address: _____
Address: _____ City/State/Zip code: _____
City/State/Zip code: _____ Phone: _____
Phone: _____ Fax: _____
Fax: _____ E-Mail: _____
E-Mail: _____

REPORT BY: Phone ☐ Fax ☐ Email ☐ Add a Contact? ☐ Email: _____

(3) Animal Name/ID(s): _____ (list multiples on page 2)

Species: _____ Breed: _____ Age: _____ Y M W D Sex: Male Female I S N

(4) TEST REQUEST(S):

NECROPSY ☐ RABIES ONLY ☐ **SAVE BODY Y ☐ N ☐ Date of death(s): _____

POSSIBLE LITIGATION? Y ☐ N ☐ **Cremation Company: _____

*RABIES Suspect? Y ☐ N ☐ *Contact lab for Rabies Suspect Form* Euthanized Y ☐ N ☐ # in herd/flock: _____

HISTOPATHOLOGY ☐ CYTOLOGY ☐ STAT ☐ (\$30.00 additional, must drop off by 2PM)

☐ Incisional ☐ Endoscopic ☐ Aspirate Cytology (masses, cystic lesions, internal organs)
☐ Excisional ☐ Needle ☐ Fluid Analysis (pleural/thoracic, peritoneal/abdominal, joint) — EDTA purple top tube

Please indicate lesion location: ☐ CSF Analysis — Serum tube only

Dorsal Ventral
L R L R
Lesion description (size, margins, etc.): _____

OTHER REQUESTS: ☐ STAT EIA (\$30.00 additional, must drop off by 2PM)

Specimen Type	Collection Date	Test Name / Comments:

(5) Clinical History:

(continued on reverse ☐)



FOR AZVDL USE ONLY: Opened by: _____ Condition of Specimen: _____ Acceptable _____ Not Acceptable

samples received: _____ Carrier: Drop off Courier FedEx UPS USPS

FTT FTT SS FO SW FEC UR CSF LTT RTT SR WB MLK CL AN FE PL WA XX SC

REPORT SENT: Phone Fax Email: _____ Billed: _____ Prepaid: _____

A003-F1 AZVDL Submission Form Page 1 of 2 Revised: August 2022

  **Arizona Veterinary Diagnostic Laboratory**

**AZVDL
USE ONLY**

(6) Multiple Animal submission:

#	Animal ID	Age	Sex	Breed	Specimen Type	Test Request / Comments
1						
2						
3						
4						
5						
6						
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8						
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22						
23						
24						
25						

Additional clinical history/comments:

Attach additional page if more space is needed for clinical history

- The submitter is responsible for all fees associated with this submission. A complete catalog of tests, fees and sample requirements is available at <https://azvdl.arizona.edu>.
- All specimens received become the property of AZVDL and will not be returned unless specific arrangements are made and approved by AZVDL section head. Specimens submitted for regulatory testing belong to the regulatory agency and may not be returned.
- AZVDL reserves the right to subcontract any work required to complete testing and will be indicated as such on the laboratory report.
- Biohazards: The laboratory retains the right to refuse any sample that may pose a risk of infection or other danger to AZVDL personnel. No human samples will be accepted.
- Per the Federal and State authorities, the AZVDL does not accept out of date tubes for any Federal or State regulatory testing (EIA, Brucellosis, etc)

A003-F1 AZVDL Submission Form

Page 2 of 2

Revised: August 2022

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.

Bacteriology/Microbiology:

Test Description	Test #	Price	Specimen Preferred	Turnaround Time
AEROBIC CULTURE (Antibiotic sensitivity additional charge per isolate)	B103	\$32.00	Culture swab; exudate; tissue	3 working days 5 days (+ sensitivity)
ANAEROBIC CULTURE	B104	\$35.00	Culture swab; exudates; tissue	4 working days
ANTIBIOTIC SENSITIVITY (KIRBY-BAUER DISC) **cost per isolate**	B101	\$18.00	Live Organism	5 working days
FUNGAL CULTURE	B106	\$32.00	Tissue; skin scrapings; hair	2-3 weeks
DERMATOPHYTE FUNGAL CULTURE	B106b	\$32.00	Tissue; skin scrapings; hair	2-3 weeks
SALMONELLA CULTURE	B126	\$32.00	Feces, tissue, swab, eggs, 200 g feed	4 working days
MALDI-TOF BACTERIOLOGY IDENTIFICATION	B103c	\$20.00	Pure isolated colony plate	2 working days
MALDI-TOF FUNGI IDENTIFICATION	B106d	\$25.00	Pure isolated colony plate	2 weeks
ACID FAST STAIN	B109	\$16.00	Tissue; feces	1-2 working days
GRAM STAIN	B111	\$16.00	Feces, tissue, or impression smears	1-2 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 2 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	\$70.00	Slides	2 working days
CYTOLOGY (ADDITIONAL SITE)	H106B	\$33.00	Slides	2 working days
CYTOLOGY (2ND OPINION)	H108	\$54.00	Slides	2 working days
FLUID ANALYSIS:				
CYTOLOGY FLUID ANALYSIS	H110	\$80.00	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 2 P.M.)

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 \$75.00 for the first tissue and \$20.00 for each additional tissue. There is a maximum charge of \$120.00 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
DERMATOPATHOLOGY	H101C	\$85.00	Formalin-fixed tissues	3-5 working days
Please complete the Dermatopathology Submission Form, available at https://azvdl.arizona.edu "How to Submit -> Submission process", and submit with samples				
HISTOPATHOLOGY 2ND OPINION	H114	\$59.00	Slides, paraffin blocks	3 working days
HISTOPATHOLOGY (NECROPSY TISSUES):				
HISTOPATHOLOGY, NECROPSY TISSUES (1-2 TISSUES)	H103A	\$75.00	Formalin-fixed tissues	4-5 working days, decals 3-7 days

HISTOPATHOLOGY, NECROPSY TISSUES (EACH ADDITIONAL TISSUE)	H103B	\$20.00	Formalin-fixed tissues	4-5 working days, decals 3-7 days
HISTOPATHOLOGY, NECROPSY TISSUES MAXIMUM CHARGE – COMMERCIAL LIVESTOCK ONLY	H103C	120.00	Formalin-fixed tissues, stained slides, paraffin blocks	4-5 working days, decals 3-7 days
ADDITIONAL FEES:				
EXTRA SLIDES ONLY	H105	\$15.00		
SPECIAL STAINS PER STAIN	H104	\$17.00		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; \$35.00 shipping and handling fee will be added to the test price.

MOLECULAR DIAGNOSTICS:

Foreign animal disease tests for USDA and State Veterinarian surveillance:

Test Description	Test #	Price	Specimen Preferred	Turnaround Time
AI REALTIME PCR	-	\$50.00	Cloacal or tracheal swab, tissue	-
AVIAN PARAMYXOVIRUS-1 REALTIME PCR	-	\$50.00	Tracheal swab, tissue.	-
ASF, CSF, FMD REALTIME PCR (\$50 each)	-	\$50.00	Whole blood, swab, tissue (spleen, tonsil, lymph node)	-

Molecular Diagnostic Tests:

Test Description	Test #	Price	Specimen Preferred	Turnaround Time
BOVINE HERPESVIRUS TYPE-1 PCR	M101	\$35.00	1-2mL EDTA whole blood, semen, transtracheal wash, or bronchoalveolar lavage (BAL)	2-3 working days
BOVINE PARAINFLUENZA-3 VIRUS PCR	M173a	\$35.00	Nasopharyngeal swab, nasal swab, 1-2mL transtracheal wash, or bronchoalveolar lavage, 1gram fresh or frozen lung or trachea	2-3 working days
BOVINE VIRAL DIARRHEA PCR	M106	\$35.00	Nasopharyngeal swab 1-2mL EDTA whole blood, semen, transtracheal wash, or bronchoalveolar lavage (BAL)	2-3 working days
BOVINE RESP. SYNCYTIAL VIRUS PCR	M168	\$35.00	Nasopharyngeal swab, nasal swab, 1-2mL transtracheal wash, or bronchoalveolar lavage, 1gram fresh or frozen lung or trachea	2-3 working days
BLUETONGUE VIRUS PCR	M105	\$40.00	1-2 mL semen, 1-2 mL EDTA whole blood or 1 gram fresh spleen or lymph node	2-3 working days
CAMPYLOBACTER FETUS - VENERIALIS PCR	M236	\$35.00	1-2 mL preputial wash, 1-2 mL cervical swab, 1-2g feces, 1 g fresh tissue (fetus, placenta, lung)	2-3 working days
CANINE INFLUENZA VIRUS PCR	M242	\$35.00	Tracheal or nasal swab, 1g fresh tracheal or lung, 1-2 mL tracheal wash	2-3 working days

CANINE HERPESVIRUS PCR	M109	\$35.00	Fresh tissue, nasal swab, tracheal swab, pharyngeal swab, conjunctival swab.	2-3 working days
CANINE PARVOVIRUS PCR	M110	\$35.00	Fresh feces, 1 mL intestinal content	2-3 working days
EQUINE HERPESVIRUS TYPE-1 PCR	M113A	\$35.00	1-2mL EDTA whole blood, nasal swab, transtracheal wash, or bronchoalveolar lavage	2-3 working days
EQUINE HERPESVIRUS TYPE 1 & 4 PCR	M113	\$45.00	1-2mL EDTA whole blood, nasal swab, transtracheal wash, or bronchoalveolar lavage	2-3 working days
EQUINE INFLUENZA VIRUS PCR	M156	\$35.00	Tracheal or nasal swab, 1g fresh tracheal or lung, 1-2 mL tracheal wash	2-3 working days
EPIZOOTIC HEMORRHAGIC DISEASE PCR	M111	\$40.00	1-2 mL semen, 1-2 mL EDTA whole blood or 1 gram fresh spleen or lymph node	2-3 working days
EHD and BTV MULTIPLEX rt-PCR	M194	\$60.00	1-2 mL semen, 1-2 mL EDTA whole blood or 1 gram fresh spleen or lymph node	2-3 working days
FELINE PARVOVIRUS PCR	M118	\$35.00	Fresh feces, 1 mL intestinal content, swab in transport media	2-3 working days
MALIGNANT CATARRHAL FEVER PCR	M121	\$35.00	3 mL LTT or other unclotted blood.	2-3 working days
SARS CORONAVIRUS-2 (COVID-19) rt-PCR	M163	\$70.00	Nasal swab, oropharyngeal swab, rectal swab, 1-2g feces	2-3 working days
STREPTOCOCCUS EQUI PCR	M158	\$35.00	1-3 mL pharyngeal wash, nasal secretion, nasopharyngeal swab	2-3 working days
TRITRICHOMONAS & CAMPYLOBACTER DUPLEX	M143b	\$50.00	In-Pouch TF system (room temperature) 3 ml LTT or PBS Tube or transit tube	2-3 working days
TRITRICHOMONAS FOETUS PCR	M143	\$22.00	In-Pouch TF system (room temperature) 3 ml LTT or PBS Tube or transit tube	2-3 working days
TRITRICHOMONAS PCR (Pooled 1-5 Samples)		\$40.00		
* See Tritrichomonas foetus testing guidelines for specimen handling and transport on next page				

PANELS:				
BOVINE RESP. PANEL-VIRAL PCR (BRSV, BVD, PI-3, OBR/BHV-1)	M301	\$60.00	Nasopharyngeal swab, nasal swab, 1-2mL transtracheal wash, or bronchoalveolar lavage, 1gram fresh or frozen lung or trachea	2-3 working days
EQUINE RESPIRATORY PANEL PCR (Equine Influenza, EHV 1 & 4, Aerobic Culture)	M302	\$100.00	Nasal swabs (must submit 2 – one in transport media (Amies, Stuarts,etc) and another with 1 mL of sterile saline red-top OR two red-top tubes, Fresh tissue lung or trachea	2-3 working days (Aerobic 2-5 days)

***Guidelines for bovine *Tritrichomonas foetus* testing – specimen handling and transport:**

Per the Arizona Department of Agriculture's June 2020 revision of ARS3-1205, the only official trichomoniasis test for the purposes of importing, exporting, selling, or transferring of bulls is an individual PCR test submitted by a USDA accredited veterinarian.

Submit preputial samples from bulls in the InPouch™ TF culture system, TF-Transit Tube (Biomed Diagnostics) or PBS tube (if you need PBS tubes please call or email and we will provide those to you at no cost, only S&H fees will apply). Pouches can be ordered directly from the manufacturer at biomeddiagnostics.com. Include inoculation date on the tube. Do not use pouches past the expiration date. If samples are received in an expired pouch or tube, they can still be processed but a note will be added stating that the results cannot be used for the purposes of importing, exporting, selling, or transferring of bulls.

Hold inoculated pouches at room temperature until shipment to the lab. Protect the inoculated pouches from heat, cold, and direct sunlight.

Ship samples overnight. **Never refrigerate or freeze inoculated pouches.** Protect from extreme heat and cold. Use extra insulation and you can use a room temp ice pack in cold weather and refrigerated, **NOT frozen**, ice pack in hot weather. Samples must be kept between 59°F and 99°F from sample collection to arrival at the AZVDL. Exposure to temperature extremes can affect *T. foetus* growth and PCR results.

PBS tubes must be received within 96 hours after inoculation. Inoculated pouches must arrive at the lab within 48 hours (2 days) of collection as false negative results are possible. Samples received after 48 (pouches/transit tubes) & 96 (PBS tubes) hours, respectively, can still be processed however a note will be added stating that the results cannot be used for the purposes of importing, exporting, selling, or transferring of bulls. Failure to follow the above guidelines may result in rejection of the sample at the discretion of the laboratory.

PCR 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. \$35.00 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	\$285.00	Cadaver – whole, partial	10 working days
CANINE, FELINE	N104	\$400.00	Cadaver – whole, partial	10 working days
DOMESTIC LIVESTOCK, UNDER 100 LBS	N109	\$250.00	Cadaver – whole, partial	10 working days
DOMESTIC LIVESTOCK, 100 TO 500 LBS	N110	\$350.00	Cadaver – whole, partial	10 working days
DOMESTIC LIVESTOCK, OVER 500 LBS	N111	\$450.00	Cadaver – whole, partial	10 working days
EXOTIC & WILDLIFE, OVER 100 LBS	N113	\$450.00	Cadaver – whole, partial	10 working days
HORSE, LESS THAN 200 LBS	N106	\$430.00	Cadaver – whole, partial	10 working days
HORSE, 200 LBS – 500 LBS	N107	\$700.00	Cadaver – whole, partial	10 working days
HORSE, OVER 500 LBS	N108	\$1000.00	Cadaver – whole, partial	10 working days
ABORTION LARGE ANIMAL	N101	\$250.00	Fetus and placenta	10 working days
ABORTION SMALL ANIMAL	N102	\$200.00	Fetus and placenta	10 working days
ADDITIONAL FEES:				
BRAIN REMOVAL – SMALL ANIMAL	N119	\$ 29.00		
BRAIN REMOVAL – LARGE ANIMAL	N120	\$ 50.00		
SAVE BODY REQUEST	N105	\$ 29.00		
SPINAL CORD REMOVAL, EQUINE	N117	\$185.00		
SPINAL CORD REMOVAL, SMALL ANIMAL	N118	\$145.00		
EQUINE CREMATION (>500 POUNDS ONLY)	N121	\$1200.00	(Owner provides receptacle for ashes) One 5 gal/500lbs	
INSURANCE SURCHARGE	N115	\$270.00		
SAVE BODY REQUEST	N105	\$ 29.00		
LITIGATION DOCUMENTATION PROCESSING FEE	A035	\$150.00		

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 available for necropsy submissions. "Save Body" must be checked on the submission form. Remains may only be released to the cremation company specified by the submitter.

Rabies Suspect:

Animals testing negative for rabies may be released to a private cremation service once all testing results are known.

Due to public health concerns, all tissues and remains of cases positive for rabies or other diseases of major public health concern, 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
QUANTITATIVE FECAL EGG COUNT	*	\$25.00	Currently forwarded to TVMDL	
GIARDIA CYSTS, CRYPTOSPORIDIA	*	*	1-2 grams fresh, refrigerated feces	*
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

***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. \$35.00 shipping and handling fee will be added to the test price.**

SEROLOGY:

1. Send ≥ 1 ml of serum per test or ≥ 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.

EQUINE INFECTIOUS ANEMIA:

1. For EIA tests submitted through Global Vet Link, there will be an additional fee of \$0.85 per sample.
2. EIA Elisa will routinely be run on Monday, Wednesday and Friday.

STAT service for EIA (ELISA) testing is available Monday to Friday for an additional \$30 per animal.

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
BRUCELLOSIS CARD TEST (Federal form required)	S136	\$5.50	Serum (≥ 1 ml)	1-2 working days
COCCIDIOIDES SP (IgM/IgG) SCREEN	S127a	\$26.00	Serum (≥ 1 ml)	3-4 working days
COCCIDIOIDES SP (Ig/G) TITER	S127	\$12.00	Serum (≥ 1 ml)	3 working days
EQUINE INFECTIOUS ANEMIA (ELISA) Federal Form Required (Feb 2018) STAT EIA: must submit before 2:00pm for same day	S126	\$10.00 \$30.00 Addl	Serum (≥ 1 ml)	1-3 Working Days (Run: Mon, Wed, Fri) STAT Monday-Friday
LEPTOSPIRA SPP – 6 serovars (MAT) (pomona, ictero, canicola, grippo., hardjo, and Bratislava) Individual serovars also available at \$6.00each	S114	\$28.00 \$6.00ea	1mL Serum 1mL Serum	2-3 working days
SMALL RUMINANT LENTIVIRUS (CAE/OPP) cELISA	S123	\$9.00	1 mL Serum	2-3 working days

VIROLOGY:

Proper selection and preservation of samples submitted for analysis is essential for accurate and efficient diagnosis.

- **Ambient conditions:** Samples should be refrigerated at 4-8° C
- Whole blood in a lavender top tube with anticoagulant submitted as buffy coat.
- Blood specimens submitted, as blood smear should be on a labeled microscope slide or as determined by Pathologist.

Test Description	Test #	Price	Specimen Preferred	Turnaround Time
BVD PI SNAP TEST	*		CALL LABORATORY FOR THIS TEST	*
BVD ANTIGEN CAPTURE ELISA	V103	\$10.00	1 ml serum (Bovine) or ear notch (fresh)	*
BOVINE HERPESVIRUS TYPE-1 (BHV-1/IBR) FA	V112	\$10.00	trachea, lung, or as determined by pathologist	1-2 working days
BOVINE PARAINFLUENZA TYPE-3 (PI-3) FA	V113	\$10.00	5 mm trachea, lung, gastrointestinal tract, lymph node, and spleen. Whole blood and blood smears (see instructions)	1-2 working days
BOVINE RESPIRATORY SYNCYTIAL VIRUS FA	V108	\$10.00	Nasopharyngeal swab, transtracheal wash, bronchoalveolar lavage (BAL), lung tissue	1-2 working days
BOVINE VIRAL DIARRHEA VIRUS FA	V114	\$10.00	Trachea, lung, gastrointestinal tract, lymph node, spleen. Whole blood and blood smears (see instructions)	1-2 working days
CANINE ADENOVIRUS FA	V122	\$10.00	Trachea, lung, gastrointestinal tract, lymph node, spleen. Whole blood and blood smears (see instructions)	1-2 working days
CANINE DISTEMPER VIRUS FA	V105	\$10.00	Conjunctival smears, lung, lymph node, spleen, whole blood (lavender top tube)	1-2 working days
CANINE PARAINFLUENZA VIRUS TYPE-2 FA	V121	\$10.00	Trachea, lung, gastrointestinal tract, lymph node, spleen. Whole blood and blood smears (see instructions)	1-2 working days
EQUINE RHINOPNEUMONITIS VIRUS FA	V146	\$10.00	Fetal lung, liver, thymus, spleen, and lung on young or adult horses with respiratory disease.	1-2 working days
FELINE LEUKEMIA VIRUS FA	V110	\$10.00	Preferred specimen: Bluffy coat smear Other acceptable specimens: thin blood smear, tissue impressions, spleen, thymus or lymph node, bone marrow aspirates	1-2 working days

All tests DFA with the exception of FeLV IFA; IFA's available upon request; turn around time for IFA 2-3 days

User Guide

Effective May 2023

Page 28 of 28

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