



Veterinary Medical  
Diagnostic Laboratory  
Veterinary Health Center  
University of Missouri

**2023-2024**

# **SUMMARY LIST OF SERVICES & FEES**



**1-800-UMC-VMDL (1-800-862-8635)**

**FAX: 1 573-882-1411**



**VMDL.MISSOURI.EDU**

**EFFECTIVE AUGUST 1, 2023**

**Submit all laboratory samples to one of the following addresses:**

**Post Office Mailing Address**

Veterinary Medical Diagnostic Lab  
P.O. Box 6023  
Columbia, MO 65205

**Courier Street Delivery Address**

Veterinary Medical Diagnostic Lab  
901 E. Campus Loop  
Columbia, MO 65211

**Basic VMDL Policies:**

- Please call the VMDL for pricing of custom procedures and research project testing.
- Prices subject to change without notice.
- We do not accept primates for necropsy.
- Results can be reported by E-mail, fax or U.S. mail. They can also be viewed in the VMDL web portal.
- By submitting specimens to the lab, clients are considered to have agreed to VMDL testing procedures and policies, including billing.
- It is the shipper's responsibility to make sure that diagnostic specimens are packaged according to current shipping rules and regulations.
- Specimens submitted to the VMDL become VMDL property.
- For tests not listed, call **1-800-862-8635** to obtain information regarding availability, pricing, sample submission and packaging requirements.
- Live animals will NOT be accepted for necropsy examination, with the exception of poultry. Animals should be humanely euthanized prior to submission. Live chickens and turkeys will only be accepted during business hours, and humanely euthanized on-site.

**For Overnight Delivery:** Call the VMDL **1-800-862-8635** to obtain information about submitting specimens at a reduced cost. The shipping costs will be added to your account upon receipt of delivery. Please arrange shipping so specimens arrive between **8 am – 5 pm, Monday – Friday**. No one is available to accept packages over the weekend.

**Have a Package Picked Up Directly at Your Business:** This is a weekday service that both in-state and out-of-state clients can use. Call the VMDL to find out how this FedEx service could both simplify your life and possibly speed up turnaround time. Significant cost savings have been negotiated by the VMDL.

**Subcontracting Service:** In the event that the VMDL is unable to perform one of its offered tests, samples will be forwarded to a qualified subcontract laboratory. Subcontract tests results will be sent back to VMDL for inclusion in the VMDL report.

**Referral Service:** If a client requests a test not offered by the VMDL or requests testing by a laboratory other than the VMDL, samples will be sent to the appropriate referral laboratory.

A handling fee will be added for submitting specimens to either subcontracting or referral laboratories, in addition to the actual mailing costs incurred and test charges.

**Rabies:** Specimens for rabies diagnostic testing are sent to the State Public Health Laboratory in Jefferson City, MO. Contact your local health department regarding proper submission of specimens or go to <http://health.mo.gov/lab/rabies.php> for additional information. Samples submitted to the VMDL for rabies testing will incur a fee for sample collection plus an additional fee for disposal of remains, if needed. Rabies serology testing for pet travel and rabies vaccine antibody response are shipped to the MU VMDL address.

**Turn Around Time:** Working days after sample is received (Working Days=M-F, Day=24 hours).



## Collection and Preparation of Specimens

**Necropsy:** Dead animals that have not undergone decomposition or treatment, are the specimens of choice. Dead animals must be necropsied as soon as possible after death. Because the lab does not have animal handling facilities, please euthanize animals before submission. If size permits, **refrigerate** until necropsied. Have the owner bring animals to the laboratory when the veterinarian cannot. Submission of more than one animal, when possible, will increase the chances of a rapid, accurate diagnosis. We do not accept primates for necropsy.

**Collecting and Labeling of Specimens:** When the whole animal cannot be brought to the laboratory, properly collected and preserved specimens may be helpful in arriving at a diagnosis. Careful selection of specimens representative of the suspected disease process as well as a good history are very important. Clearly mark the referring veterinarian's name and the owner's names on each container.

**Submission Forms:** Contact the lab for hard copies of the submission forms or visit our website for a version that allows free text to be typed directly on the form. Filled out forms, and carefully written, detailed histories facilitate accurate diagnoses. Testing will be delayed when necessary information is not included on the submission form. **If a zoonotic disease such as rabies is suspected, please indicate on the submission form so the specimen can be handled properly and unnecessary exposure can be avoided.**

**Histology:** Limit sections of most tissues to less than 1/4 inch (6 mm) thickness and include lesional and normal tissue when possible. Brain is best submitted without sectioning or with coronal (dividing into front and back) sections at 1-2 inch intervals. Spinal cord may be submitted intact (with the dura mater opened) or in segments at least 1 inch in length. Submit intestines in segments 1-2 inches in length. Section lymph nodes once in the sagittal plane (dividing into left and right halves). Incise large masses. **Do not use narrow mouthed containers.**

**Mycology:** Place skin scrapings, hair, crusts or scabs in a sterile **dry** container such as a red top tube or screw capped tube without additives. When a deep or systemic fungal infection is suspected, handle the specimen in the same manner as the bacteriology samples. Tissues and body fluids are preferred over swabs.

**Bacteriology:** For aerobic, microaerophilic and anaerobic bacterial culture, a biopsy or swab such as the E-swab with liquid Amies transport medium is preferred. For the isolation of fastidious bacteria such as *Taylorella equigenitalis*, *Moraxella bovis* and/or *Campylobacter/Vibrio* sp., the BACTI swab with Amies transport medium plus charcoal is needed. Blood and sterile-site fluids (joint fluid, CSF, pleural fluid, etc.) are preferably submitted in a Redox fluid culture medium bottle or an Oxoid blood culture bottle. A blue-top citrate Vacutainer may be used if fluid culture bottles are not available. Submit blood and sterile-site fluids from animals treated with antibiotics in a Redox fluid culture medium bottle, a BD Bactec antimicrobial removal resin bottle or in a citrate tube to prevent clotting. The above mentioned culture media are available from the VMDL upon request. Fluids such as urine, bronchoalveolar lavages, and trans-tracheal washes may be submitted in a sterile container such as a red top tube, but ship overnight to avoid bacterial loss if the sample is not in dedicated transport medium. Always ship bacteriology samples with cold packs. Please call the bacteriology lab at 573-884-9245 if you have any questions about transport media or shipping bacteriology or mycology samples.

**Clinical Pathology:** If you have questions regarding the collection and submission of correct samples for clinical pathology or if submitting large groups of samples, please call the Clinical Pathology Laboratory (573-882-3338). **Fluids:** Submit fluid in an EDTA tube accompanied by direct smears. Ship fluid on ice overnight, Monday - Thursday. **Aspirates, imprints, and smears:** Send air-dried, unfixed slides. Protect slides submitted for cytological evaluation from formalin fumes. Plastic slide holders are preferred over cardboard mailers. **CSF:** Preserve mail-in samples using the following instructions: To a clean tube without anticoagulant, add one part autologous (patient) serum to 9 parts of CSF (e.g. 0.05 ml serum and 0.45 ml CSF) and label the tube "CSF with serum." This will be used for the cell count and slide preparation. Label the remaining sample as "straight CSF"; this will be used for the protein analysis. **Bone Marrow Aspirates or Bone Marrow Core Biopsies:** Send current CBC results, or fresh blood smears and EDTA-anticoagulated blood collected simultaneously with the bone marrow collection. **Shipping protocol for Endogenous ACTH:** EDTA blood must be collected, spun ASAP and the plasma removed from the cells and frozen immediately. Ship the frozen plasma sample overnight on ice packs, Monday - Thursday. Please mark the outside of the box: TO BE OPENED BY CLIN PATH ONLY.

**Immunohistochemistry (IHC):** Follow the general rules for histopathology. Adequate fixation is critical for immunohistochemical stains; autolyzed tissues usually give questionable results. Fix tissues for 24-48 hours in 10% neutral buffered formalin solution. Indicate the time and date samples were put in fixative. Please indicate if fixative other than formalin is used.

**Molecular Diagnostics:** Specimens for PCR/RT-PCR assays must be fresh and collected for submission as aseptically as possible. Depending on the test requested, tissues, swabs, feces and fluids may be preferred specimens. Please call VMDL for details. If whole blood is submitted, use the anticoagulant EDTA. Due to the sensitivity of these assays, care must be taken during sample collection to minimize cross-contamination between specimens. Transport specimens under refrigeration (ice packs).

**Parasitology:** Refrigerate fecal samples during shipment. Parasites, external and internal, can be fixed and submitted in 70% ethyl alcohol; skin scraping may be submitted in a closed glass bottle.

**Serology:** Submit clear sera for testing. If blood is collected in a red top tube, please separate serum from clot before submitting, or use a gel separator and separate the serum from the clot before submitting.

**Toxicology:** Please indicate **clearly** on the submission form if you would like toxicology tests run on submitted samples and/or you would like a call from the Toxicology Section to discuss the case. In general, animal-based specimens (stomach/rumen contents, fresh tissues, blood, ocular fluid) are preferable to suspected source materials (feed, forage, water, pet food) when attempting to make a diagnosis. Fresh tissues (liver, kidney, fat, brain) and GI/stomach contents can be refrigerated or frozen (preferable). Do not use fixative. Keep feedstuffs dry in labeled ziplock bags. Freeze testing for cyanide, forages and GI contents as soon as possible. Submit blood or serum for Zinc in a royal blue top tube; other whole blood samples submitted in EDTA or heparinized tubes are acceptable.

### BASIC GUIDELINES FOR TOXICOLOGY SAMPLE SUBMISSION

FAQs	Feed Samples	Fresh Tissues	GI Contents/Baits	Fluids
<b>What samples?</b>	Grains; processed feeds; silages; hays; grasses; pet food; etc.	Liver; kidney; fat; ½ brain*	Vomit; rumen or stomach contents; baits; "UFOs"***	Whole (unclothed) blood; serum (separated); ocular fluid; urine; H <sub>2</sub> O
<b>How much?</b>	100-450 grams feedstuffs <b>IDEAL</b> ; Minimum sample amount is 12.5 grams for Mycotoxin Screen and 5 grams after drying for Ergot Alkaloids. 30 grams = 1 ounce	50 -100 grams; ½ brain cut longitudinally	50-500 grams of GI contents; 250-450 grams baits or "UFOs"	5-10 mL unclotted blood, serum, or ocular fluid; 20-50 mL urine***; 250- 1,000 mL H <sub>2</sub> O
<b>How stored?</b>	Kept dry in labeled zip-lock plastic or paper bags; unopened cans of pet food submitted as is; freeze open cans of pet food <b>CYANIDE TESTING</b> <b>FREEZE Forage Sample ASAP</b>	<b>NO FIXATION</b> <b>REFRIGERATE</b> <b>FROZEN IDEAL</b>	<b>FREEZE ASAP</b> GI contents Baits; "UFOs";	Refrigerate; freeze for NH <sub>3</sub> testing; dilute 5 mL H <sub>2</sub> O 1:1 in 10% formalin for B-G algae ID
<b>Which blood tube?</b> ****				<b>Pb or AChE Activity</b> <b>WHOLE BLOOD</b> <b>PURPLE/GREEN TOP</b> <b>Zn-SERUM</b> <b>ROYAL BLUE TOP</b>

\*If neurological signs and not zoonotic disease (RABIES) suspect; \*\*\*"UFOs" = unidentified food objects suspected of being toxic; \*\*\*at least 50 mL for Cantharidin analysis send-off; \*\*\*\*Whole blood in EDTA or heparinized blood tube and serum in RED TOP OR ROYAL BLUE TOP, IF NOT TESTING FOR Zn.  
\*\*\*\*\*The primary container is the vial, bag, can, etc. that the sample is in. The secondary container is the box or other sturdy container that the primary container is put in. In instances where there is potential for leakage, a tertiary container is recommended.

ANATOMIC PATHOLOGY (Specimens pooled at the pathologist's discretion for ancillary testing)		
Test Description	Price	Turnaround Time
<b>BIOPSY</b>		
Biopsy with Full Report - Up to 3 Sites (\$30 per additional site when > 3 sites) (Up to 3 IHC and 3 Special Stains as Determined by Pathologist)	\$80.00	3-5 Business Days or Less; Longer with Special Stains or IHC
BVD Immunohistochemistry (Ear Notches in 10% Buffered Formalin) Up to 6 Animals per Slide	\$36.50	3-5 Business Days
Dissection Fee for Large Surgical Biopsy	\$30.00	n/a
Immunohistochemistry (per antigen per sample) - positive and negative slide included	\$36.00	n/a
<b>DISPOSAL</b>		
Equine Incineration Fee (with necropsy)	\$190.00	(Additional charge added to necropsy)
Food Animal Incineration Fee (with necropsy) < 500 lbs / 500+ lbs.	\$50.00/150.00	(Additional charge added to necropsy)
Small Animal/Avian Disposal Fee (with necropsy)	\$12.00	(Additional charge added to necropsy)
<b>NECROPSY</b>		
Cosmetic Necropsy - Small Animals Only (Charged in Addition to the Regular Necropsy Fee)	\$225.00	Procedure with Necropsy
Fixed Tissue Exam - from necropsy (Histopathology with up to 3 IHC and 3 Special Stains as Determined by Pathologist)	\$113.00	3-5 Business Days or Less; Longer with Special Stains or IHC
Fresh and Fixed Tissue Exam plus Lab Tests - from necropsy Histopathology on Submitted Tissues plus Lab Tests (1 Animal, 50% off Each Additional Animal, Up to 3) <ul style="list-style-type: none"> <li>• All Necessary Tests (Excluding Toxicology) at Pathologist's Discretion.</li> <li>• Limit 1 PCR Panel or 4 Individual PCR Tests, 2 Cultures and 2 Susceptibilities.</li> </ul> Testing Not Listed will be an Extra Charge.	\$175.00	After Conclusion of Testing; at 5 Business Days Report with Histopath
Large Animal Spinal Exam / Small Animal Spinal Exam (In Addition to the Regular Necropsy Fee)	\$100.00 / \$80.00	Procedure with Necropsy
Gross Necropsy Only (1 Animal, 50% off Each Additional Animal, Up to 3)	\$84.00	2 Business Days
Necropsy (1 Animal, 50% off Each Additional Animal, Up to 3) with Histopathology - 2 IHC per case	\$105.00	7 Business Days
Necropsy with Histopathology and Lab Tests (1 Animal, 50% off Each Additional Animal, Up to 3) <ul style="list-style-type: none"> <li>• All Necessary Tests (Excluding Toxicology) at Pathologist's Discretion.</li> <li>• Limit 1 PCR panel or 4 Individual PCR tests and 2 Susceptibilities per Case.</li> </ul> Testing Not Listed will be an Extra Charge.	\$195.00	After Conclusion of Testing; at 5 Business Days Report with Histopath
Chronic Wasting Disease (CWD) IHC (Both sites). Dissection fee for heads/Disposal for bodies.	\$45.00	Contact Lab
Rabies Test** – Brain Submitted to MDHSS for Testing. (Whole Carcasses Subject to Disposal Fees)	\$36.50	Procedure Done on Day of Receipt, Result Times Vary; Usually 2 Business Days

See (P.4) Disposal section regarding additional charges for equine and food animal necropsy incineration fees.

\*Emergency/After-hours Necropsy: A \$100 emergency fee is added to the regular cost of service at the Pathologist's Discretion.

\*\* Note: necropsy and additional testing will be delayed until negative results are received.

WE DO NOT ACCEPT PRIMATES FOR NECROPSY

ANATOMIC PATHOLOGY (continued) (Specimens pooled at the pathologist's discretion for ancillary testing)		
Pathology Panel Description	Price	Turnaround Time
<p>Animal Abortion Panel</p> <p>Fixed Tissues for Histopathology:</p> <ul style="list-style-type: none"> <li>Liver, Lung, Kidney, Heart, Spleen, Brain, Skeletal Muscle, Placenta. Can Submit Other Organs as Needed.</li> </ul> <p>Bovine Fetal Fluid: Peritoneal, Pericardial, Thoracic (Pooled):</p> <ul style="list-style-type: none"> <li>Serology for <i>Neospora</i></li> </ul> <p>Refrigerated Tissues (Fetal Lung, Placenta, Stomach Fluid, and/or Spleen/Thymus/Kidney/Liver):</p> <ul style="list-style-type: none"> <li>2 Aerobic Cultures. Limit 2 Susceptibilities per Case.</li> <li>PCR for Bovine: BVD 1 and 2, <i>Leptospira</i>, IBR (<i>Neospora</i> on Fresh Skeletal Muscle/Brain, if Available)</li> <li>PCR for Canine: Herpesvirus</li> <li>PCR for Equine: EHV1 and EHV4, <i>Leptospira</i></li> <li>PCR for Porcine: <i>Leptospira</i>, PRRS, PCV-2</li> <li>PCR for Small Ruminants: <i>Toxoplasma gondii</i>, <i>Chlamydophila psittaci</i>, <i>Leptospira</i></li> </ul> <p>Testing Not Listed will be an Extra Charge.</p>	\$195.00	After Conclusion of Testing; at 5 Business Days Report with Histopath
<p>Food Animal Diarrhea Panel for Fecal Samples (Up to 3)</p> <p>Feces:</p> <ul style="list-style-type: none"> <li>Aerobic Bacterial Culture for <i>E. coli</i> and <i>Salmonella</i> spp. &amp; Anaerobic Culture for <i>C. perfringens</i> in Neonates. Limit 2 Susceptibilities per Case.</li> <li>Cryptosporidial Smears (Bovine Younger than 2 Weeks, Individual Testing)</li> <li>Fecal Flotation (Older than 3 Weeks)</li> </ul> <p>PCR:</p> <p>Calves: BVD 1 and 2, Bovine Coronavirus, Rotavirus</p> <p>Pigs: (Younger Pigs) TGE, PEDV, Delta Coronavirus, Rotavirus or (Older Pigs) <i>Brachyspira</i> spp., <i>Lawsonia intracellularis</i>, <i>Salmonella</i> spp.</p> <p>Testing Not Listed will be an Extra Charge.</p>	\$150.00	3 Business Days
<p>Food Animal Diarrhea Panel for Tissue Samples (1 Animal, 50% off Each Additional Animal, Up to 3)</p> <p>Fixed Tissues for Histopathology:</p> <ul style="list-style-type: none"> <li>Specimens of Forestomachs, Abomasum, and Large and Small Intestine</li> </ul> <p>Intestinal Contents:</p> <ul style="list-style-type: none"> <li>Cryptosporidial Smear (Bovine Younger than 2 Weeks, Individual Testing)</li> <li>Fecal Flotation - (Bovine Older than 3 Weeks)</li> </ul> <p>Refrigerated Small and Large Intestine:</p> <ul style="list-style-type: none"> <li>Aerobic Bacterial Culture: Small Intestine for <i>E. coli</i>, Liver or Large Intestine for <i>Salmonella</i> spp. Limit 2 Susceptibilities per Case.</li> <li>Anaerobic Bacterial Culture: Small Intestine for <i>Clostridium perfringens</i></li> </ul> <p>PCR:</p> <p>Calves: BVD 1 and 2, Bovine Coronavirus, Rotavirus</p> <p>Pigs: (Younger Pigs) TGE, PEDV, Delta Coronavirus, Rotavirus or (Older Pigs) <i>Brachyspira</i> spp., <i>Lawsonia intracellularis</i>, <i>Salmonella</i> spp.</p> <p>Testing Not Listed will be an Extra Charge.</p>	\$195.00	After Conclusion of Testing; at 5 Business Days Report with Histopath

**ANATOMIC PATHOLOGY (continued)**

(Specimens pooled at the pathologist's discretion for ancillary testing)

Pathology Panel Description	Price	Turnaround Time
Food Animal Respiratory Disease Panel for Tissue Samples (1 Animal, 50% off Each Additional Animal, Up to 3) Fixed Tissues for Histopathology: <ul style="list-style-type: none"> <li>• Lung (Abnormal with Contiguous Tissue) and Other Affected Respiratory Tissues</li> </ul> Refrigerated Tissues: <ul style="list-style-type: none"> <li>• Aerobic Culture of Lung Limit 2 Susceptibilities per Case.</li> </ul> PCR (refrigerated lung): <ul style="list-style-type: none"> <li>• Bovine: BVD 1 and 2, BRSV, IBR, PI3</li> <li>• Porcine: <i>M. hyopneumoniae</i>, PCV2, PRRSV</li> <li>• Small Ruminant: PI3, BRSV</li> </ul> Testing Not Listed will be an Extra Charge.	\$195.00	After Conclusion of Testing; at 5 Business Days Report with Histopath

See (P.4) Disposal section regarding additional charges for equine and food animal necropsy incineration fees

\*Emergency/After-hours Necropsy: A \$100 emergency fee is added to the regular cost of service at the Pathologist's Discretion.

WE DO NOT ACCEPT PRIMATES FOR NECROPSY

**AVIAN PATHOLOGY**

Test Description	Price	Turnaround Time
Avian Fungal Culture (Litter)	\$29.00	Up to 3 Weeks
Avian Influenza Virus AGID	\$3.25	2-3 Business Days
ELISA Chicken (IBV, NDV, MG/MS, AE, REO, or IBD)	\$3.25	3-4 Business Days
ELISA Turkey (Bordetella, HEV, NDV, MG/MS, or REO)	\$3.25	3-4 Business Days
Hemorrhagic Enteritis Virus (HEV) - AGID	\$3.25	2-3 Business Days
<i>M. gallisepticum</i> / <i>M. synoviae</i> ELISA Combo - Chicken or Turkey	\$4.00	2-3 Business Days
<i>Mycoplasma</i> ( <i>M. gallisepticum</i> (MG), <i>M. synoviae</i> (MS), or <i>M. meleagridis</i> (MM)) - HI	\$3.25	1-2 Business Days
<i>Mycoplasma</i> Rapid Plate Test (MG, MS, or MM)	\$2.75	1-2 Business Days
Newcastle Disease Virus (NDV) - HI	\$3.25	1-2 Business Days
<i>Ornithobacterium Rhinotracheale</i> ELISA	\$5.00	3-4 Business Days
<i>Salmonella pullorum</i> Tube Agglutination Test	\$2.75	1-2 Business Days
<i>Salmonella typhimurium</i> Tube Agglutination Test	\$2.75	1-2 Business Days
<b>NECROPSY</b>		
Avian Gross Necropsy Only	\$65.00	2 Business Days
Avian Fixed Tissue Histopathology (Up to 3 Birds)	\$75.00	3-5 Business Days
Avian Necropsy with Histopathology	\$95.00	3-5 Business Days
Avian Necropsy with Bacteriology, Histopathology, Parasitology, PCR, Serology (Limit three of each test)	\$195.00	7 Business Days

## BACTERIOLOGY

(Shipped on ice)

Test Description	Price	Turnaround Time
16S Bacterial Sequencing	\$32.00	5-7 Business Days
Aerobic Bacterial Culture - Companion Animal (Excluding Blood Samples)	\$29.00	2-3 Business Days
Aerobic and Anaerobic Culture Combo - Companion Animal	\$42.00	4 Business Days
Aerobic and Anaerobic Combo & Up to 3 Aerobic Susceptibilities for 1 Specimen (Fixed Price; Must Select at Submission)	\$124.00	4-5 Business Days
Aerobic Bacterial Culture with Up to 3 Susceptibilities for 1 Specimen (Fixed Price; Must Select at Submission)	\$119.00	4 Business Days
Anaerobic Antimicrobial Susceptibility Testing (Recommended for <i>Bacteroides</i> spp.)	\$54.00	2-3 Business Days
Abortion Screen	\$49.00	5-7 Business Days
Antimicrobial Removal Resin - For Fluid Samples From Animals Treated with Antimicrobials	\$18.00	n/a
Antimicrobial Susceptibility Test (MIC)- Per Organism	\$32.00	2-3 Business Days
Blood Culture (Sterile-site fluid)	\$43.00	8-10 business days
Contagious Equine Metritis (CEM, Per Swab)	\$33.00	Call Lab for Special Instructions
Enteric Screen	\$59.00	4-6 Business Days
E-test Single Drug Susceptibility (amikacin, fosfomycin, linezolid)	\$22.00	1-2 Business Days
Fluorescent antibody screen for <i>Clostridium</i> spp	\$44.00	3 Business Days
Fungal Culture - Dermatophyte	\$22.00	14-30 business days
Fungal Culture - Systemic	\$29.00	14-30 business days
ITS/D2 Fungal Sequencing	\$43.00	7-10 business days
Joint Aspirate Culture (Sterile-site fluid)	\$43.00	8-10 business days
<i>Listeria</i> Enrichment Culture - Companion Animal	\$43.00	3-4 Business Days
Mastitis Antimicrobial Susceptibility Test (MIC) (Up to 2 Organisms)	\$32.00	2-3 business days
Microscopic Examination of Specimen (Dark Field, Phase Contrast, etc.)	\$16.00	1 business day
Ophthalmology Antimicrobial Susceptibility Panel (MIC) (Up to 2 Organisms)	\$35.00	2-3 business days
Pleural, Peritoneal or Cerebrospinal Fluid Culture (Sterile-site fluid)	\$43.00	8-10 business days
<i>Salmonella</i> Culture	\$29.00	4-7 business days
Sample Preparation for Tissues	\$25.00	n/a
Yeast Antimicrobial Susceptibility	\$58.00	10 business days



**CLINICAL PATHOLOGY: COAGULATION**

(Transfer plasma from a properly filled sodium citrate tube into a plastic tube and freeze until shipment. Ship sample overnight on ice packs.  
For species other than equine, canine, and feline also send sodium citrate plasma from a normal animal.)

Test Description	Price	Turnaround Time
Activated Partial Thromboplastin Time (APTT) / Prothrombin Time (PT) Combo	\$45.00	1 Business Day
Activated Partial Thromboplastin Time (APTT)	\$24.00	1 Business Day
Prothrombin Time (PT)	\$24.00	1 Business Day
Coagulation Panel 1 (D-Dimer, PT, PTT)	\$81.00	1 Business Day
Coagulation Panel 2 (D-Dimer, PT, PTT) + Fibrinogen	\$100.00	1 Business Day
D-Dimer	\$48.50	1 Business Day
Fibrinogen - Automated	\$30.00	1 Business Day

**CLINICAL PATHOLOGY: HEMATOLOGY**

(Submit EDTA-anticoagulated whole blood along with freshly made smears)

Test Description	Price	Turnaround Time
Blood Parasite Exam	\$21.00	1 Business Day
Blood Smear Exam, Comprehensive	\$35.50	1 Business Day
Buffy Coat	\$32.00	1 Business Day
CBC, Equine (Slide Review and Fibrinogen)	\$35.00	1 Business Day
CBC, Small Animal (Reticulocytes and Slide Review)	\$31.00	1 Business Day
CBC, Small Animal + Plasma TP (Slide Review, Reticulocytes and Plasma Total Protein)	\$35.00	1 Business Day
CBC, Large Animal (Slide Review, Reticulocytes and Fibrinogen)	\$35.00	1 Business Day
Coombs' (Direct) Canine Only	\$38.50	1 Business Day
Fibrinogen (Heat Precipitation Method)	\$11.00	1 Business Day
Knott's Test (Heartworm Microfilaria) See P.16 for Heartworm Antigen - ELISA Serology Test	\$19.50	1 Business Day
Platelet Count	\$17.50	1 Business Day

**CLINICAL PATHOLOGY CHEMISTRY PANELS**

(Serum or Lithium Heparinized plasma, 0.5 ml for 6 individual chemistries or less, 1 ml for panels of 7 or more tests. Separate serum or plasma from the cells within 1 hour of collection and submit in a separate tube. Ship sample overnight on ice packs, Monday -Thursday.)

Test Description	Price	Turnaround Time
<b>GENERAL</b>		
Electrolyte and Mineral Panel (Bicarb, Ca, Cl, K, Mg, Na)	\$18.25	1 Business Day
Critical Care Profile Panel (Alb, Creat, K, Mg, Na, Phos, T.Bili, UN)	\$25.50	1 Business Day
Renal Panel (Alb, Ca, Cl, Creat, K, Na, Phos, UN)	\$25.50	1 Business Day
<b>AVIAN</b>		
Avian Maxi Panel (ALP, ALT, An.Gap, AST, Bicarb, Ca, CK, Cl, Creat, GGT, GLDH, Gluc, K, Na, Phos, TP, UN, Uric Acid)	\$38.50	1 Business Day
Avian Mini Panel (AST, Ca, Gluc, GGT, GLDH, TP, Uric Acid)	\$24.00	1 Business Day
<b>EQUINE</b>		
Equine Maxi Panel (Alb, An.Gap, AST, Bicarb, Ca, CK, Cl, Creat, D.Bili, GGT, GLDH, Glob, Gluc, K, Mg, Na, Phos, T.Bili, TP, Trig, UN)	\$40.00	1 Business Day

Ship clinical pathology biodegradable samples (blood, serum, urine, fluids and feces) on a cold pack OVERNIGHT. Only slides can be shipped without a cold pack.

**CLINICAL PATHOLOGY CHEMISTRY PANELS (CONTINUED)**

(Serum or Lithium Heparinized plasma, 0.5 ml for 6 individual chemistries or less, 1 ml for panels of 7 or more tests. Separate serum or plasma from the cells within 1 hour of collection and submit in a separate tube. Ship sample overnight on ice packs, Monday -Thursday.)

Test Description	Price	Bulk Price	Turnaround Time
<b>EQUINE</b>			
Equine Mini Panel (Alb, An.Gap, Bicarb, Ca, CK, Cl, Creat, GGT, Glob, Gluc, K, Na, Phos, TP, UN)	\$27.00		1 Business Day
<b>FOOD ANIMAL</b>			
Food Animal Maxi Panel (Alb, An.Gap, AST, Bicarb, Ca, CK, Cl, Creat, D.Bili, GGT, GLDH, Glob, Gluc, K, Mg, Na, Phos, T.Bili, TP, UN)	\$40.00		1 Business Day
Food Animal Mini Panel (Alb, Ca, CK, Cl, Creat, GGT, Glob, K, Mg, Na, Phos, TP, UN)	\$29.00		1 Business Day
Large Animal Liver Panel (Alb, AST, D.Bili, GGT, GLDH, Glob, T.Bili, TP)	\$25.00		1 Business Day
<b>SMALL ANIMAL</b>			
Small Animal Liver Panel (Alb, ALP, ALT, Chol, Glob, GGT, Glu, T.Bili, TP, UN)	\$28.50		1 Business Day
Small Animal Maxi Panel (Alb, ALP, ALT, An.Gap, Bicarb, Ca, Chol, CK, Cl, Creat, GGT, Glob, Gluc, K, Mg, Na, Phos, T.Bili, TP, UN)	\$40.00		1 Business Day
Small Animal Maxi Panel + Total T4 - Canine and Feline Serum Only	\$63.00		1 Business Day
Small Animal Mini Panel (Alb, ALP, ALT, Ca, Glob, Gluc, K, Na, Phos, TP, UN)	\$31.00		1 Business Day

**CLINICAL PATHOLOGY: CHEMISTRY**

(Serum or Lithium Heparinized plasma, 0.5 ml for 6 individual chemistries or less, 1 ml for panels of 7 or more tests. Separate serum or plasma from the cells within 1 hour of collection and submit in a separate tube. Ship sample overnight on ice packs, Monday -Thursday.)

Test Description	Price	Bulk Price	Turnaround Time
Bile Acid - Pre or Single - (Avoid hemolysis. Samples with moderate or marked hemolysis will have decreased results)	\$25.00		1 Business Day
Bile Acid - Post	\$25.00		1 Business Day
Foal IgG Snap Test	\$36.00		1 Business Day
Ionized Calcium - (Lithium Heparin Whole Blood Only; Must be Received at Lab within 30 Minutes of Collection)	\$32.00		1 Business Day
Osmolality (Measured)	\$25.00		1 Business Day
Phenobarbital Level - Serum	\$29.00		1 Business Day

**CLINICAL PATHOLOGY: INDIVIDUAL CHEMISTRY ADD-ON TESTS**

(Serum or Lithium Heparinized plasma, 0.5 ml for 6 individual chemistries or less, 1 ml for panels of 7 or more tests. Separate serum or plasma from the cells within 1 hour of collection and submit in a separate tube. Ship sample overnight on ice packs, Monday -Thursday.)

**\$9.75 Per Test****1 Business Day**

Alanine Aminotransferase (ALT)	Calcium (Ca)	Magnesium (Mg)
Albumin (ALB)	Chloride (Cl)	Phosphorus, inorganic (Phos)
Alkaline Phosphatase (ALP)	Cholesterol (Chol)	Potassium (K)
Aspartate Aminotransferase (AST)	Creatine Kinase (CK)	Protein, Total (TP)
Bicarbonate	Creatinine (Creat)	Sodium (Na)
Bilirubin, Direct (D. Bili)	Gamma Glutamyltransferase (GGT)	Triglyceride (Trig)
Bilirubin, Total (T. Bili)	GLDH	Uric Acid
Blood Urea Nitrogen or Urea Nitrogen (BUN or UN)	Glucose (Gluc)	

Ship clinical pathology biodegradable samples (blood, serum, urine, fluids and feces) on a cold pack OVERNIGHT. Only slides can be shipped without a cold pack.

**CLINICAL PATHOLOGY: ENDOCRINOLOGY**

(Ship samples overnight on ice packs, Monday - Thursday)

Test Description	Price	Turnaround Time
Cortisol - Single - Serum	\$28.00	1 Business Day
ACTH Stimulation - 2 Serum Samples	\$52.50	1 Business Day
Dexamethasone Suppression - 2 Serum Samples	\$52.50	1 Business Day
Dexamethasone Suppression - 3 Serum Samples	\$71.00	1 Business Day
Endogenous ACTH (Equine Only, Call Lab for Submission Instructions) - EDTA Plasma	\$47.50	1 Business Day
Free T4 - Canine and Feline Serum Only	\$30.00	1 Business Day
Insulin - Glucose - Equine Serum Only	\$35.00	1 Business Day
Phenobarbital Level - Serum	\$29.00	1 Business Day
Progesterone - Serum	\$20.00	1 Business Day
Total T4 - Canine and Feline Serum Only	\$27.00	1 Business Day
TSH - Canine Serum Only	\$31.50	1 Business Day
Thyroid Panel 1 (Total T4 and TSH) Canine Serum Only	\$48.50	1 Business Day
Thyroid Panel 2 (Free T4, T4, TSH) Canine Serum Only	\$63.00	1 Business Day
Thyroid Panel 3 (Free T4 and TSH) Canine Serum Only	\$54.00	1 Business Day

**CLINICAL PATHOLOGY: URINALYSIS**

(Ship 5-10 mL of urine overnight on ice packs, Monday - Thursday)

Test Description	Price	Turnaround Time
Calcium (Ca)	\$13.00	1 Business Day
Chloride (Cl)	\$13.00	1 Business Day
Creatinine (Creat)	\$13.00	1 Business Day
Gamma-Glutamyl Transferase (GGT)	\$13.00	1 Business Day
Glucose (Gluc)	\$13.00	1 Business Day
Osmolality (Measured)	\$21.00	1 Business Day
Phosphorus (Phos)	\$13.00	1 Business Day
Potassium (K)	\$13.00	1 Business Day
Protein/Creatinine Ratio	\$22.00	1 Business Day
Sodium (Na)	\$13.00	1 Business Day
Urea Nitrogen (UN)	\$13.00	1 Business Day
Urinalysis (Complete) 5-10 ml; Contact Lab	\$23.00	1 Business Day

Ship clinical pathology biodegradable samples (blood, serum, urine, fluids and feces) on a cold pack OVERNIGHT. Only slides can be shipped without a cold pack.

**CLINICAL PATHOLOGY: PARASITOLOGY**

(Ship feces overnight on ice packs, Monday -Thursday)

Test Description	Price	Bulk Price	Turnaround Time
Baermann Sedimentation	\$22.50		2 Business Days
<i>Cryptosporidia</i> Exam	\$19.75		1-2 Business Days
Fecal Egg Count	\$20.00	(10+) \$17.00 each	1 Business Day
Fecal Flotation	\$17.50		1 Business Day
Knott's Test (Heartworm Microfilaria)    See P.16 for Heartworm Antigen - ELISA Serology Test	\$19.50		1 Business Day
Occult Blood	\$14.00		1 Business Day
SNAP® 4DX® Plus	\$30.00		1 Business Day

**CLINICAL PATHOLOGY: CYTOLOGY AND FLUID ANALYSIS**

(See Collection and Preparation of Specimens on P.2)

Test Description	Price	Turnaround Time
Bone Marrow Aspirate	\$51.00	1-2 Business Days
Bone Marrow Core Biopsy Evaluation	\$80.00	3-5 Business Days
Bronchoalveolar Lavage (BAL) Analysis	\$41.00	1-2 Business Days
CSF Analysis	\$51.00	1-2 Business Days
Cytological Examination (Tissue or Fluid) - per site, number of slides per site unlimited	\$40.00	1-2 Business Days
Multiple Lymph Node Cytology (Up to 4 Lymph Nodes, unlimited number of slides per site)	\$60.00	1-2 Business Days
Multiple Synovial Fluid Cytology (Slides From Up to 3 Joints)	\$60.00	1-2 Business Days
Peritoneal/Pleural/Pericardial Fluid Analysis (Color, Transparency, Total Nucleated Cell Count, Sp. Gr., TP, PCV, Cytologic Exam)	\$49.00	1-2 Business Days
Synovial Fluid Analysis (Color, Transparency, Total Nucleated Cell Count, Sp. Gr., TP, PCV, Cytologic Exam)	\$49.00	1-2 Business Days

**MOLECULAR DIAGNOSTICS**

(Depending on the type of PCR tests, EDTA blood, CNS fluid, feces, swabs, tissues may be preferred. Call for details.)

Test Description	Price	Bulk Price	Turnaround Time
<b>AVIAN</b>			
Avian Influenza Virus qRT-PCR - Wild and Pet Birds	\$38.00	(3+) \$35.00 each / (10+) \$30.00 each	1-2 Business Days
Avian Influenza Virus qRT-PCR - Poultry	\$32.00		1-2 Business Days
Avian Paramyxovirus Matrix Gene qRT-PCR	\$38.00		1-2 Business Days
Exotic Newcastle Disease Virus (ENDV) Typing	\$28.00		1-2 Business Days
Infectious Laryngotracheitis (ILT) qPCR	\$32.00		1-2 Business Days
<i>Mycoplasma gallisepticum</i> and <i>Mycoplasma synoviae</i> qPCR	\$42.00		1-2 Business Days
Avian Health Panel - AI, MG, MS, PMV	\$85.00		1-2 Business Days



## MOLECULAR DIAGNOSTICS (continued)

(Depending on the type of PCR tests, EDTA blood, CNS fluid, feces, swabs, tissues may be preferred. Call for details.)

Test Description	Price	Bulk Price	Turnaround Time
BOVINE (RUMINANT)			
<i>Anaplasma marginale</i> qPCR (EDTA Whole Blood or Fresh Tissue Only)	\$38.00	(3+) \$34.00 each / (10+) \$32.00 each	1-2 Business Days
Bluetongue Virus qRT-PCR	\$38.00	(3+) \$34.00 each / (10+) \$32.00 each	1-2 Business Days
Bovine Coronavirus Gel RT-PCR	\$38.00	(3+) \$34.00 each / (10+) \$32.00 each	1-2 Business Days
Bovine Leukosis Virus (BLV) Gel PCR - EDTA Blood	\$38.00	(3+) \$34.00 each / (10+) \$32.00 each	1-2 Business Days
Bovine Parainfluenza Virus (PI3) qRT-PCR	\$38.00	(3+) \$34.00 each / (10+) \$32.00 each	1-2 Business Days
Bovine Respiratory Syncytial Virus (BRSV) qRT-PCR	\$38.00	(3+) \$34.00 each / (10+) \$32.00 each	1-2 Business Days
Bovine Viral Diarrhea Virus (BVDV 1 and 2) qRT-PCR (EDTA (purple-top) tube for blood)	\$34.00	(3+) \$28.00 each	1-2 Business Days
Bovine Viral Diarrhea Virus Persistent Infection (PI) Pooling (Up to 10 Ear Notches)	\$63.00		1-2 Business Days
Epizootic Hemorrhagic Disease (EHD) Gel RT-PCR	\$38.00	(3+) \$34.00 each / (10+) \$32.00 each	1-2 Business Days
Infectious Bovine Rhinotracheitis Virus (IBR) qPCR	\$38.00	(3+) \$34.00 each / (10+) \$32.00 each	1-2 Business Days
John's Direct qPCR on Feces (Set Up Every Other Week)	\$30.00		5-7 Business Days
John's Pooled PCR (Up to 5 Samples)	\$42.00		5-7 Business Days
<i>Mycoplasma bovis</i> Gel PCR	\$38.00	(3+) \$34.00 each / (10+) \$32.00 each	1-2 Business Days
<i>Mycoplasma bovoculi</i> Gel PCR	\$38.00		1-2 Business Days
<i>Neospora caninum</i> qPCR (Abortion Tissues)	\$38.00		1-2 Business Days
<i>Tritrichomonas foetus</i> qPCR (inoculated in pouch) (Received within 48 Hours of Collection, Room Temperature)	\$25.00		1-2 Business Days
<i>Tritrichomonas foetus</i> qPCR (preputial wash in saline) (Received within 5 Days of Collection, on Ice)	\$25.00		1-2 Business Days
<i>Tritrichomonas foetus</i> Pooled (Up to 5)	\$46.00		1-2 Business Days
Bovine Abortion Panel: Bovine Viral Diarrhea Virus (BVD), Infectious Bovine Rhinotracheitis Virus (IBR), <i>Leptospira</i> (Pathogenic) spp, <i>Neospora</i>	\$78.00		1-2 Business Days
Bovine Enteric Panel: Bovine Coronavirus (BCV), Rotavirus group A, Bovine Viral Diarrhea Virus (BVDV) 1 and 2	\$78.00		1-2 Business Days
Bovine Viral Respiratory Panel: Bovine Respiratory Syncytial Virus (BRSV), Bovine Viral Diarrhea Virus (BVDV) 1 and 2, Infectious Bovine Rhinotracheitis Virus (IBR), Parainfluenza Type 3 (PI3)	\$80.00		1-2 Business Days
Bovine Pink Eye Panel: Infectious Bovine Rhinotracheitis Virus (IBR), <i>Mycoplasma bovis</i> , <i>Mycoplasma bovoculi</i>	\$75.00	(3+) \$65.00 each	1-2 Business Days
CANINE			
Canine Adenovirus Gel PCR	\$40.00		1-2 Business Days
Canine Coronavirus Gel RT-PCR	\$40.00		1-2 Business Days
Canine Distemper Virus qRT-PCR	\$40.00		1-2 Business Days
Canine Distemper Virus - Differentiation of Wild Type CDV from Vaccine Strain in Positive Samples	\$63.00	(additional add on pricing)	3-4 Business Days
Canine Enteric Panel: Canine Coronavirus (CCV), Canine Parvovirus, Canine Parvovirus	\$84.00		1-2 Business Days
Canine Herpesvirus qPCR	\$40.00		1-2 Business Days

## MOLECULAR DIAGNOSTICS (continued)

(Depending on the type of PCR tests, EDTA blood, CNS fluid, feces, swabs, tissues may be preferred. Call for details.)

Test Description	Price	Bulk Price	Turnaround Time
CANINE (CONTINUED)			
Canine Viral Respiratory Panel: Canine Distemper Virus, Influenza A, Canine Adenovirus	\$86.00		1-2 Business Days
<i>Neospora caninum</i> qPCR - CNS, Skeletal Muscle or Feces	\$40.00		1-2 Business Days
EQUINE			
Equine Arteritis Virus (EAV) qRT-PCR	\$41.00		1-2 Business Days
Equine Coronavirus (ECov) qPCR	\$41.00		1-2 Business Days
Equine Herpesvirus 1 & 4 qPCR	\$42.00		1-2 Business Days
Equine Herpesvirus 1 Genotyping	\$81.00		2-3 Business Days
<i>Lawsonia intracellularis</i> qPCR	\$41.00		1-2 Business Days
<i>Neorickettsia risticii</i> /Potomac Horse Fever qPCR - EDTA Blood or Feces	\$41.00		1-2 Business Days
<i>Rhodococcus equi</i> qPCR	\$41.00		1-2 Business Days
<i>Streptococcus equi</i> sp <i>equi</i> qPCR	\$41.00		1-2 Business Days
Equine Enteric Panel: <i>Salmonella</i> (Feces), <i>Lawsonia</i> (Feces or Tissue), Potomac Horse Fever - EDTA Blood and Feces	\$92.00		1-2 Business Days
Equine Enteric Panel: plus <i>C difficile</i> toxin A&B and <i>C perfringens</i> toxin ELISA (Call for Instructions)	\$140.00		1-2 Business Days
Equine Neonatal/Foal Enteric Panel: Rotavirus A PCR, <i>Salmonella</i> PCR, <i>C difficile</i> toxin A&B and <i>C perfringens</i> toxin ELISA	\$96.00		1-2 Business Days
Equine Neurologic Panel: Herpesvirus PCR (EDTA Blood and Deep Nasal Swab) and WNV IgM ELISA (EDTA Blood or Serum); or WNV qPCR on Postmortem CNS Tissue	\$88.00		1-2 Business Days
Equine Respiratory Panel: Equine Herpesvirus 1 & 4 (EHV) and Influenza Type A	\$75.00		1-2 Business Days
FELINE			
Feline Calicivirus qPCR - Oral, Nasal or Eye Fluid/Swab or Postmortem Tissue	\$42.00		1-2 Business Days
Feline Herpesvirus Gel PCR	\$42.00		1-2 Business Days
Feline Infectious Peritonitis Virus/Feline Enteric Coronavirus (FIPV, FeCV) Gel RT-PCR	\$50.00		1-2 Business Days
Feline Upper Respiratory Panel: <i>Chlamydophila</i> , Feline Calicivirus, Feline Herpesvirus, <i>Mycoplasma</i>	\$120.00		1-2 Business Days
<i>Tritrichomonas foetus</i> - Feline	\$42.00		2-3 Business Days
PORCINE			
<i>Brachyspira</i> spp. qPCR	\$39.00	(3+) \$34.00 each / (10+) \$32.00 each	1-2 Business Days
Classic Swine Fever Virus qRT-PCR	\$50.00		1 Business Day
Foot-and-Mouth Disease (FMD) qRT-PCR	\$50.00		1 Business Day
<i>Haemophilus parasuis</i> Gel PCR	\$39.00	(3+) \$34.00 each / (10+) \$32.00 each	1-2 Business Days
<i>Lawsonia intracellularis</i> qPCR	\$39.00	(3+) \$34.00 each / (10+) \$32.00 each	1-2 Business Days
<i>Mycoplasma hyopneumoniae</i> Gel PCR	\$39.00	(3+) \$34.00 each / (10+) \$32.00 each	1-2 Business Days

## MOLECULAR DIAGNOSTICS (continued)

(Depending on the type of PCR tests, EDTA blood, CNS fluid, feces, swabs, tissues may be preferred. Call for details.)

Test Description	Price		Bulk Price	Turnaround Time
PORCINE (CONTINUED)				
Porcine Circovirus 2 (PCV 2) qRT-PCR	\$39.00	(3+) \$34.00 each / (10+) \$32.00 each		1-2 Business Days
Porcine Circovirus 3 (PCV 3) qRT-PCR	\$39.00	(3+) \$34.00 each / (10+) \$32.00 each		1-2 Business Days
Porcine Delta Coronavirus qRT-PCR	\$39.00	(3+) \$34.00 each / (10+) \$32.00 each		1-2 Business Days
Porcine Epidemic Diarrhea Virus (PEDV) qRT-PCR	\$39.00	(3+) \$34.00 each / (10+) \$32.00 each		1-2 Business Days
Porcine Parvovirus qPCR	\$39.00	(3+) \$34.00 each / (10+) \$32.00 each		1-2 Business Days
Porcine Reproductive and Respiratory Syndrome Virus (PRRSV) qRT-PCR	\$39.00	(3+) \$34.00 each / (10+) \$32.00 each		1-2 Business Days
Porcine Reproductive and Respiratory Syndrome Virus Sequencing (ORF5 Gene)	\$115.00			5-7 Business Days
Senecavirus A (SVA) qRT-PCR	\$39.00	(3+) \$34.00 each / (10+) \$32.00 each		1 Business Day
Swine Influenza Virus (SIV) qRT-PCR	\$39.00	(3+) \$34.00 each / (10+) \$32.00 each		1 Business Day
Transmissible Gastroenteritis Virus (TGEV) Gel qRT-PCR	\$39.00	(3+) \$34.00 each / (10+) \$32.00 each		1-2 Business Days
Porcine Enteric Panel I (Younger Pigs): Delta Coronavirus, PEDV, Rotavirus A, TGEV	\$90.00			1-2 Business Days
Porcine Enteric Panel 2 (Older Pigs): <i>Brachyspira</i> spp., <i>Lawsonia intracellularis</i> , <i>Salmonella</i> spp	\$76.00			1-2 Business Days
Porcine Respiratory: Influenza A, <i>Mycoplasma hyopneumoniae</i> , PCV 2, PRRSV	\$90.00			1-2 Business Days
GENERAL				
<i>Anaplasma</i> spp. Sybr qPCR	\$42.00			1-2 Business Days
<i>Borrelia burgdorferi</i> (Lyme Disease) Sybr qPCR	\$40.00			1-2 Business Days
<i>Chlamydomphila psittaci</i> (including <i>C. felis</i> , <i>C. abortus</i> ) Gel PCR	\$40.00			1-2 Business Days
COVID-19 qPCR	\$50.00			1-2 Business Days
<i>Ehrlichia</i> spp. Sybr qPCR	\$39.00			1-2 Business Days
<i>Haemoplasma</i> spp. ( <i>M. haemofelis</i> , <i>M. canis</i> , <i>M. haemolama</i> ) qPCR	\$44.00	(3+) \$34.00 each		1-2 Business Days
Influenza A (Canine, Equine, Other) qRT-PCR	\$40.00			1 Business Day
<i>Leptospira</i> (Pathogenic) qPCR	\$38.00	(3+) \$34.00 each		1-2 Business Days
<i>Mycoplasma</i> spp. and Sequencing	\$58.00			5-7 Business Days
Parvovirus (Canine, Feline) qRT-PCR Variant Typing	\$39.00			1-2 Business Days
<i>Rhodococcus equi</i> qPCR	\$41.00			1-2 Business Days
<i>Rickettsia rickettsii</i> (Rocky Mountain Spotted Fever) Sybr qPCR	\$39.00			1-2 Business Days
Rotavirus group A (Mammalian and Avian) Gel RT-PCR	\$40.00	(3+) \$34.00 each / (10+) \$32.00 each		1-2 Business Days
<i>Salmonella</i> spp. Gel PCR	\$34.00	(3+) \$31.00 each		1-2 Business Days
<i>Strepococcus equi sp equi</i> qPCR	\$41.00			1-2 Business Days
<i>Toxoplasma gondii</i> Gel PCR	\$40.00			2-3 Business Days
West Nile Virus (Mammalian, Avian) qRT-PCR	\$40.00			1-2 Business Days
Tick Panel ( <i>Anaplasma</i> spp., <i>Borrelia burgdorferi</i> , <i>Ehrlichia</i> spp., and <i>Rickettsia</i> spp.) – EDTA Blood	\$88.00			1-2 Business Days

## SEROLOGY/IMMUNOLOGY

(Unless otherwise specified below submit 1 ml serum, red top or separator tube shipped on ice. For other samples types call the lab for details)

Test Description	Price	Bulk Price	Turnaround Time
<i>Anaplasma marginale</i> ELISA	\$12.50	(10+) \$9.75 each / (50+) \$6.50 each	1-3 Business Days
<i>Anaplasma phagocytophilum</i> IFA	\$28.00		1-2 Business Days
<i>Aspergillus</i> spp. AGID	\$20.50		2-3 Business Days
<i>Blastomyces dermatitidis</i> AGID	\$20.50		2-3 Business Days
<i>Blastomyces dermatitidis</i> and <i>Histoplasma capsulatum</i> AGID	\$36.75		2-3 Business Days
Bluetongue ELISA	\$8.75	(10+) \$6.50 each	1-3 Business Days
<i>Borrelia burgdorferi</i> (Lyme Disease) Titer IFA	\$24.00		1-2 Business Days
Bovine Leukosis Virus (BLV) ELISA	\$9.00	(10+) \$8.25 each / (50+) \$6.50 each	1-3 Business Days
Bovine Respiratory Syncytial Virus (BRSV) SN (Set Up Monday, Tuesday and Friday)	\$9.50	(10+) \$7.75 each / (50+) \$7.00 each	4-7 Business Days
Bovine Viral Diarrhea Virus (BVD) Type 1 SN (Set Up Monday, Tuesday and Friday)	\$10.25	(10+) \$8.25 each	4-7 Business Days
Bovine Viral Diarrhea Virus (BVD) Type 2 SN (Set Up Monday, Tuesday and Friday)	\$10.25	(10+) \$8.25 each	4-7 Business Days
<i>Brucella abortus</i> /suis Card	\$4.50		1 Business Day
<i>Brucella abortus</i> /suis Card and Pseudorabies Virus ELISA	\$10.25		1-3 Business Days
<i>Brucella</i> Rapid Ab Test (Canine Brucellosis)	\$18.25		2-3 Business Days
CAE and OPP Detection (Small Ruminant Lentivirus) ELISA	\$12.00	(10+) \$8.00 each / (30+) \$7.00 each	1-3 Business Days
Canine Distemper IgG Titer IFA	\$25.00		1-2 Business Days
Canine Distemper IgM Titer IFA	\$25.00		1-2 Business Days
Canine Distemper Parvo Vaccine Titer ELISA	\$24.00		1-3 Business Days
Canine Parvovirus IgG Titer IFA	\$25.00		1-2 Business Days
Canine Parvovirus IgM Titer IFA	\$25.00		1-2 Business Days
Chronic Wasting Disease (CWD) ELISA - (fresh obex, fresh retropharyngeal lymph node)	\$22.50		Contact Lab
Coccidioidomycosis AGID	\$20.50		2-3 Business Days
<i>Cryptococcus neoformans</i> Antibody Tube Agglutination	\$20.50		2 Business Days
<i>Cryptococcus neoformans</i> Antigen Latex Agglutination	\$21.50		2 Business Days
<i>Cryptosporidium parvum</i> and <i>Giardia</i> FA - (feces)	\$27.25		1-2 Business Days
<i>Ehrlichia canis</i> Titer IFA	\$27.00		1-2 Business Days
Epizootic Hemorrhagic Disease Virus (EHDV) AGID	\$12.00	(10+) \$9.25 each / (50+) \$7.00 each	2-3 Business Days
Equine Herpesvirus (Equine Rhinopneumonitis) SN (Set Up Monday, Tuesday and Friday)	\$14.50		4-7 Business Days
Equine Infectious Anemia (EIA) ELISA	\$8.75		1 Business Day
Equine Infectious Anemia (EIA) AGID	\$9.00		2-3 Business Days
Equine Viral Arteritis SN (Set Up Monday, Tuesday and Friday)	\$20.50		4-7 Business Days
Feline Infectious Peritonitis (FIP) Titer IFA - (serum, pleural/peritoneal fluid)	\$26.25		1-2 Business Days
Feline Immunodeficiency Virus (FIV), Feline Leukemia Virus (FELV), and <i>Dirofilaria immitis</i> 3 Way Snap Test - (serum, plasma, EDTA whole blood)	\$39.50		1 Business Day



## SEROLOGY/IMMUNOLOGY (continued)

(Unless otherwise specified below submit 1 ml serum, red top or separator tube shipped on ice. For other samples types call the lab for details)

Test Description	Price	Bulk Price	Turnaround Time
Feline Leukemia Virus (FLV) IFA - (bone marrow aspirate, EDTA whole blood, fresh spleen)	\$28.75		1-3 Business Days
Heartworm Antigen ELISA See P.8 Knott's Test (Heartworm Microfilaria) - Clin Path: Hematology	\$15.75		1-3 Business Days
<i>Histoplasma capsulatum</i> AGID	\$20.50		2-3 Business Days
Infectious Bovine Rhinotracheitis Virus (IBR) SN (Set Up Monday, Tuesday and Friday)	\$9.50	(10+) \$8.25 each	4-7 Business Days
Johne's ( <i>Mycobacterium paratuberculosis</i> ) ELISA	\$10.00	(10+) \$8.50 each / (50+) \$6.00 each	1-3 Business Days
Leptospirosis 6 Serovars Titer MAT (Set Up Tuesday and Friday)	\$17.50		2-3 Business Days
<i>Mycoplasma hyopneumoniae</i> ELISA	\$7.50	(10+) \$7.25 each / (50+) \$6.75 each	1-3 Business Days
<i>Neospora caninum</i> ELISA	\$8.25	(10+) \$7.50 each / (50+) \$6.75 each	1-3 Business Days
Parainfluenza 3 Virus (PI3) SN (Set Up Monday, Tuesday and Friday)	\$9.25	(10+) \$7.50 each / (50+) \$6.50 each	4-7 Business Days
Porcine Reproductive and Respiratory Syndrome Virus (PRRS) ELISA	\$7.50	(10+) \$6.75 each / (50+) \$6.00 each	1-3 Business Days
Pseudorabies Virus (PRV) ELISA	\$6.75	(10+) \$5.75 each / (50+) \$5.00 each	1-3 Business Days
<i>Rickettsia rickettsii</i> (Rocky Mountain Spotted Fever) Titer IFA	\$24.00		1-2 Business Days
Swine Influenza Virus ELISA	\$13.25	(10+) \$8.00 each / (50+) \$6.75 each	1-3 Business Days
Systemic Fungal Panel ( <i>B. dermatitidis</i> , <i>Coccidioides</i> spp., and <i>H. capsulatum</i> ) AGID	\$58.50		2-3 Business Days
Tick Panel ( <i>A. phagocytophilum</i> , <i>B. burgdorferi</i> , <i>E. canis</i> and <i>R. rickettsii</i> ) IgG Titer IFA	\$85.00		1-2 Business Days
<i>Toxoplasma gondii</i> IgG Titer IFA	\$25.75		1-2 Business Days
<i>Toxoplasma gondii</i> IgM Titer IFA	\$25.75		1-2 Business Days
<i>Toxoplasma gondii</i> IgG and IgM Titer IFA	\$48.00		1-2 Business Days
Vesicular Stomatitis Virus Indiana SN (Set Up Monday, Tuesday and Friday)	\$14.50		4-7 Business Days
Vesicular Stomatitis Virus New Jersey SN (Set Up Monday, Tuesday and Friday)	\$14.50		4-7 Business Days
West Nile Virus IgM (Equine) ELISA	\$19.00		3-5 Business Days

## VIROLOGY

(Samples to be shipped on ice)

Test Description	Price	Bulk Price	Turnaround Time
BVD PI Antigen Capture ELISA - Serum or Fresh Ear Notch	\$9.50	(10+) \$7.75 each	2-3 Business Days
Electron Microscopy (Negative Stain) - Feces, Lesion Scrapes	\$65.00	(Submitted as Pool of 5) \$200.00	4-7 Business Days
Virus Isolation for Feline Calicivirus in Cell Culture - Necropsy Samples, Swabs, Whole Blood	\$36.00		10-14 Business Days
Virus Isolation for Other Viruses; Call Before Submission	\$36.00		10-14 Business Days

## TOXICOLOGY

Test Description	Price	Bulk Price	Turnaround Time
Aflatoxins in Feedstuffs	\$60.00		5-10 Business Days
Aflatoxin M1 in Milk and Liver	\$100.00		5-10 Business Days
Anions in Water - Chloride, Nitrate, Nitrite, Phosphate and Sulfate	\$42.00		5-10 Business Days
Calcium - Ocular Fluid; Serum	\$27.00		5-10 Business Days
Copper - Serum, Liver Biopsy (Fresh or Fixed), Fresh Liver and Kidney	\$27.00		5-10 Business Days
Cyanide/Prussic Acid - Frozen Rumen Contents and Frozen Plant Material; Qualitative	\$20.00		3 Business Days
Ergot Alkaloids in Feedstuffs (Ergosine, Ergotamine, Ergocornine, Ergocryptine, and Ergocristine)	\$120.00	(10+) \$88.00 ea	5-10 Business Days
Ergot/Fescue Alkaloids in Feedstuffs (Ergosine, Ergotamine, Ergocornine, Ergocryptine, Ergocristine, and Ergovaline)	\$150.00	(10+) \$105.00 ea	5-10 Business Days
Fumonisin B1 in Feedstuffs Screen	\$56.00		5-10 Business Days
Fumonisin B1 in Feedstuffs, High Quantitative	\$104.00		5-10 Business Days
GC/MS Screen (GI Contents, Kidney, Liver, Feeds and Baits; Speak to Toxicology Prior to Submission; Qualitative)	\$150.00		15 Business Days
Ionophore Screen in Feedstuffs (Qualitative)	\$27.00		5-10 Business Days
Iron - Serum	\$27.00		5-10 Business Days
Lead in Whole Blood - Heparinized or EDTA Whole Blood	\$30.00		1-3 Business Days
Lead in Tissue - Liver or Kidney	\$27.00		5-10 Business Days
Magnesium - Ocular Fluid or Serum	\$27.00		5-10 Business Days
Mycotoxin Screen in Feedstuffs (Aflatoxin B1, Ochratoxin A, Vomitoxin, Zearalenone)	\$100.00	(10+) \$82.00 ea	5-10 Business Days
Nitrate Spot Test (Qualitative Test on Cornstalks and Sorghum-Sudan)	\$16.00		1-3 Business Days
Nitrate in Feedstuffs (Quantitative)	\$25.00		5-10 Business Days
Nitrate in Ocular Fluid (Quantitative)	\$42.00		5-10 Business Days
Ochratoxin A in Feedstuffs (Quantitative)	\$66.00		5-10 Business Days
pH - Rumen Contents	\$12.50		1-3 Business Days
Poisonous Plant and Animal Identification	\$27.00		5-10 Business Days
Trace and Toxic Element Panel ICP-OES - (Kidney, Liver & Plasma/Serum) (Royal blue topped trace tubes for blood) As, Cd, <b>Co</b> , Cr, <b>Cu</b> , <b>Fe</b> , <b>Mn</b> , <b>Mo</b> , Ni, Pb, Sb, <b>Se</b> , Tl, V, <b>Zn</b> (Bold elements are included in serum/plasma panel)	\$45.00		5-10 Business Days
Vitamin E - Blood or Serum	\$27.00		5-10 Business Days
Vomitoxin in Feedstuffs	\$61.00		5-10 Business Days
Zearalenone in Feedstuffs (Quantitative)	\$66.00		5-10 Business Days
Zinc (Blood or Serum in Royal Blue-Topped Trace Element Vacutainer Tube, Liver and Kidney)	\$27.00		5-10 Business Days

# Picking Up Samples Across the Country

## *Directly From Your Business*

### Overview

The laboratory offers a low cost FedEx pick up service for samples directly from your business for Monday-Friday delivery to the VMDL. Next day service from most of Missouri, Illinois and Kansas, as well as; parts of Iowa, Nebraska, Kentucky and Indiana are available. This delivery option is available in virtually all states within the country and transit time will depend on your zip code. This service has allowed the lab to outsource the “courier duties” to the experts, provides better protection for samples than other traditional shipping vendors and has kept down costs for both the lab and its clients.

### How it Works

1. Call the VMDL at (800) 862-8635 to request FedEx billable stamps that have custom made bar codes for our laboratory. Clients will not be charged for these forms until they are actually used to send in a sample. Once received the billing cost will be added to the case.
2. The VMDL has negotiated significant annual bulk rate discounts on behalf of our clients. **Price discounts** are regularly **50% off or greater** than their normal suggested prices. As a result, make sure to always use our custom forms to lock in these large discounts.
3. Clients can request printed step-by-step instructions from the lab on how to use this service for delivery to the VMDL.
4. Our custom FedEx forms are not exclusive to pick up options. Many busy metropolitan neighborhoods, as well as; rural areas have designated spots throughout town in front of areas such as banks, gas stations, etc. Please take advantage of this option if it is easier for you to drop packages at these designated spots at your convenience.



Veterinary Medical  
Diagnostic Laboratory  
University of Missouri



**Veterinary Medical  
Diagnostic Laboratory**  
Veterinary Health Center  
University of Missouri

**Phone: 573-882-6811  
800-862-8635**

**Fax: 573-884-7229**

**Please note:** All samples submitted for testing become the property of the MU VMDL. Prices effective 8/1/23 and are subject to change without notice.

## Packaging and Shipping Supplies

Client Acct No: _____	
<b>Send to:</b>	
Veterinarian's Name: _____	
Clinic Name: _____	
Address: _____	
City, State, Zip: _____	
Phone: _____	

### ITEM

**Price Qty Total**

Plastic slide holders (set of 5)	NC		
3 tube foam mailer with outer cardboard sleeve (5 sets)	\$10.00		
Submission forms	NC		
US Mail Labels	NC		
FedEx Billable Stamp	NC		
Biohazard specimen bags with absorbent	NC		
FedEx UN 3373 Pak (for biological substance, category B) <a href="http://www.fedex.com/us/services/pdf/packaging/UN3373_fxcom.pdf">http://www.fedex.com/us/services/pdf/packaging/UN3373_fxcom.pdf</a>	NC		
FedEx Clinical Pak (for exempt animal specimens and other noninfectious, non-toxic samples). <a href="http://www.fedex.com/us/packaging/guides/Clinical_fxcom.pdf">http://www.fedex.com/us/packaging/guides/Clinical_fxcom.pdf</a>	NC		
3 oz. prefilled formalin containers with secondary containers and return boxes (quantity of 1 = 12 sets)	\$42.00		
3 oz. and 8 oz. prefilled formalin containers with secondary containers and return boxes (quantity of 1 = 6 sets of each size)	\$44.00		
8 oz. prefilled formalin containers with secondary containers and return boxes (quantity of 1 = 12 sets)	\$46.00		

### Select preferred method of shipment:

\_\_\_\_ FedEx overnight \_\_\_\_ FedEx 2<sup>nd</sup> day \_\_\_\_ USPS \_\_\_\_ Client pickup \_\_\_\_ FedEx Ground

Shipping will be charged to your account. If no method is selected, items will be shipped at the discretion of the lab. Please allow 2-3 days for the order to be processed. All sales final. No returns or refunds.

*Prepare specimens for shipment in compliance with applicable regulations and in accordance with requirements specific to the carrier (FedEx, USPS, UPS) and the Department of Transportation.*

FOR VMDL USE ONLY:    Date Order Received: _____		<b>Subtotal:</b>
Order Filled By: _____		<b>Shipping:</b>
Order Shipped: _____		<b>Total Charges:</b>
QUALTRAX ID: 3468	REVISION #: 3	SECTION: VMDL
AUTHORIZED BY: Eric W. Mathis	QA APPROVED: Eric W. Mathis	AUTHORIZATION DATE: 06/09/2023
		EFFECTIVE DATE: 06/09/2023



# Bacteriology and Molecular Diagnostics Supplies



**Veterinary Medical  
Diagnostic Laboratory**  
 Veterinary Health Center  
 University of Missouri

**Phone: 573-882-6811  
 800-862-8635**

**Fax: 573-884-7229**

**Please note:** All samples submitted for testing become the property of the MU VMDL. Prices effective 8/1/23 and are subject to change without notice.

<div>Client Acct No: _____</div>	
<b>Send to:</b>	
Veterinarian's Name: _____	
Clinic Name: _____	
Address: _____	
City, State, Zip: _____	
Phone: _____	

BACTERIOLOGY		
	Price	Qty Total
BBL CultureSwab Plus with Charcoal	2.00	
E-swab- Regular (Amies liquid media)	2.00	
E-swab- Mini-tip (Amies liquid media)	2.00	
Blood Plate	1.00	
BD-BACTEC Plus	17.00	
Rayon Mini-swabs (no media)	1.00	

MOLECULAR DIAGNOSTICS		
	Price	Qty Total
Trichomonas (InPouch®), orders of 1-5 pouches	12.00	
Trichomonas (InPouch®), orders of >5 pouches	11.00	
Universal Viral Transport Collection Kit	3.00	
Synthetic-tipped swabs, sterile, 2/pkg.	.25	

**Select preferred method of shipment:**

\_\_\_\_\_ FedEx overnight
 \_\_\_\_\_ FedEx 2<sup>nd</sup> day
 \_\_\_\_\_ USPS
 \_\_\_\_\_ Client pickup
 \_\_\_\_\_ FedEx Ground

Shipping is charged to your account. If no method is selected, items will be shipped at the discretion of the lab. All sales final. No returns or refunds.

*Prepare specimens for shipment in compliance with applicable regulations and in accordance with requirements specific to the carrier (FedEx, USPS, UPS) and the Department of Transportation.*

FOR VMDL USE ONLY:	Date Order Received: _____	<b>Subtotal:</b>
	Order Filled By: _____	<b>Shipping:</b>
	Order Shipped: _____	<b>Total Charges:</b>

QUALTRAX ID: 3468	REVISION #: 3	SECTION: VMDL	AUTHORIZATION DATE: 06/09/2023
AUTHORIZED BY: Eric W. Mathis		QA APPROVED: Eric W. Mathis	EFFECTIVE DATE: 06/09/2023

**DIRECTIONS FROM THE EAST**

I-70 WEST to Columbia, take EXIT 128A, HWY 63 South. Take STADIUM BLVD EXIT. RIGHT on Stadium to the 4th stoplight, then RIGHT on COLLEGE AVE. to 2nd stoplight – ROLLINS ST. Go RIGHT on ROLLINS, turn RIGHT opposite WILLIAMS ST, onto E. CAMPUS LOOP into the parking lot, turn LEFT and go around the VET MED Conference Center and you will face the VMDL. Client parking is by the steps, across from the metered parking lot.

**DIRECTIONS FROM THE WEST**

HWY I-70 to Columbia, take EXIT 124 – STADIUM BLVD. Turn RIGHT on Stadium Blvd and go to the 13th stoplight – COLLEGE AVE. (when you see the stadium on the right, there's approximately 3 lights left.) LEFT on COLLEGE AVE. to the 2nd stoplight – ROLLINS ST. Go RIGHT on ROLLINS. Turn RIGHT opposite WILLIAMS ST, onto E. CAMPUS LOOP into the parking lot, turn LEFT and go around the VET MED Conference Center and you will face the VMDL. Client parking is by the steps, across from the metered parking lot.

**DIRECTIONS FROM THE SPRINGFIELD/JOPLIN AREA**

HWY 44 EAST to HWY 5 at Lebanon. NORTH on HWY 5 to Camdenton. HWY 54 EAST from Camdenton to Jefferson City  
HWY 63 NORTH from Jefferson City to Columbia. Take STADIUM BLVD EXIT. Go LEFT on Stadium to the 4th stoplight – COLLEGE AVE. Go RIGHT on COLLEGE AVE. to the 2nd stoplight – ROLLINS ST. Go RIGHT on ROLLINS. Turn RIGHT opposite WILLIAMS ST, onto E. CAMPUS LOOP into the parking lot, turn LEFT and go around the VET MED Conference Center and you will face the VMDL. Client parking is by the steps, across from the metered parking lot.

**DIRECTIONS FROM NORTH MISSOURI**

Take HWY 63 SOUTH to Columbia, STADIUM BLVD EXIT. Turn RIGHT onto STADIUM. Take Stadium to the 4th STOPLIGHT – COLLEGE AVE. Turn RIGHT onto College Ave, Take College to the 2nd STOPLIGHT – ROLLINS ST. Go RIGHT on ROLLINS ST. Turn RIGHT opposite WILLIAMS ST, onto E. CAMPUS LOOP into the parking lot, turn LEFT and go around the VET MED Conference Center and you will face the VMDL. Client parking is by the steps, across from the metered parking lot.

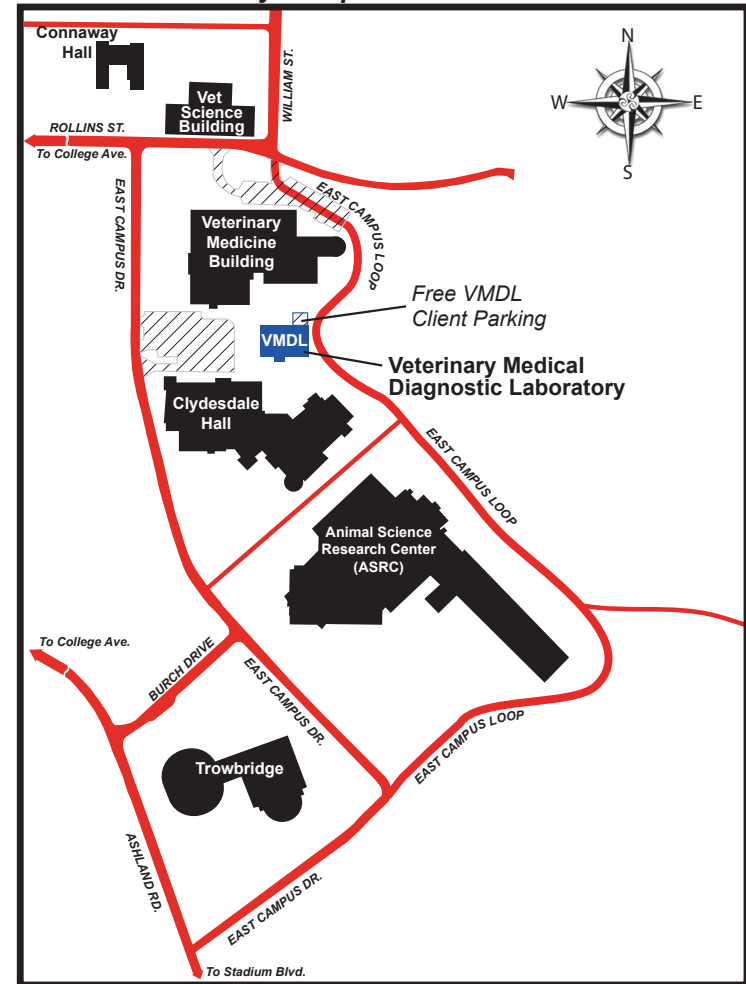
**DIRECTIONS FROM JEFFERSON CITY AREA**

HWY 63 NORTH from Jefferson City to Columbia. Take STADIUM BLVD EXIT. Go LEFT on Stadium to the 4th stoplight – COLLEGE AVE Go RIGHT on COLLEGE AVE to the 2nd stoplight – ROLLINS ST. RIGHT on ROLLINS Turn RIGHT opposite WILLIAMS ST, onto E. CAMPUS LOOP into the parking lot, turn LEFT and go around the VET MED Conference Center and you will face the VMDL. Client parking is by the steps, across from the metered parking lot.

***SEE MAPS ON FOLLOWING PAGES***



### Detail of Veterinary Campus



# VDML Faculty



**Shuping Zhang**  
*Director*



**Maria Dashek**  
*Avian Pathology  
Section Leader*



**Dan Shaw**  
*Avian Pathology  
and Pathology*



**Tamara Gull**  
*Bacteriology  
Section Leader*



**Dae Young Kim**  
*Pathology Section  
Leader and  
Histopathology  
Section Leader*



**Annabelle Burnum**  
*Pathology*



**Rosalie Ierardi**  
*Pathology*



**Kei Kuroki**  
*Pathology and  
Resident  
Coordinator*



**Jeff Mitchell**  
*Pathology*



**Fred Williams III**  
*Pathology*



**Angela Royal**  
*Clinical Pathology  
Section Leader*



**Sidney Bogue**  
*Clinical Pathology*



**Michelle  
DeCoursey**  
*Clinical Pathology*



**Tamara Hancock**  
*Clinical Pathology*



**Wendy Karnia**  
*Clinical Pathology*



**Wole Odemuyiwa**  
*Molecular Diagnostics  
Section Leader*



**Michael Zhang**  
*Serology  
Section Leader*



**Shaun Du**  
*Toxicology*



**Susan Moore**  
*Rabies One Health  
Section Leader*



**Zhenyu Shen**  
*Assay Development*

# VDML Staff Leaders



**Lauren Delaney**  
*Client Service  
Veterinarian and  
Receiving Section  
Leader*



**Eric Mathis**  
*Quality Assurance  
Section Leader*



**Kirk Thompson**  
*Business Office and  
Human Resource  
Section Leader*

**Call (800) 862-8635 for consultation**



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